

THE HASHEMITE KINGDOM OF JORDAN

STUDIES IN THE HISTORY AND ARCHAEOLOGY OF JORDAN IV

Department of Antiquities, Amman
in cooperation with:
Maison de l'Orient Méditerranéen,
Université Lumiere, Lyon 2

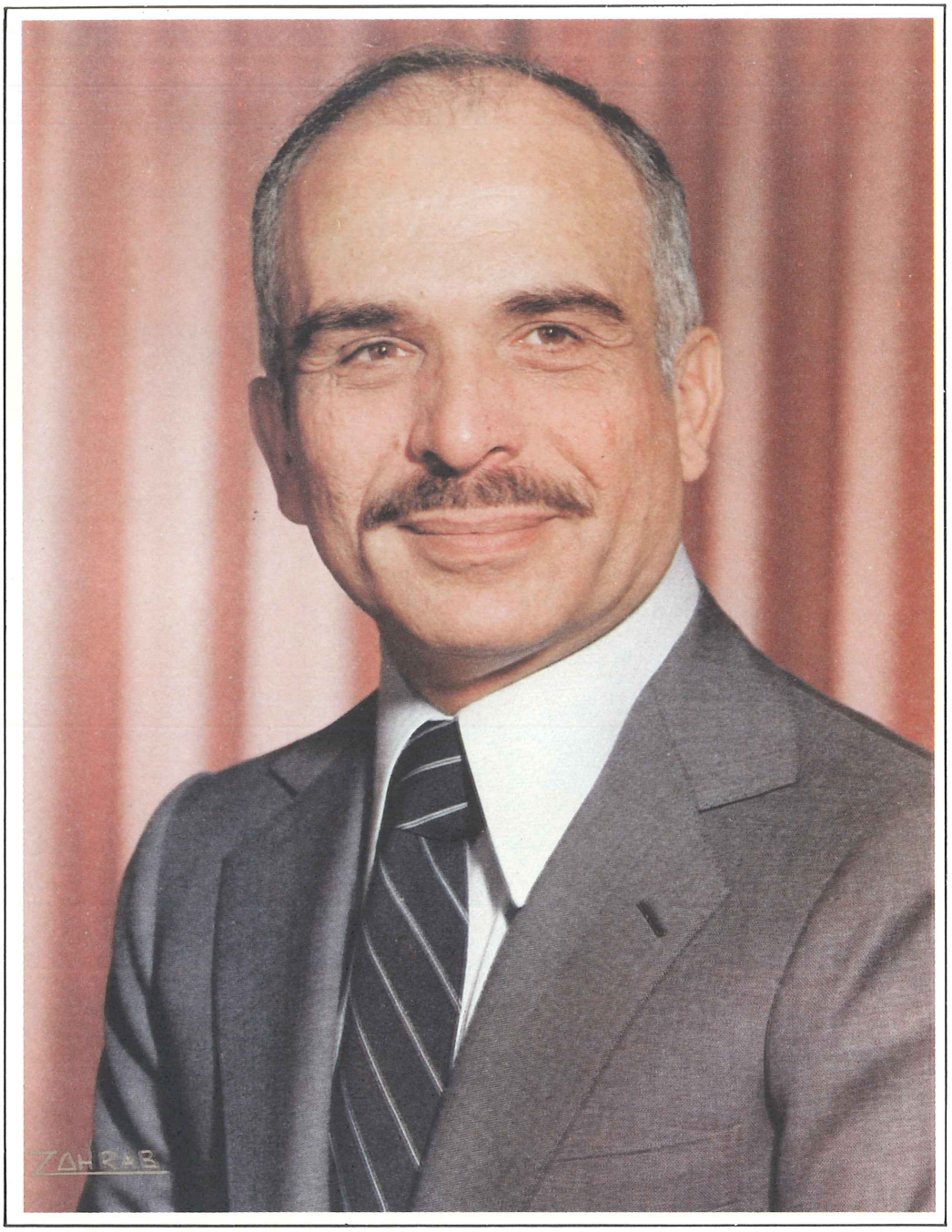
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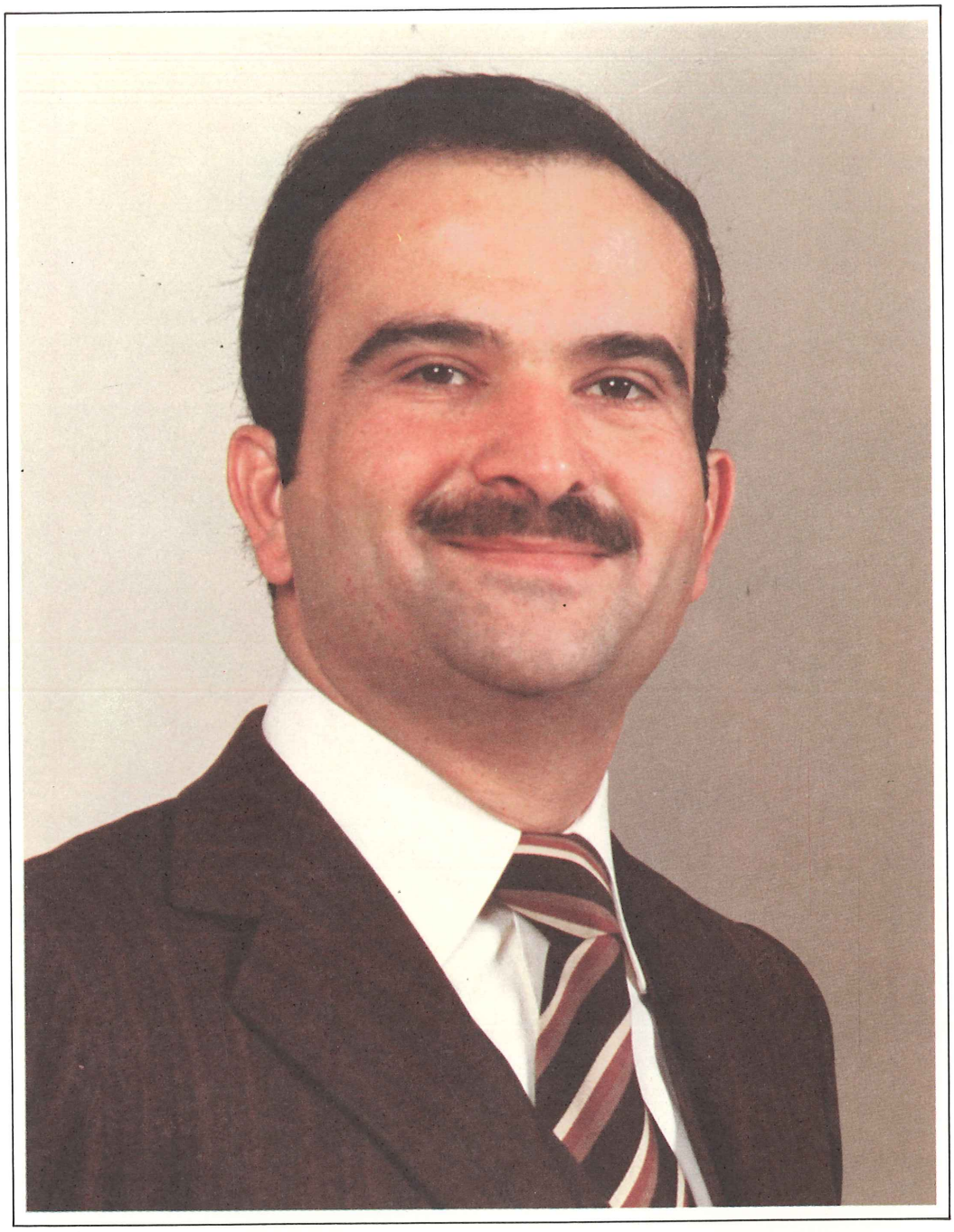
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STUDIES IN THE HISTORY AND ARCHAEOLOGY OF JORDAN
IV



His Majesty King Hussein
of the Hashemite Kingdom of Jordan



His Royal Highness
Crown Prince Hassan

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Preface

It is a great pleasure for me to introduce this volume of the Fourth Conference on the History and Archaeology of Jordan held in Lyon, France, in close cooperation with Maison de L'Orient Mediterranéen. I wish to thank HRH Crown Prince Hassan for patronizing the conference and HRH Princess Wijdan Ali who deputized for the Crown Prince and attended all the sessions. Thanks also to the initiative of the Ministry of Foreign Affairs of France and the Direction of the Cultural and Technical relations, represented by Mrs Marie-Pierre de Cossè Brissac.

The general theme retained for this conference was "Site and Settlement in Jordan". Many of the papers presented at this conference demonstrated, beyond any doubt, the wealth of Jordan in antiquities from the Prehistoric periods in the eigth millinnium B.C., until modern times. Some of the contributions pointed out the challenge we are facing in the Department of Antiquities in regard to the agricultural and industrial development of our country, and this challenge became today more crucial, more threatening to our historical and cultural heritage. But we did not stay inactive! With the help of the Cultural Resources Managment Project, sites have been surveyed around Greater Amman and all along the country. My staff has been busy working everywhere in Jordan where a threat for antiquities appeared. Recently, the Department introduced by a genoures gift from the American Center of Oriental Research in Amman (ACOR) an IBM data base system to register all archaeological sites in the country. More than 10000 antiquity sites have been registered to date. This effort was made in complete awarness of the contributions presented by the participants of the Fourth Conference. We are conscious that more efforts have to be spent and we are confident that the next conference in Jordan will help find new solutions to our cultural and historical heritage.

In the year 1991 the Department of Antiquities co-operated with more than 50 scientific expeditions, most of them engaged in excavation and some in survey activities. The Department of Antiquities is handling all the necessary measures to cover the needs of our guests everywhere in the country. Jordan is more than happy to remain friendly and sincere to all those who dedicated their good efforts, not only for Jordan's history and archaeology, but for human history and world heritage.

Finally, I would like to extend my gratitude to all people who contributed to the publication of this important volume. First of all, my appreciation should be

expressed to the Ministry of Foreign Affairs in France and to Professor Olivier Aurenche, Director of Maison de L'Orient for the generous financial help they provided to meet the printing expenses. My thanks also go to the American Express Corporation who donated 5000 dollars for the publication. I should not forget also the staff of the Department of Antiquities who faced for more than a year the turmoil of editing and correcting the articles, in cooperation with the French Institute for the Archaeology of the Near East in Amman (IFAPO). This volume is dedicated to all of them, as the reward for their patience and dedication.

Prof. Dr. Safwan Tell
Director General of Antiquities,
Ministry of Tourism and Antiquities, Amman

Speeches

Cette 4ème conférence est pour moi l'occasion de renouer de vieilles amitiés, et de rencontrer de nouveaux chercheurs tous dévoués à un intérêt commun: l'Histoire et l'Archéologie du Royaume Hashémite de Jordanie.

Cette conférence a pour thème: "Sites et établissements humains en Jordanie, jusqu'à la période ottomane".

Je souhaite que vos travaux fassent émerger non seulement des connaissances nouvelles, mais aussi des méthodes de travail et des manières de penser nouvelles dans l'optique d'une interprétation meilleure, objective, des phénomènes historiques dont la terre de Jordanie a été le théâtre.

C'est un grand plaisir pour moi de vous souhaiter la bienvenue et de vous remercier de l'intérêt que vous portez à notre pays, intérêt dont témoigne votre présence en ces lieux.

Je voudrais remercier Monsieur le Ministre des Affaires Etrangères Français, qui, avec la Sous – Direction des Sciences Humaines de son ministère a soutenu dès la fin de la précédente conférence à Tübingen, l'idée que notre réunion puisse se faire ici en France et a permis sa réalisation.

Je voudrais aussi exprimer toute ma gratitude aux artisans de l'organisation ici à Lyon, de cette conférence, Monsieur le Professeur Olivier Aurenche, Vice – président de l'Université et Directeur de la Maison de l'Orient, et Monsieur Pierre – Louis Gatier, et toute l'équipe qui s'est dévouée sans limite pour que nos travaux se déroulent dans ce cadre agréable.

Je me réjouis du rôle dynamique de l'équipe du Département des Antiquités de Jordanie qui a assuré la coordination, et maintient ses efforts pour que les résultats de nos travaux soient publiés de manière professionnelle.

Le thème retenu depuis 1986 pour cette 4ème conférence est: "Sites et établissements humains en Jordanie" (Sites and Settlement Patterns).

Les études de la 3ème conférence étaient centrées sur la place de la Jordanie dans les relations régionales et internationales, et ont clairement démontré que la Jordanie n'est pas une entité marginale et secondaire, mais un authentique centre des nations depuis l'origine de l'occupation humaine.

Notre réunion de cette semaine nous ramène au coeur de nos enquêtes: l'évaluation de ce que sont les civilisations de l'Est du Jourdain au cours des âges.

Un site, c'est d'abord un lieu géographique qui a été choisi par un groupe humain pour vivre, travailler, se défendre, pratiquer sa religion et exprimer sa culture.

Nous devons arriver à définir les raisons du choix d'un lieu, et en même temps les diverses manières dont ce lieu a été utilisé, aménagé et investi par l'homme dans le temps, en un mot, l'histoire de ces lieux priviligiés.

Mais un site n'est jamais isolé. Un groupe humain vit et fonctionne sur un ensemble de sites dont il faut alors comprendre les relations et les liens.

Pour la plupart des périodes que vous étudiez, les textes qui illustrent ces relations font défaut. C'est donc à partir des vestiges matériels qu'il vous faut travailler. L'archéologie est ici de première importance. Ses techniques, ses méthodes peuvent seules nous aider a reconstituer ces groupes humaims et leur histoire.

Pour les périodes qui nous ont laissé des textes, la confrontation entre l'écrit et le matériel doit nous questionner en permanence. Sans se soucier d'une primauté de l'un ou de l'autre document, nous devons arriver à une vue juste et équilibrée de ce qu'a été la culture jordanienne, son originalité et sa profonde continuité.

Nous devons aussi nous interroger sur les lacunes de nos connaissances. Trop souvent dans le passé les savants ont eu tendance à interpréter une prétendue absence de vestiges par un abandon du pays. L'extraordinaire développement des prospections archéologiques dans le pays depuis ces dix dernières années, qui a permis de recenser des milliers de sites nouveaux, a montré que notre pays a toujours été occupé par l'homme, mais que les formes de cette occupation ont été multiples. Bien des points de notre longue histoire restent encore obscurs, c'est à vous de les éclairer.

Pour finir, je voudrais souligner le fait que vos recherches montrent chaque jour que les sites archéologiques sont en Jordanie la plus grande source d'archives pour l'histoire de notre pays.

Le développement économique et démographique, rapide de ces dernières décennies a provoqué la destruction de nombreuses traces de l'occupation humaine. Des pans entiers de notre histoire ont été effacés de manière irrémédiable. C'est une perte pour notre pays et pour le patrimoine de l'humanité.

La Jordanie se développe, et continuera à se développer. Je vous propose de réfléchir sur les moyens à mettre en oeuvre pour que ce développement ne se fasse pas au détriment de notre mémoire nationale.

Nous devons sauvegarder notre patrimoine, le restaurer, le mettre en valeur, et aussi réserver pour les générations futures des "fonds d'archives matérielles" qu'elles pourront interpréter de manière encore différente de la nôtre actuelle. Il nous faut trouver un équilibre, un compromis entre ces deux objectifs. Trouver des solutions pratiques pour que les exigences du dévoloppement et de la modernisation ne nous condamnent pas à rester sans mémoire, mais aussi pour que les exigences de la préservation de notre passé ne fassent pas obstacle à l'avenir.

Discours d'ouverture de S.A.R. Le Prince Héritier Al-Hassan de Jordanie, prononcé en son absence par S.A.R. la Princesse Wijdan Ali.

Your Royal Highness, Your Excellencies, Ladies and Gentlemen:

It is indeed a dinstinct honour for me to stand here in the presence of Her Royal Highness Princess Wijdan Ali and distinguished guests and participants to welcome you all to the opening of the fourth International Conference on the History and Archaeology of Jordan, whose theme is "Sites and Settlement Patterns." In the opening speech to the second Conference on the history and archaeology of Jordan, H.R.H. Crown Prince Al-Hassan noted that. "It would be quite interesting to study the factors which influenced rise, prosperity, and decline of these human settlements, including the patterns of land use, urbanisation, migration and water resources." He noted further that "These topics are relevant to our present conditions and future course."

It is this relevancy which makes this conference all the more important. A Conference of this kind would not have been possible without the support, help, and co-operation of many academic institutes and individuals. It is my pleasant duty to acknowledge some of them here.

.To H.R.H. Crown Prince Al-Hassan, who initiated the idea of triennial conferences to promote active research in the history and archaeology of Jordan, we are particulary grateful for his unfailing support and continuous interest. Our sincere thanks are also extended to the Ministry of Foreign Affairs of France for its kind invitation to host the fourth conference in France, and the proeminent role of the Department of Human and Social Sciences of the Ministry, represented by Monsieur Philippe Guillemin and Madame Marie-Pierre de Cossé-Brissac is gratefully acknowledged. We are likewise grateful to the President of the Université Lumière de Lyon Monsieur Michel Cusin, and to the Director of the Ecole Normale Superieure Monsieur Guy Aubert for providing these outstanding facilities to the conference. To the governor of the Rhône-Alpe Region M. Gilbert Carrère and the Lord Mayor of Lyon M. Michel Noir, we express our appreciation for their help and support. At last, but not least, I would like to pay special tribute to the Director of the, "Maison de l'Orient" Professor Olivier Aurenche and the colleagues who collaborated with him, for the tremendous efforts they put into the preparation and organization of this conference.

The fact that this conference is being held at a time when France is celebrating the bi-centennial of its Revolution is an eloquent testimony to the multi-faceted friendly

relations which have grown over the years between Jordan and France and which, we trust, will continue to improve in the future.
Thank you.

Ghazi Bisheh
Former Director General of Antiquities, Ministry of Tourism and Antiquities, Amman.

Altesse, Monsieur le Préfet de la Région-Rhône-Alpes, Monsieur L'Ambassadeur, Monsieur le Maire, Messieurs les Directeurs, Messieurs les présidents, Mesdames, Messieurs, je voudrais en quelques mots vous dire pourquoi vous trouvez une banque dans une manifestation comme celle d'aujoud'hui.

En effet, depuis plusieurs années, la Lyonnaise de Banque exprime sa volnté de participer encroe plus fortement, par une nouvelle approche, au développement des entreprises et des entités socioéconomiques des régions où elle est implantée.

Cette volonté repose sur deux idées politiques fondamentales:
– toute entreprise, quelle qu'elle soit, ne peut être indifférente au développement du milieu qui l'entoure.

– le développement économine, social, culturel et intellectuel d'un pays repose sur la recherche, la technologie, l'enseigenment supérieur. Le système bancaire se doit de participer à ce développement et de s'impliquer dans son environnement.

C'est dans cet esprit qu'est créée, en 1985, la Direction Scientifique, avec le recrutement de deux chercheurs du Centre National de la Recherche Scientifique et avec l'accord du Ministère de la Recherche et de la Technologie et dont j'ai la responsabilité.

Placée auprès du président, cette Direction Scientifique, outre l'éclairage qu'elle apporte par ses réflexions sur le long terme, les mutations qui se préparent, se veut l'interface entre les milieux scientifiques, techniques, de l'enseignement supérieur et de la finance qui ont peu l'habitude de dialoguer ensemble.

Elle doit mettre au point, en particulier, des processus d'interventions financières qui faciliteront la valorisation des recherches et le transfert de technologie. Elle assure la présence de la Banque dans les milieux de la recherche, de la technologie et de l'enseignement supérieur tant en France qu'à l'étranger. Elle est impliquée dans les réflexions menées par diverses collectivités locales, régionales ou nationales, en vue de mettre en place des actions pour accroître leur compétitivité et permettre leur développement et leur ouverture sur l'extérieur.

Dans le cadre du mécénat de la Lyonnaise de Banque, la Direction Scientifique a développé des actions de mécénat scientifique et pédagogique pour soutenir et contribuer au rayonnement de la recherche, de la technologie et de l'enseignement supérieur dans les régions où nous sommes présents.

Il ne s'agit pas de se substituer ni à l'Etat, ni aux organismes publics nationaux ou régionaux, mais de choisir des secteurs porteurs d'avenir qui ne sont pas ou peu

aidés par des programmes d'Etat ou permettent une avancée sur le plan culturel ou de la connaissance. Il s'agit surtout d'initier des opérations, de les accompagner, d'aider à leur réalisation, puis de les laisser ensuite se développer, quand elles ont fait leurs preuves, avec des moyens ou des structures plus traditionnels si les décideurs en sont d'accord.

Ces actions sont:

– aide à des colloques qui, de par leur ouverture et les thèmes traités, ont un impact important sur la communauté scientifique régionale ou permettent une approche pluridisciplinaire,

– octroi de bourses à des chercheurs (docteurs ou post docteurs),

– actions en partenariat avec des partenaires publics ou privés, français ou étrangers,

– actions de notoriété en participant au développement d'actions culturelles ou scientifiques au niveau national ou international avec des structures telles que la Fondation Universitaire des Sciences et Techniques du Vivant,

– création de chaires en incitant et aidant, sans se substituer au Ministère de l'Education Nationale, au démarrage rapide de secteurs nouveaux à l'interface de plusieurs disciplines, dans les universités et grandes écoles comme par exemple la chaire "Louis Néel" pour des professeurs étrangers invités à l'Ecole Normale Supérieure de Lyon,

– actions ponctuelles en aidant au développement de recherches nouvelles qui n'ont pas de soutien de l'Etat ou d'organismes publics.

A travers les actions entreprises, nous nous intéressons à tout ce qui participe au développement, non seulement aux aspects sociaux, humains, historiques, géopolitiques et culturels, car le développement d'une région ou d'un pays ne peut se concevoir sans prendre en compte tous ces domaines.

De ce fait, quand Monsieur Olivier Aurenche nous a présenté votre colloque, c'est sans hésitation que nous avons accepté d'en être un des partenaires. En effet, pour nous il est tout de suite apparu que ce colloque répondait avec exemplarité à certains de nos critères tels que: ouvertures sur l'extérieur, collaborations nationales et internationales, approches multidisciplinaires (où l'on retrouve en interaction l'histoire, l'archéologie, l'ethnologie...), apports à la connaissance. De plus, le pays choisi, la Jordanie était le garant d'un retour assuré aux sources de notre civilisation. Nous vous remercions, Altesse, d'avoir accepté de prêter, pour mieux faire connaître votre pays, cette merveilleuse collection de mosaïques qui dénote un souci exemplaire de valorisation et de diffusion des résultats de la recherche auprès du grand public.

Voilà pourquoi une banque se trouve associée à une telle manifestation. Je vous souhaite un excellent travail, plein de succès et d'enrichissantes confrontations et néflexions.

François Juillet
Directeur Scientifique de la Lyonnaise de Banque.

C'est un honneur pour l'Université Lumière que d'avoir été choisie pour organiser ce 4ème Congrès qui rassemble à Lyon 200 chercheurs, venus de 18 pays différents mais tous passionnés par l'Archéologie et l'Histoire de la Jordanie, (ce qui lui a permis d'annexer, provisoirement, l'Ecole Normale Supérieure).

Lyon succède ainsi à Oxford, à Amman et à Tübingen, grâce à notre Maison de l'Orient Méditerranéen où travaillent ensemble chercheurs du C.N.R.S. et Universitaires qui lui ont fait un renom international, même s'il lui arrive d'être plus connue entre le Nil, le Jourdain et l'Euphrate qu'entre Rhône et Saône. La visite de Sa Majesté la Reine Nour en février, la présence aujourd'hui de son Altesse la princesse Wijdan Ali placent l'année 1989 à l'Université Lumière sous le signe de la Jordanie et du Proche – Orient. Qu'il me soit ici permis de féliciter et de remercier les authorités jordaniennes pour la galanterie et la diplomatie dont elles font preuve: elles n'ont pas oublié qu'en France, depuis François Ier au moins, aux femmes nul ne sait résister. Merci Madame d'avoir bien voulu présider nos travaux: l'histoire et l'archéologie de votre pays ne sauraient vous laisser indifférente, et on saura vous montrer que les Beaux - Arts dont vous êtes à la fois la muse inspiratrice et l'artiste inspirée, ont toujours fleuri au-delà du Jourdain.

Je ne conclurai pas cette brève ouverture sans souhaiter à tous les participants cette "euphorie archéologique" chère au fondateur de notre Maison de l'Orient Méditerranéen, le Président Jean Pouilloux. Grâce à vous, les Lyonnais se sentiront plus proches d'un Proche-Orient où naquit jadis leur "histoire et, à bien des égards, le destin de l'Occident". Pour quelques jours du moins, que vos travaux fassent de la Jordanie, ce qu'une fausse étymologie prétendait trouver dans la mot Yemen: une *Arabia Felix*.

Michel Cusin
Président de l'Université Lumière-Lyon 2.

Je n'ai, au fond, qu'une chose à dire: merci, merci de l'honneur que vous nous faites en étant ici. Honneur fait à notre pays, choisi pour ce congrès international à la demande du Royaume de Jordanie et du Comité International d'Organisation. Honneur fait aux Universités françaises, puisque c'est en milieu universitaire que vous avez choisi de vous réunir, – et le ministère que je représente n'y est évidemment pas insensible. Honneur fait particulièrement à l'Université Lumière-Lyon 2 et à la Maison de l'Orient, deux institutions auxquelles j'ai personnellement la chance d'appartenir. Le choix de l'Université Lumière-Lyon 2 et de la Maison de l'Orient n'est pas un choix de hasard. Nous connaissons tous ici l'ancienneté des liens entre les Universités lyonnaises, jadis l'Université de Lyon, et votre pays. Et nous connaissons tous l'activité de la Maison de l'Orient dans votre pays. Les équipes de la Maison de l'Orient travaillent sur presque toutes les époques de l'histoire de la Jordanie, du Paléolithique au monde contemporain. Elles font chez vous de l'archéologie, de la géographie, de l'épigraphie, de l'ethnologie, mille autres choses encore, que j'oublie. C'est, je crois, cette activité multiforme que votre présence ici reconnaît. Cette reconnaissance est précieuse non seulement aux équipes qui font la recherche, mais aussi aux autorités qui la soutiennent, au nombre desquelles se trouve le Ministère de l'Education National. En son nom, je vous remercie, et je vous souhaite bon travail.

Georges Rougemont
Consultant à la Direchtion de la Recherche au Ministère de l'Education Nationale.

Au moment où s'ouvre ce IVème Congrès d'Histoire et d'Archéologie jordaniennes, je voudrais tout d'abord remercier les autorités jordaniennes de l'honneur qu'elles ont fait à la Maison de l'Orient en lui confiant l'organisation de ce Congrès. Je voudrais aussi remercier l'Ecole Normale Supérieure de Lyon et son Directeur, M. Guy Aubert, de bien vouloir nous accueillir dans ce cadre magnifique. Il a poussé l'attention très loin, puisqu'il a ouvert cet amphithéâtre sur une place circulaire qui rappelle pour ceux qui le connaissent le "forum ovale" de Jérash. Le souci du détail a, vous le voyez, été poussé très loin.

Ce Congrès est une manifestation de l'Université Lumière-Lyon 2, même s'il s'agit d'une manifestation "hors les murs". Je remercie donc tout le personnel de l'Université Lumière-Lyon 2, à laquelle la Maison de l'Orient appartient, et qui est ici représentée par son président M. Michel Cusin. Je ne peux nommer tous ceux et toutes celles de la Maison de l'Orient, qui ont pris part à la préparation du congrès, depuis deux ans, mais je voudrais citer les noms de Pierre-Loues Gatier, Françoise Martin, Suzette Betito, Alexandrine Guérin, Marie-Hélène Bénetière et Anne Pécontal-Lambert. A l'IFAPO, nous avons bénéficié de l'aide précieuse de François Villeneuve et de Frank Braemer.

Je remercie toutes les institutions qui ont permis l'organisation du Congrès: le Ministère des Affaires Etrangères représenté ici par Madame de Cossé-Brissac, le Ministère de l'Education Nationale représenté par M. Georges Rougemont, le Ministère de la Recherche et de la Technologie représenté par M. Philippe Mallein, le Centre National de la Recherche Scientifique représenté par M. André Tchernia, le Conseil Général du Rhône, ainsi qu'une banque, la Lyonnaise de Banque, représentée ici par M. François Juillet. Ce Congrès a enfin reçu l'appui de la Municipalité, représentée aujourd'hui par M. André Maréchal, qui a permis l'organisation de deux expositions jordaniennes: la première sur les mosaïques, inaugurée au mois de février par Sa Majisté la Reine Nour, et que le Congrès visitera ce soir: la seconde, qui s'ouvrira demain, sur des photographies anciennes de Jordanie extraites des collections de l'Ecole Biblique et Archéologique Française de Jérusalem. Toutes ces manifestations ont permis à la ville de Lyon de vivre depuis plusieurs mois à l'heure jordanienne.

M. Gilbert Carrère, Préfet de Région, a bien voulu assister personnellement à cette séance inaugurale, et en notre nom à tous, je lui adresse tous mes remerciements. Son Altesse Royale la Princesse Wijdan Ali ouvrira, en concluant cette

séance inaugurale, ce 4ème Congrès d'Histoire et d'Archéologie Jordaniennes. Qu'il soit suivi de nombreux autres, preuves à la fois du dynamisme d'une discipline et de la vitalité d'un pays.

Olivier Aurenche
Directeur de la Maison de l'Orient Méditerranéen.

Cest un grand honneur et un très grand plaisir de vous accueillir aujourd'hui ici et je vous remercie tout d'abord Monsieur le Professeur Aurenche, Directeur de la Maison de l'Orient, d'avoir choisi l'Ecole Normale Supérieure pour organiser cette conférence. Cette toute nouvelle Ecole qui n'est ouverte que depuis un an et demi, les premiers élèves sont entrés en septembre 1987, est en fait une Ecole qui est, si j'ose dire malheureusement, dédiée uniquement aux sciences que l'on appelle "dures", c'est-à-dire les mathématiques, la physique, la chimie, la biologie et je suis vraiment tout à fait ravi de retrouver ici des gens de sciences moins "dures". Finalement, vous savez, les scientifiques ont toujours été impressionnés par le choc des cultures. Nous aimons beaucoup par exemple l'écrivain britanique C.-P. Snow qui a entre autres écrit sur les deux cultures et je suis vraiment très heureux aujourd'hui que ces deux cultures se rencontrent. M. Aurenche tout à l'heure a parlé de la possibilité que l'Université Lumière envahisse cette Ecole, mon ami Cusin qui est là à côté de moi me ferait un grand plaisir s'il l'envahissait un peu, pas complètement, mais s'il essayait de faire des efforts pour qu'il n'y ait pas que des sciences très "dures" ici. Je voudrais aussi en profiter pour dire que si l'on peut organiser de nombreux congrès dans cette Ecole, c'est parce qu'elle a été dotée de cet outil assez extraordinaire dans lequel nous nous trouvons aujourd'hui et que cet outil est le résultat de l'accompagnement par la ville de Lyon de l'effort de l'Etat. L'Etat a fait beaucoup pour construire cette Ecole et la Ville de Lyon a rajouté un petit peu mais ce petit peu c'est cet amphithéâtre, et je voudrais encore en profiter pour remercier le représentant du Maire qui est ici à nos côtés.

Je vous souhaite la bienvenue et de fructueux travaux pendant les quelques jours que vous allez passer ici. Merci.

Guy Aubert
Directeur de l'Ecole Normale Supérieure de Lyon.

Le C.N.R.S. aussi est là pour dire merci. Il n'est pas là parce que c'est un grand colloque dans un grand amphitéâtre: ce qui est grand n'est pas forcément ce qui nous attire le plus; il n'est pas là seulement parce que c'est la Maison de l'Orient, qui est un des piliers de l'archéologie au C.N.R.S.; il est là principalement parce que c'est la Jordanie et que nous avons de nombreux chercheurs qui travaillent en Jordanie et qui y sont heureux et je voudrais remercier son Altesse Royale, je voudrais remercier le Directeur des Antiquités des conditions de vie et de travail qu'ils assurent à nos chercheurs dans leur pays.

Vous entendrez parler, au cours de ce colloque, des programmes très différents qui y sont développés: vous entendrez parler, de monnaie de décor architectural, d'espace urbain; vous entendrez parler de la collaboration exemplaire que mène Madame Dollfus avec l'Université du Yarmouk, de la belle fouille de Tell Abu Hamid et de l'exposition qui l'a mise en valeur encore récemment.

Je voudrais lancer cependant des opérations de longue haleine parce qu' elles me donnent l'occasion de rendre ici hommage à la mémoire de deux chercheurs que nous avons perdus récemment et que nous regrettons beaucoup: l'Abbé Jean Starcky qui avait lancé le Corpus des inscriptions nabatéennes de Pétra et Jean Marcillet-Jaubert qui s'était dévoué au Corpus des inscriptions grecques et latines, heureusement repris par Pierre-Louis Gatier et Maurice Sartre.

La convention que nous allons signer avec l'IFAPO garantira la stabilité d'autres projets à long terme. Je crois que Madame de Cossé – Brissac et moi-même pouvons nous féliciter de l'excellente coopération qui nous unit en Jordanie. Je remercie encore les autorités jordaniennes de la permettre et je souhaite qu'avec la collaboration de tous, elle puisse se poursuivre longtemps.

La ville de Lyon est très sensible à la présence de son Altesse Royale, la princesse Wijdan Ali; elle avait eu l'honneur d'accueillir la Reine Nour en février, lors de l'exposition de Mosaïques jordaniennes que vous verrez d'ailleurs ce soir.

Le Professeur Olivier Aurenche l'a dit, c'est une continuité de la présence jordanienne à l'occasion de ce congrès international.

Monsieur Michel Noir, Maire de Lyon, regrette beaucoup de ne pouvoir être là ce matin. Il me demande que vous l'excusiez et il m'a chargé de le représenter en ma qualité d'Adjoint chargé des relations internationales et des congrès.

Sachez que la ville de Lyon est très honorée et il faut remercier le professeur Olivier Aurenche de la Maison de l'Orient, dont Lyon est bien le berceau, d'avoir su monter ce congrès international, ce congrès scientifique aussi, à Lyon.

Lyon est donc très heureuse de vous accueillir car il est dans les objectifs de la nouvelle municipalité de développer les congrès, les congrès internationaux, les congrès scientifiques.

Ce congrès est l'un des tous premiers de notre mandature et je me réjouis personnellement qu'il se déroule ici dans cet Amphithéâtre de l'Ecole Normale Supérieure.

André Tchernia
Directeur-Adjoint des Sciences de l'Homme et la Société du Centre National de la Recherche Scientifique.

Votre Altesse, Monsieur le préfet, Monsieur le président, Monsieur le Maire, Messieurs les Directeurs. Ce m'est un très grand plaisir que de participer à l'inauguration de cette manifestation scientifique: il s'agit en effet du IVème Congrès d'histoire et d'archéologie jordaniennes, qui rassemble ici un nombre considérable de participants remplis de zèle.

Un très grand plaisir pourquoi? d'abord parce que sa tenue à Lyon, sous l'égide de la Maison de l'Orient méditerranéen, est très flatteuse pour notre pays et pour cette ville dont l'importance et les activités sont considérables pour l'avancement du savoir scientifique; pas seulement pour cela mais pour cela aussi. Vous avez bien voulu, votre altesse, nous honorer, et vous aussi mesdames et messieurs, en retenant notre invitation. Sachez qu'il s'agit d'une grande joie pour nous et que la Direction que je représente au Ministère des Affaires Etrangères y est particulièrement sensible.

J'ai dit tout à l'heure un très grand plaisir; un très grand plaisir pour l'honneur mais aussi un très grand plaisir pour l'amitié. Ce plaisir est lié au fait qu'au fil des années, nous avons noué avec les archéologues jordaniens et tous les responsables administratifs ou politiques qui les soutiennent avec tant de soin des liens de discussio et de collaboration qui n'ont fait que se fortifier et que j'ai pu constater moi-même, l'année dernière, avec énormément d'intérêt. Nous ne sommes plus seulement des partenaires franco-jordanieens mais des amis et c'est donc à une réunion d'amis que nous vous recevons pour partager dans cette ville prestigieuse les fruits d'un savoir désintéressé.

Bien souvent, en effet,il semble que la vie internationale et mondiale ne soit faite que de conférences ou de coopérations liées à la défense, à l'économie, à la politique de haut de gamme, si vous me permettez cette expression. Mais pourtant derrière, patiemment, se tissent, derrière ces grands éclats médiatiques, les liens de la recherche désintéressée, souvent pauvre, souvent peu connue mais passionnée et que nous faisons en commun pour l'étude d'un passé qui nous est aux uns et autres si proche et si lointain, recherche qui unit peut-être plus durablement les peuples que les plus solides des alliances.

C'est sur un socle culturel que s'installe le flux de tous les échanges et nous sommes fiers et heureux de contribuer au travail fondamental qui soutend ce socle avec nous et avec vous.

Dans cette entreprise, et je vais conclure là dessus, la Jordanie est devenue un centre majeur. La France avait sans doute commencé fort tôt et dés le XIXème

siècle à s'intéresser au passé le plus ancien de la Jordanie. Mais c'est en réalité sous l'égide de l'Institut Français du Proche–Orient, de l'IFAPO, qui a ouvert un centre à Amman en 1977 à l'instigation de son directeur, Monsieur Will, que les choses sérieuses ont commencé et en douze ans que de chemin parcouru. Récapitulons-le, voulez-vous.

Désormais tous les domaines de la recherche archéologique sont couverts de la préhistoire aux époques romaine et byzantine et même, bien que ce ne soit pas encore suffisant, jusqu'à l'époque islamique. De grand monuments ont été relevés tel Iraq El Emir, dont certains d'entre nous connaissent bien la beauté. Une importante mission est menée à Tell Abou Hamid dans la vallée du Jourdain en collaboration avec l'université du Yarmouk et un grand site urbain, Jérash, pas seulement sa place ovale mais l'ensemble du site y compris le petit tell qui est de l'autre côté de l'eau, est fouillé dans le cadre d'une mission conjointe avec la Direction Générale des Antiquités de Jordanie.

Qu'y a-t-il donc de si singulier dans votre passé pour que nous Français, et que nos collègues d'Europe qui viennent eux aussi s'y adonnent? Il y a plusieurs raisons, mais j'en décèle deux: la premiére c'est que certains des épisodes de l'histoire de l'humanité s'éclairent à partir des travaux qui sont faits dans la cadre de la coopération franco-jordanienne, ainsi la néolithisation qui prend de plus en plus d'importance dans les préoccupations des archéologues. Enfin et d'autre part que la splendeur des civilisations gréco-romaine, byzantine et omayyade s'y affirme également.

Deuxième chose, en jordanie nous sommes capables de saisir les rapports officiels qui s'établissent entre les grands ensembles géographiques et les nations fortement constituées, car la Jordanie appartient à l'un tout en étant l'autre. Elle appartient à Bilad Ash-Sham mais elle est aussi une nation: la Jordanie. Il importe donc d'en connaitre les racines pour mieux saisir les rapports qu'elle entretient avec sa propre gégion. C'est un problème vital de toute notre époque que celui de la relation entre les nations et les ensembles géographiques plus vastes dont elles se sont peu à peu dégagées.

Ainsi me plaît-il de constater que cette manifestation se déroulera sous le signe d'un large thème, thème original, moderne; les modalités et l'extension de l'occupation du sol, je dirai même qu'il est contemporain, ce thème.

D'autre part, une large participation puisque, outre une importante délégation jordanienne et une notable participation française, notre Congrès réunit la quasi totalité de l'Europe et aussi de savants américains qui ont bien voulu se joindre à nous.

Je termine donc en offrant tous les voeux du ministère des Affaires Etrangères à ce Congrès pour qu'il se déroule sous le signe d'une vraie réflexion, commune, profonde, informée, généreuse au plus grand bénéfice de nous-mêmes qui accueillons et de nos amis jordaniens dont l'âme si vivante, comme le montre la présence de la Princesse, s'alimente de toutes les sources de son passé.

Mme Marie-Pierre de Cossé-Brissac
Sous-Directeur des Sciences Sociales et Humaines
au Ministère des Affaires Etrangères.

Altesse,

J'ai le bien agréable devoir de vous saluer au nom du Gouvernement français et spécialement des ministres des affaires étrangères, de l'éducation nationale, de la recherche et de la culture. Je salue les personnalités qui nous viennent de Jordanie et, si vous le permettez, Altesse, mesdames et messieurs, de saluer avec vous toutes et vous tous, cet heureux événement, qui en trois mois constitue la deuxième marque solennelle de rapprochement, de rencontre amicale entre la Jordanie et la France.

Au mois de février, Sa Majesté la Reine de Jordanie était ici, à Lyon. Durant tout son séjour à la préfecture, elle nous a enchantés par sa grâce, son souci de mieux connaître la France à travers son séjour ici et son intérêt très personnel à la fois pour tous les sujets d'ordre scientifique et médical, lors de la visite dans l'un de nos hôpitaux, et son souhait de confirmer les rencontres étroites dans le domaine de l'archéologie entre la Maison de l'Orient et son pays, par sa présence dans cette même maison.

Dans ce ciel d'Orient, trop souvent obscurci de nuages ou même d'orages que nous comprenons mal, qui nous inquiètent–car nous n'oublions rien de ce qu'a été, de ce que veut demeurer la vocation française dans cette région du monde-, la visite à Lyon de la Reine de Jordanie a été pour nous et notre pays un rayon d'espoir et de joie. Votre présence aujourd'hui confirme nos sentiments; le congrès d'archéologie jordanienne est une nouvelle manifestation d'amitié entre les deux pays dans un domaine irrécusable qui ne prête en aucune manière à malentendu ni confusion, non plus à des éclats médiatiques, dans ce domaine des relations scientifiques et culturelles pour toutes les raisons que Madame de Cossé-Brissac a brillamment exposées tout à l'heure.

Nous savons, avant que vous ayiez dit le premier mot, Madame, que c'est en parfaite connaissance de cause que vous venez ouvrir ce Congrès, que vous nous apportez, non seulement tout ce que la Jordanie compte sur ce même plan scientifique et culturel, mais -si vous le permettez- par vos études à Beyrouth, c'est tout l'Orient qui, si j'ose dire, vient à nous d'un coup. Voilà pourquoi je suis persuadé que, tant les participants français qu'étrangers, que les participants naturellement jordaniens, sont heureux de votre haute présidence qui ouvre cette manifestation scientifique et culturelle, de même que je forme le souhait très vif et très fervent qu'elle prolonge et enrichisse encore les relations nouées de longue date par la Maison de l'Orient, qui, grâce à la Reine de Jordanie est sortie du cercle étroit des spécialistes.

Je n'oublierai pas ce que la visite de Sa Majesté la Reine et la vôtre, Madame, doivent aux travaux, souvent obscurs, de la Maison de l'Orient Méditerranéen qui lui valent, spécialement aujourd'hui de votre part de la reconnaissance, de la notoriété, et du rayonnement.

C'est pourquoi je ne crains pas de dire que nous sommes ici, nous tous Français et singulièrement Lyonnais, hautement redevables à son directeur, à ses chercheurs à l'Université et au C.N.R.S. avec lequels elle a noué tant de liens féconds.

Aux uns et aux autres, dans cette journée mémorable, j'exprime tout simplement notre fierté de ce qu'elle est et que le président Cusin a si éloquemment rappelé, pour le monde des Méditerranéens.

En vous saluant encore, Madame, avec infiniment de respect et de gratitude, j'exprime devant et avec vous le souhait très fervent de grand et plein succès à ce congrès et les vœux que nous tous ici formons pour votre pays et pour ses souverains, et pour l'amitié de la Jordanie et de la France.

Gilbert Carrère
Préfet de la Région Rhône-Alpes.

Denyse Homès-Frédéricq
Comité Bélge de Fouilles en Jordanie, asbl,
Musées Royaux d'Art et d'Histoire
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Denyse Homès-Frédéricq

General Introduction to the Theme "Sites and Settlements in Jordan"

I. INTRODUCTION

It is a great honour to introduce the theme on "Sites and Settlement Patterns in Jordan" and an extreme pleasure to synthesize the problems assumed in the different communications and more specially those of this morning in the context of this subject, for two reasons. First, because Jordan is a country which has been very recently "discovered" by the archaeologists and the epigraphs and represents a very new chapter in the "history and archaeology of the Near East"; this means that both geographical and archaeological reports in this conference are completely original and complementary to the "traditional well known" history of the Levant or the Near East in general. Second, because all the reports we received and read before attending this conference (this means more than a hundred papers), are extremely interesting, evoking various problems and introducing a lot of new ideas, as every contributor had his personal conception about settlement patterns, about excavation methods or about well defined archaeological or philological problems which will be discussed here.

All the papers are very stimulating, be it about Jordan in general, about one region or one site in particular, about different periods or one well defined epoch, as well as about a special topic of the archaeology of Jordan.

Till today, we have received one hundred and seventeen papers in this conference: ninety four are "thematic communications", of which we will discuss some aspects and twenty-three are "short communications", presenting briefly the results of different archaeological and epigraphical projects, some surveys and excavation reports, as well as the *"actuality"* information (researches on computer and other specific problems relating to the archaeology of Jordan).

If we have today more "diachronic" communications, including the prehistory till the modern times, in the coming days the discussions will be purely chronologically arranged.

All the reports have many points in common and the interventions this morning will surely be numerous as the same questions are often to be solved in different periods (be it BC or AD) and in the various regions (be it the fertile, the semi-desert or the desert regions of Jordan).

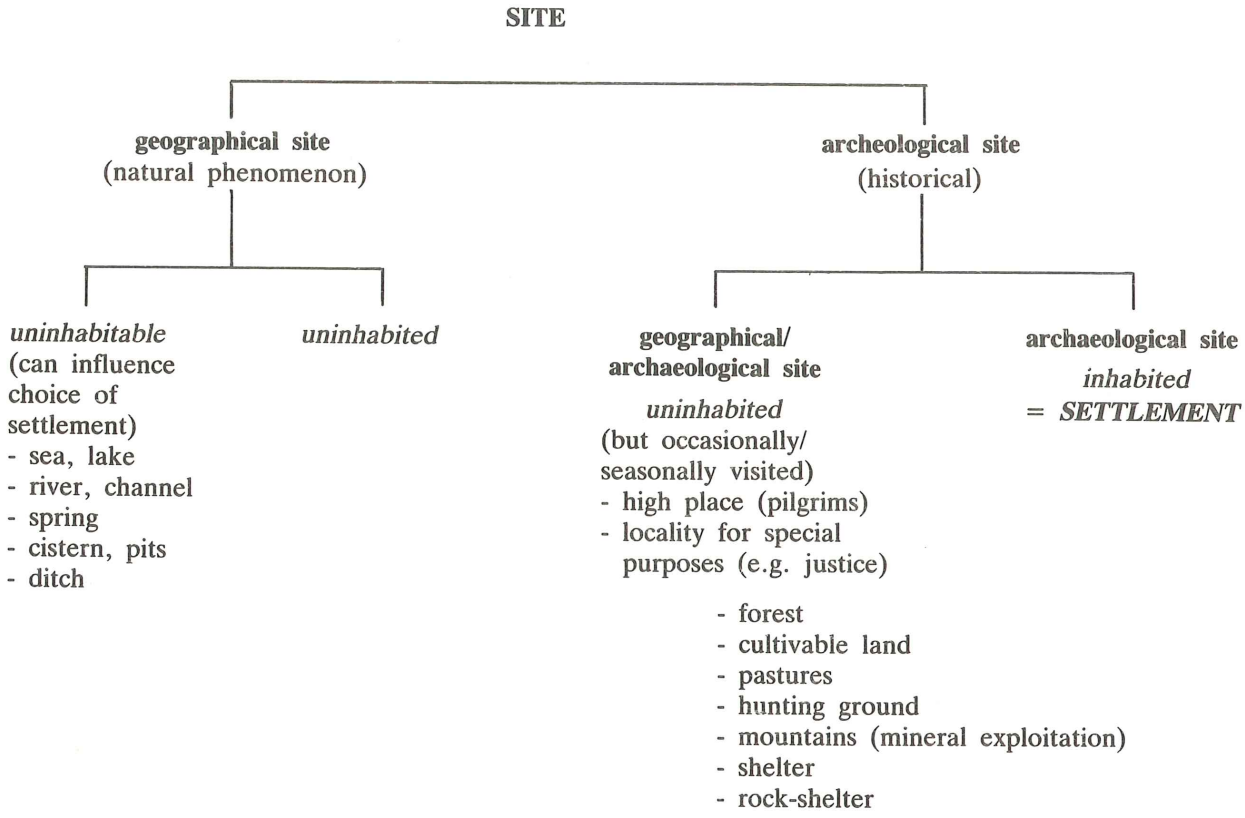
I would like to give first a "short theoretical introduction", discussing the variety of the used terminology, and ending with a summary of the problems evoked in the eight reports of this morning.

Terminology

The first question to examine is, as usual, a problem of terminology. In the different reports, various terms are used for the same idea: a *region* is called alternatively: area, zone, universe, component, component of an area and all of us know the difficulties of choosing adequate terminology, well accepted by everybody.

Our colleague, Dr. Denys Baley, who unfortunately died on July 27th 1987, evoked the theme and its problems in his comments to the Concept Group, when he wrote: "The terms "sites", "settlement" and "settlement patterns" have distinctly different meanings for archaeologists, historians and geographers. ... This does mean that we shall need to clarify this variety of meanings, to make clear the sense in which we are using the words... Very roughly speaking, *sites* are geographical phenomena and *settlements* are historical. In other words, the preliminary questions one asks about a site are: Where is it? Why is it there and not somewhere else? What are its connections with the surrounding region?".

In the reports we received, the terms "sites" and "settlements" are often mixed together and I would like to make first of all the distinction between a pure geographical site and an archaeological site. Therefore, I have tried to synthesize into a chart the terms used by Dr. Baley (a geographer) and the one found in most of the reports (archaeologists, historians and prehistorians as well as geographers).



If we accept this proposed chart, the term "Site" includes a geographical and an archaeological concept, while "Settlement" is more specially an archaeological historical phenomenon, always inhabited, and needs, in any case and necessarily, a human intervention. The geographical factors influence, of course, the choice of the settlement.

Definition of Settlement

A *settlement* is an archaeological site (always inhabited) and needs necessarily a human intervention.

First, we can distinguish temporary and permanent settlements. The ***temporary settlement*** shows a **single pattern**, e.g. a shelter, a rock-shelter, a fond de cabane, a hunting-gather, a fortress, a tower, as those mentioned in the survey reports.

The ***permanent settlement*** can include single or complex constructions.

The **single construction** can be isolated (e.g. a house, a castle, a fortress, a tower, a farm, a watchtower) or isolated but belonging to a construction complex (e.g. a house with esplanade, a castle or a palace with/without surrounding wall, a hunting lodge).

The **complex constructions** may consist of a hamlet, a village or a town. The *hamlet* represents a very small complex of habitations, which can be permanent or seasonal (pasture). The *village* includes a group of tents, huts, houses or farms, with/without granaries, storehouses, threshing floor (they find their resource mainly in agriculture and breeding). The *town* can be large or small, with/without enclosure walls. It represents a group of houses with/without important buildings/building-complexes as sanctuaries, palaces with living and residential quarters, annexes, fortresses with/without glacis, markets, workshops. Its resource can be commercial, cultural or military. It mostly has little agriculture or breeding.

Second, we can also examine **various aspects of settlements,** be they small or large: we can look at their **aims** (explaining often the origin of settlement): they can be religious, economic (agricultural, breeding, trade centre, metal or mineral exploitation), military, etc.

The **kinds of settlement** can be sporadic (seasonal), temporary or permanent. The **dimensions** of settlement depend on demography (growth of the population). their development and the decline of this population. The **reasons of origin of a settlement** can be natural (spring, mineral outcrop, good cultivable land, defensive position) or human (defensive position, pilgrim place which became a trade centre), while the **reasons for their development** depend on the wealth of the population, its political or economic role. The **reasons of decrease of a settlement** are various: food supply becomes insufficient, decrease of water supply, exhaustion of soil in general or of mineral supplies in particular, poverty of agricultural area, too intensive monoculture, deforesting, cattle breeding excess, natural or climatological reasons: erosion, earthquake, flood. The **reasons of desertion of a settlement** are mostly

conquest by enemy, war, epidemics, natural disasters or social evolution.

Most of those aspects are mentioned in the various reports. We have only made a selection so as to show the complexity of the study of a "settlement pattern".

Geographical, Chronological and Cultural Approach

In the publication of *The Archaeological Heritage of Jordan*, edited by the Department of Antiquities in 1973, 417 archaeological sites were mapped. Since then a considerable number of new sites and settlements have been discovered, listed and excavated.

On the map (FIG. 1), we have a slight idea of the numerous sites which have been examined over the last ten years. And still this map is far from being complete, as it contains only the reports that were received in time[1] for the publication of the *Archaeology of Jordan II.1-2. Field Reports. Surveys and Sites*, by J.B. Hennessy and D. Homès-Fredericq.[2] Chronologically, all periods are represented on FIG. 1.

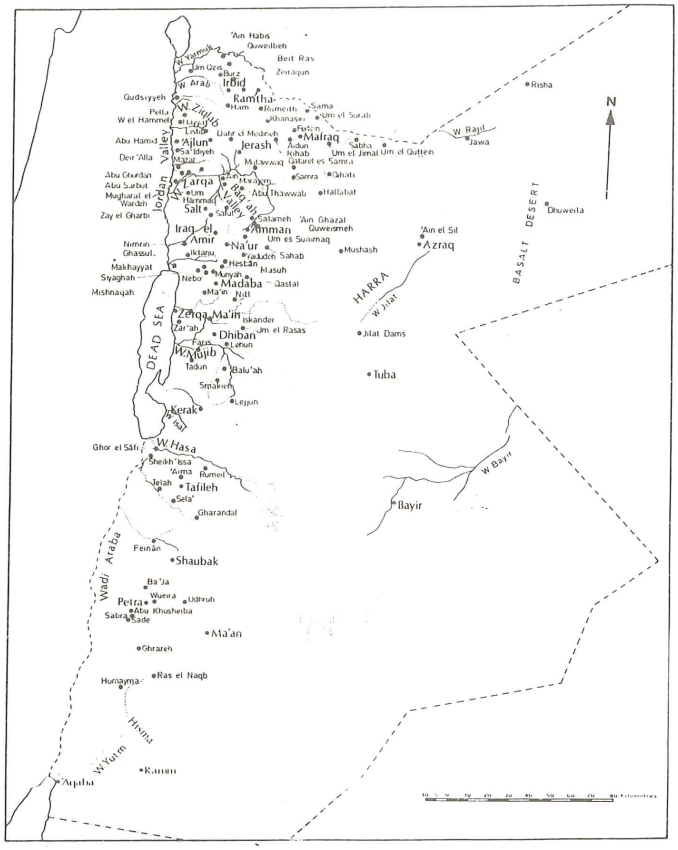
Geographically, Jordan is a wonderful source of study: nearly all regions have been investigated, showing the importance of the two big geographical entities:

1) the "better watered regions", including first of all the Jordan Valley, but also the region of Ammon, Moab, Edom, in general terms the regions of *permanent* settlements where nearly every chronological period is present;
2) and the "desert" and the "semi-desert" in the east of Jordan, often with more *seasonal* or *temporary* settlement patterns.

There is a third point that we have to examine when we study the sites and settlement patterns: the historical, cultural and trans-cultural influences in Jordan, as the country has been subjected to "cultural invasions", as stated by the different reports.

The "better watered regions", very rich due to their climate, fit for agriculture or breeding, are therefore settled by villagers and semi-nomad shepherds. They are also attractive to their neighbouring countries (Palestine, Syria, Mesopotamia, Arabia and Egypt) which means "military" invasions. Often they introduce what we could call "cultural" invasions (or external influences) which means change in settlement patterns. Here I think specially of the constructions of the Roman "highways" with their repercussions on settlements. At certain periods, (e.g. in the Nabataean) we observe a "trade" invasion (studied in the last Conference at Tübingen) with its influence on the King's Highway settlements.

The eight communications of this morning show those geographical, chronological and inter-cultural phenomena.



1. Map of principal sites excavated in Jordan. [D. Homès-Fredericq and J.B. Hennessy, *Archaeology of Jordan II.1. Field Reports. Surveys & Sites A-K* (Brussels: Leuven 1989), p. 98].

They illustrate also the problems with which the archaeologists, historians and geographers have to struggle.

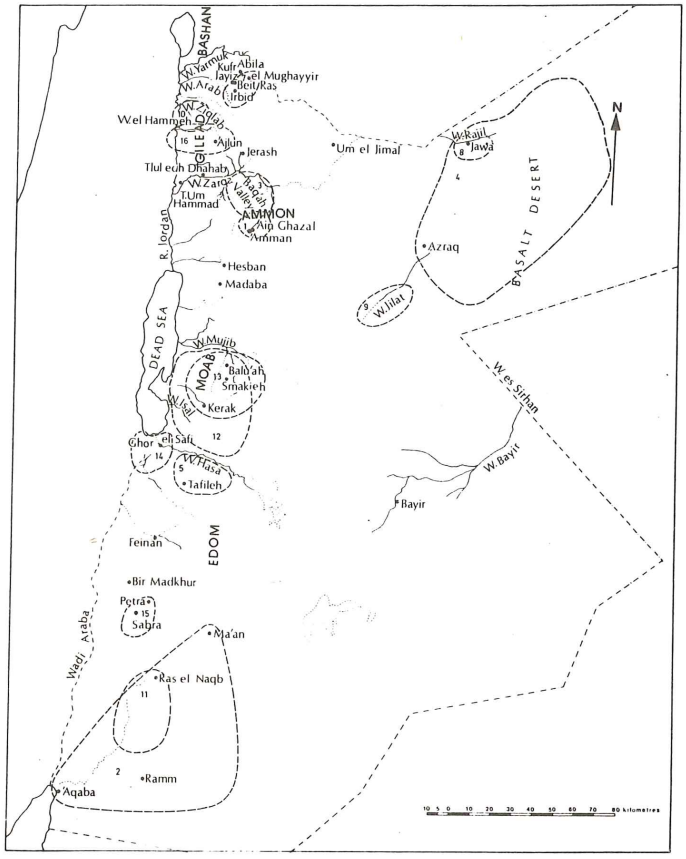
II. THE REPORTS AND THE EVOKED PROBLEMS

This morning we have six survey reports, including *chronologically* all periods and *geographically* Wadi Ziqlab, Wadi al-Ḥammeh, Wadi al-Yabis, 'Ain Ghazal, the northwest Arḍ al-Karak and al-Ḥasa regions. There is also one report on the interpretation of a *Palaeolithic* design on a stone found at *Jabal 'Amud* (southern Jordan) and another paper studying the repercussions of the earthquake on the settlement patterns of the Bilad ash-Sham (Greater Syria, including some towns of Jordan) in the *Islamic* period.

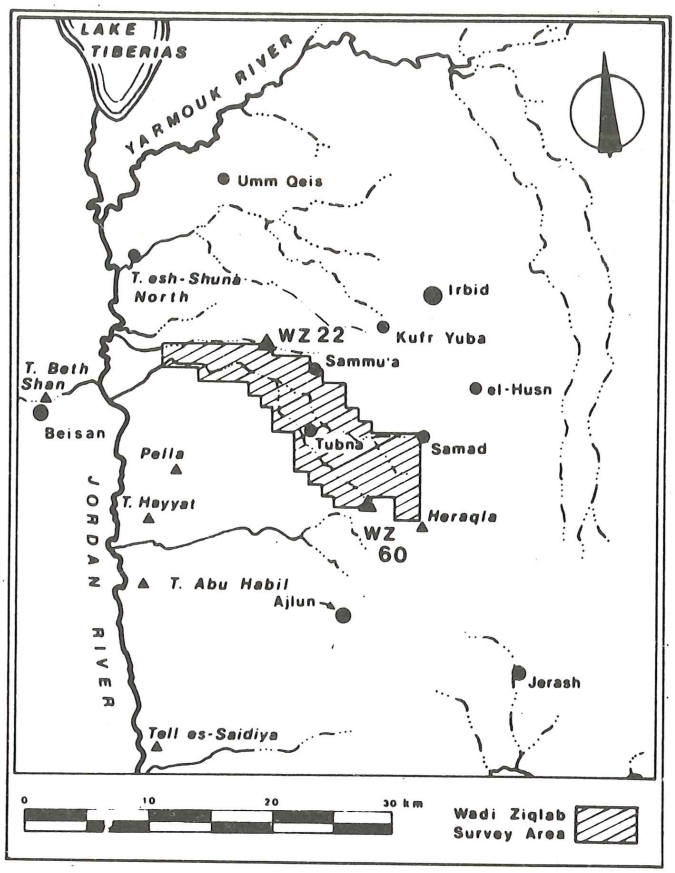
Surveys are very important (FIG. 2): they represent always the first step of any archaeological research. The surface finds give general indications about a region (whose periods are represented by the lithics, the ceramics, the

[1] I would like to take this opportunity to thank all the colleagues who have so efficiently collaborated to this "team" publication as well as those who have promised a report for the additional volume in preparation.

[2] D. Homès-Fredericq and J.B. Hennessy, *Archaeology of Jordan I. Bibliography*, (Brussels: Leuven 1986 = Akkadica Supplementum III); *Archaeology of Jordan. II.1. Field Reports. Surveys and Sites A-K* and *II.2. Sites L-Z*, (Brussels: Leuven 1989 = Supplementum ad Akkadica VII-VIII).



2. Map of surveyed regions (Homès-Fredericq & Hennessy, *op. cit.*, 1989, p. 12).



3. Map of the Wadi Ziqlab area survey [Banning *et al.*, *Annual of the Department of Antiquities of Jordan* 31 (1987), p. 322, FIG. 1].

architectural remains) but can also give much information about geology, biology, numismatic, epigraphy, etc.

The six reports of this morning are not the only surveys in the Conference, as the Irbid and Beit Ras Survey, the Baq'ah Valley Survey and the Moab Survey will illustrate, not forgeting the epigraphical surveys in Jordan in general and the Jawa region in particular (FIG. 2).

1. The Wadi Ziqlab Area Survey (FIG. 3)[3]

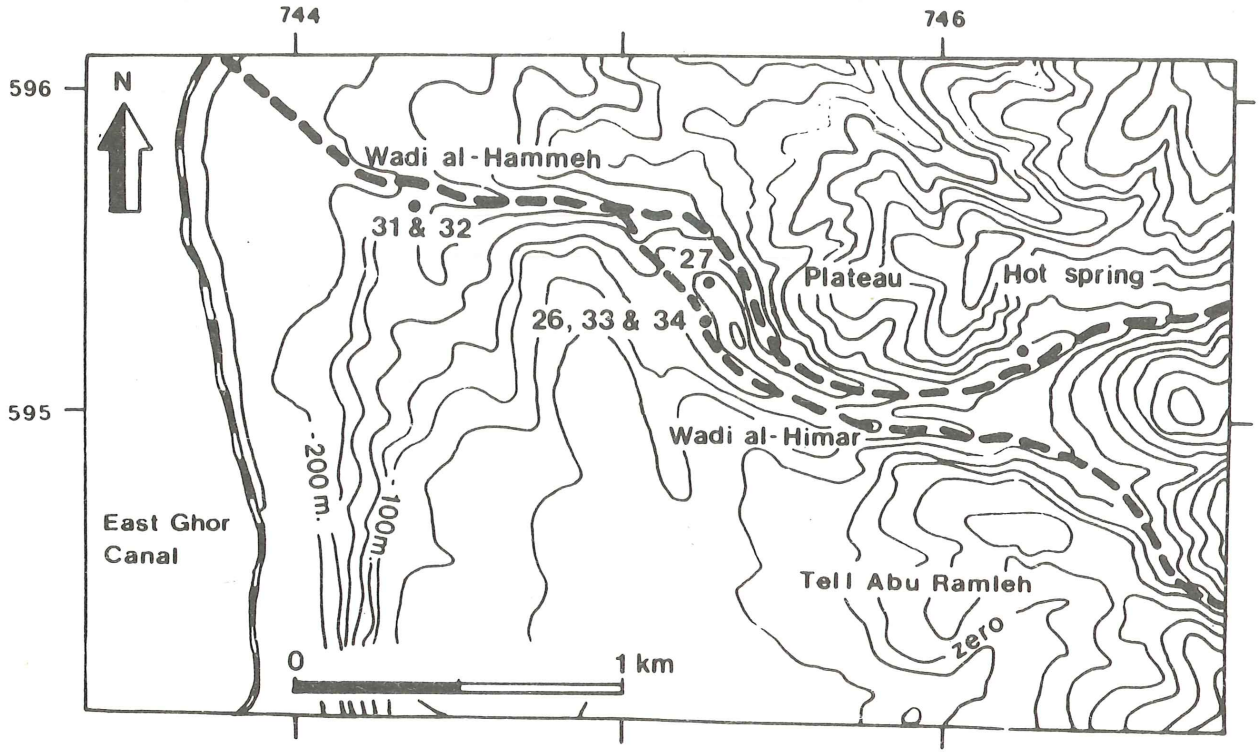
The Wadi Ziqlab area survey (northern Jordan) was directed in 1981 by Drs E.B. Banning and C. Fawcett, while "test excavations" and a "phytogeographical survey" were done in 1986, to complete the 1981 survey. Almost all periods are represented.

I must point out that there is a small problem with the Wadi Ziqlab communication, as I did not receive the announced paper and the summary I will give is based on the article of Dr. E.B. Banning in the *Annual of The Department of Antiquities of Jordan,* 31,[3] giving the conclusions for his working seasons of 1981 and 1986. The survey intended to understand the ancient natural environment of the region and to examine if traces of pastoral and agricultural land use would be revealed. Two sites were selected in 1986 to test the agricultural settlements. A sounding was made in *Wadi Ziqlab 22* (northern part) to see if the site was a Late Roman - Early Byzantine pastoral camp (Khirbet Maḥrama). Two probes were made in *Wadi Ziqlab 60* to find a sequence of lithics and ceramics.

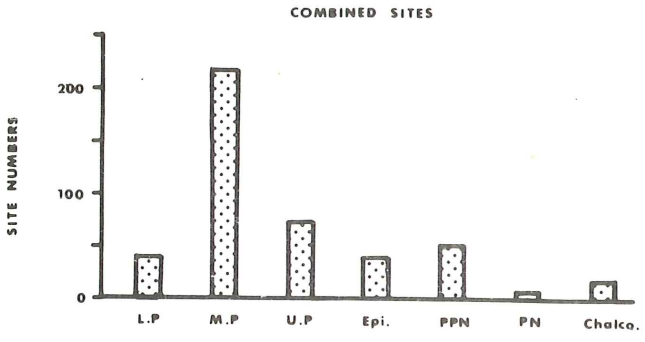
The author points out the following problems:

1. The importance of a survey combined with "subsurface" test excavations, to strengthen or replace the survey assumptions.
2. The difficulty to distinguish pastoral camp from agricultural land and to know the special purpose of a site, because we cannot be certain that the physical environment of sites have not changed in antiquity (importance of the palaeo-, ethno-, palaeobotanic- and botanical survey).
3. Difference that allows to localize village mounds (easier) and campsites (very difficult), with the real problem being: the difficulty to discover campsites

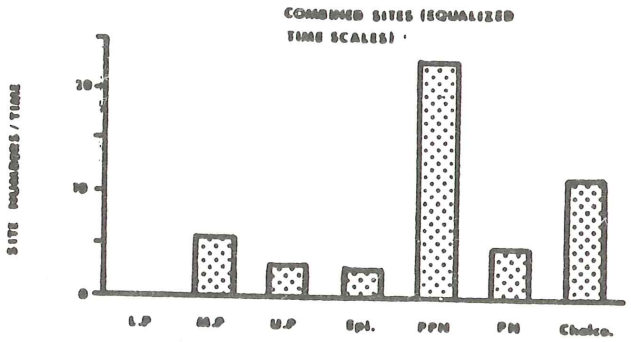
[3]Title of the paper of E.B. Banning (absent) 'Survey of Settlement Patterns in the Wadi Ziqlab'. For information see E.B. Banning, R. Dodds, J. McCorriston, S. Monckton and P. Sheppard, 'Report on the Wadi Ziqlab Project 1986 Season of Excavations', *Annual of the Department of Antiquities of Jordan* 31 (1987), pp. 321-342.



4. Pella, lower Wadi al-Ḥammeh showing location of Pleistocene sites (Hennessy *et al.* in Homès-Fredericq & Hennessy, *op. cit. II.2. Field Reports - Sites L-Z*, 1989, p. 406, FIG. 1).



5. Combined archaeological site numbers from four regions in Jordan. (Paper presented by P.C. Edwards.



6. Combined archaeological site numbers from four regions in Jordan (with equalized time scales). (Paper presented by P.C. Edwards.

because of their poor state of preservation and to distinguish them from other types of sherdscatter in the dense oak forest of the Wadi Ziqlab region where probes are often impossible. This problem is common to all the surveys we will discuss.

4. Is it possible to solve the problem of protection of the archaeological sites and prevent clandestine excavation?

2. The Lower Wadi al-Ḥammeh Survey (FIGS. 4-6)[4]

Dr. P.C. Edwards has surveyed Wadi al-Ḥammeh, 2km north of ancient Pella/Ṭabaqat Faḥl. So far six dated *in situ* Pleistocene sites (numbered on the map, FIG. 4) have been excavated by the University of Sydney. Two sites (WH 31-32) are located at the south bank of Wadi al-Ḥammeh near its mouth, four others on the plateau (WH 26, 27, 33 and 34).

Dr. P.C. Edwards studies the demography, a particular aspect of settling and attempts to reconstruct the population size in the Pleistocene from physical characteristics of settlement, centered on the ethnographically observed

[4]Paper presented by P.C. Edwards, 'Demographic Issues in Pleistocene Prehistory: A Perspective from Wadi al-Ḥammeh'.

relationship between a number of people and the floor area, as has been done in other countries (Kurdistan, Yemen).

The inter-regional and diachronic comparisons are presented in different figures, although the author attracts attention on the difficulty to estimate population levels from archaeological data. On FIGS. 5-6, survey data from four intensively surveyed regions of Jordan have been studied to investigate the relationship between site numbers and time. They present a variety of landforms and environment, as they belong to Wadi Ziqlab, Wadi al-Ḥasa, the Azraq Basin, and Ras an-Naqab.

1. FIGS. 5-6 show the importance of combining the number of sites with the length of each archaeological period; in FIG. 5 higher site numbers appear in the Middle Palaeolithic but their importance is relativated in FIG. 6, in comparison with the Prepottery Neolithic.
2. To take site area as index of population also presents difficulties and a simple correlation between numbers or sizes of archaeological sites and population cannot be substantiated.
3. The author also shows the important role of the climatic variations during the Pleistocene.
4. The fact that the older a site is, the more scarce the archaeological data are (although this is not always true).

3. The Wadi al-Yabis Survey (FIG. 7)[5]

The Wadi al-Yabis Survey, conducted by J.B. Mabry (University of Arizona) and Dr. G. Palumbo (Università di Roma) was carried out in August 1987. The entire Wadi al-Yabis drainage basin and part of the Jordan Valley were examined: this includes an area of *c.* 187km^2, ranging between 1200m above sea level and 300m below sea level, with of course a highly varied landscape. This explains the different settlement patterns, corresponding with various adaptive strategies of the humans with the landscape.

From the seventy sites known from previous surveys in this area, eighteen were visited and twenty six new sites were identified. Additional periods of occupation were recognized at thirteen of the eighteen previously known sites. These sites range *in date* from the Epipalaeolithic to the Ottoman period.

To summarize the demographic tendencies and the changes in settlement patterns, the authors show a "diachronic" evolution on different maps, which can be summarized as follows:

1. The recurring, indigenous pattern of settlement in the Wadi al-Yabis catchment is the location of autonomous sedentary villages and nomadic camps in every potential ecological niche.
2. Periods of stable, centralized political and economic structures encouraged agricultural intensification, such as terracing of the hill sides, as well as resistance to nomadic incursions.
3. On the other hand, periods of uncentralized, or local political structures often led to intrusions of nomadic-pastoralists, dispersion of population, and neglect of the land (abandonment of terraces, etc.).

The history of settlement and land use in the Wadi al-Yabis highlights "the fragility of the natural equilibrium between man and land", a balance which is particularly threatened by modern development.

4. The 'Ain Ghazal Archaeological Survey 1987 (FIG. 8)[6]

Presented by Dr. A.H. Simmons (Desert Research Institute, University of Nevada System) and Dr. Z. Kafafi (Yarmouk University). The survey took place in the summer of 1987, in the northern suburb of Amman, where the intensive development of the modern town is a real danger for archaeological remains.

Six separated zones were systematically surveyed, comprising a area of 8.40km^2, west and north of the spectacular Neolithic settlement of 'Ain Ghazal, discovered in 1982 and excavated by Drs. G.O. Rollefson, Z. Kafafi, and A.H. Simmons.

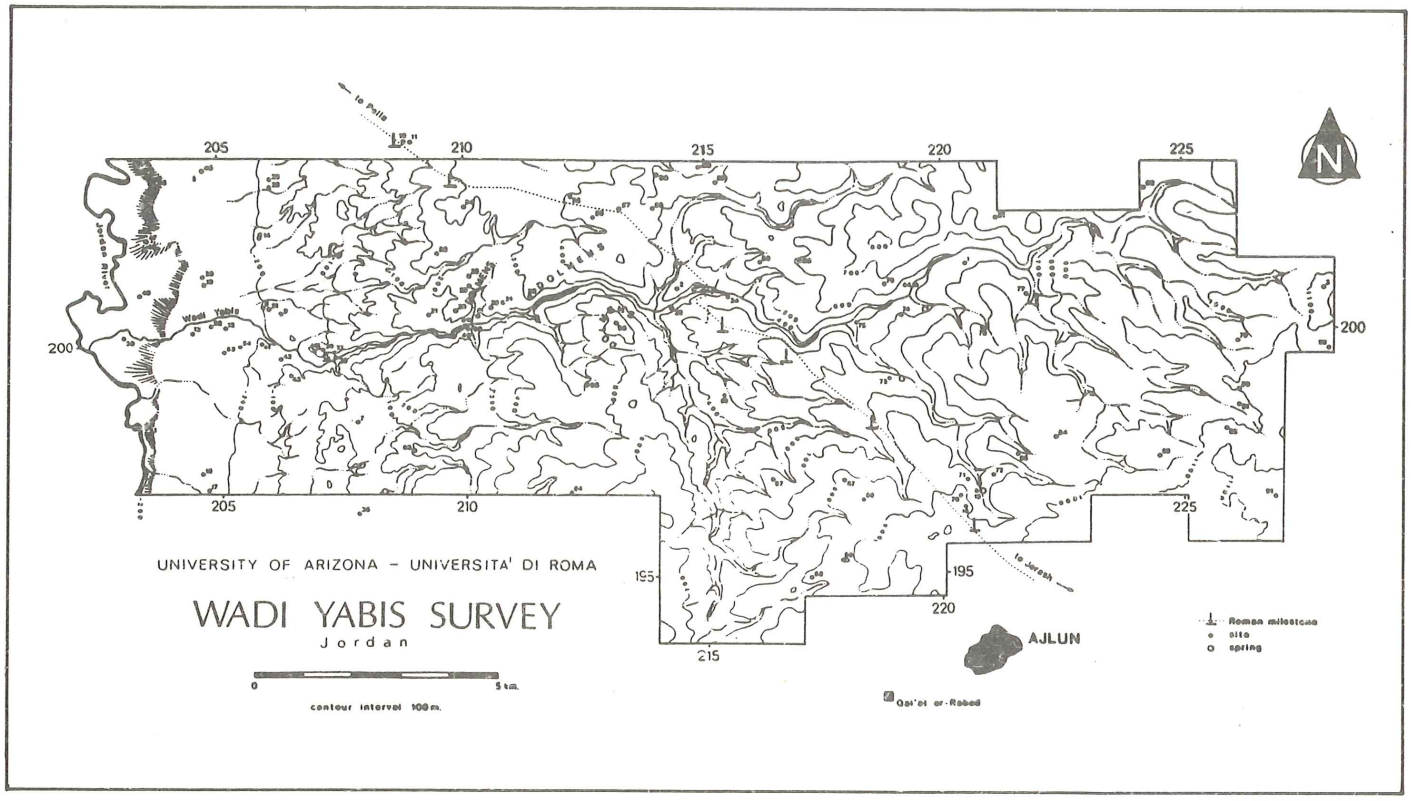
In the six areas, the wadi floodplains and the adjacent terraces and slopes were carefully investigated: eighty one archaeological sites, with one hundred and eight components, were recovered.

For the 'Ain Ghazal archaeological survey we can conclude:

1. There is a high density of 9.6 sites per km^2, ranging from the Palaeolithic (Late Lower Palaeolithic) to the Umayyad period.
2. The survey has proved that the site of 'Ain Ghazal was larger than previously thought and a new transitional period, called Prepottery Neolithic C, was distinguished between the PPN B and the Yarmoukian.
3. Up to now, it seems that no smaller satellite Neolithic villages, farmsteads or pastoral sites were dependant on 'Ain Ghazal, but it is always possible that they have not yet been discovered or have been covered by geomorphic processes.
4. The chronological evolution of the site shows that the earliest Prehistoric periods are the best represented and are interesting for their settlement patterns. There was a Chalcotlithic/Early Bronze occupation and a relatively well represented Iron Age period, although sites are small. There was a surprising *lack* of Middle Bronze/ Late Bronze occupation as well as of the classical Hellenistic period. The Roman, Byzantine and Umayyad periods are also poorly represented.
5. The lack of major post-Neolithic settlements may be

[5]Paper presented by J.B. Mabry and G. Palumbo, 'Environmental, Economic, and Political Constraints on Ancient Settlement Patterns in the Wadi al-Yabis Region'.

[6]Paper presented by A.H. Simmons and Z. Kafafi, 'The 'Ain Ghazal Survey: Patterns of Settlement in the Greater Wadi az-Zarqa Area, Central Jordan'.



7. The Wadi al-Yabis survey area (J. Mabry and G. Palumbo in Homès-Fredericq and Hennessy, *op. cit. II.1.*, p. 93, FIG. 1).

due to the severe environmental degradation supposed to have been caused by the residents of 'Ain Ghazal.

5. The North Arḍ al-Karak Survey (FIG. 9)[7]

Several intensive surveys were conducted between 1983 and 1986 by Dr. U. Worschech, with the collaboration of Dr. E.A. Knauf in 1984. This area had been previously covered by N. Glueck as well as by the "Central Moab Survey" directed by Dr. J. Max Miller, whose investigations extended further south, to Wadi al-Ḥasa.

The survey area of Dr. U. Worschech is geographically defined by Wadi al-Karak in the south, the Dead Sea in the west, Wadi al-Mujeb in the north and the edge of the Moabite Plateau (Arḍ al-Karak in Arabic) in the east.

The region comprises different ecological zones which influences the settlements and their pattern: the desert of the Southern Ghor next to the Dead Sea and the slopes of the Moab plateau are characterized by micro-climatic regimes depending on the elevation (between 1000m above sea level and 300m below sea level). Eighty-five percent of the area has been surveyed and a hundred ancient sites discovered. Almost all the periods are represented.

Dr. U. Worschech draws attention to the different problems concerning the Arḍ al-Karak region:

1. Problem of the Chalcolithic (or Middle Bronze?) tumuli and need of a systematic research of these tomb structures.
2. Cause of sudden appearance of Chalcolithic, Early Bronze settlements (indicated by a cross on the map). Fourteen new sites were discovered in all three zones, in addition to Bab adh-Dhra' (proposed answer for increase of settling is more favourable climate, trade and commerce).
3. Difference of evolution of the settling of western and eastern Palestine (with an inter-cultural "invasion" of the Egyptians) and the problem of the Shasu-type nomads who developed into the settled life-style with one of their "sheikhs" as first "king of Moab".

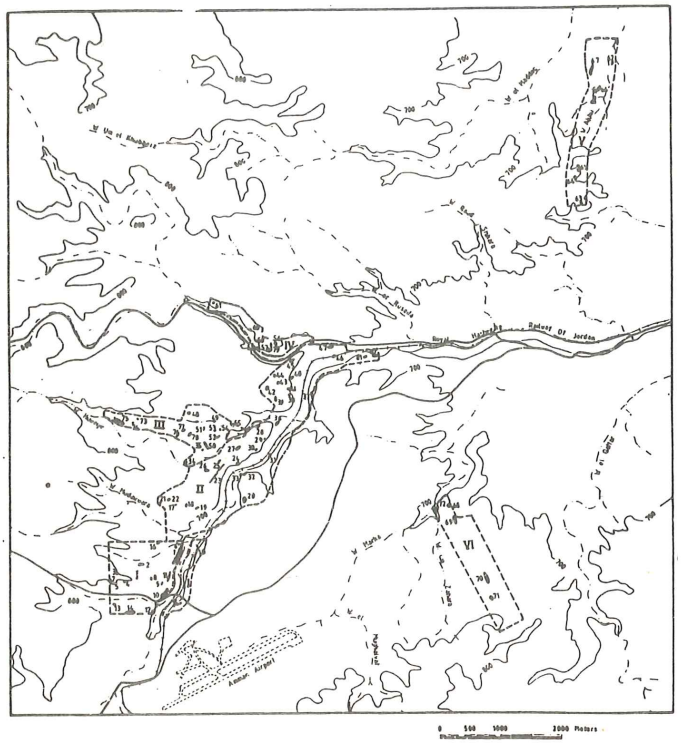
6. The Wadi al-Ḥasa Archaeological Survey (FIG. 10)[8]

The Wadi al-Ḥasa archaeological survey was directed by Dr. B. MacDonald and covered West Central Jordan, on the south bank of Wadi al-Ḥasa, delimited westward by the Southern Ghor, and more specially the towns of aṭ-Ṭafilah and 'Aima and eastward by the modern desert highway, near the village of al-Ḥasa.

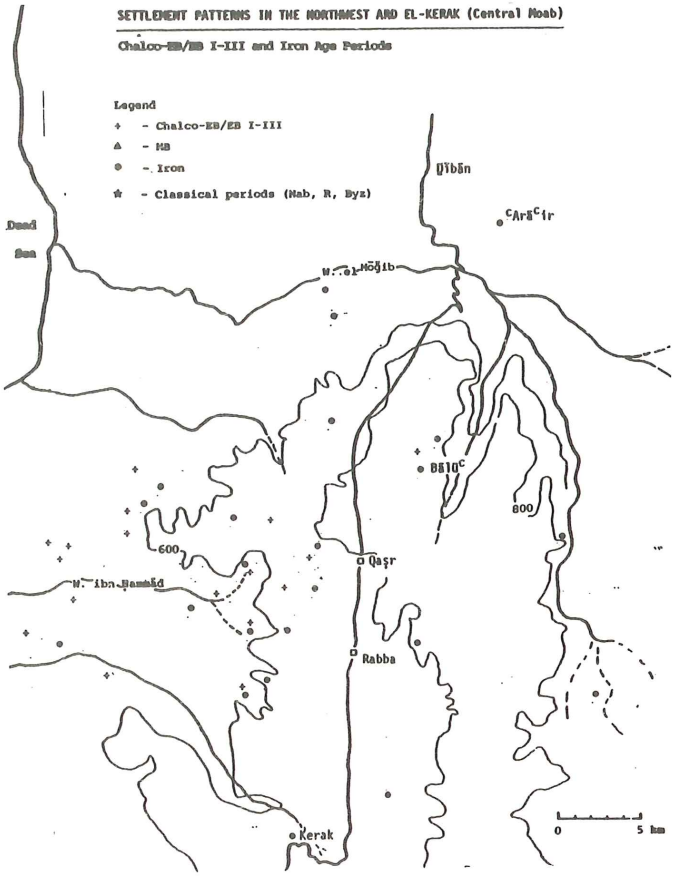
This region, cut by a number of impressive and deep wadis, was divided into three "universes" or regions by the

[7]Paper presented by U. Worschech, 'Ancient Settlement Patterns in the Northwest Arḍ al-Karak'.

[8]Paper presented by B. MacDonald, 'Settlement Patterns Along the Southern Flank of Wadi al-Ḥasa: Evidence from "The Wadi al-Ḥasa Archaeological Survey".'



8. The 'Ain Ghazal Archaeological Survey 1987 (Z.A. Kafafi and A.H. Simmons in Homès-Fredericq and Hennessy, *op. cit. II.1.*, FIG. 1).



9. Settlement patterns in the North Arḍ al-Karak (central Moab). (Paper presented by U. Worschech, FIG. 1).

surveyors and examined in 1979, 1981 and 1982. In this region 1074 sites were surveyed, belonging to the different chronological periods and reveal an occupation for more than 100,000 years.

1. From the Neolithic period onwards, Wadi al-Ḥasa seems to follow the same evolution as the Arḍ al-Karak region, as well as most regions of Jordan: increase of population from the Chalcolithic period onwards, through the Early Bronze with a decline in the Early Bronze II-III; increase of population in the Iron Age with small, permanent settlements, and acceleration of the process in the Iron Age II as with sedentarization and pastoral occupation attested in the eastern universe. Pottery Neolithic, Middle and Late Bronze as well as Early Islamic evidence is poorly attested. As in Arḍ al-Karak, Nabataean settlements are most numerous (forts and/or caravansera in the east), continuing into the Roman period.
2. The Byzantine period, one of the biggest populations in the area, has its own settlement pattern. The population did not make use of the wadis, as did the Nabataeans.
3. Importance of the interpretation of the past environment has been revealed by rather detailed descriptions of different travellers during the 19th century.
4. The Wadi al-Ḥasa area is a marginal region for farming but stable for grazing, and therefore the first "to empty out" and the last to "fill up", as was the case for Arḍ al-Karak, in opposition with the other more favourable regions.

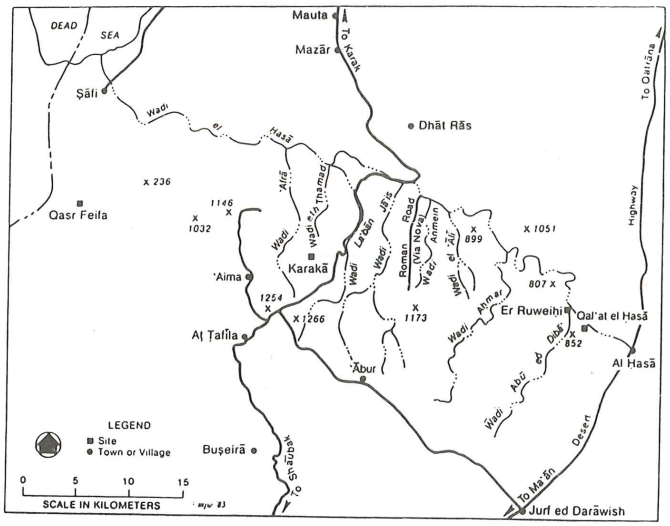
7. The Map of Jabal 'Amud (FIG. 11)[9]

The paper of Dr. E. Borzatti von Lowenstern gives an interpretation of a recent discovery in the region of Jabal 'Amud (in southern Jordan in Wadi Ramm).

A large stone of 2.80m by 1.70m represents an enigmatic drawing of two flat areas with small dots, a hundred and fifty large and smaller holes and lines of different length and thickness. The flat areas have been made by grinding stones; the holes and the lines by intentional cutting. This stone has generally been interpreted as a religious feature.

Dr. E. Borzatti von Lowenstern reads this stone as a

[9]Paper presented by E. Borzatti von Lowenstern (absent), 'Insediamenti e siti. Un suggerimento dalla Preistoria'.



10. The Wadi al-Ḥasa Survey (B. MacDonald, in Homés-Fredericq and Hennessy, *op. cit. II.1.*, p. 49, FIG. 1).

prehistoric, topographical map of the region, on the scale 1/60,000. He dates it from 3000-2500 BC, and thinks the holes represent small and larger settlements, the lines indicating the roads, channels and bypasses. He assumes this map allowed people to communicate with each other, giving information about the best places to hunt and the roads to follow in antiquity.

With this hypothesis in mind (which will seem hazardous at the first approach), he reexamined the whole region and discovered many prehistoric "abris sous roche", a great number of tumuli and small settlements, important for agriculture and breeding but never mentioned or mapped before.

8. Earthquakes in Southern Syria (Jordan and Palestine)[10]

The last communication, by Dr. Y. Ghawanmeh about "*Earthquake Effects on Bilad ash-Sham Settlements*", presents a very interesting aspect of decrease or abandonment of settlements, due to a natural phenomenon, a catastrophe independent of human will, in the Islamic period, between the eigth and the 18th centuries AD.

Earthquakes have an important impact on population and architecture and many negative results on cultural, economic, commercial, agriculture and social life.

His conclusions are:

1. During the Islamic period, seventy six earthquakes have been listed between the eighth and the 18th centuries AD by the ancient authors. The most important ones for Jordan are between the 11th and the 13th centuries, affecting North, Central and South Jordan.
2. Different towns in Jordan were completely destroyed, and the tables given by Dr. Ghawanmeh are very useful in establishing the years, the towns, the degrees of earthquakes and their results.
3. People leave their houses or their country because they fear new earthquakes. Some urban centres are rebuilt or repaired. Those settlements which were impossible to rebuild, were deserted, introducing a decrease of population, with various effects on economical or agricultural life.

It would be very interesting if a comparable study could be done from the prehistory to the early historic periods of Jordan, as has been done for the Islamic and the Roman periods.



11. L'incisione di Gebel Amud. (Paper presented by E. Borzatti von Lowenstern.

[10]Paper presented by Y. Ghawanmeh, 'Earthquake Effects on Bilad ash-Sham Settlements'.

9. Ore Exploitation and Metal Production in the Area of Feinan[11]

Drs. A. Hauptmann and G. Weisgerber entered a completely different type of subject, giving a short overview of their work at Feinan, the largest mining and smelting copper site of the Near East, located in Wadi 'Arabah between the Dead Sea and the Red Sea. They found more than 150,000 tons of slag in this area. By chemical analysis at the "Deutsches Bergbau Museum" at Bochum, and with the collaboration of the Department of Antiquities of Jordan, they try to find an answer to the complex history of metallurgy and the trading of copper. As the authors stated, there are still many problems concerning this starting project on a "production" site.

III. GENERAL CONCLUSIONS

Terminology "Sites" and "Settlements"

Although there was no general agreement at the beginning of this conference on how to interpret: "sites and settlement patterns", we can now conclude, after five days of discussion, that:

1. *Site* is an abstract and theoretical concept, which covers many aspects: geographical and historical, and that we should use it in the archaeological sense of the word including cultural association with the historical background: a ceramic site, a burin site, a seasonal site, a Prepottery Neolithic site, a site of flint scatter. It includes archaeological "records" of unexplainable human activity.
2. Everybody agrees that there must be a human presence at a certain location for it to become a *settlement* but that the word can also be used as a synonym for site, if people are living together and if there is evidence of organisation of an area.
3. That the word site *pattern* for a settlement pattern can also be differently interpreted, such as: studying a particular site, a region, a country or an interregional area.

"Survey Reports"

In connection with the survey reports, the following conclusions have been stated:

1. There are many "gaps in our knowledge" concerning the history and the archaeology of Jordan, as well as the settlement patterns, including their geomorphic processes.
2. The surveys are absolutely necessary for any kind of archaeological research, as they give the first information about the periods represented at a site or a region.
3. It would be advisable to always combine the surveys with "subsurface tests", excavations or "probes" to strengthen or replace the preliminary conclusions derived from the surveys.
4. The country has often been unsystematically surveyed and many sectors are not prospected.
5. There remain many questions to be solved for the surveyors/excavators:
   - a chronological problem: the evolution of settlements and the difference in density of the population in the various periods, typology of each period;
   - a geographical problem: the influence of the landscape on a settlement, the modification of the regional context by human intervention, the difficulty to make definitive maps by period;
   - a historical question regarding the political situation.
6. There are often difficulties in dating the surface material. It is also advisable to publish the "UD" or "undetermined" material.
7. Last but not least, there are problems in dating the transitional periods or "dash periods" mentioned by Dr. A. Leonard.[12]

[11] Paper presented by A. Hauptmann and G. Weisberger, 'Periods of Ore Exploitation and Metal Production in the Area of Feinan, Wadi 'Arabah, Jordan'. (No text available before the start of the conference).

[12] Paper presented by A. Leonard, 'A Comparison of Settlement Density in the Jordan Valley and its Highlands During the Late Bronze Age' (on 31/5/1991).

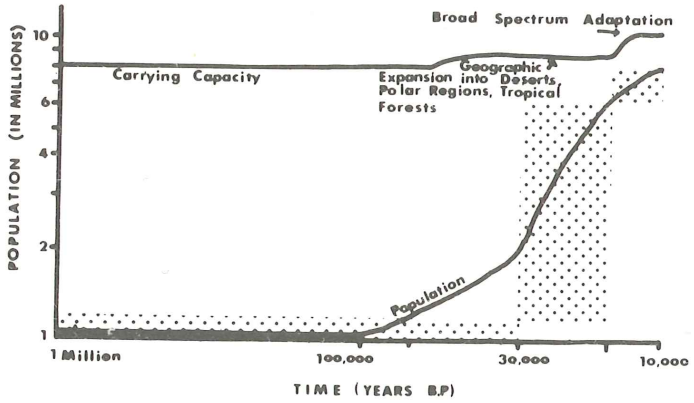
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Demographic Issues in Pleistocene Prehistory: A Perspective from Wadi al-Ḥammeh

This paper explores some consequences of attempting to reconstruct human population levels in the Pleistocene, using only those direct archaeological variables available for the great majority of cases: Namely estimates of site numbers, site sizes and considerations of flaked stone tool densities and patterning. Much of the data cited here is drawn from the Jordanian prehistoric record, with inter-regional and diachronic comparisons made in order to illustrate some of the paradoxes that emerge in attempting the difficult task of demographic reconstruction.

A common model for world population trends envisages a slow, steady population growth through the earlier Pleistocene, then a sharp inflexion near the end of the Pleistocene leading to a runaway increase in the Holocene (FIG. 1). However this scenario, based on a gradualist



1. Hassan's model for world population growth. (After Hassan 1981: 207).

interpretation of population growth before the last major interglacial, is not the only conceivable one. Dennell (1983) for example, has conjectured several steps at which relatively quick increases occurred in Pleistocene Europe.

The study of Pleistocene demography highlights the frustrations to progress in a field where the available units of measure remain equivocal, or worse, are liable to suspicions of irrelevance.

Lithic Density as an Index of Population

Several trials have been made using artefact densities to estimate populations that occupied archaeological sites, and lithics have usually been chosen for the Palaeolithic cases. This in itself seems a curious idea, in so far as it assumes that the abundance of artefacts or rubbish discarded on a site is always directly correlated with population size, where it is not obvious that this relation is generally true.

Direct observations are salutary in reminding us how few people and how little time may suffice for large quantities of material to be amassed. Binford cites an example of skeletal debris where:

> "...a family had killed about fifty caribou by driving them into a nearby lake. All the processing of meat for drying took place during a period of only twelve days or so, yet the amount of debris deposited at the site was *absolutely staggering*" (1983: 138; italics in original).

The remedy is not just to lower our population estimates by an order or two of magnitude because we have hitherto been overly impressed by the scale of human refuse generation, but to re-examine the assumption that amounts of refuse and population co-vary in a constant manner.

Doubts arise on several fronts when some of the applications using lithic evidence are confronted. Even if the ratio of people to artefacts remained static for communities using sites, successively older sites might be expected to have suffered more deflation, with higher selective removal of small fragments. In such cases high levels of deflation would partially duplicate the effect considered to be caused by lowered occupational intensity.

In Wadi al-Ḥammeh, the deflationary effect was evident in the Upper Palaeolithic site Wadi Hammeh 32, which yielded a mean lithic density of 500/m^3 (Edwards and Colledge 1985). Another, earlier Upper Palaeolithic site Wadi Hammeh 34 had a much higher lithic density of

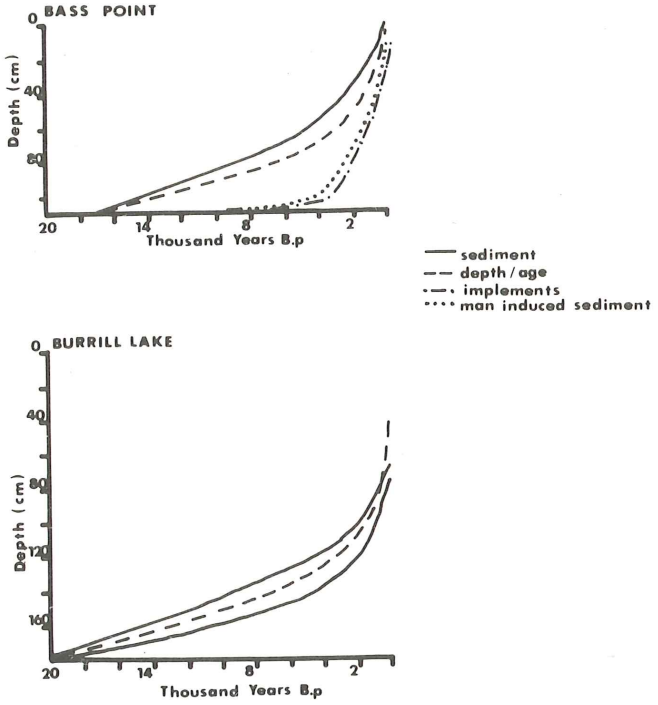
13,829/m^3 because it was embedded quickly in a silty clay matrix under low hydrological energies.

A different line of objection stems from considerations of lithic reduction techniques. During bladelet core reduction (a mode common from the Upper Palaeolithic onwards), the reduction sequence may produce more fragments, which are in turn retouched into microliths, than say, the striking of flakes or points of a Middle Palaeolithic Levallois core.

Some instructive examples may be cited from Australian prehistory. There are several sites at which the date of introduction of the so-called 'Australian small-tool tradition', which included forms that would be termed microliths in Old World prehistory, succeeding the previous 'core-tool and scraper tradition' have been closely documented (White and O'Connell 1982: 105-123).

At the Bass Point and Burrill Lake sites in New South Wales, sediments and artefacts accumulated slowly until *c.* 4000 years ago (FIG. 2). After this time, when the small-tool tradition appears, both increase rapidly (Lampert and Hughes 1974: 232-233). The excavators believed that the acceleration was best explained by increased population. Yet when summarizing their work at these two sites, together with a third one (the Curracurrang I rockshelter), they move closer to another model:

> "At each of the three sites, an increase in stone working coincided with the arrival of the new small stone technology. Because this technology itself could have necessitated more prolific stone working, more intensive occupation of the sites by people is not a necessary corollary. However the increase in man-induced sedimentation at two of the sites when stone working becomes more prolific supports the view that they were used more frequently." (Lampert and Hughes 1974: 233).



2. Age-depth curves for two New South Wales archaeological sites. (After Lampert and Hughes 1974: 232).

The concurrent increase in sedimentation and stone fragments does not in itself favour either hypothesis. It may be that the increased efficiency of the small-tool tradition indirectly enabled population growth in the region surrounding the site, but another more parsimonious explanation is that a core reduction sequence producing a greater volume of fragments itself contributes directly to increased sedimentation, even when population is held equal. A larger mass of stone fragments may act as an aggregate around which inwashed or in-blown sediment can consolidate.

Evidence supporting this view comes from the Lindner site, Nauwalibia 1, in Arnhem Land (Jones and Johnson 1985: 165-227). Midway through a long sequence of deposits, which in the lower levels yielded large-tool assemblages, a bifacial stone point technology was introduced some time after 5700 years ago (Jones and Johnson 1985: 203-206). Overall there is an increase in the weights and numbers of small (< 1cm^2) flakes in the upper layers. The age-depth curve for this site shows a concomitant increase in sedimentation rate after 5000 years ago. Again, the change in flaking techniques, not increased population, will suffice as explanation for the more prolific stone fragments which in turn generated a larger volume of sediment through consolidation of aeolian material.

For lithic densities to be meaningful for demographic purposes, the reduction sequences compared ought to produce similar magnitudes of debris.

At Koobi Fora, Isaac and his colleagues (1981: 118-119) described outcrop strips containing many small sites, about twenty square metres in area, marked by stone tool clusters. These are similar in size to the Wadi al-Ḥammeh Kebaran sites of *c.* 25m^2 (Edwards 1987: 53, 97). In the Plio-Pleistocene Koobi Fora sites, lithic densities averaged in the tens per cubic metre, as opposed to thousands per cubic metre in the Wadi al-Ḥammeh Kebaran. Clearly this does not mean there were hundreds more humans clustered around the Kebaran sites than hominids around the Koobi Fora sites. For example, it is likely that Levantine Upper and Epi-palaeolithic assemblages—Ahmarian, Kebaran, Mushabian, Ramonian, Hmaran, Qalkan, Geometric Kebaran and Natufian traditions possess similar orders of lithic density. Nevertheless, fragment quantities are also dependent on site type and individual knapper's production, and any proposed equivalence between lithic density and population fails because lithic densities do not uniform-

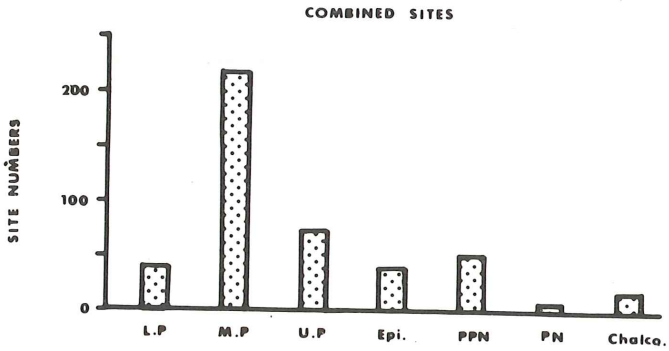
ly co-vary in the required way with other indicators of site size and complexity.

Archaeological Site Numbers and Population

A reasonable way of proceeding to construct global population graphs upon hard archaeological evidence would seem to be to compile numbers of archaeological sites diachronically from closely surveyed regions. The purpose of this section is not to attempt this daunting task, but to investigate the nature of one of the regional site registers on which such an attempt might be based.

Site numbers from Lower Palaeolithic to Late Neolithic were tallied from four intensively surveyed regions of Jordan: Wadi Ziqlab, Wadi al-Ḥasa, al-Azraq, and Ras an-Naqab. Those sites that were counted under more general appellations like 'Palaeolithic', because of a lack of diagnostic artefacts, were discounted. This in itself presents an insoluble methodological problem. At al-Azraq, for example, over thirty per cent of sites could be tentatively assigned to a one period, or not at all. These unknowns skew site frequencies because they do not derive uniformly from all periods, but are derived from periods such as the Lower Palaeolithic and Upper Palaeolithic which are poorly represented by local, dated sequences.

When site numbers from the separate regions are compiled, it is obvious that no gradual, consistent increase over time occurs (FIG. 3). Instead there are oscillations of



3. Combined archaeological site numbers from four surveyed regions in Jordan: al-Azraq, Ras an-Naqab, Wadi al-Ḥasa and Wadi Ziqlab. (Compiled from Garrard and Stanley-Price 1977; Henry 1982; MacDonald *et al.* 1983; Banning and Fawcett 1983).
Key to figure: L.P. = Lower Palaeolithic; M.P. = Middle Palaeolithic; U.P. = Upper Palaeolithic; Epi = Epipalaeolithic; PPN = Pre-Pottery Neolithic; PN = Pottery Neolithic; Chalco. = Chalcolithic.

high and low site numbers. Apart from al-Azraq, Middle Palaeolithic sites exceed any other period in number. Compensating for the unequal time spans restores the Holocene predominance, however the middle Palaeolithic remains the most frequent of the Pleistocene group.

Do we then conclude that Pleistocene populations reached a crescendo among archaic humans or neanderthals? Alternatively, population levels in discrete semi-arid micro-regions through much of the Pleistocene may have been largely conditioned by climatic oscillations. Egress from micro-regions during arid periods was likely, and this factor may to some extent explain the prevalence of Mousterian remains, because palaeoclimate in the southern Levant during much of the Middle Palaeolithic period was moister than at present (Goldberg 1981: 63).

The survey areas were not closed with respect to population movements. What follows from increase and decrease in site numbers is not necessarily overall increase and decrease in population, though it may well reflect episodic utilization of a particular territory. This concept is plain to anyone who walks over many of the arid parts of east Jordan, practically deserted today, which are nevertheless covered with Palaeolithic flints.

Archaeological Site Size as a Unit of Demographic Measure

A no less fundamental issue is to address the degree to which archaeological sites are intercomparable. Even for pre-agraraian sites it has long been recognized that different sizes and types of sites exist, and hierarchical classifications have been developed in an attempt to assign functions, such as 'base camp' and 'hunting stand' (Bar-Yosef 1970: 184).

An important reason why area estimations of the largest or larger sites may be a more reliable demographic measure than site number *per se* is that increasing population is not always associated with greater numbers of sites. The phenomenon of implosion, where population expansion in a large, nucleated settlement corresponds to decline and extinction in numbers of its satellite villages and hamlets characterizes the present growth of many of the Third World's urban cores, such as Mexico City, Lima and Cairo (Vining 1985). Archaeological evidence suggests the same effect occurred in southern Iraq during a phase of intensified urbanization in the Warka and Proto-Literate periods (Adams and Nissen 1972: 37-38), and for Teotihuacan during the fifth century AD (Millon 1967: 46).

In the Natufian period, sites like Wadi Hammeh 27 and 'Ain Mallaḥa represent the initial stages of *tell* formation, in which site features and dwellings were reconstructed through several successive phases. Once this form of residential system had developed, settlement was linked to spatial constraints imposed by the durable structures, the open spaces demarcated between their boundaries, and the variable functions which these spaces might have served. When such a site is habitually reoccupied, these structural boundaries somewhat control a group's specific point of residence upon its return to a general locale. This practice may tend to restrict the lateral spread of archaeological remains just as it spatially concentrates them and renders them more conspicuous. Therefore a similar implosion effect may hold for site nucleation from the Natufian period. How does one additively compare three small Kebaran camp sites, twenty-five square metres in area, with a Natufian settlement a hectare in size? These considerations suggest that better indices for population

levels should be sought than the use of total site numbers.

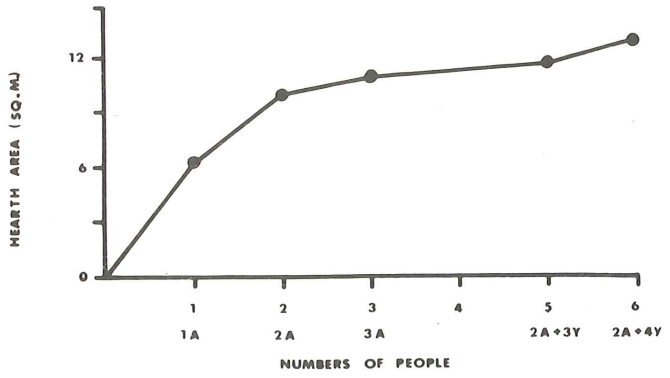
Site Area as an Index of Population

Any settlement system, ethnographic or archaeological, includes large numbers of small sites (Fletcher 1986). Taking into account all of the small, low visibility and activity specific loci generated within an archaeological period, then *every* period has a full measure of small sites and these are of little value in monitoring population changes.

From the settlement size thresholds known from Holocene sites, which have exhibited marked and staged increases, we may take it that at a gross level, sizes of the large sites are positively correlated with population.

At issue is the mathematical nature of this relationship. Although we may observe when settlement size has increased, a straight forward correlation to community size cannot be presumed. Ethnographic observations of the relationship between population and floor area sometimes arrive at a simple arithmetic relationship (Naroll 1962). But the consequence of using a static mean population density ratio, such as 'one person per ten square metres', necessitates that 'x' people occupy '10x' square metres, or that population density is assumed to remain constant with rising population.

What this does not account for is the variable way that people pack into settlement spaces (Fletcher 1981). For small hunter-gatherer sites, this is neatly illustrated by Yellen's study of !Kung camps in southern Africa (1977: 115-116). He monitored the increase in occupation area when successively greater numbers of people occupied the space around hearths (FIG. 4). Yellen's data showed that



4. Relationship between occupation area and population in a !Kung camp. (Compiled from Yellen 1977: 115).
A = Adult; Y = Young.

population and settlement space are positively correlated, but in a complex rather than a simple arithmetic fashion. An important corollary of Yellen's data is that few people can very easily attain the values of site size, and complexity that larger groups of people also generate.

Conclusions

The aim of this paper has been to show that simple correlations between numbers or sizes of archaeological sites and population cannot be substantiated. For Pleistocene sites, it is essential to first relate these archaeological data to the relative area of their contemporaneous exposures in the present landscape.

Small populations can easily saturate the values for site size and complexity that larger ones also attain. Diachronically in the Levantine archaeological record, the crossing of such threshold levels may begin in the Late Epipalaeolithic period. In measuring population trends through time, the larger site size intervals for any period appear the most relevant criteria for estimating critical population changes.

While archaeological data may not lend themselves to the calculation of precise demographic estimates, they may better indicate the relative rates of human utilization of territories through time, and indicate gross measures of human population change through the timing of expansion into or abandonment of regions.

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Earthquake Effects on Bilad ash-Sham Settlements

The purpose of this study is to observe earthquakes that hit Greater Syria during the Islamic periods, in order to present the damage they affected on urban centres, and to show their negative consequences on the architecture and domography of the region.

The author of the Arabic dictionary, al-Qāmūs al-Muḥīṭ, said that *zalzal*, from which the Arabic term *zalāzil* (earthquakes) is derived, means "to move". He then defined earthquakes as catastrophies[1]. In al-Mu'jam al-Wasīṭ, *zalzal* was presented as meaning "to shake strongly", and *zilzāl* as "a natural earthquake that takes place below the surface"[2].

Al-Suyūṭī offered a scientific explanation for earthquakes. He said that earthquakes occur as a result of "the large movement of steam collected below the surface because of the impact of the sun. There is not enough cold in order to change the steam into water, nor does it dissolve by the available heat. Furthermore, the surface is too hard to let this steam pass through. Thus the steam would try to break through to the surface without available exit. The result would be a shake of the earth, the same as the shake of the body of a man struck by fever (as a result of the hot steam moving in his stomach). The surface of the earth might break and the stuff collected inside would come out"[3].

One of the modern scientific explanations of earthquakes states that different movements take place inside the earth as well as on the surface. These activities create pressure on the rocks within their range. The rocks could usually bear such pressure to a certain limit, but in case the pressure is more than they could bear, the rocks will start to break down. Such breakages are called earth fractures. Some of these fractures are small and do not exceed a few metres. Others are huge and could measure hundreds of kilometres. And because of the swiftness of these breakages, a large amount of force would develop into a moving force in the form of waves spreading in different directions inside the earth and on the surface. These are known as earthquake waves. They cause the destruction and damage of the areas they pass through. The degree of destruction depends on the energy of these earthquake waves. The higher the energy, the higher the destruction[4].

Since ancient times, Greater Syria was struck by earthquakes which contributed to the destruction of many of its urban centres, and to the death of much of the population. People thought of earthquakes as supernatural events sent, as signs, from God to His creatures when they stray away from His commands. Earthquakes, they believed, were the wrath of God and reminders for people to repent and return to the "straight path"[5]. Thus, when earthquakes hit, people used to attend mosques and places of worship, praying and asking God to save them from such catastrophies[6]. People used to explain these phenomena as God's punishment for their deeds. This belief existed among Muslims and Christians alike[7].

Greater Syria was struck by different earthquakes during the period from the first to the 12th centuries AH (8th-18th AD). This affected the demography of the region and its buildings. The great number of earthquakes which hit the region also proved the geological instability of the area.

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[1]Al-Fayrūzabādī, *Al-Qāmūs al-Muḥīṭ*, the word zalzal.

[2]*Ibid.*

[3]Al-Suyūṭi, *Kashf aṣ-Ṣalṣulah 'an Waṣf az-Zalzalah*, ed 'Abd al-Laṭīf al-Sa'danī (Fez, 1971), p. 3.

[4]Iraqi Istitute for Scientific Research, *First Arab Symposium on Earthquakes*, (Baghdad, 1978), pp. 77-78.

[5]Al-'Imādī, *Risālat al-Ḥawqalah fi az-Zalzalah*, Manuscript Centre, University of Jordan Micro. Fol. 75 (copy of Princeton University Copy Fol. 2085, Gareet Collection Fols. 129B, 130A). Al-'Imadī says: "Abu Na'īm says in al-Ḥilyah on the authority 'Aṭā' al-Khurāsānī" if five things appear, five things would follow: usury leads to destruction and earthquakes; the tyranny of the ruler leads to draught; fornication leads to the increase in death; avoiding alms would lead to the destruction of livestock; and if *Ahl adh-Dhimmah* were treated unjustly, the enemy of the state would conquer it. (Fol. 130B); Al-Suyuṭi, *op. cit.*, pp. 3, 4, 5, 9, 13, especially p.5 where he says that "Ibn 'Adiyy and al-Daylamī narrated, in Musnad al-Firdaws, on the authority of Ibn 'Umar, that the Prophet, peace be upon him, said: Earthquakes would strike if fornication appears; draught would hit under a tyrant ruler; and the enemy would succeed when Ahl adh-Dhimmah are mistreated"; Fulcher of Chartres, *A History of the Expedition to Jerusalem, 1095-1127*, trans F. Rita (New York, 1973), p. 95; H.E. Mayer, 'Two Unpublished Letters on the Syrian Earthquake of 1202', *Medieval and Middle Eastern Studies*, ed S.A. Hanna (Leiden, 1972), p. 295.

[6]Al-Suyūṭi, *op. cit*, pp. 10, 12, 15; Al-Jarraḥi, *Kitāb Tārīkh as-Silsilah fima Yata'allaq bil-Zalzahah*, Manuscript Centre, University of Jordan Micro. Fols. 121B, 122A.

[7]Al-Suyuṭī, *op. cit.*, pp. 9, 13; Mayer, *op. cit.*, p. 295.

Some areas were only partially repaired to provide for the dwelling needs of the people, but it was impossible to rebuild the region the way it was before. Thus, such buildings were not accurately but randomly designed, as seen in the ruins of Qweilbeh, Beit Ras, Ṭabaqat Faḥl and Jarash, for example.

In this study, I shall list the earthquakes that hit Greater Syria during the Islamic periods, and show the scope of their destruction of Syrian cities and villages. I will be relying on Arabic and Latin primary sources. At the end of this study, I will be giving a general list of earthquakes and the scope of their destruction of urban centres. Another list will include the earthquakes that hit the southern part of Greater Syria, that is, Jordan and Palestine, and their total destruction of some of the cities and villages in that region.

Such a study, I hope, would benefit both geologists and archaeologists, by giving reasons and dates for the destructions of urban areas, in order to prove that the Arabs of Greater Syria had nothing to do with these destructions.

Some rulers, however, tried in times of need to rebuild or repair some of these buildings, especially castles, fortresses and fortification walls. But natural disasters, such as earthquakes, diseases and plagues, were greater than people. Thus, many cities and villages were deserted and neglected, becoming, as time passed, mere mounds of stone and earth.

Greater Syria was full of important urban centres, many of which were built during the Hellenistic and Roman/Byzantine presence in the region, following Greek and Roman/Byzantine styles. Jordan had its share of these urban centres. Their remains still exist in Aqaba, Madaba, Amman, Jarash, Umm aj-Jimal, Riḥab, 'Ajlun, Irbid, al-Ḥuṣn, Aidun, Beit Ras, Qweilbeh, Umm Qeis, Saḥam al-Kifarat, Ṭabaqat Faḥl and other places in north and south Jordan.

Greater Syria was hit by many earthquakes during the Roman and Byzantine periods. This resulted in the destruction of several of its urban centres. But the most damaging earthquakes were those of the Islamic periods, which resulted in the complete destruction of many centres. It was impossible to rebuild these centres and they were neglected and deserted. Furthermore, earthquakes killed a large part of the population, which had its effect on the economic, agricultural, social and cultural life. We must add here that Greater Syria was hit by plagues during the period from the eighth to the tenth centuries AH (14th-16th AD). The result was the death of most of the inhabitants which also affected demographical, cultural, economical, social and agricultural aspects[8].

Thus, earthquakes and diseases that hit Jordan and Palestine during the Ayyubid and Mamluk periods, affected architecture and urban centres. Some of their results were the destruction of the region and the decrease of the population which happened mainly during the last part of the Mamluk and the beginning of the Ottoman periods[9].

Accordingly, and depending on the available primary sources, we could come up with the following conclusions:

1. The city of Fiḥl was destroyed in 425/1033-4. The earthquake of this year was powerful in the Jordan Valley. It destroyed Jericho as well.

2. The city of Aqaba was completely destroyed in 460/1068 and in 462/1070. So, when Baldwin I, king of the Latin Kingdom of Jerusalem, came to Aqaba, he rebuilt its two castles and filled them with men and ammunitions leading to the presence of the crusaders in the Red Sea. Sources of the period did not mention any demographic or architectural presence worth noting. But, later on, the Ayyubids and the Mamluks gave Aqaba its economic and architectural importance[10].

3. Many urban centres in northern Jordan were destroyed in 546/1151-2, and in 565/1170. The second earthquake lasted for three or four months. William of Tyre says that the cities, that were known for generations for their ancient buildings, were destroyed. Great walls and old towers fell down and were demolished. Fortresses that were destroyed were beyond counting. Sadness was everywhere, and earthquakes were a source of fear for all people[11]. Accordingly, the earthquakes of these two years destroyed the following cities: Amman, Madaba, Jarash, Fiḥl, Qweilbeh, Irbid, Beit Ras, Umm Qeis and many other urban centres in northern and central Jordan ('Ajlun and al-Balqa').

4. Many villages and urban centres in northern Jordan "sank" as a result of the earthquake of the year 597/1201-2. 'Abd al-Laṭīf al-Baghdādī says that most places of the Hawran region were "swallowed by the earth and we do not know of any place in the region that we could talk about"[12]. There is no doubt that the impact of this earthquake was great on Jarash, Riḥab, Umm aj-Jimal, Beit Ras, Qweilbeh, Umm Qeis and other urban centres in the 'Ajlun and al-Kifarat areas. Latin sources described this earthquake as the biggest one since the crucifixion of Christ[13]. Geoffrey of Donjon, head of the knight Hospitallers, reported to the king of Navarre that the destruction of cities and villages was so great that it might take longer than the present generation's life span to see them fully repaired[14]. Associated with earthquakes was the spread of

[8]Y. Ghawanmeh, 'Effect of Plague and Drought on the Environment of the Southern Levant', *Studies in the History and Archaeology of Jordan II*, ed A. Hadidi (Amman, 1985), pp. 316-322.

[9]For the decrease of the population of Jordan and Palestine during the Mamluk period, see Y. Ghawanmeh, *Tārīkh Niyabat Bayt al-Maqdis fil-'Aṣr al-Mamlūkī*, (Amman, 1982), pp. 115-123.

[10]For more details see Y. Ghawanmeh, *Ayla (al-'Aqaba) w'al-Baḥr al-Aḥmar*, (Irbid, 1984), pp. 53-55, 72-77, 81-100.

[11]William of Tyre, *A History of Deeds Done Beyond the Sea*, trans. Babcok and Krey, (New York 1943), pp. 370-371.

[12]Abd al-Laṭīf al-Baghdādī, Al-'Ifādah w'al-I'tibār,. (Damascus 1983), p. 102.

[13]Mayer, *op. cit.*, p. 301.

[14]*Ibid*, p. 303.

plague which resulted from the putridity of dead bodies. That affected the health of the public and the demography in the region[15].

5. Southern Jordan was hit by earthquakes in the years 608/1211, 660/1261, 672/1273, 692/1293, 102/1303 and 863/1458. Buildings in its cities and villages were destroyed. Sources, however, did not give details about the degree of damage in Jordan which resulted from earthquakes that hit Greater Syria during the 10th, 11th and 12th centuries AH (16th, 17th and 18th AD).

6. Some urban centres were rebuilt or repaired during the Islamic periods. However, it was impossible to restore the great buildings to what they used to be, because of technical and financial factors. They were neglected and deserted.

The city of Amman was rebuilt, but not finished, in 757/1356. It was finished in 797/1394-5 by the governor of Greater Syria (he extorted a large sum of money from the people for that purpose). The Mamluks made Amman the capital of al-Balqa'. Thus, the markets flourished in the city which became the "mother (centre) of the region as it used to be before"[16].

Other urban centres were partially rebuilt and inhabited. We notice this through the archaeological discoveries in Jordan. Ayyubid and Mamluk ruins were discovered at Ṭabaqat Faḥl (Fiḥl), Jarash and other sites in Jordan.

7. Some great buildings existed in Jordan until the fifth century AH (11th AD). Most of the damage took place in the sixth century AH (12th-13th AD), in the years 551/1156, 552/1157, 565/1170 and 597/1200-1.

8. Earthquakes and plague lasted for about one and a half centuries (starting from the middle of the eighth/14th century. That resulted in the decrease of the population of Jordan, and cities and villages were deserted.

9. During the Islamic periods, Greater Syria was hit by earthquakes as follows:

First	/ 8th century	3 times
Second	/ 8th- 9th century	3 times
Third	/ 9th-10th century	9 times
Fourth	/10th-11th century	3 times
Fifth	/11th-12th century	10 times
Sixth	/12th-13th century	15 times
Seventh	/13th century	5 times
Eighth	/14th century	6 times
Ninth	/15th century	7 times
10th	/16th century	5 times
11th	/17th century	7 times
12th	/18th century	3 times

10. From the preceeding list, we notice that Greater Syria was hit, during the Islamic periods, by as many as 76 earthquakes; 14 of them during the Umayyad and Abbasid periods; 17 earthquakes during the Fatimid and Saljuq periods; 8 during the Zanki and Nuri periods; 6 during the Ayyubid period; 17 during the Mamluk period and 14 during the Ottoman period.

11. Some earthquakes were accompanied by sinking and deformation of the crust of the earth and by the shaking of the earth. That happened during the following years: 233/847, 239/853-4, 245/859-60, 296/908, 381/991, 425/1033-4, 460/1068, 462/1070, 552/1157, 565/1170, 575/1179-80, 592/1155, 597/1201-2, 811/1408 and 1075/1664.

12. We notice that some earthquakes were associated with many continuous tremors. Some hit the area continuously, day and night. Some lasted for more than ten months. Some were accompanied with lava. The water of the Mediterranean became low as a result of some earthquakes, and the sea floor appeared. People left their houses as a result of the fear of these quakes. Al-Jarrāḥī says that people lived during the night in wooden shelters which they built in order not to be destroyed by earthquakes[17].

13. Finally, we could say that the decrease of the population of Greater Syria resulted from unavoidable natural factors. Furthermore, war and the Tartar conquests of the region contributed to this decrease of the population and to the destruction of urban centres[18], with great negative effects on the economic, architectural, cultural, social and agricultural life. All that led to the decline of Greater Syria during the later Islamic periods.

14. Some Arab sources pointed out that the mountainous areas were most hit by earthquakes. Earthquakes, sometimes, were so powerful that they fractured mountains, caused the water of rivers to become low and they destroyed fortresses and fortification walls[19].

15. Arab sources described the power of earthquakes in terms of degrees. It was reported that some earthquakes were twenty degrees, three degrees, two degrees, one degree, half a degree, one fourth of a degree and one fifth of a degree[20]. They described these earthquakes as great, horrible, violent, vigorous and mild.

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[15] *Ibid*, p. 305.

[16] Ibn Qāḍī Shuhba, *Tārīkh Ibn Qāḍī Shuhba*, ed 'Adnan Darwish (Damascus, 1977), Vol. 3, p. 550; aslo Y. Ghawanmeh, *'Amman: Ḥaḍaratuhā wa-Tārīkhuhā (Amman, 1977), p. 145.*

[17] *Al-Jarrāḥī, op. cit.*, Fol. 123A. It is noted that, in modern times, houses are built of wood in some areas where earthquakes are frequent.

[18] Ghawanmeh, *op. cit.*, p. 129; *Idem., Imārat al-Karak al-Ayyūbiyyah*, 2nd ed (Amman, 1982), pp. 306-307.

[19] Al-Suyūṭī, *op. cit.*, p. 60.

[20] *Ibid.*, pp. 62, 64; Al-Jarrāḥī, *op. cit.*, Fols. 129B, 130B.

Table 1 List of the years of earthquakes and the degree of damage of urban centres in Greater Syria during the Islamic periods.

Year	Urban centres that were completely destroyed	Urban centres that were partially destroyed	Degree of the earthquake	Comments
94/713	---	Antioch	Great	---
98/716-7	---	---	---	No details.
99/717-8	---	---	---	No details.
130/747-8	---	Damascus	Vigorous	---
131/748-9	---	Damascus	Great	---
187/802-3	---	al-Maṣṣiṣah	Great	---
219/834	---	---	Horrible	No details.
220/835	Antioch	---	Horrible	---
230/844-5	Antioch, Mesopotamia	Damascus	Horrible	---
232/846-7	---	Damascus, Ḥomṣ, Mesopotamia, Antioch	Vigorous	---
233/847	Darayya, al-Mazzah, Beit Lahya	Damascus, Antioch	Vigorous	A village near Damascus sank. Many casualties.
239/853-4	---	Tiberias	Vigorous	A mountain near Tiberias was destroyed. Great number of casualties.
242/856	---	---	Great	Deformation of the crust of the earth and of some mountains.
245/859-60	Antioch, Latakia, Jablah	Damascus, Ḥomṣ, Tartosa, Edessa, Ḥarran, al-Maṣṣiṣah, Adhanah	Terrifying	Deformation of some mountains in the Syrian coast. Great number of casualties.
296/908	---	Ras al-'Ain, ar-Raqqah	Powerful	The waters of the Mediterranean became low.
362/912	---	Antioch	Great	Heavy loss of lives.
381/991	Village near Ba'albak	Damascus	Great	Some villages were swallowed. Loss of lives.
393/1002-3	Unspecified fortresses and castles.	---	Great	Loss of lives.
425/1033-4	Jericho, Acre. Several villages near Acre were swallowed, as well as the village of al-Badan near Nablus, and many other villages in Greater Syria.	ar-Ramlah (one third), 'Asqalan, Gaza, Jerusalem, Hebron, Nablus (one half)	Horrible	Was accompanied with lava, so many villages were destroyed. Loss of lives.
434/1042	---	Ba'albak, Tadmur	Great	Heavy loss of lives.
455/1063	---	Antioch, Latakia, Tyre, Acre, Tripoli	Great	Heavy loss of lives.
460/1068	Aqaba (destroyed with all its people); ar-Ramlah (swallowed by the earth)	Jerusalem, Banyas	Powerful	Deformation of the crust of the earth. Heavy loss of lives.
462/1070	Aqaba (sank completely)	ar-Ramlah and its provinces, Jerusalem	Great	Some cities and villages sank.
479/1086-7	---	Many areas were destroyed.	Powerful	No details.
484/1091	Antioch (90 of its towers were destroyed).	Destroyed great number of buildings.	Great	Many casualties.
487/1094	---	---	Vigorous	Many continuous tremors. Few casualties.
491/1097	---	Some areas of the Syrian coast were damaged.	Vigorous	Many casualties.
499/1105	---	Jerusalem	---	No details.
506/1113	---	Jerusalem	---	No details.
508/1114	Sumaysaṭ (sank), Mar'ash	Edessa, Ḥarran, Balis, Antioch, and surrounding areas.	Horrible	Great number of casualties.
509/1116	---	Antioch and surrounding areas.	---	Many casualties.
532/1137	---	Some parts of Greater Syria.	Great	Damage and many casualties.

Year	Urban centres that were completely destroyed	Urban centres that were partially destroyed	Degree of the earthquake	Comments
533/1138	Aleppo (80 tremors in one night)	Damascus	Horrible	Was accornpanied with loud noise and powerful tremor.
546/1151-2	---	Buṣra, Ḥawran and the areas behind it (al-Balqa' and 'Ajlun).	Horrible	Many places in Ḥawran and Jordan were destroyed.
551/1156	---	Damascus (continuous earthquakes for five months), Aleppo, Ḥamah, Afamyah, Shayzar, Kufr Ṭab.	Great and horrible	Hit many place in Greater Syria but no details about its effects.
552/1157	Ḥamah, Shayzar, Ḥomṣ, Salamiyyah, Kufr Ṭab, Afamyah, al-Ma'arrah, Tell Ḥarran, Ḥuṣn al-Akrad, 'Arqah, Latakia, Tripoli, Antioch	Aleppo, Jablah, Damascus (continuous tremors for 10 months).	Great	The quake was accompanied by sounds that were greater than those of thunder and deformation of mountains. Heavy loss of lives.
553/1158	---	Aleppo and its provinces, Damascus	Horrible	No details of the casualties.
554/1159	---	Damascus	Great and horrible.	No details of the casualties.
565/1170	Buṣra, Ḥomṣ, Ḥuṣn al-Akrad, Kufr Ṭab, many fortresses and castles in Palestine	Damascus, Ba'albak, Ḥamah, Shayzar, Ba'rayn, Aleppo, Tripoli, al-Ma'arrah, Tell Bashar, 'Azaz, Afamyah, Abu Qubays, al-Munayṭirah, Dunaysar, Mardin, Edessa, Ḥarran, Ras al-'Ain, ar-Raqqah, Qal'at Ja'bar, Qal'at Najm, Balis, Manbij, Bazagha, 'Ain Ṭab, Ḥarim, Antioch, Beirut, 'Arqah, Tartosa, Jablah, al-Marqab, Latakia, Acre, Tyre	Great and horrible.	People did not see a quake like this for years. Earthquakes lasted in Palestine for three to four months. Heavy loss of lives.
575/1179-80	---	Many villages and fortresses in Greater Syria, not mentioned by names	Great	Some mountain tops fell down.
592/1195-6	Ṣafad, Nablus	---	Great	The earth was shaken as a result of this quake.
597/1201-2	Ḥawran (most of its cities and villages were swallowed by the earth), Tyre, Nablus, Burj Ṣafiṭa (swallowed), Qal'at Arsuf, Ṣafad, Beit Jann (swallowed), 'Arqah (swallowed)	Damascus, Ḥomṣ, Ḥamah, Ba'albak, Tripoli, 'Arqah, Sidon, Ḥuṣn al-Marqab, Latakia, Banyas, Tabnin, Jerusalem	Great	Some places were swallowed, mountains were moved from their places. Heavy loss of lives (about one million and one hundred thousand).
598/1202	Nablus (destroyed)	Ḥomṣ, Ḥuṣn al-Akrad	Great	Heavy loss of lives.
600/1203	---	Affected many places in Greater Syria, especialy the city of Tyre	Great	The quake hit the area from Morocco to Greater Syria, including the islands of the Mediterranean.
608/1211	---	Karak, Shobak	Powerful	Many casualties.
660/1261	---	Karak	Violent	Many casualties.
672/1273	---	Gaza, ar-Ramlah, Qaqun, Karak	Powerful	Many casualties.
692/1293	---	Gaza, ar-Ramlah, Qaqun, Karak	Great	Was accompanied with rain and floods.
702/1303	---	Damascus, Shobak, Karak	Great	Lasted 40 days. Many casualties.
722/1322	---	Damascus	Great	No details about the casualties.
739/1338	---	Tripoli	Powerful	Many casualties.

Year	Urban centres that were completely destroyed	Urban centres that were partially destroyed	Degree of the earthquake	Comments
741/1341	---	Affected many places in Greater Syria	Great	Great destruction of buildings, and heavy loss of lives without details.
745/1343	---	Affected many places in Greater Syria	Great	No details.
768/1366	---	Ṣafad	Horrible	No details.
806/1403-4	---	Aleppo and its provinces	Powerful	Damage of buildings and many casualties.
807/1404	---	Aleppo and its provinces	Great	The quake lasted for the whole year. Great destruction of buildings in places near Aleppo.
809/1406	---	Antioch	Great	Damage of buildings and many casualties.
811/1408	Shaghir Bakkas	Aleppo, Tripoli, Latakia, Jablah, Balaṭans	Great	Heavy loss of lives. Deformation of the crust of the earth. Water in the Mediterranean became low.
863/1458	---	Karak	Horrible	Many casualties.
889/1484	---	Aleppo	Horrible	Many casualties.
896/1491	---	Damascus, Ṭarsus	---	No details.
916/1510	---	Damascus	---	With thunders and heavy rain.
943/1537	---	Damascus and its suburbs	Powerful then mild	No details.
971/1563	---	Damascus	Powerful	The earth was shaken.
972/1565	---	Damascus	---	With loud noise.
976/1568	---	Damascus and its suburbs	Great	Reached al-Ḥijaz and destroyed Tabuk.
1012/1604	---	Damascus, al-Biqa' Valley	Vigorous	Thunder in Damascus.
1015/1606	---	Ba'albak	---	No details.
1018/1610	---	Aleppo and its provinces	Horrible	No details.
1027/1618	---	Damascus and its provinces	Mild	---
1035/1626	---	Ḥamah, Damascus	Powerful	Mild in Damascus.
1037/1627	---	Damascus	Powerful	No details.
1075/1664	---	Mount Lebanon, ash-Shuf area, Ṣafinah	Great	Mountains moved. The village of Ṣafinah was moved safely from the top of the mountain to the valley.
1117/1705	The fortress and village of al-Qasṭal	Damascus and surrounding areas, Yabrud	Great	With loud noise and thunder, many casualties.
1124/1712	---	Damascus	---	No details.
1148/1735	---	Damascus and its provinces	Great	No details.

Table 2 List of the years of earthquakes and their complete destruction of urban centres in southern Syria (Jordan and Palestine) during the Islamic periods.

Year	Urban centre	Degree of the earthquake	Comments
239/853-4	Tiberias	Vigorous	A mountain near Tiberias was fractured, heavy loss of lives and buildings.
425/1033-4	Jericho, Acre, ar-Ramlah, al-Badan, **Nablus,** Jerusalem, Hebron, 'Asqalan, Gaza	Horrible	One third or half of ar-Ramlah was destroyed. The village of al-Badan near Nablus was swallowed. **Jericho, in the Jordan Valley, was destroyed.** Half of Nablus was destroyed. Many villages near Acre on the Palestinian coast were destroyed.
455/1063	Acre	Great	---
460/1068	Aqaba (destroyed with its inhabitants), ar-Ramlah was destroyed.	Powerful	With deformation of the crust of the earth.
462/1070	Aqaba (destroyed completely), ar-Ramlah and its provinces, Jerusalem, many places in Southern Syria were destroyed.	Great	Some cities and villages sank.
499/1105	Jerusalem	---	No details.
506/1113	Jerusalem	---	No details.
546/1151-2	Buṣra, Ḥawran, the areas behind it (al-Balqa' and **'Ajlun)**	Horrible	Great destruction in Ḥawran and North Jordan.
565/1170	Buṣra, Acre, most cities in Palestine and Jordan, destruction of many fortresses and castles in Jordan and Palestine	Great and horrible	Nothing like it was seen for years. The quake continued in Palestine three to four months. The earthquakes hit three or four times daily.
592/1195-6	Ṣafad, Nablus	Great	The earth was shaken several times.
597/1201-2	Ḥawran (most cities and villages were destroyed and swallowed), Nablus, Qal'at Arsuf, Ṣafad, Beit Jann (destroyed), Acre, Jerusalem	Great	Some cities and villages where destroyed. The mountains moved from their places. Heavy loss of lives.
598/1202	Nablus (completely destroyed)	Great	Great number of casualties.
608/1211	Karak, Shobak	Powerful	Many casualties.
660/1261	Karak	Violent	Many casualties.
672/1273	Gaza, ar-Ramlah, Qaqun, Karak	Powerful	Many casualties.
692/1293	Gaza, ar-Ramlah, Karak, Qaqun	Great	Great parts of these cities and surrounding areas were destroyed.
702/1303	Karak, Shobak	Great	Lasted 40 days, many casualties.
768/1366	Ṣafad	Horrible	---
863/1458	Karak	Horrible	Destruction, and many casualties.

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Periods of Ore Exploitation and Metal Production in the Area of Feinan, Wadi 'Arabah, Jordan

I. Introduction

Even before the discoveries of the oldest metallurgical sites in Turkey, the mountains of Anatolia were suggested to have been the cradle of metallurgy in the ancient world. This hypothesis was confirmed by numerous excavations, e.g. at Çatal Hüyük (Mellaart 1967) where the first lead and copper-smelting operations were dated to the sixth millennium BC. The excavations at Çayönü Tepesi (Braidwood and Cambel 1981) revealed that native copper was worked there in the eighth/seventh millennium to produce artifacts.

The spread of metallurgy was mostly stimulated by the urbanization in Mesopotamia and seems to have already been fully developed in the fourth millennium BC.

Evidence of copper metallurgy in Transjordan and Palestine is not known before the Chalcolithic period, during the second half of the fourth millennium BC. At the moment, the reasons for this chronological gap are not fully understood, neither from the geological point of view nor by archaeology. Copper ores are abundant in Wadi 'Arabah and numerous urban settlements are known from earlier periods. Except for the famous hoard of Naḥal Mishmar where more than one hundred kilograms of metal artifacts were found, metal artifacts have been found in the area only in small quantities, e.g. at Tell Abu Ḥamid (Dollfus and Kafafi 1988), Tuleilat al-Ghasul, Jericho, Tell Abu Maṭar and Shiqmim (Shalev and Northover 1987).

In order to investigate the beginning and development of metallurgy at the local sources in Wadi 'Arabah, the copper ore district at the eastern part of Wadi 'Arabah in the area of Feinan is presently studied in a joint archaeometallurgical project between the Department of Antiquities of Jordan and the Deutsches Bergbau-Museum, Bochum. To understand the complexity of the problems and questions connected with mining, smelting and trading of ore and metal, the scientific approach was necessarily set up in a multidisciplinary scale. Archaeometallurgy is the result of interaction between archaeology, natural sciences and engineering. Therefore, the project is not purely archaeological as it was unfortunately misunderstood in the past (Knauf 1987; Knauf and Lenzen 1987). The work in Feinan involves the collaboration of scientists and scholars of geoscience, metallurgy, chemistry, physics and botany in addition to archaeology. The aim of the project may be summarized by three questions representing the basis of archaeometallurgy in general: When, how and where. Details of these questions are explained in FIG. 1.

The area of Feinan is located some 60km south of the Dead Sea at the foothills of the Rift Valley. It was discovered in 1904 by Alois Musil who noted mainly the Roman and Byzantine ruins of the ancient town. Thirty years later Fritz Frank visited the site again. Some years later Nelson Glueck continued the work in Feinan. He concentrated especially on the pre-Roman periods and found both Iron Age and Bronze Age pottery, and also described some of the slag heaps and mines in the area. A geological survey for economic purposes was carried out in the late fifties by the Natural Resources Authority of Jordan and the Bundesanstalt für Geowissenschaften und Rohstoffe, Germany. The geologist H.D. Kind published the first short, but for the time very comprehensive, study on early mining and metallurgy (Kind 1965).

II. Geology of the Ore Deposit

Due to its geological situation at the eastern margin of the Wadi 'Arabah rift valley, the type and origin of the sedimentary copper ore deposit at Feinan is similar to the western counterpart at Timna. Therefore, both ore districts have a comparable mineralogical and geochemical pattern. Whereas the identification of ores from Feinan and Timna in most cases seems to be possible (Hauptmann 1989), it is rather difficult to distinguish between copper produced at both deposits. Trace elements and lead isotope abundance ratios are very similar (Hauptmann *et al.*, in prep.).

At Feinan, two main mineralizations occur which are exposed to the surface and reveal ample evidence of ancient mining (Hauptmann *et al.* 1985; Weisgerber and Hauptmann 1988). The stratigraphically higher mineralization is concentrated along fractures in Cambrian sandstone. Here, the ores consist mainly of malachite, chalcocite and

TERRITORIAL ARCHAEOLOGY Extent and Periods of Settlements	HISTORY OF TECHNOLOGY From Ore to Metal Mining, Smelting	ENVIRONMENT Vegetation Fuel Supply
ECONOMIC POSITION Amount of Metal Produced	BEGINNING/ DEVELOPMENT OF METALLURGY	TRADING Export of Ore & Metal

1. Scientific concept of archaeometallurgical work at Feinan.

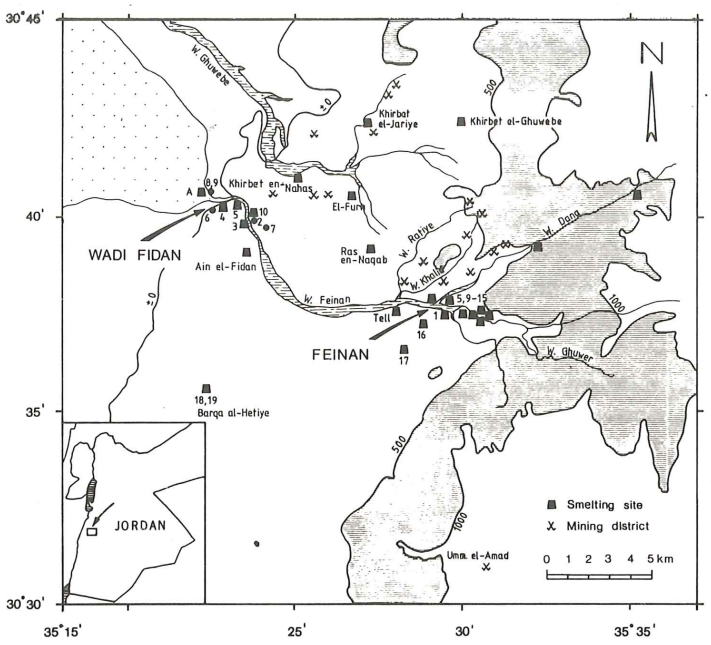
"tile ore". Underlying this formation, the main ore body is connected with the manganese-bearing Dolomite-Limestone-Shale Unit (DLS) of the Lower Cambrian. The ores of the DLS generally form pockets and intensive impregnations in the shales consisting of emerald green copper silicates (chrysocolla) and malachite. A more detailed describtion of the ores is given by Heitkemper (1988).

III. Copper Ores and Metal Through the Ages

The Pre-Pottery Neolithic

The first proof for the use of copper ores in the Feinan area dates to the eighth/seventh millennium BC. Pieces of beautiful coloured copper ores were found together with the flint tools at the site of Wadi Fidan 6 (FIG. 2), a settlement which was discovered and preliminarly dated by Raikes (1980) to the Neolithic period. The first new ^{14}C date determined so far from the samples we took revealed an age of 9185+/−120 bp[1] (uncalibrated). Most interesting are numerous finds of 2-3cm long flint drills apparently used for manufacturing beads: Similar drills are well known from Shar-i Sokhta in Iran for making lapis-lazuli beads. In fact, the seventh millennium is the period when "greenstone" beads and green powder for cosmetic purposes became popular all over Transjordan and Palestine, as well as in Anatolia and the Balkan peninsula[2]. This apparently represents a shift from the use of red ochre to a new colour, green. In Jericho nearly one hundred beads and pendants were found mostly in PPNA levels (Wheeler 1983). "Greenstones" were also found at many other sites dated to the seventh/sixth millennium (cf. Garfinkel 1987). Of special interest are the finds from 'Ain Ghazal (Rollefson and Simmons 1986). A number of "greenstones" from 'Ain Ghazal, Jericho and Beiḍa have been identified as consisting of copper silicates traded from Feinan (own investigations)[3]. Most likely the powdered dioptase used to make up the eyes of some plaster figurines from 'Ain Ghazal (Tubb 1985) is also made of this material.

The use and trade of copper ores from Feinan for



2. Topographical map of the area of Feinan and its surroundings showing mining areas, smelting sites and settlements mentioned in the text.

cosmetic purposes does not yet represent the beginning of metallurgical processes to produce metal by smelting ores. The close association of "greenstones", however, to finds of lime plaster as shown at 'Ain Ghazal, Nahal Hemar and Jericho suggest a possible technological link to metallurgical processes, because lime plaster is produced under conditions suitable also for reducing copper ores. We are therefore conceding the possibility of the first metallurgical step in this period with a high degree of probability, considering as well the chronological relation to Anatolia and Mesopotamia discussed above.

The Pottery Neolithic

Some 2km west of the ruins of Feinan a tell with a height of 2.50m was discovered. The tell is half eroded by Wadi Feinan, thus presenting a profile through the layers. The tell is under excavation by the Department of Antiquities (Najjar *et al.* 1990). ^{14}C-data, pottery and a clay figurine date the tell to the Pottery Neolithic A, from the second half of the sixth to the late fifth millennia. Also a number of copper ore pieces were found which evidently show the use of the ores but no metallurgical treatment.

The Chalcolithic

Corresponding to other Chalcolithic settlements in Trans-

[1]Sample no. HD-12333-11988. The ^{14}C dating was carried out at the Institute for Environmental Physics, University of Heidelberg.

[2]From the scientific point of view, the *terminus technicus* "greenstone" used in archaeology is not correct. It comprises a number of green minerals such as malachite, chrysocolla, dioptase, turquoise, amazonite, serpentinite and, in the case of Jordan, also green apatite.

[3]A collection of the green beads, pendants and unworked pieces of ore from 'Ain Ghazal were given to us by Dr. Rollefson for scientific investigation. The material from Beiḍa was offered for investigation courtesy of Mrs. Diana Kirdbride and Dr. Brian Byrd. The material is under study.

jordan and Palestine, the first clear evidence of metallurgical activities appears in the area of Feinan in the second half of the fourth millennium. At the moment, three smelting sites dating to this period are known, one of which was already discovered by Raikes (1980) (Wadi Fidan 4= site "C"). The other sites are Feinan 17 and 19. The sites were dated archaeologically by pottery, flint tools and basalt vessels typical for the Chalcolithic period in this region (Hauptmann *et al.* 1985). Furthermore, it was possible to date mining and smelting activities by numerous archaeometallurgical finds from Tell Abu Maṭar, Safadi, Shiqmim and Wadi Ghazzah, where copper ores from the Feinan area and slags technologically comparable to those found at the sites mentioned could be identified by scientific investigations (Hauptmann 1989).

Next to pieces of slag and copper prills which only point to small scale metallurgical operations carried out in this area during the Chalcolithic, the most important finds from Wadi Fidan 4 included a number of stone mining tools (Hauptmann and Weisgerber 1987). This collection represents a remarkable sequence of the variety in the raw material itself (basaltic rocks). Blanks, semi-finished, broken or discarded examples of mining tools are present in large numbers. Such tools also came to light scattered around the adits of mines, on waste dumps, and in wadi beds in the Qalb Ratiyeh area, an indication of extensive Chalcolithic mining. On the strenght of field evidence Chalcolithic mining obviously was concentrated on malachite and tile ore in the Cambrian sandstone, and was not capable of exploiting the deeper lying copper silicates in the DLS. Typically, the ancient mines in this area prefigure later Roman mining activities, as clearly indicated by the re-opening of the shafts and galleries. The mineralogical and chemical examination of copper ores from the settlements mentioned gives evidence for extensive export of Feinan ores in this period (Hauptmann 1989). We know from investigations of metal, slags and furnace fragments that they were smelted in these settlements to produce a very pure metal with a low level of impurities. This metal was used for manufacturing flat axes and toggle pins. On the other hand, copper based arsenic-/antimony-/lead-alloyed artifacts such as scepters and maceheads found at Tell Abu Maṭar, Shiqmim (Shalev and Northover 1987) and Nahal Mishmar (Key 1980) suggest the import of metal from other sources, perhaps from Anatolia. By the comparison of ores and metal we can exclude a production from local sources. Furthermore, as we have no evidence so far for local smelting of such alloys, we have to even assume an import of the finished artifacts as well.

The Bronze Age

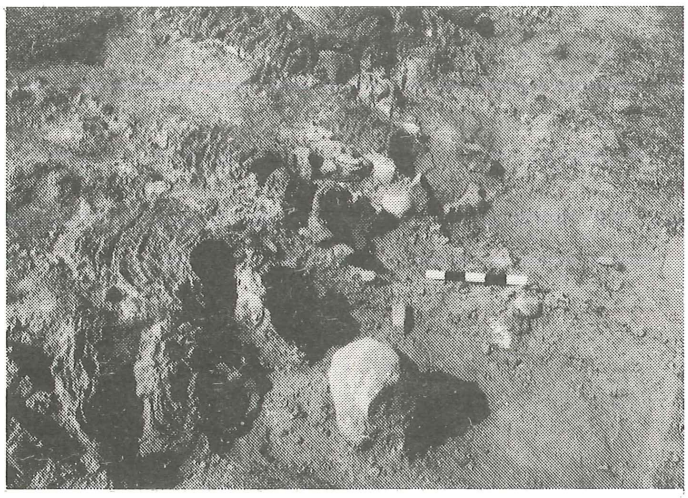
The first peak of extensive mining and metallurgical activities is dated by ^{14}C data and pottery found inside the mines and on several of the 15 slag heaps to the EB II-III, in the middle of the third millennium (Hauptmann 1989; Hauptmann and Roden, in press). From this period onward until the Late Iron Age very rich copper-manganese ores from the Dolomite-Limestone-Shale Unit were exploited. The use of mixed ores lead to the revolutionary discovery of the fluxing agent of manganese: the formation of a liquid slag now became possible and by this the smelting of ores intensively intergrown with the host rock. This caused an opening of numerous mines e.g. in Wadi Khaled and Wadi Ḍana. The volume of the slag heaps suggest a production of metal in the scale of 100-300 tons. Compared with the Chalcolithic mining and pyrotechnology the slag now reveal a considerable structual change and improvement. Unique in the archaeometallurgy of the Middle East is the excavation of 31 smelting furnaces at Feinan 9 and 11. These furnaces are partly preserved and show a construction not known before: contrary to other reconstructions which always show a tendency to shaft-like furnaces, we are faced here with very shallow, open bowls which do not point to any use of tuyeres, but rather suggest natural draft (Hauptmann and Roden, in press) (FIG. 3).

In view of the large number of smelting sites in EB II-III, the situation of settlements from this period remains puzzling. There is obviously a concentration of smelting sites around the ruins of Feinan itself but except of some scattered Early Bronze Age pottery from the survey we have no evidence of an occupation there. Despite the enormous increase of copper production in this period, the demand for this metal in Palestine and Transjordan was not fully covered by local sources. Like in the Chalcolithic several sorts of copper based metals were in use, the provenance of which may point to extensive trade with Anatolia, Mesopotamia or Iran. The trace-, element- and lead-isotope analyses of numerous artifacts on the other hand point to the use of copper from Feinan, e.g. at Jericho, Numeira and Umm al-Beghal (Hauptmann *et al.*, in prep.). A number of artifacts investigated from Bab adh-Dhra', however, were not made of this metal as would be expected. These are made of arsenical copper and in one case we could identify a tin bronze dagger (Karak Museum inv.-no. 1257) from the EB III/IV, which is one of the earliest known from Transjordan. It is surprising that people of the Early Bronze Age town which is situated only some 80km north of Feinan apparently prefered metals and alloys imported from abroad.

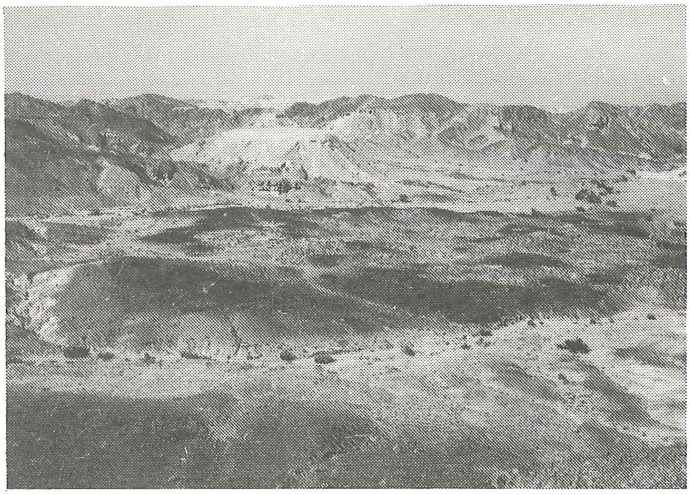
Archaeometallurgical activities ceased during the Middle Bronze Age. Based upon the results of our surveys, there is no proof for metal production during the second millennium. This is quite remarkable in view of the fact that copper production during the Late Bronze Age reached a peak at Timna. The production there was heavily stimulated by the Egyptian mining expeditions which obviously did not reach the area of Feinan.

The Iron Age

The second main period of copper production in the Feinan



3. View of six smelting furnaces from Feinan 9. The furnaces are part of a battery with 27 furnaces located on top of a hill from where slag was thrown down. The battery is dated by ^{14}C to the middle of the third millennium.



4. The Iron Age II smelting site of Khirbet an-Nuḥas. With slag amounts of 60,000-80,000 tons this represents the largest known smelting site next to Cyprus in the Middle East from this period.

area is dated to the Iron Age IIB and IIC (Hauptmann *et al.* 1985; Knauf and Lenzen 1987). Two well known smelting sites at Feinan and Khirbet an-Nuḥas (FIG. 4) are the best (but not the only) examples to demonstrate metallurgical activities in an industrial scale. It should be stressed that in this periods besides Cyprus, the largest copper production of the entire Near East is concentrated in the Feinan area. Enormous slag heaps of more than 100,000 tons reveal a metal production in the order of 5000-10,000 tons. It seems that this period, all over the Middle East, saw a boom in copper before iron finally dominated as the new metal of daily life. Also in Oman where copper was produced abundantly over the ages, enormous quantities of this metal were produced during the Iron Age.

At Feinan, mining and smelting was carried out at a large, very well organized scale with a sophisticated technical know how. EBA mines constructed in the rich mineralizations of the DLS were re-opend and enlarged to a considerable extent. Through a better geological understanding additional new ore deposits were presumed, found by prospection shafts and exploited in Wadi al-Abiaḍ, the lower Wadi Khaled and at Umm adh-Dhur. Due to new methods and facilities of engineering and a better understanding of geological features, deeper parts of the ore deposits were exploited sinking shafts down to a depth of 50-60m. The ore worked in more than 100 mines was transported to a few central smelting sites like Feinan, Khirbet an-Nuḥas and Khirbet aj-Jariyeh, where the metal itself was produced. Faced with slag heaps of volumes like at Khirbet an-Nuḥas, the question of fuel supply arises. Stimulated by smelting experiments which suggest double the amount of fuel to produce one unit of slag, botanists[4] investigated charcoal inclusions in slags from different periods and compared the results with the recent vegetation. Most interestingly it turned out that the kind of fuel (charcoal) supply for the smelting sites and its provenance varied from one period to another (Baierie *et al.* 1989). For mining and smelting during the Iron Age II (the activities are dated to a period of nearly 500 years) we calculate a comsumption of at least 200,000-250,000 tons of charcoal. To which extent this deforestation lead to a man-made desertification in the area is a subject of present and future studies in our research project.

From the technical point of view, we know that mining and smelting at such an extent and under difficult conditions like at Feinan could only be realized by a very tight organization which is controlling and supplying a large number of workers at the sites. This is demonstrated for example by the fortification at the smelting site of Khirbet an-Nuḥas. Like in the Late Bronze Age, there is no evidence for Egyptian activities as proven at Timna by Rothenberg (1988). We therefore may assume that the mining and smelting in this area was controlled and organized by the Edomites from the Jordanian plateau to strengthen their economical and political power. The Iron Age copper production ended about 400 BC.

The Roman Period

It is certainly connected with a far-reaching exploitation of the rich copper mineralizations in the Dolomite-Limestone-Shale Unit in earlier periods that the Romans, after a break of several hundred years, exclusivly mined the low grade copper ore in the Cambrian sandstone. These

[4]Botanical investigations are carried out by Prof. Frey and his coworkers from the FU Berlin.

ores crop out in the area of Jabal Ratiyeh and further south of Feinan at Umm al-'Amad. Due to their specific mineralogical composition (main ore is malachite instead of coppersilicate in the DLS which is rather difficult to smelt without adding flux) these mineralizations were already mined in Chalcolithic times. The mines now were re-opened and enlarged showing partly the excellent and unique mining engineering which is characteristic of the Roman period. One of the most impressive technical monuments in this respect is the chamber-pillar construction of Umm al-'Amad, a mine located south of Feinan high up in the mountains. With a lateral extent of 120 × 55m, this is the only and best preseved mine known in the Roman Empire.

Most of the Roman mines, however, which were worked between the second and fifth centuries AD (in the Jabal Ratiyeh district we registered more than 120 mines) are sad witnesses of crude robbing of copper ores in mines where the basic rules of underground safety were ignored. This observation coincides with textual evidence from the church fathers Eusebius and Hieronymus who vividly described the cruelties of the "damnatio ad metalla" (Geerlings 1985).

Similar to the organization of smelting during the Iron Age II, the Romans transported the ores to one central site near the ruins of Feinan. Nearly 50,000-70,000 tons of slag demonstrate the large amounts of copper produced here which are roughly estimated at several thousand tons. The local infrastructure of the town with an aquaeduct, water reservoir and some square kilometres of irrigated farmland indicates the economic power and importance of this metal district in the desert.

The Islamic Periods

After 500 AD the role of Feinan as a major copper supplier in the southern Levant ended. But it is shown by textual evidence and the relics of churches that the town still had a certain importance during the early Byzantine period. During the Mamluk period some minor activities were proven to produce copper or even iron, as suggested by slag and metal investigations. They were connected with a renovation of the water channel leading along Wadi al-Ghuweir to Feinan, the aquaeduct crossing Wadi Asheqer and the water pool opposite the town of Feinan. Three smelting sites were discovered at Feinan itself and close to Khirbet an-Nuḥas, where the relics of a small settlement consisting of 15 buildings and a mosque exist.

Aspects of Future Investigations

The present state of knowledge of the early copper metallurgy in the area of Feinan is based upon survey and limited sounding. An exception is the excavation of the Neolithic Tell Wadi Feinan carried out by the Department of Antiquities which will provide new information on the prehistory of Wadi 'Arabah.

It was possible so far, due to the understanding of the German Mining Museum, to set up a first chronological sequence and to determine the extent of the copper production in space and time. Archaeometallurgical material available from the surface was studied in laboratories and the comparison with ores and artifacts from other excavations resulted in statements and facts important not only for the beginning and development of metallurgy but also for the reconstruction of trade routes in this region, which can correct and modify present hypotheses. A good part of questions concerning the economic and technological background of copper production, the basis for discussing the interaction between metal and man, is going to be solved in this way. Without doubt the cultural impact of metallurgy upon early society is a very important problem which may not be answered without extensive excavation in the Feinan area and which needs the cooperation of more archaeologists who are ready to work on problems far away from the centres of cultural and artistic life.

Acknowledgement

On behalf of our colleagues from the Department of Antiquities, we gratefully acknowledge the overall support of the former Director General Dr. Ghazi Bisheh who enabled us to continue the work in Feinan in a joint venture between the Department and the Deutsches Bergbau-Museum.

Field work was only possible by the generous help of H.E. Dr. Khatib and the Director of the Natural Resources Authority, Mr. Abu 'Ajamieh. We are also deeply obliged to H.H. Sharif Hussein Bin Nasser who always supported the project in logistic problems. The project presented here is supported by grants from the Volkswagen-Foundation, Hannover.

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Environmental, Economic and Political Constraints on Ancient Settlement Patterns in the Wadi al-Yabis Region

Abstract

At least fifty millennia of human exploitation of the Wadi al-Yabis catchment in northern Jordan has left evidence of both shifting economic strategies, and their sometimes drastic role in the evolution of the landscape. The natural topographical and climatic variability of this wadi catchment presented diverse economic potentials as well as specific environmental constraints to ancient populations. Alternating cycles of local and external political control are also reflected in the settlement history of this area.

The Survey Area

The Wadi al-Yabis catchment includes an area of approximately 186 km^2, descending from the Ajlun highlands *c.* 1200 meters above sea level, to the Jordan River *c.* 300 meters below sea level in the central Jordan Valley. Annual rainfall is presently 600 mm or more in the highlands, while the lower catchment receives less than 300 mm per year. The great topographical and climatic range within the catchment's *c.* 18 kilometer length results in a steep ecological gradient with several distinct zones. Remnants of a dense pine, oak and pistachio forest cover the highest elevations, yielding to an open scrub oak forest in the middle reaches, which shifts to steppic grasses, weeds and Acacia species in the Jordan Valley.[1] Terra rossa soils prevail in the highlands, while colluvial and alluvial soils are common in the foothills and in the lowlands. Springs are quite common along the eastern escarpment of the Jordan Valley, at the confluence of several small tributaries in the middle course of the wadi, and at the headwaters of the catchment.

Survey Coverage

This diversity of environmental factors makes the Wadi al-Yabis an ideal study area for an intensive archaeological survey that can recover detailed evidence of a long history of different adaptive strategies in a highly varied landscape.[2] During our surveys, we have visited most of the sites known from previous explorations in order to verify their reported sequence of occupation.[3] In this way, we were often able to confirm the previous pottery readings, and were able to identify formerly unrecognized periods of occupation at approximately 60% of the sites.

Three transects located in each environmental zone in the wadi catchment have been intensively surveyed by foot in order to identify the patterns of small, less-visible sites, and to provide equivalent units of observation for comparison. A large number of new sites have been discovered in these transects, ranging in date from the Lower Paleolithic to the Ottoman period, and varying in size from few square meters to several hectares. This shows the potential of intensive foot coverage; one of the main results achieved by this intensive survey strategy has been to reduce the disproportion between large "urban" sites (mostly identified by Glueck and Mittmann) and less prominent village, camp and specialized sites. This allows a more balanced

[1]The active floodplain of the Jordan River (the Zor) is an exception, where several tree species flourish, such as Cypress, Tamarisk and Oleander.

[2]The Wadi el-Yabis Survey is part of a multi-phase joint University of Arizona — Università di Roma project, directed by Jonathan Mabry and Gaetano Palumbo. This project is partially financed by the Itlaian Ministry of Foreign Affairs and the Italian National Research Council (CNR). The first three seasons of survey and test excavations were conducted in 1987, 1989 and 1990. An additional season is planned for the year 1991.

[3]Previous investigations in the area include the works of Schumacher (Steuernagel 1925:108; 1926: 11-12), McCown (1930: 23-26), Abel (1938:352) and Augustinovic and Bagatti (1952:276-299), all concerned with the history and identification of Biblical and Classical sites. The first systematic archaeological survey in the area was conducted by Glueck (1951:259-288). In the 1960's, Mittmann (1970) surveyed the most prominent tells and hilltops, and thereby identified several sites that had escaped Glueck's attention. The section of the Jordan Valley included in our survey area has been archaeologically explored several times (Glueck 1951: 210-231; Mellaart 1962; de Contenson 1964; Ibrahim, Sauer and Yassine 1976; Muheisen 1987), but none of these surveys achieved intensive coverage of the area.

reconstruction of the evolution of human settlement and land use in this area.

The high density of archaeological sites found in our intensively covered sample transects indicates that the total number of sites will certainly increase with each additional season of fieldwork; but we believe that most of the medium and large settlement sites are already known and the general demographic trends are well represented. On the other hand, identification of smaller sites provides a more accurate view of the total patterns of land use, urban-rural relationships and rural subsistence throughout the history of the wadi's exploitation.

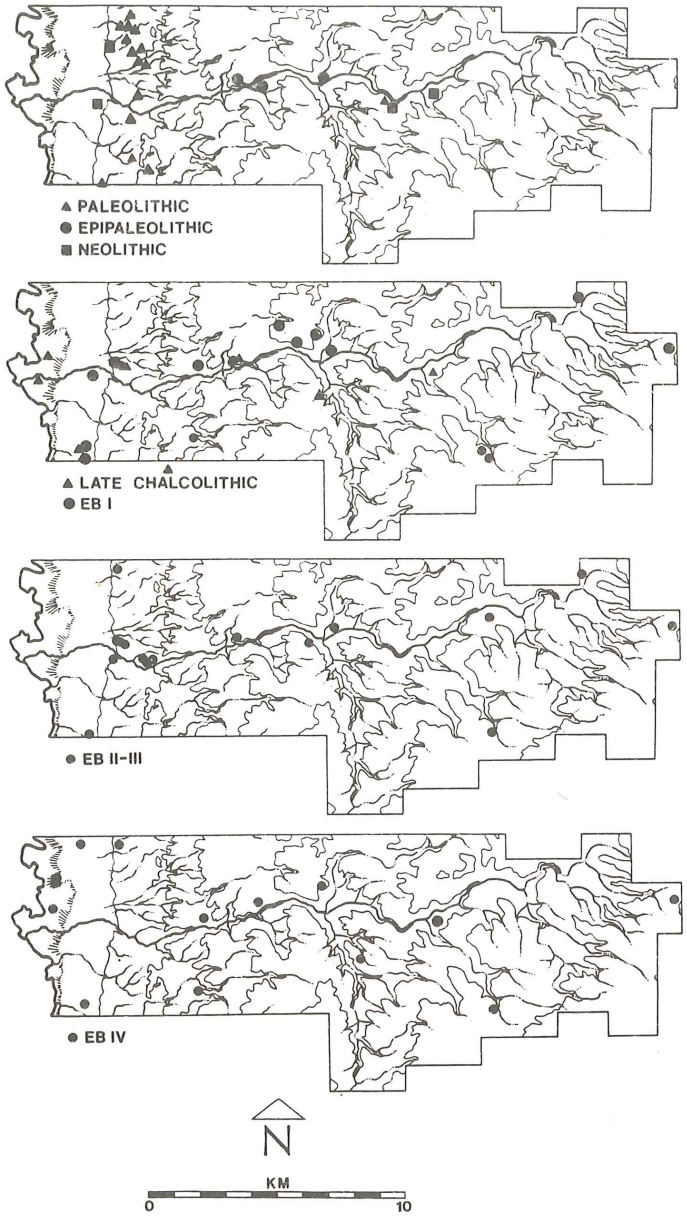
The following sections of this paper will discuss the main demographic trends and the shifting patterns of settlement and land use in this area, attempting to identify both the impact of human activities upon the landscape, and the environmental and political constraints upon human exploitation of this area in northern Jordan.

Prehistoric Patterns (FIG. 1)

The oldest evidence for human utilization of the Wadi al-Yabis catchment (and perhaps in northern Jordan) is provided by a Lower Paleolithic handaxe and flint tools found in a wadi bank near Tell Abu al-Kharaz, in the Jordan Valley (Palumbo, Mabry and Kuijt 1990: 97, 99). A large number of Middle Paleolithic sites have been also identified in this transect, immediately above the Jordan Valley. They represent Middle Paleolithic exploitation of the margins of the late Pleistocene Lake Lisan, which filled the Jordan Valley until late Epipaleolithic times. The Middle Paleolithic stone tools found among the flints cemented in the conglomerate of a collapsed cave in the middle course of the Wadi al-Yabis (site WY183) is an indication that this area, and possibly the upper catchment, were also used during this period.

Epipaleolithic use of the catchment is represented at Tell al-Maqlub West (site WY164), where a Kebaran site was identified in 1990, and at Jabal al-Muṣṭaḥ (Mabry and Palumbo 1988: site 24), where a typical late Natufian lithic assemblage was found. Several other probable Epipaleolithic sites have been located in the Wadi al-Yabis catchment, attesting to an intensive use of this area during the period.

Before the beginning of the present survey project, Neolithic use of the Wadi al-Yabis catchment was only represented along the eastern edge of the Jordan Valley (Kirkbride 1956). The identification, in 1989 and in 1990, of two important Neolithic sites dated to the main Pre-Pottery phases of that period (PPNA and PPNB) in the middle course of the Wadi al-Yabis gives a better perspective on the evolution of human settlement in this area. The early PPNA cave site of 'Iraq ad-Dubb, found and test excavated in 1989, and more extensively excavated in 1990, is the best preserved PPNA site found in Jordan so far (Palumbo, Mabry and Kuijt 1990; Kuijt *et al.* forthcoming). The newly found PPNB site of ar-Raḥib is a large (3



1. The Wadi al-Yabis Survey: Paleolithic to Early Bronze Age sites.

hectares) flint scatter only two kilometers east of 'Iraq ad-Dubb. Prehistoric sites, however, may be underrepresented in the regional archaeological record because of the combined action of erosion and colluviation, which may entirely destroy or hide the surface assemblages.

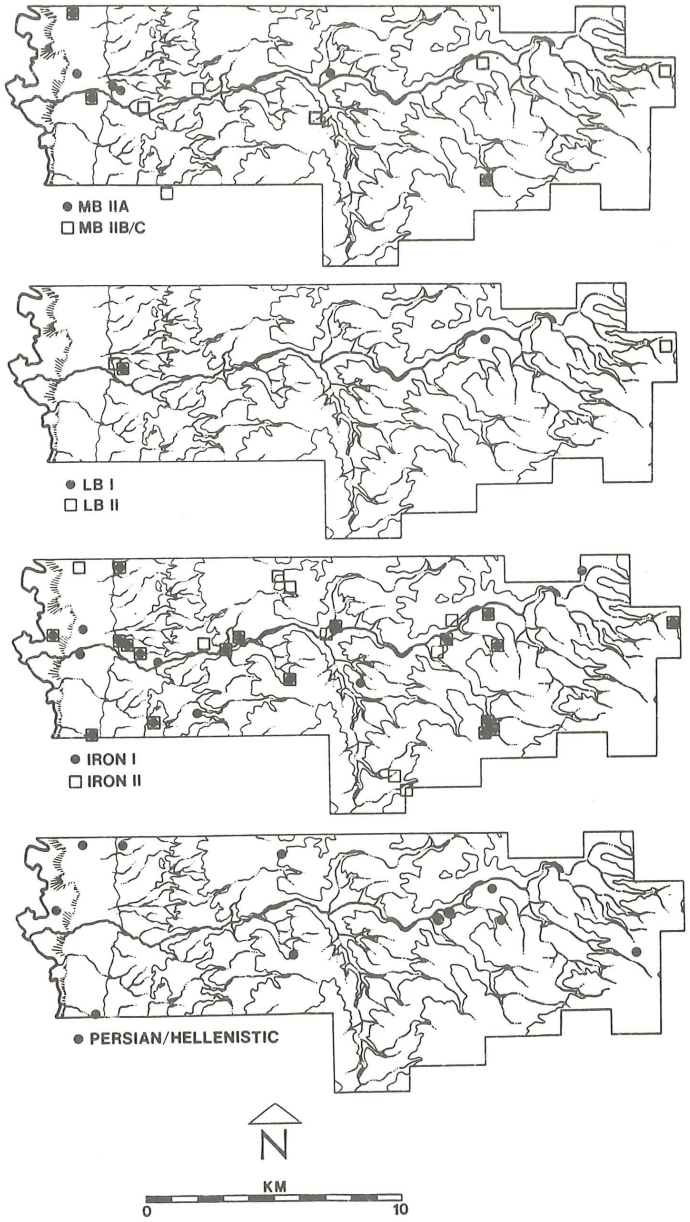
A settlement shift occurred in the wadi catchment during the fourth millennium BC. Before this survey, early fourth millennium (Late Chalcolithic) sites were only known in the lowlands. The 1989 discovery of two large Late Chalcolithic sites in the highlands near Tell al-Maqlub modified this perspective. Late Chalcolithic sites are also known now in the area of Jarash and along the Zarqa River (Hanbury-Tenison 1986). These sites probably represent the first successful dry-farming and olive tree domestication

on the highlands. The presence of large early fourth millennium villages in the Wadi al-Yabis area, near large dolmen fields, may be an indication for dating those enigmatic megalithic structures to the Late Chalcolithic period (Palumbo, Mabry and Kuijt 1990: 101).

It is only during the late fourth millennium (Early Bronze Age I), however, that village sites were established throughout the Wadi al-Yabis catchment. This change in settlement may reflect both a shift in subsistence from lowland flood irrigation to highland rainfall farming (Mabry and Palumbo 1988), and the first substantial clearing of the highland forest. Progressive phases of deforestation since this first large-scale movement into the highlands led to cycles of severe erosion upstream and destructive floods downstream. These processes significantly affected subsequent potentials for land use, as well as preservation of the archaeological record.

Many of the Early Bronze Age I villages developed into fortified towns during the early third millennium BC (Early Bronze Age II). Their even distribution four to five kilometers apart throughout the catchment indicates efficient exploitation of the various ecological, centered around politically autonomous towns. This network of defended settlements lay in between fortified centers in the Jordan Valley and their counterparts on the plateau. This nucleation process peaked in the mid-third millennium BC (Early Bronze Age III), when only a few towns continued to grow.

Almost all these towns were abandoned during the late third millennium BC (Early Bronze Age IV), when settlement dispersed into seasonally occupied camps and smaller sedentary villages, concentrated in the Jordan Valley. While many villages in the Jordan Valley were undefended, enclosure walls may have protected settlements at Abu an-Ni'aj in the Jordan Valley, and at Khirbet Abu aṣ-Ṣaliḥ and at Khirbet Umm al-Ghozlan in the uplands of the wadi catchment. The meager assemblages of this period found on the surface of several other sites probably represent only sporadic encampments.



2. The Wadi al-Yabis Survey: Middle Bronze Age to Hellenistic sites.

Early Historic-Early Classical Patterns (FIG. 2)

Near the beginning of the second millennium BC (Middle Bronze Age IIA) a new pattern of settlement developed. Only a few Early Bronze Age IV settlements survived into the Middle Bronze Age, while several permanent settlements were re-established on the locations of the abandoned Early Bronze Age towns. The overall pattern resembled that of the Early Bronze Age II/III, with settlements evenly spaced along the wadi course. Defensive walls are evident, however, at only a few of these new settlements. In fact, this whole region may have been a rural hinterland of more important urban centers such as at Pella. Excavations at Tell al-Ḥayyat (Falconer and Magness-Gardiner 1983; 1984; 1989) have revealed a typical early second millennium BC rural village near Wadi al-Yabis in the Jordan Valley. The number of settlements in the catchment even declined during the Middle Bronze Age, as only about half of the settlements lasted until the mid-second millennium BC (Middle Bronze Age IIB/C), and very few new settlements were established. This trend continued during the late second millennium BC (Late Bronze Age), when settlement in the wadi catchment was only sporadic.

On the basis of his extensive surveys during the 1940's, Glueck postulated a nearly total break in occupation of northern Jordan during the Late Bronze Age (1951:423). Mittmann (1970) followed this interpretation on the basis of his non-intensive surveys during the 1960's. The new data from our fieldwork and from other surveys in the area do not support such a drastic break. In the central hill

country of Palestine (Gonen 1984) and in the Jordan Valley (Bienkowski 1986; Tubb 1988), small, unwalled settlements occupied small areas of the built-up Bronze Age tells, but only a few settlements were occupied in the Ajlun highlands and on the Jordan Plateau. The cause of this abandonment is not well understood yet, but it is probably connected to the chaotic political situation of the time. Being a border area between the Egyptian Empire and the Hittite Kingdom, northern Jordan probably suffered from the confrontation of these more powerful military opponents.

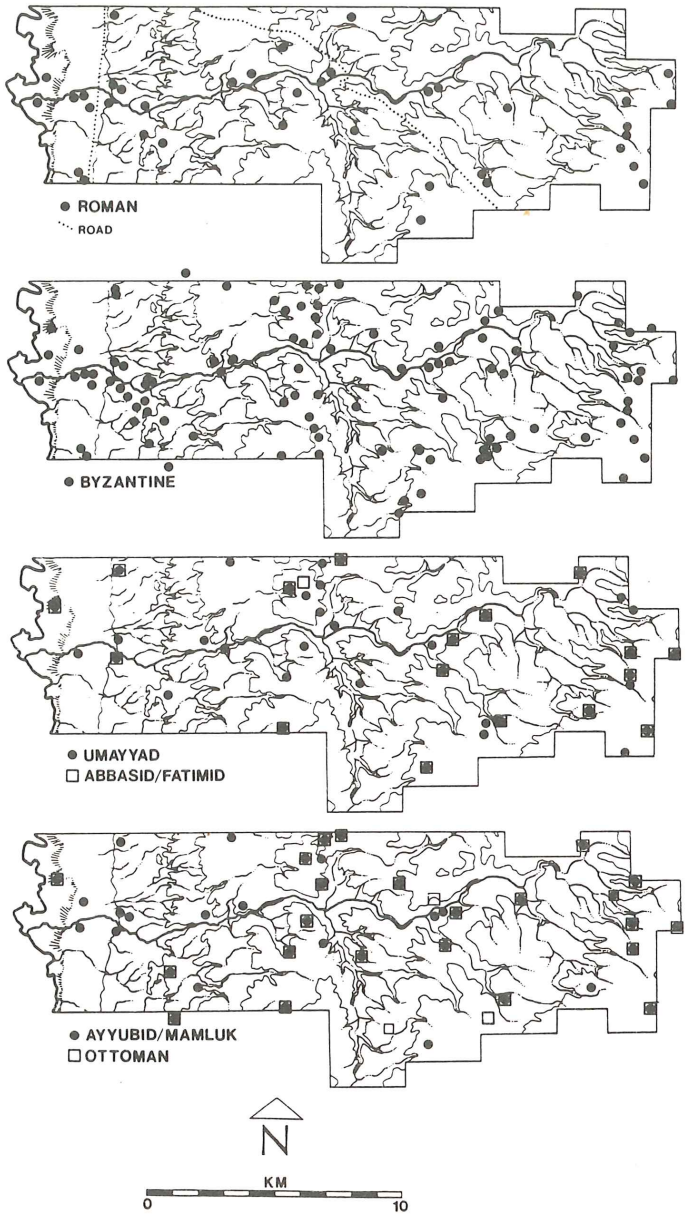
A rural level of settlement flourished again at the end of the second millennium BC (Iron Age I), when many new villages were established, often on the location of previous Early and Middle Bronze Age sites. Many of the abandoned agricultural terraces visible today were constructed during the Iron Age, which was a period of agricultural intensification, unsurpassed until the Roman and Byzantine periods. The strong continuity between the Iron Age I and II phases is evidenced by the infrequent abandonments of Iron Age I villages, and by the similar pattern of settlement distribution in the two phases. In particular, settlements clustered in the Jordan Valley and along the middle course of the Wadi al-Yabis. Most of the sites found were apparently small rural villages, as only a few of them can be identified as walled towns (Tell Abu al-Kharaz, Tell al-Maqlub).

The number of settlements decreased during the sixth to first centuries BC (Persian/Hellenistic periods), and no new settlements were established. A series of military campaigns followed by foreign rule were the likely causes of this decline. On the other hand, these rapid political events were probably not followed by drastic changes in the local material culture, such that these periods are difficult to recognize archaeologically.

Classical-Medieval Islamic Patterns (FIG. 3)

During the Roman period, rural settlement greatly expanded in the wadi catchment. This area was a rural hinterland between the large urban centers at Pella in the Jordan Valley, and at Gerasa on the plateau. The Romans built a highway connecting Pella, Ajlun and Gerasa, which crossed the wadi near Tell al-Maqlub. The need to clear new lands for agricultural use, and to supply timber for the needs of Pella and Gerasa, led to increased deforestation in the Ajlun highlands. This extensive clearing of the upland forests caused environmental degradation in some areas, such that some villages had to be abandoned by the end of the period (Sapin 1985: 227).

This rapid deforestation was followed by another phase of intensive agricultural terracing of the hillsides during the Byzantine period, when population and rural settlement in the area reached an all-time peak. The pattern of settlement on Jabal Ajlun was characterized by open villages surrounded by agricultural terraces, and by isolated churches and monasteries on strategic heights, surrounded by



3. The Wadi al-Yabis Survey: Roman to Ottoman sites.

their own terraced fields (Piccirillo 1985: 261). The "equilibrium" between the urban, rural and nomadic components of society, guaranteed by centralized administration (Piccirillo 1985: 261), was derived from the "mutualism" which developed under the Pax Romana (Banning 1986).

The conquest of Jordan by Islamic armies during the mid-seventh century AD unbalance this structure. A large number of settlements in the wadi catchment were abandoned during the period of Umayyad rule from Damascus. This decline accelerated after the Abbasids moved the center of the empire to Baghdad in AD 750, and the area became peripheral to major trade routes. Local economic stagnation during the Early Islamic periods is also evi-

denced by the abandonment of many agricultural terraces, resulting in destructive erosion in the highlands of Jordan (Vita-Finzi 1969; Beaumont 1985).

After the Ayyubid general Saladin defeated the Crusaders at Ḥiṭṭin in AD 1187, Christian European rules began to diminish. In a short time, Jordan was between a united Egypt and Syria. In this position, Jordan's population, agricultural production and trade increased to new heights under the Mamluk sultans between the twelfth and the fourteenth centuries (al-Bakhit 1982). Many new villages were established in the catchment during this period. Wadi al-Yabis and other tributaries irrigated large sugarcane plantations in the Jordan Valley, and powered mills which processed the sugar for export to other regions (Hamarneh 1978).

In the early phase of Ottoman rule, after AD 1516, rural settlement in the catchment was not seriously affected by the nomadic incursions which were common along the border of cultivated lands (Hütteroth 1975: 8). In order to avoid nomadic raids and harsh Ottoman taxation, a large number of villages were abandoned in these border regions, such that sedentary settlement survived in Jordan only on Jabal Ajlun. Nomadic infiltrations and abandonment of at least one-third of the villages occupied in the Early Islamic periods divided this region into smaller "islands" of settlement by the early nineteenth century (Hütteroth 1975:10-11). Most of the few remaining villages continued to be occupied until today.

Conclusions

A pattern that seems to recur throughout the long history of settlement in the Wadi al-Yabis catchment is the location of autonomous sedentary villages and nomadic camps in every potential ecological niche. This "indigenous" pattern was sometimes obscured by intervening, more powerful constraints, especially external political domination. Periods of stable centralized rule usually encouraged agricultural intensification, such as terracing of the hillsides and irrigation in the lowlands. Collapse of centralized or local political structures often led to dispersion of the population and neglect of the land. Deforestation, overgrazing and abandonment of agricultural terraces triggered cycles of erosion and flooding that permanently changed the face of the land, and limited subsequent land-use. Because of the high agricultural potential of this part of northern Jordan, nomads were excluded during periods of stable sedentary settlement. However, repeated intrusions of nomadic pastoralists in the wake of social collapse can be recognized in the settlement record as well.

Perhaps the most important lessons to be learned from the long history of human use of the Wadi al-Yabis catchment are the limited resiliency of the landscape after periods of drastic mismanagement, and the fragility of the natural equilibrium between man and land. The large scale and intensity of modern exploitation may irreversably tip this delicate balance.

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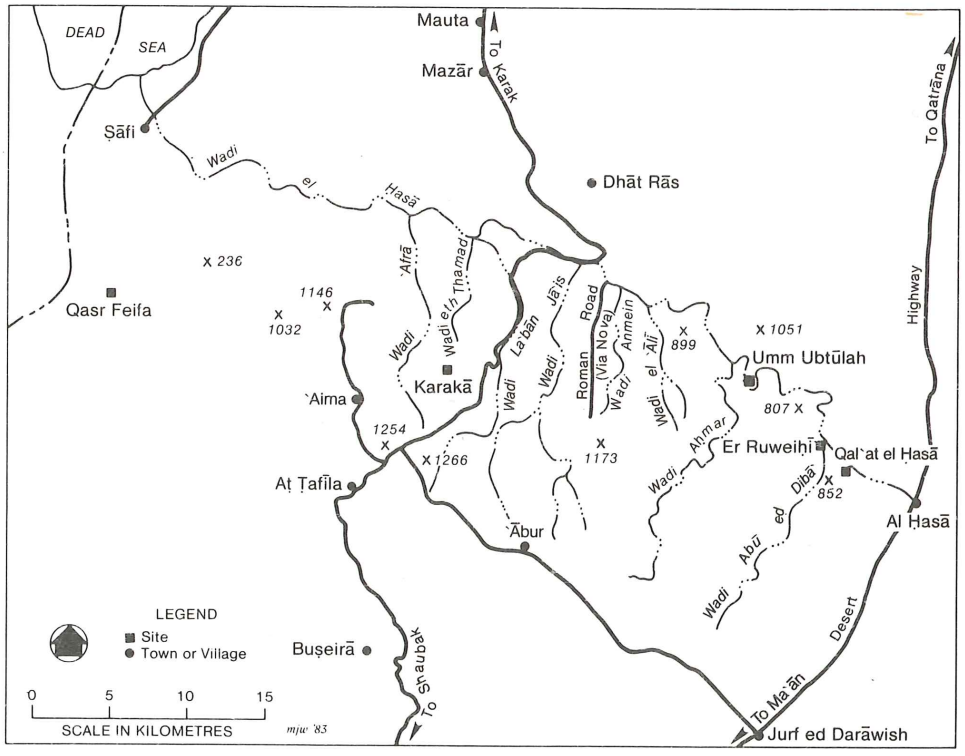
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Settlement Patterns Along the Southern Flank of Wadi al-Ḥasa: Evidence from "The Wadi al-Ḥasa Archaeological Survey"

1. Geography and Geology

The "Wadi al-Ḥasa Archaeological Survey (WHS)" was carried out along the south bank of Wadi al-Ḥasa in west-central Jordan. This wadi begins in the eastern Jordan desert and flows in a northwesterly direction until it empties into the southern Ghor or the southeastern plain of the Dead Sea at aṣ-Ṣafi. It served as the northern limits of the survey. The western border was the road that goes along the escarpment from aṭ-Ṭafilah towards 'Aima and then northeastward. The eastern extremity of the survey was at Qal'at al-Ḥasa which is just west of the modern Desert Highway close by the village of al-Ḥasa. The southern boundary was from *c.* 15km in the western segment of the territory to less than 1km in the eastern extremity south of Wadi al-Ḥasa. The western segment of the territory as far east as the ridge overlooking Wadi al-La'ban was covered in the 1979 season; the territory from Wadi al-La'ban to the ridge overlooking Wadi al-'Ali was surveyed in the 1981 season; and the territory from Wadi al-'Ali to Qal'at al-Ḥasa was covered in the 1982 season. The three areas are referred to as the western, central, and eastern universes respectively (FIG. 1).



1. The WHS survey territory.

The survey territory is cut by a number of impressive and deep, south-to-north flowing wadis, namely, Wadi 'Afra (8), Wadi ath-Thamad (7), Wadi al-La'ban (6), Wadi Ja'iṣ (5), Wadi 'Anmayn (5), Wadi al-'Ali (4), Wadi al-Aḥmar (3), Wadi ar-Ruweiḥi (1), and Wadi Abu aḍ-Ḍeba' (1) (FIGS. 1 and 3). The survey area generally includes the total drainage area of the above mentioned tributaries of Wadi al-Ḥasa. These wadis are separated from one another by ridges and mountains. Elevations vary from *c.* 1263m in the southern segment of the western universe to *c.* 150m at the bed of Wadi al-Ḥasa also in the western universe.

The region of the survey is situated on the west side of a physiographic province described by Bender (1974) as the Mountain Ridge and Northern Highlands east of the Dead Sea Rift. This is an area underlain by Proterozoic (Upper Pre-Cambrian; *c.* 800 to 600 million B.P.) through Upper Cretaceous (*c.* 70 million B.P.) rocks. Overlaying this bedrock sequence are unconsolidated Pleistocene and Holocene (*c.* 2 million B.P. to the present) lacustrine, fluvial, and aeolian sediments as well as Pleistocene (*c.* 2 million to 10,000 B.P.) basalt flows. The unconsolidated sediment and basalt have a very patchy distribution. The Proterozoic through Upper Cretaceous units dip to the east and thus become younger to the east. Wadi al-Ḥasa and its tributaries are a long-lived feature in the Highlands of Jordan. Downcutting of the wadi probably began 50 million years ago and, because of repeated fault movement and downdropping of the Dead Sea Rift, has continued up to the present (Donahue and Beynon 1988).

2. Environment

The area is positioned between the Arabian Desert to the east and the Dead Sea Rift to the west. It is marginal for dryland agriculture at present and probably has been so since the end of the Pleistocene. Information about past climates is too sketchy to be very specific, but we do know that there have been long-range fluctuations as well as short-range crises of limited bottom duration. There were centuries with more rainfall than now and probably times with less. Severe and prolonged drought periods are characteristic of desert margins and the Wadi al-Ḥasa region could hardly be an exception. Certainly there is no evidence that the area was really lush since the Epipa-laeolithic although conditions were probably better than at the present at times in the past (Harlan 1988).

3. History of Work in the Area

The most extensive archaeological work done in the territory before 1979 was carried out by Glueck in the 1930's under the auspices of the American Schools of Oriental Research (Glueck 1934; 1935; 1939). He also excavated in the area at Khirbet at-Tannur, WHS Site 229, in 1937 and 1938 (Glueck 1937; 1965; 1978).

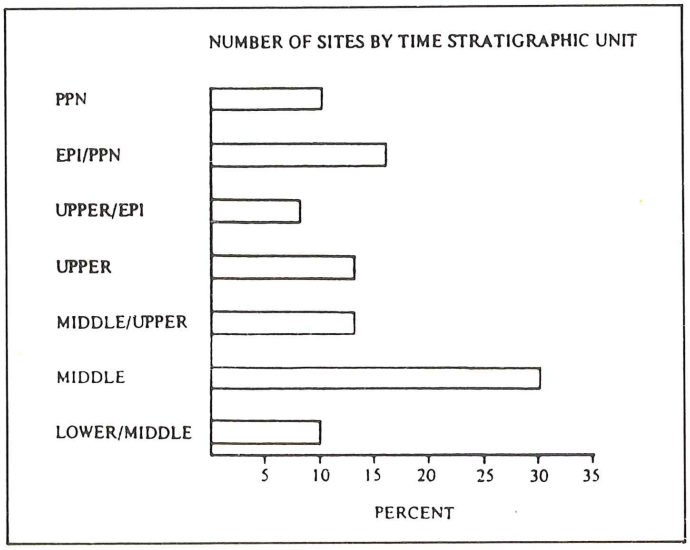
In 1973 a team from the Department of Antiquities of Jordan made a sounding at Khirbet Majadil, WHS Site 6, in the western universe (Ibrahim 1974). In 1974 Weippert made a visit to the western universe of the WHS territory (1975: 30, n. 57).

The WHS was in the field for three main seasons, namely, 1979 (MacDonald, Banning and Pavlish 1980), 1981 (MacDonald, Rollefson and Roller 1982), and 1982 (MacDonald *et al.* 1983). During the course of the infield seasons a total of 1074 sites were surveyed (MacDonald *et al.* 1988). The WHS was directed in all seasons by B. MacDonald. Major funding for the work came from the Social Sciences and Humanities Research Council of Canada and the University Council for Research of St. Francis Xavier University.

The materials from the WHS are stored at the museum of the Department of Antiquities in Karak. The drawn lithic and ceramic materials are stored at the American Center of Oriental Research, Amman and St. Francis Xavier University, Antigonish, Nova Scotia, respectively.

4. Periods Represented

Lithic materials spanning the Lower Palaeolithic to end of the Early Bronze Age (500,000 - 2000 B.C.) were found in all three seasons (FIG. 2). More substantial remains from this time-frame were found at the Mousterian site of 'Ain Difla, WHS 634 (Lindly and Clark 1987); the Epipa-laeolithic site of Ṭabaqa, WHS Site 895 (Byrd and Rollefson 1984); and at Khirbet al-Ḥammam/Abu Ghrab, WHS Site 149, a PPNB village site (Rollefson and Kafafi 1985). Clark initiated the "Wadi al-Ḥasa Paleolithic Project" in 1984 (Clark *et al.* 1988); and Villeneuve began work in 1984 at WHS Sites 253 and 254, Qaṣr and Khirbet adh-Dhariḥ respectively (1984; 1985a, b; 1986). Clark's work in the area involves more intensive surveying and testing of several of the WHS sites (Lindly and Clark 1987).



2. Global site frequencies by time period, from the Lower Palaeolithic to the Pre-pottery Neolithic.

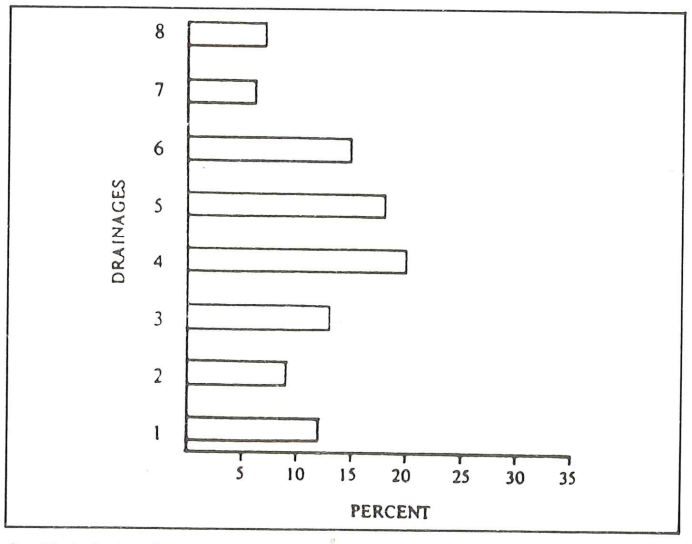
Ceramic materials covering the period from the Pottery Neolithic to the end of the Ottoman domination in Jordan (*c.* 4750 B.C. - A.D. 1918) are also present in the area (TABLE 1). However, not all ceramic periods are present.

Table 1 Ceramic period sites of the WHS.

Period	No. of sites	Percentage
PNL	5	0.47
CHAL, CHAL-EB	16	1.49
EB I-IV	50	4.66
IRON I-II	97	9.03
HELL, HELL/EROM	15	1.40
NAB, NAB-ROM, NAB/ROM	257	23.93
ROM, LROM, LROM-BYZ	106	9.87
BYZ, BYZ-UM, BYZ/UM	130	12.10
EISL	6	0.56
LISL	168	15.64
OTT/MOD, LOTT/MOD	140	13.04
UD	368	34.26

5. History of Occupation and Settlement Patterns

On the basis of the materials collected, occupation in the area is attested for the past several hundred thousand years. Materials for the Palaeolithic periods were organized by seven, time-stratigraphic, analytical units: (1) The Lower/Middle Palaeolithic (undifferentiated); (2) The Middle Palaeolithic; (3) The Middle/Upper Palaeolithic (combined); (4) The Upper Palaeolithic; (5) The Upper/Epipalaeolithic (combined); (6) The Epipalaeolithic/Prepottery Neolithic (combined); and (7) The Prepottery Neolithic (Coinman, Clark and Lindly 1988) (FIG. 2). Coinman, Clark and Lindly (1988) provide global site frequencies by tributary drainages (FIG. 3).



3. Global site frequencies by tributary drainages.

Little evidence of Pottery Neolithic presence was found in the area. The number of Chalcolithic sites seems to indicate an increase in population at this time. This trend towards increased population continues into the EBI. However, it does not continue into the EBII-IV. The Middle Bronze Age seems to be one in which virtually nothing was taking place in the survey area. The Late Bronze Age is also poorly represented in the area. However, there is evidence for the beginning of settlement at the very end of this period. There are further indications of population increase during the Iron Age I. There does appear to be permanent, albeit small, settlements along the south bank of Wadi al-Ḥasa by the 12th century B.C. but only in the western universe. The population increase seems to accelerate during the Iron II. However, even during this period, Wadi al-'Ali seems to be the eastern frontier for sedentary and pastoral occupation. On the basis of the present data, it is impossible to say whether or not there was continuity in the territory between the end of the Iron II and the Hellenistic period. The latter period shows evidence of only a slight population. Nabataean sites are more numerous than those from any other ceramic period. They are found throughout the area and particularly in the wadis. This is especially true in the western and central universes. However, even in the eastern universe, there are important Nabataean forts and/or caravanserais. Roman period sites are also found throughout the territory. Parts of the *Via Nova Traiana*, WHS Site 429, are well preserved in the central universe. Next to the Nabataean, the Byzantine period seems to be the one of greatest population in the area. However, the settlement pattern is changed from the previous one. The Byzantine presence is heaviest in the western universe, especially on the plateau. The Byzantines do not appear to have made as much use of the wadis as the Nabataeans did. Very little evidence of Byzantine presence was found in the central universe. Byzantine presence in the eastern universe is generally associated with Nabataean-Roman sites. Early Islamic evidence is almost completely absent from the area. There are, however, several major Ayyubid/Mamluk sites in the western universe at the beginning of the Late Islamic period. Ottoman-Modern period sites, especially in the form of sherd scatters, are found throughout the area. However, major village sites from the period are found in the western universe. Moreover, there are Ottoman period village sites in the eastern universe associated with the pilgrimage route to Mecca (MacDonald *et al.* 1988).

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The 'Ain Ghazal Survey: Patterns of Settlement in the Greater Wadi az-Zarqa Area, Central Jordan

Introduction and Project Objectives

'Ain Ghazal is a major Neolithic settlement located along Wadi az-Zarqa in the northern suburbs of Amman. During the summer of 1987, as part of the greater 'Ain Ghazal Archaeological Project, a survey was conducted in the site's vicinity. Two primary objectives structured this survey: 1) To document if 'Ain Ghazal was surrounded by smaller Neolithic satellite sites; and 2) to document the range of human occupation in the project area. Adding to the urgency of the project is the intense development that Amman is currently undergoing, making it critical to document archaeological occurrences before they are destroyed. The survey was a joint project between the Desert Research Institute of the University of Nevada System and Yarmouk University, with the authors serving as co-directors. The survey has been previously reported on in some detail (Simmons and Kafafi 1988); the present paper summarizes the results.

Excavations at 'Ain Ghazal have revealed it to be one of the richest and most significant Neolithic centers known in the Near East (Simmons *et al.* 1988; Rollefson and Simmons 1987). It was a sophisticated settlement occupied from the aceramic Neolithic (Pre-Pottery Neolithic B, or PPNB) through the early ceramic Neolithic (Yarmoukian) periods. The range of materials recovered from the site is truly impressive, and its importance cannot be overestimated.

Of particular interest has been the documentation of a transitional phase between the PPNB and Yarmoukian periods: This has been termed the "PPNC", and is presently known from only one other site, Wadi Shu'eib (Simmons *et al.* 1989) in the region. Coupled with this and equally significant has been the suggestion, based on preliminary analyses, of a dramatic economic shift from the PPNB through the Yarmoukian. During the PPNB, a broad spectrum economy based on the domestication of a wide range of both plants and animals, supplemented by a large variety of wild resources, was in operation. By the Yarmoukian, however, this economic range had narrowed substantially, with a near exclusive emphasis on domestic goat/sheep. This has been interpreted as reflecting a change to pastoralism brought about by culturally induced environmental degradation (Köhler-Rollefson 1986; Rollefson and Köhler-Rollefson 1989).

Despite the wealth of data from 'Ain Ghazal, knowledge of its surrounding area was a vacuum, thereby providing the stimulus for the survey. A primary objective of the survey was to determine if 'Ain Ghazal was supported by small satellite sites, or if it operated as an independent entity. Also of interest was the difficult task of determining the presence of late Neolithic pastoral sites. Such a presence would aid in confirming the postulated change to a pastoral economy. In any event, the documentation of *any* Neolithic sites in the area would help to define an 'Ain Ghazal community, providing us with a better understanding of regional settlement patterns during the Neolithic.

Another survey objective was to document the entire range of human occupation in the study area. This would aid in determining how land-use patterns have changed through time in the northern sector of the greater Amman vicinity.

An allied objective was to inventory archaeological sites in the study area so that proper management could be attempted. Our survey was intended to supply information that might assist in the management and protection of significant sites. Minimally, the survey would provide systematically collected archaeological data for an area under rapid development.

A final objective was to continue geomorphologic research commenced at 'Ain Ghazal. The project geomorphologist, R. Mandel, was particularly interested in formation processes at both 'Ain Ghazal and at surrounding sites. Such information is useful in determining ancient settlement/landform preferences and in predicting site locations, as well as indicating areas where geomorphic processes may have obscured the cultural record.

Geographic focus and methodology

Six separate survey zones were investigated. Four of these were contiguous and were located along Wadi az-Zarqa.

The other two were located to the north and east of the main survey areas. In all zones, wadi floodplains and adjacent terraces and slopes were investigated. A total of approximately 8.4 square kilometers was systematically surveyed.

Given that the Amman region has been occupied for at least the past 100,000 years, and probably a great deal longer, cultural remains are nearly ubiquitous in virtually any area examined. This led to difficulty in defining a "site." We did not record isolated chipped stone or ceramics as sites, restricting this term to localities exhibiting some clear patterning and/or containing a density of artifacts greater than that of the surrounding area. This procedure allowed for the relatively unambiguous definition of sites and provided a cohesive framework from which to record cultural remains. Not all sites were considered as *in situ* cultural occurrences.

Results

Within the total area surveyed, 81 archaeological sites were recorded (FIG. 1). This included, as site number 1, 'Ain Ghazal itself. Of the 81 sites, at least 108 components are represented. The distribution of components is as follows: Lower Palaeolithic-5 (4.6%); Middle Palaeolithic-12 (11.1%); Upper Palaeolithic-6 (5.5%); Epipalaeolithic-6 (5.5%); Neolithic-12 (11.1%); unknown, probable prehistoric-16 (14.8%); Chalcolithic/Early Bronze-4 (3.7%); Early Bronze-4 (3.7%); Iron-11 (10.2%); Roman-6 (5.5%); Byzantine-3 (2.8%); Umayyad-2 (1.9%); and unknown, probable historic-21 (19.5%). Note that the chronological placement of components is somewhat different from that initially reported (Simmons and Kafafi 1988:31) in that we now believe there are five late Lower Palaeolithic occurrences and 12 Middle Palaeolithic components. Initially, we felt that all of these were Middle Palaeolithic; we are indebted to G. Rollefson for his assistance with this re-classification. Of the 81 sites, several distinct site types were also recognized as follows: Artifact scatter-34 (42.0%); rock shelter-4 (4.9%); *rujm* ("rubble pile") with ceramics-1 (1.2%); *rujm*, without ceramics-14 (17.3%); tower, without ceramics-1 (1.2%); tower, with ceramics-2 (2.5%); stone ring-2 (2.5%); single structure-5 (6.2%); multiple structure-9 (11.1%); kite with associated structures-2 (2.5%); settlement-6 (7.4%); and terrace-1 (1.2%). The following is a brief discussion the survey results by time period.

Lower Palaeolithic. Late or Final Lower Palaeolithic components are quite similar to the Middle Palaeolithic components observed, but all contain small, well-made hand axes. Levallois technique was also present, and most pieces are heavily patinated. These sites may contain Middle Paleolithic components as well. None of these appeared to be *in situ* deposits.

Middle Palaeolithic. Of all the identifiable prehistoric components recorded, those with a probable Middle Palaeolithic date are, along with Neolithic occurrences, the most common. Middle Palaeolithic occurrences were identified by their distinctive technology: Many pieces exhibited Levallois elements, and much of the debitage consisted of pieces with multi-faceted platforms. Numerous Levallois flake and point cores were observed, but tools were not well represented. Of the tools observed, many are side scrapers. Nearly all Middle Palaeolithic pieces are highly patinated. Many of the Middle Palaeolithic occurrences are associated with later materials. All of the sites appear to be deflated surface occurrences with little or no evidence for stratified or intact deposition. Most are located on slopes and benches; a few were on the floodplains of wadis, but these may be redeposited.

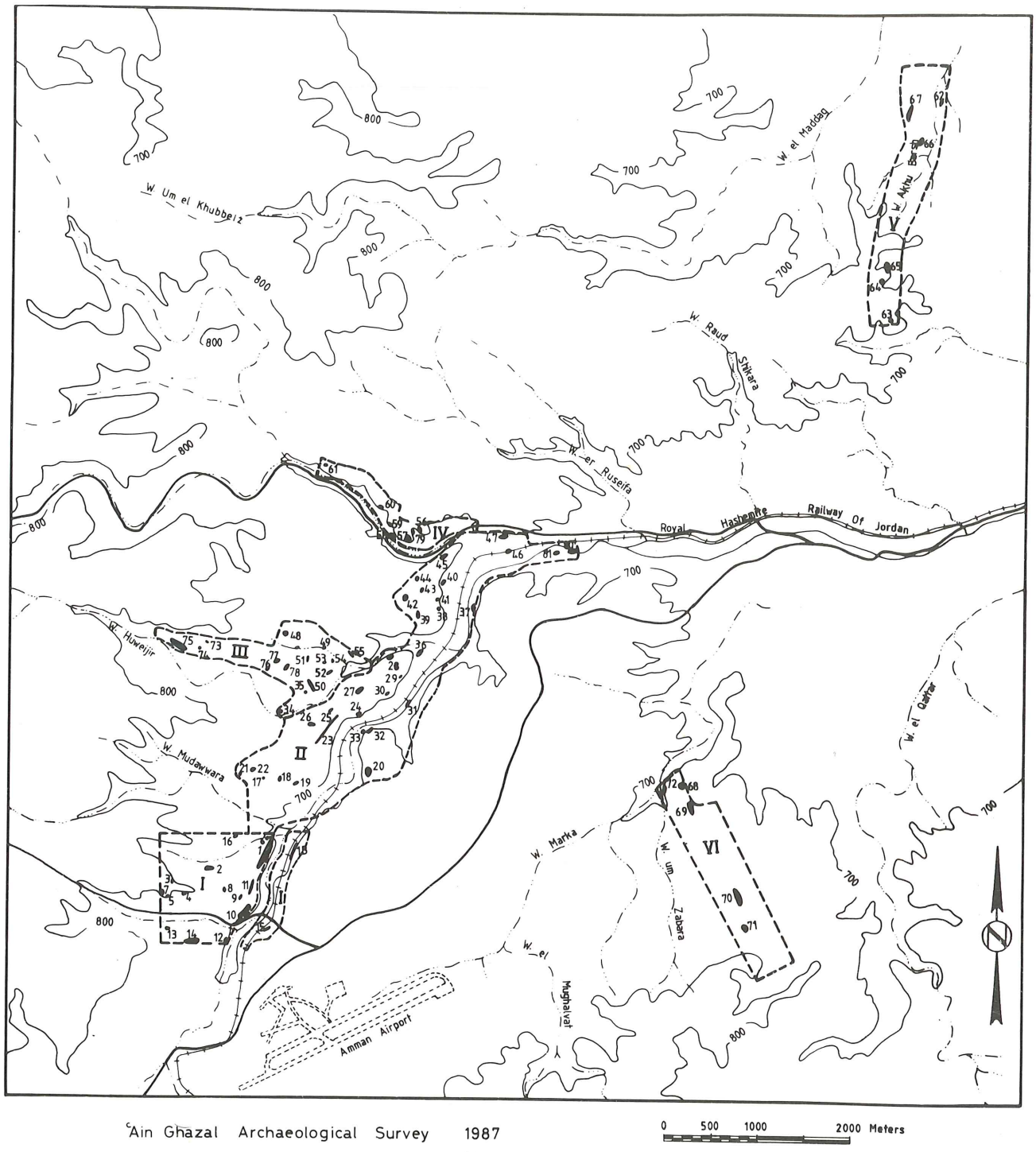
Upper Palaeolithic. Upper Palaeolithic occurrences were primarily identified on the basis of debitage, which consists of long, well-made blades. Tools included side and end scrapers, burins, and various retouched pieces. Five of the six components recorded are surface scatters. One is located in a vandalized cave.

Epipalaeolithic. As with the Upper Palaeolithic materials, Epipalaeolithic components were identified primarily by their debitage, which consists of numerous bladelets and bladelet cores. Tools were relatively rare, and microlithic tools were even less common. Several backed bladelets, however, were observed at one site. On the basis of surface inspection, none of the sites displayed characteristics common to well-documented Epipalaeolithic periods, such as the Kebaran or Natufian.

Neolithic. The documentation of Neolithic sites was one of the major goals of the project. Counting 'Ain Ghazal, 12 Neolithic components were identified. These fall into two distinct groups. The first consists of three sites in the immediate vicinity of 'Ain Ghazal, while the second group is composed of sites located a moderate distance from 'Ain Ghazal.

In the first group, one site probably represents an extension of the southern end of 'Ain Ghazal. It is located south of a series of garages and automotive shops that separate it from the southern boundary of 'Ain Ghazal and is situated on a relatively steep slope. Numerous plastered floors and wall sections can be clearly discerned in exposures. Associated artifacts are also similar to those observed at 'Ain Ghazal and there appears little doubt that it is an extension. This increases 'Ain Ghazal's size by some 300 meters in a north-south direction. The size of the east-west expansion is more difficult to determine due to modern disturbance. It minimally covers 30 meters, but conceivably could stretch across Wadi az-Zarqa, as in the northern sections of 'Ain Ghazal. If this were the case, the east-west extension could cover an estimated 300 meters. In any event, the discovery of this site makes an already enormous site even larger. The exposed materials appear to be related to the PPNB occupation of 'Ain Ghazal.

Another Neolithic site lies immediately to the south and,



1. 'Ain Ghazal Archaeological Survey, showing the locations of transects and sites.

again, could represent an extension of 'Ain Ghazal itself. The Neolithic occupation documented here, however, appears to be restricted to the Yarmoukian phase. The main component of the site is a large Early Bronze Age settlement previously reported by Petocz (1987). The site has been badly damaged by modern development, and intact deposits are very limited.

The last site in this first group of Neolithic occurrences is also located on a relatively steep slope. It is south of the site just described and is defined by a section of plastered floor similar to that seen at PPNB 'Ain Ghazal. The site is located on an exposure immediately beneath the Marka power plant and has been severely damaged. Beyond the floor exposure, no other cultural remains were observed.

The second group of Neolithic sites are located along Wadi az-Zarqa and related smaller drainages. Two probable Neolithic sites were also recorded in the two outlying transects. All of these sites are defined by a large number of burins. As such they resemble the burin sites known in the Black Desert (Betts 1986; Betts and Helms 1986; Garrard *et al.* 1987; Rollefson and Frohlich 1982). Although most burin sites seem to be restricted to the desert areas of Jordan, at least one has been recorded in the Amman area at Umm Udheina (Rollefson *et al.* 1982).

The function and precise chronology of these sites is unknown. Most researchers feel that they date to either the late Pre-Pottery Neolithic or the Pottery Neolithic. Unlike some of the burin sites in the desert, those recorded by the 'Ain Ghazal survey do not appear to contain diagnostic PPNB or later Neolithic projectile points. Systematic surface collection, however, might negate this statement. The associated debitage at the sites consists of both flakes and blades. Other tools were relatively rare and usually consist of retouched pieces, although several perforators and, in a few instances, some adzes, were observed.

Most of the burin sites recorded are surface scatters without associated structures. Two sites, however, did contain *rujum* that might be associated with the Neolithic occupations. One of these consists of a single feature, while another is composed of a series of *rujum*, one of which was open at one end.

Also of interest here is the presence of two probable linear "kite" sites. These have been documented in the Black Desert, where they are often associated with Neolithic artifacts. Of the two recorded here, however, one is associated with Chalcolithic/Early Bronze Age materials while another is undiagnostic. It could conceivably be Neolithic, but would require excavation to verify this.

Chalcolithic/Early Bronze. Chalcolithic/Early Bronze Age components represent a variety of site types. One is a relatively large settlement consisting of several room blocks. Another is a "kite" site that also contains a stone circle on a ridge top. Yet another overlooks a small wadi and consists of substantial architectural remains. The site also contains an Iron Age component. Finally, the Chalcolithic/Early Bronze component of one site consists of a single rectangular structure. This site also contains a Neolithic occupation.

Early Bronze Age. Three of the four Early Bronze Age components were surface scatters with limited amounts of pottery. One, however, consists of a relatively large settlement that has been badly disturbed by modern development. It also contains a Yarmoukian Neolithic component. This site is the one previously recorded by Petocz (1987).

Iron Age. Iron Age components included a wide variety of site types, consisting of two tower sites, two ceramic scatters, four multiple structure sites, one settlement, one *rujm*, and one stone ring site. Ceramics from both Iron Age I and Iron Age II periods were recorded. At those sites containing structures, rectangular forms were the dominant morphology.

Roman. Roman sites were generally represented by only limited amounts of Roman ceramics mixed with artifacts from other periods. Only one substantial Roman site was recorded. This is a very badly disturbed, but large, settlement located at Ras al-'Ain.

Byzantine. Byzantine components are also very poorly represented. All three recorded are artifact scatters containing Byzantine sherds along with artifacts from other periods. Two of these are located in plowed fields, while the third is on a ridge top.

Umayyad. One of the two Umayyad sites recorded consists of an undetermined number of rooms. It is located immediately upslope from and adjacent to 'Ain Ghazal. The other Umayyad occurrence is a scatter containing artifacts from several periods.

Unknown Chronology. A large number of components contained no diagnostic elements and therefore are chronological "floaters". There were two general categories of these "unknown" sites: Lithic scatters and structure sites. The structure sites are tentatively identified as "unknown historic" sites, while the lithic scatters are presumably prehistoric. The structure sites most often consisted of *rujum*. One of the two "kite" sites also falls in the "unknown" category.

Conclusions

The 'Ain Ghazal survey documented a relatively high site density of 9.6 sites (12.8 components) per square kilometer. These sites covered a wide span of human occupation, with the earliest dating to the late Lower Palaeolithic and the latest to the Umayyad period.

The survey data clearly point to a consistent and relatively dense occupation of the Amman area for the past several thousand years. The nature of this, however, varied considerably. The earliest, represented by Lower, Middle and Upper Palaeolithic lithic scatters, conforms to patterns observed at similar sites throughout the Near East, with the

exception that no long-term cave occupation has been documented. The presence of Epipalaeolithic sites is of interest, especially since those recorded are not typologically consistent with Epipalaeolithic sites known elsewhere.

Of particular interest to the project has been the documentation of Neolithic sites surrounding 'Ain Ghazal. The size of 'Ain Ghazal has been expanded as a result of the survey, and the presence of numerous burin sites has added to the complexity of Neolithic settlement in the area. It is tempting to consider the "kite" sites as Neolithic manifestations, but this cannot be supported by the data at hand.

We had expected, even anticipated, finding smaller Neolithic villages, farmsteads, or pastoral sites. This was not the case, unless some of the chronologically ambiguous lithic scatters and *rujum* or structure sites are Neolithic. This appears unlikely, since no Neolithic artifacts were associated with these sites. Indeed, one question posed by the survey is the presence of the numerous *rujum* sites throughout the Amman area. Many of these may well represent communication towers of some sort and may be contemporary. The nature of these sites, however, can only be answered by excavation.

It now appears that 'Ain Ghazal did, in fact, operate as a relatively independent settlement and that major support sites were not a part of its settlement system. It is, however, possible that some Neolithic settlements may be buried under relatively recent deposition. The tendency for such sites to be located on low slopes near major wadi systems may have rendered them nearly invisible to conventional archaeological survey. If road construction had not exposed portions of 'Ain Ghazal, the site would not have appeared very substantial on the basis of surface remains alone. In the areas that we surveyed, this must remain a possibility. On the other hand, we thoroughly investigated the numerous exposures present around Wadi az-Zarqa and some of its tributaries and found no evidence for any buried Neolithic materials. To complicate matters even further, it must be remembered that the area immediately adjacent to 'Ain Ghazal has been severely impacted by modern development, which could have totally destroyed any traces of Neolithic (or other) sites.

On the basis of the survey data, however, we tentatively conclude that there are no major Neolithic sites located in the areas that were investigated. The presence of smaller, specialized activity sites attests to a Neolithic presence in the 'Ain Ghazal hinterlands, but this appears to have been of a limited nature.

During the "historic" periods, several interesting patterns emerge upon examination of the survey data. Overall, the earlier (i.e., prehistoric) periods are better represented than many of the later periods. This may be due to the tremendously longer time span of the prehistoric periods, thus allowing for the accumulation of more sites. On the other hand, later sites have a better chance of being preserved in the archaeological record, thus their relative scarcity during some of the historic periods may well be real.

A relatively substantial Chalcolithic/Early Bronze Age occupation has been documented. In light of this, the lack of Middle Bronze and Late Bronze Age sites is surprising. Iron Age sites are well represented, but again the total lack of remains dating the "Classic" Hellenistic period of Amman's antiquity is curious. For whatever reasons, Hellenistic occupation appears not to have expanded north from the Amman Citadel area.

One possibility that should be considered in interpreting the lack of major later sites is that after approximately two thousand years of successful exploitation during the Neolithic, the immediate environment of the area was depleted and unsuitable for agricultural economies. Unlike many major Neolithic sites, there is no substantial later occupation of 'Ain Ghazal. It is possible that the success of the Neolithic could have rendered the 'Ain Ghazal vicinity marginal for any major agricultural activity. This could account for the relatively specialized and ephemeral nature of many of the later sites. The dates of the numerous presumed "historic" *rujum* sites would be of considerable interest here.

In conclusion, the 'Ain Ghazal Archaeological Survey has documented a rich and diverse human occupation of the area north of Amman. The study has demonstrated the utility of a systematically conducted survey, recording *all* cultural occurrences, and not those relating only to specific periods. This information can provide a substantial data base that should be of interest to both researchers and planners.

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Ancient Settlement Patterns in the Northwest Arḍ al-Karak

The Northwest Arḍ al-Karak has been the object of several intensive reconnaissance surveys which were carried out by the author from 1983 to 1986 (Worschech 1985 a, b; 1986 a, b). The area investigated was initially the Central Moabite Plateau with its slopes toward the Dead Sea. This area was later enlarged due to the discovery of a secondary Roman road system which connected the agricultural hinterland west of the *Via Nova Traiana* with the main cities during Nabataean-Roman and Roman-Byzantine times. The roads could be followed down the slopes to the Dead Sea shore, thus linking the Jordan Valley with the plateau. Of the area surveyed between Wadi al-Mujeb and Wadi al-Karak, about 85% has been explored and about a hundred ancient sites were discovered, dating to almost all the known periods of Palestinian archaeology. During the surveys it was observed that the slopes of the Moabite Plateau are characterized by micro-climatic regimes depending on elevations between 1000m above sea level down to -300m at the Dead Sea shore. Since the sites are widely dispersed over this region of different soils and micro-climates in bands dependent on elevation, I will first give attention to these different ecological zones in central Moab and to the slopes toward the Dead Sea.

I. The Geographic and Climatic Zones of the Slopes in the Northwest Arḍ al-Karak

Moab or the Central Moabitis is understood by most scholars to refer to the Central Moabite Plateau. For this reason, N. Glueck was primarily concerned with the sites on the plateau, ignoring the area of the slopes to the Dead Sea which is almost as large as the fertile land of the plateau. The surveys proved that the slopes were also inhabited at all times and must receive as much attention as the territory of the Jordanian plateau. Although studies about the ecology and climate of the central Moabite slopes are very few, it is possible, by analogy, to sketch a brief outline of the most important climatic and ecological features of the area under discussion (Al-Eisawi 1985).

1. The Semi-arid Mediterranean Bioclimate

The central plateau of the ancient Moabitis has always had a favourable climatic situation: Hot and dry summers, cold and rainy winters. The average annual temperature is around 18°C. There can be extremes in the annual rainfall over several years, ranging from only 101.9mm to as much as 661mm a year. The average rainfall is around 400mm per year. The fertile soil is the typical Mediterranean *terra rossa* (Bender 1968: 179) which today grows wheat, barley, tomatoes, melons, grapes and olives. Although the Cenomanian limestone is very porous and absorbs much of the water, the vegetation stores some of the humidity and loses it during the hot summer. This is enough to grow some grain and vegetables without irrigation even during that season.

There are many sites on the plateau dating to all archaeological periods. This indicates a continuous occupation of the plateau with some small gaps which, however, were not necessarily caused by climatic, but rather by political changes and influences (see section III below).

2. The Arid Mediterranean Bioclimate

The slopes toward the Dead Sea are characterized by the "arid Mediterranean bioclimate" which averages *c.* 22°C annually. The area receives about 150-250mm of rain per annum which is the minimum amount for growing crops in the dry farming system and for sheep herding in the area. The "Yellow Mediterranean Soil" (Moormann 1959: 13-25; Bender 1968: 181; Baly 1964: "Typus der syrischen Steppe", 142f) can be found starting below the first escarpment of the Moabite Plateau at *c.* 700m and going down to about 300m above sea level. The banks of the larger wadis cutting through the slopes (i.e. Wadi Ibn Ḥammad, Wadi aj-Jarra, Wadi ash-Shuqeiq) are particularly used for Alpine-like pasture land and for agriculture. The area to the extreme northwest on the slopes to the northern part of the Dead Sea and towards Wadi al-Mujeb is, however, very difficult to explore and just as difficult to use agriculturally.

Despite its hotter climate and less fertile soil, the ecological zone of the slopes between 300-700m above sea level was still favoured in all known archaeological periods as proved by the numerous ancient sites discovered there.

3. The Saharan Mediterranean Bioclimate

Despite its hot annual average temperature of *c.* 30°C in the southern Jordan Valley, this type of climate and its Sudanian-type vegetation (Al-Eisawi 1985: 51) allows extensive agriculture and sheep herding under very favourable climatic conditions, especially during the winter months. The 'Yellow Soils' of the elevations from *c.* 250m below to 300m above sea level are still good for agriculture because of the typical "Soil Complex of the Jordan Valley" (Bender 1968: 185), which is a mixture of red-brown vegetable mould with yellow-white marl soil. Under favourable climatic conditions these soils are good for various types of agriculture. In this particular ecological zone we found a number of sites which date back to the Early Bronze periods and, with a long gap, to the Roman-Byzantine epochs. Evidence for Late Bronze and Iron Age occupation is very scarce, if present at all.

This brief sketch of the three different ecological zones characterizes the central Moabite territory occupied during all known periods of the Middle East. There have been, of course, shifts in the density of occupation in certain areas. These occurrences will now be discussed in connection with possibly related historical or other events.

II. The Location, Topography and Chronology of the Ancient Sites in the Northwest Arḍ al-Karak

Certain difficulties arise when one considers the survey data gathered as absolutely fixed. Chronological and historical verification cannot be reached from only a few sherds picked up during surveys. Hence, statements concerning historical and sociological circumstances which may have caused a site to be founded or abandoned can only be preliminary and the historiographical observations can only be tentative.

1. Sites of the Late Acheulian, the Middle to Late Palaeolithic and the Neolithic

The specific areas where prehistoric artifacts were found are located on the rim of the western plateau of Arḍ al-Karak. Two sites were found on the plateau below the first escarpment of the slopes (Rollefson 1985; 1986). Another site is located at the Dead Sea in the vicinity of al-Buleida. This site is of special interest since it yielded samples of a mixed nature dating back to the Late Acheulian, the Late Palaeolithic and the Neolithic. The geographical gap between the sites of the plateau and this one does not necessarily imply the non-existence of other sites on the slopes. The soil deposits in the better-vegetated Moab plateau explain the low incidence of probable sites in contrast to Edom where prehistoric sites are more exposed due to heavy erosion and drought-denundation of the landscape (Rollefson 1985: 81-82).

2. The Late Chalcolithic and Early Bronze Age Occupation of Arḍ al-Karak

Up till now there is no evidence for specific Chalcolithic settlements in Arḍ al-Karak. Unsolved is the problem of the date which should be assigned to the tumuli which are so frequent in the survey area, particularly on the slopes and, more extensively, at the Dead Sea. A systematic research of these tomb-structures is still needed. Some of them may indeed date back to the Chalcolithic or even the Neolithic, others may be more recent (McCreery 1977-78: 155; Clark 1979; Worschech 1985a: 28-34).

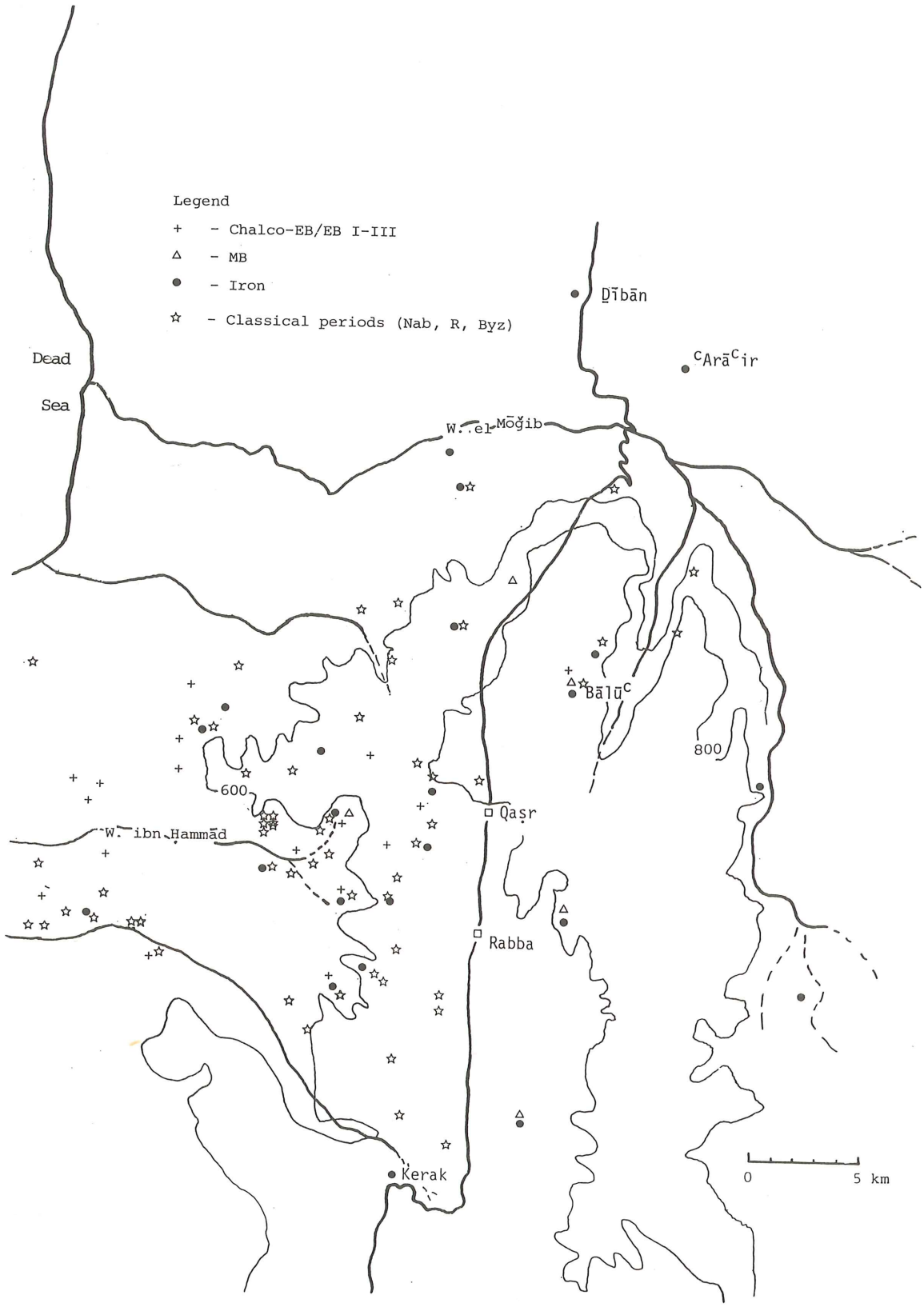
The Late Chalcolithic-Early Bronze transition period is only represented by pottery and flints continuing into the EB periods. According to the survey material the Chalco-EB sites are scattered all over Arḍ al-Karak with particular concentration on the slopes between 700m down to the *aghwār* below sea level. The sites dating to EBI-III are mostly located alongside the wadis, especially Wadi Ibn Ḥammad, near dried-up springs, and north and northeast of Bab adh-Dhra'. The intensive Chalco-EB occupation of the area under discussion in contrast to the very few, indeed almost non-existent Neolithic sites in the Northwest Arḍ al-Karak, has raised some questions with regard to the cause of the sudden appearance of Chalco-EB sites and their possible contacts between the sites in the Jordan Valley and those of the plateau. Tentative answers are that there must have been a more favourable climate than today, in the Ghor and the slopes making it possible for the settlements to spread throughout the areas north of Wadi al-Karak. Small settlements, isolated buildings and camp-sites were established, through which contact between the Jordan Valley and the plateau of Arḍ al-Karak was made possible for trade and commerce (Worschech 1986a: 40-51).

3. The Middle Bronze Age Occupation in the Northwest Arḍ al-Karak

The decline of the Early Bronze Age culture and the "Period of Transition" (EBIV) into the Middle Bronze Age in Jordan was observed by N. Glueck (1934: 81f.). His observation holds true for the small territory covered by the Arḍ al-Karak survey. There are indeed no MB settlements on the slopes or north of Bab adh-Dhra' as far as Wadi ash-Shuqeiq. The only significant MB settlements found on the Central Moabite plateau are in a straight line running from Mes'ar to al-Balu', al-Maṣna' and 'Ader. There are, however, MB tombs on the slopes, indicated by occasional finds. The number of MB sites compared with the quantity of sites at the beginning of the EB period — only about four MB sites as compared to fourteen Chalco-EB sites presently known in the survey area — strikingly indicates a sudden decline of the urban centres in the Northwest Arḍ al-Karak during that period.

4. The Late Bronze Age in the Northwest Arḍ al-Karak

There is very little evidence of any large scale Late Bronze Age occupation in the Northwest Arḍ al-Karak. During the surveys LB pottery was only found at four sites, but in rather small quantities. Nevertheless, it does prove the



Settlement Patterns in the Northwest Arḍ al-Karak (Central Moab) All periods (except Islamic).

existence of some LB settlements (?); but without excavations no definite statement can be made concerning the nature of the LB occupation in central Jordan.

5. The Iron Age in the Northwest Arḍ al-Karak

The Iron Age I-IIC is well represented throughout the survey area. In addition to the known sites identified by N. Glueck and J. M. Miller (Glueck 1934; Miller 1982), some 13 more sites must be added so that the number of Iron Age sites in the northern Arḍ al-Karak now totals 39. Of the 13 sites discovered in the Northwest Arḍ al-Karak, only five have Iron I pottery. It is worth noting that on these sites, LB sherds were also collected. The remaining eight sites have a good representative corpus of Iron IIA-C pottery.

It is striking that the Iron Age sites are spread over the entire survey area. They are found in all the ecological zones from the plateau to the Dead Sea. The localization of these settlements is very similar to that of the Chalco-EB sites. Although the Iron Age settlements did not re-use the same locations, they are similarily found near wadis and springs, and on mountain spurs.

During the Iron Age, central Moab was encircled by a chain of fortress-like settlements which included Mudeinet al-Mu'arrajah and Mudeinet 'Alya, al-Balu', Mudeinet al-Mujeb, Tadun (?), ad-Deir, and possibly Karak. With the exception of Mudeinet al-Mu'arrajah, which was abandoned in the Iron I, all other sites continued into the Iron IIA-C periods. Particularly in the valley of Wadi Ibn Ḥammad and on the rim of the western Central Moabite Plateau, new settlements were founded in the Iron II, as can be concluded from the absence of any Iron I pottery on these sites.

Up till now the Iron IIC/Persian archaeological remains are only evidenced by the excavations at al-Balu'. From the little information we have from there (Worschech 1986b: 305-310) it can be gleaned that, after the Iron IIC occupation, the country experienced another non-urban phase which in central Moab lasted well into the late Hellenistic-Early Roman period.

6. The Nabataean, Roman and Byzantine Periods in the Northwest Arḍ al-Karak

The sites occupied during these periods in the Northwest Arḍ al-Karak are numerous. They have been found in all the ecological zones from the Central Moabite Plateau down to the shores of the Dead Sea. However, the larger settlements, such as villages or small towns, were founded on the plateau (i.e. al-Qaṣr, ar-Rabbah, Karak), while the sites on the slopes and at the Dead Sea were mainly isolated buildings with central courts, fort-like walls, sometimes with towers at all four corners. There were also tower-like structures (measuring between 5×8m to 8×12m) which could be interpreted as tower-houses as they are known from earlier and also later periods in Palestine (Worschech 1985a: 66-88). Most of these tower-houses and fortified farms have been located near or within sight of the newly discovered road system west of the *Via Nova Traiana* (Worschech and Knauf 1985).

Since the Roman roads follow the topography of the slopes by the easiest ascent or descent, the Roman and Byzantine sites are only by chance on or near Iron Age and EB settlements. The village-or town-like settlements are along the *Via Nova Traiana* with only a few isolated buildings east of it (i.e. al-Balu'). And although Nabataean, Roman and Byzantine pottery can be found at almost every site in the Northwest Arḍ al-Karak, the main concentration of settlements dating back to these periods is along the 'King's Highway' with the Roman *limes* running further to the east.

7. The Islamic Periods in Northwest Arḍ al-Karak

There is very little evidence for Umayyad occupation in the Northwest Arḍ al-Karak. This may be due to the fact that the Ayyubid/Mamluk settlements were built on top of the earlier Islamic sites. However, there is more evidence for village-like Mamluk settlements, which are dispersed all over the northern Arḍ al-Karak. Settlements of this kind were independently founded in the Byzantine or Roman period. Entirely new open settlements sprang up, especially in the Islamic Middle Ages, but the tradition of isolated farms and tower-houses continued from Roman-Byzantine times. These buildings were primarily found in Wadi Ibn Ḥammad but they also exist on the Moabite Plateau and on the slopes. They are more recent, dating back *c.* 200 years. But at that time or shortly thereafter, the country experienced a time of more or less intensive "nomadism".

III. A Brief Summary of the History of Settlements of the Northwest Arḍ al-Karak

The following observations concerning the history of settlements in the Northwest Arḍ al-Karak are only based on survey material. Hence, all statements relating to possible historical events in the history of the settlements in this territory are only tentative and preliminary. However, since the Northwest Arḍ al-Karak has never before been the subject of any detailed studies with regards to over-all Jordanian archaeology and history, although specific research has been done at Bab adh-Dhra' and at al-Lajjun, for the sake of furthering studies in the much neglected Central Moabitis it is necessary to present a few hypothetical statements for further discussion.

The above-mentioned prehistoric periods (from the Acheulian to the Neolithic) are only evidenced by a few artifacts not associated with architectural remains dating to these periods. In addition to this limitation it is not certain whether *all* of the prehistoric sites in the Northwest Arḍ al-Karak have been found and mapped. For these reasons it is better to refrain from making any statements concerning the patterns of settlement pertaining to prehistoric sites in the area (Rollefson 1985: 82).

A clearer picture emerges at the end of the Chalcolithic

and at the beginning of the Early Bronze Age. The Chalcolithic is marked by rural communities which lasted partially into the Early Bronze Age, as can be shown by the campsites or open air stations with late Chalco-EB pottery. However, within the EBI there is an increase in the number of villages and small fortified towns all over Palestine. This also holds true for the small territory of the Northwest Arḍ al-Karak. In addition to the known EB settlements (particularly Bab adh-Dhra' and al-Balu'), another 14 sites were discovered during the surveys. The sites are located in all of the three ecological zones described above.

Several factors led to the fall of the urban centres at the end of the Early Bronze Age: Overpopulation, ecological destruction and a most likely change in climate (Ritter-Kaplan 1984; Tubb 1983: 57). The EBIV (MBI) and MBIIA periods in central Jordan are well attested, particularly at Bab adh-Dhra' (Rast 1981: 31-34). However, archaeological evidence is too scant for any detailed discussion regarding the development and situation of central Moab at that time. No significant sites dating to the MB periods have been found on the slopes toward the Dead Sea, except for a few sherds of doubtful character. Still, there were four large Middle Bronze Age villages on the plateau (see above), al-Balu' being one of them. Evidence for the continuation of at least four MB settlements in Arḍ al-Karak does not militate against the general observation of the discontinuation of urban centres in Palestine at that time. But however well attested, the Middle Bronze Age in Arḍ al-Karak did not gain any significant heights during the MBIIB-C periods as compared to sites in Palestine.

Despite the finds of a number of sherds dating to the Late Bronze Age, there is no conclusive evidence for a strong LB culture in central Moab. It is also not known whether the MB villages lasted into the LB periods, since there is no evidence for LB occupation following the MB periods on the respective MB sites.

While in Palestine the Late Bronze Age urban centres declined, the village-like unfortified settlements increased due to new populations out of which new nations grew. The deteriorating LB settlements continued side-by-side with the increasing rural-type centres of the early Iron Age I. This generally accepted development in the LB and Iron I is attested to in Palestine but does not hold true, for instance, in central Moab. As surveys have shown, there is no evidence for a considerable number of truly urban Late Bronze Age sites in Arḍ al-Karak. As in Palestine, the newly founded Iron Age I villages were not built on the sites of the Middle and Late Bronze Age tells, but near or not far from Early Bronze Age tells. At Khirbet al-Balu', however, the considerable water supply during the Early Bronze to the late Iron Age periods resulted in continuous settlement at Wadi al-Balu'. The Early Bronze Age settlement is situated on the plateau north of the wadi. A considerable concentration of Middle Bronze Age sherds and wall lines can be found on the south bank immediately above Wadi al-Balu', while the Iron Age (I-III) settlement is located high above the wadi on the plateau stretching along the southern ridge of the escarpment for around 500m from 'Ain al-Balu' towards the east. It is remarkable that other Iron Age settlements spread to all ecological zones in Arḍ al-Karak, which were not occupied in the MB periods but were in the Chalco-EB epochs.

During the Iron Age II the number of towns and villages increased in Arḍ al-Karak, on the plateau, on the slopes and at the Dead Sea, although the evidence here is still evasive. However, Assyrian, Babylonian and Persian domination in the Iron IIC period have left their traces and the transition from one to the other was probably smooth since Moab did not fight the mightier, foreign powers. Arḍ al-Karak continued with urban centres well into the Persian period. It appears that shortly after the end of Persian rule the Central Moabitis also fell prey to the migration of Arab tribes into Moab. It is likely that, as elsewhere in Transjordan, nomadic Arab tribes migrated into Arḍ al-Karak and mixed with the Moabite population there. We do not know if there existed any form of rulership in Moab between *c.* 400-150 B.C.

This 'interim period' lasted into the late Hellenistic period, which is attested in Arḍ al-Karak together with the Nabataean and Early Roman periods. The *c.* 200 years of non-urban populations in central Moab does by no means suggest that the country was depopulated. Rural communities may have existed there continuously until the Roman period. However, there is no evidence of any larger settlements in the Early Hellenistic period.

Early Roman and Nabataean building remains, as well as late Roman, Byzantine and the much later Ayyubid/Mamluk settlements are, of course, well attested to by architecture and pottery in all of the Northwest Arḍ al-Karak. Already in Nabataean times settlements had spread all over the ecological zones in Arḍ al-Karak, and continued there during the later above-mentioned periods. The land must have been fairly secure with the Roman *limes* running further east. The valleys and plains below the Moabite Plateau were more heavily populated than today. Secondary roads connected the plateau with the Dead Sea and possible harbours there, as the Madaba map implies. The Northwest Arḍ al-Karak never reached a high standard of living in comparison with the land north of Wadi al-Mujeb. Central Moab was a 'backwater' but may have been important for sheepherding and farming from Roman times until the end of the Islamic Middle Ages, when a large village called 'Shiḥan' was built west of al-Balu'.

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Wadi al-Ḥasa Palaeolithic Settlement Patterns: Negeb and South Jordan Models Compared

Introduction

The present essay is part of our continuing investigation of settlement pattern data, time-space systematics and archaeological variability in the earlier sites recorded by the Wadi al-Ḥasa Survey (WHS 1979-1983), directed by Burton MacDonald (MacDonald 1988). In previous papers, we described both general and regional models for hunter-gatherer positioning strategies (Clark 1984, Clark *et al.* 1986), synthesized Levantine palaeoenvironmental information pertinent to the 100-10 kyr BP interval (Clark *et al.* 1987), and generated idealized site placement models based on dichotomous relationships between site size and elevation in environments characterized by marked topographic relief (Coinman *et al.* 1988). Here I look at temporal distributions by time-stratigraphic units within and across tributary drainages to determine if correlations between site size and elevations indicate change over time related to regional palaeoenvironmental fluctuations, or whether they reflect altitudinally-determined site placement strategies that cross-cut episodes of environmental change — strategies tied to the exploitation of 'bands' of resources specific to particular elevations. Ethnographic information is also evaluated. As in previous work, the sample comprises 222 sites classified as Lower, Middle, Upper and Epipalaeolithic, and as Prepottery Neolithic, with various bracketing categories for mixed collections and for those in which temporal diagnostics were lacking (TABLE 1).

Ethnography-based Expectations

Any attempt to generate expected patterns of site location must be matched against the coarse 'grain' of the WHS archaeological record and must take into account known macroclimatic conditions and the NW/SE altitudinal gradient of al-Ḥasa itself, which is quite marked. Wadi al-Ḥasa empties into the Dead Sea depression near Aṣ-Ṣafi. At its western terminus, elevations vary from *c.* +1250m at the edge of the Jordan Graben, to *c.* −390m, near the confluence of the wadi and the Sea. The western part of its course intersected by Tributary Drainages 8-5 is characterized by very steep elevational gradients, on the order of 7-900m. East of Wadi Ja'iṣ, the profile of equilibrium of al-Ḥasa changes and gradually becomes more gentle, so

Table 1 Wadi al-Ḥasa Survey — Preceramic sites by time-stratigraphic unit and tributary drainage.

Analytical Units	Drainages 8 n	%	7 n	%	6 n	%	5 n	%	4 n	%	3 n	%	2 n	%	1 n	%	Total: No.	%
PPN	1	07			2	05.5	2	04	12	31	2	07	3	15			22	10
EPI/PPN							16	35.5	13	33	1	04	3	15	2	08	35	16
UP/EPI	1	07	1	07	4	11	1	02	1	03	5	18	1	05	4	16	18	08
UPPER			2	13	5	14	7	15.5	4	10	3	11	2	10	7	28	30	13.5
MID/UP	2	14			10	28	8	18	2	05	2	07	1	05	3	12	28	12.5
MIDDLE	6	43	5	33	13	36	11	24	7	18	8	28	7	35	9	36	66	30
LOW/MID	4	29	7	47	2	05.5					7	25	3	15			23	10
Total:	**14**		**15**		**36**		**45**		**39**		**28**		**20**		**25**		**222**	**100**

Key to Drainages (West to East): 8 = Wadi 'Afra, 7 = Wadi ath-Thamad, 6 = Wadi al-La'ban, 5 = Wadi Ja'iṣ, Wadi 'Anmayn; 4 = Wadi al-'Ali, 3 = Wadi al-Aḥmar, 2 = Wadi al-Ḥasa lowlands, 1 = Wadi ar-Ruweiḥi.

Key to Analytical Units: PPN = Prepottery Neolithic, EPI/PPN = Epipalaeolithic/Prepottery Neolithic, UP/EPI = Upper Palaeolithic/Epipalaeolithic, UPPER = Upper Palaeolithic, MID/UP = Middle Palaeolithic/Upper Palaeolithic, MIDDLE = Middle Palaeolithic, LOW/MID = Lower Palaeolithic/Middle Palaeolithic.

that Drainages 4-1 have gradients on the order of 400m (Drainage 4, Wadi al-'Ali) to 100m (Drainage 1, Wadi ar-Ruweiḥi).

Elevation clearly affected not only resource zone distributions, but also the movement of humans and animals through the region in what is assumed for preagricultural periods to be a pattern of east/west transhumance. Transhumance influenced by topographic relief plays a role in all previous efforts to model Levantine hunter-gatherer adaptations (cf., e.g., Marks and Freidel 1977; Henry 1987). Henry is of the opinion that patterns of transhumance derived from 19th century Bedouin ethnographic data are of great antiquity, and possibly admit of some generalization (1984). The pastoral nomads of southern Jordan followed a seasonal cycle of movement, with mobile, relatively small, dispersed family camps located in lowland areas during the spring and early summer, migration during the early summer months to higher elevations, late summer/autumn camps in the uplands, and subsequent movement down into the intermediate piedmont for the winter months. Historically, the largest population aggregates occurred during the winter, in semi-sedentary camps representing multiple extended family groups, sometimes numbering more than 100 individuals.

Henry (1987) has proposed a test of this model for the Epipalaeolithic inhabitants of the south Jordan plateau and the adjacent Wadi Ḥisma lowlands. Because of moister climatic conditions over the 20-10 kyr BP interval there, he has essentially reversed the polarity of the model, arguing that the largest, deepest, semi-sedentary aggregation sites corresponding to the winter structural pose should be found in lowland areas, and that the small, shallow, dispersed sites corresponding to spring/autumn mobile settlements should be found in the piedmont. In the case of the Epipalaeolithic (Hamran) of southern Jordan, there is pretty good archaeological confirmation of this pattern, with site size and artifact diversity patterns basically corresponding to differences in the duration and intensity of occupation. Because of climatic differences, the elevational belt selected for the winter aggregation sites during the relatively wet Epipalaeolithic was much lower (i.e., in the Wadi Ḥisma lowlands) than that used by 19th century Bedouins (i.e., the piedmont).

To generalize this model and to apply it to Wadi al-Ḥasa (which has a NW/SE [vs a N/S] elevational gradient), during *mesic* intervals, winter aggregation sites would be expected to occur at relatively low elevations in tributary Drainages 3-1, and summer camps to be at intermediate-to-high elevations (i.e., 'downstream', in tributary Drainages 8-4). During *xeric* intervals, the expected pattern is reversed: Winter aggregation sites should be found primarily at moderate-to-high elevations (i.e., in tributary Drainages 8-6), and small summer camps should be located in the Wadi al-Ḥasa lowlands (i.e., Drainages 3-1). To make the study comparable to that of Henry, I have divided the 70km course of al-Ḥasa into three elevational zones, which roughly correspond to the uplands, the piedmont and the lowlands in the Henry model. From west to east, tributary Drainages 8-6 comprise the 'uplands', Drainages 5 and 4 the 'piedmont', and Drainages 3-1 the 'lowlands'. Site area data are presented below by tributary drainages and by time-stratigraphic unit, but they are analyzed by elevational zones (i.e., sites defined as upland, piedmont and lowland respectively are considered together) (TABLES 2-7).

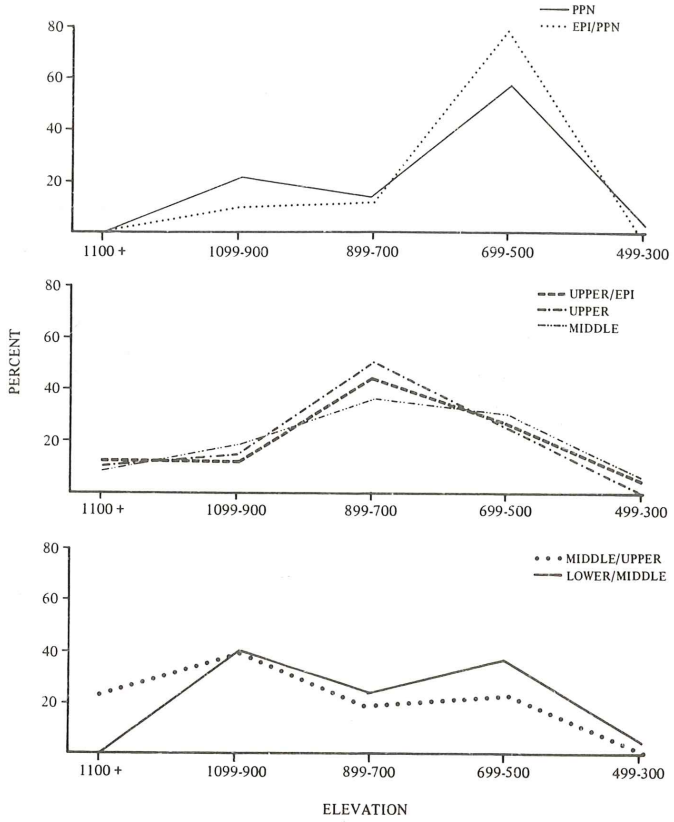
The Lower and Middle Palaeolithic Sample

The Lower/Middle Palaeolithic sample from al-Ḥasa is dominated by small (Class 1, 2) sites, which account for 74% of the site total of 88 (Table 2).[1] Class 1 sites are distributed about equally across the three elevational belts (20%/upland, 18%/piedmont, 25%/lowland), but only one other (large) site occurs in the piedmont, thus confirming the bimodal site distribution reported earlier (FIG. 1) and indicating (1) either little use of the piedmont in these earliest time ranges, or (2) systematic destruction of large Lower/Middle Palaeolithic piedmont sites (which seems unlikely). Large Class 5 sites are exactly twice as common in the uplands (8, 9%) as they are in the lowlands (4, 4.5%), lending a degree of asymmetry to what seems to be archaeological confirmation of some kind of a radiating pattern (i.e., site size differentiation by itself suggests a radiating rather than a circulating pattern). However, the observed distribution departs from expectations in that, during wet intervals, large winter aggregation sites should

Table 2 Wadi al-Ḥasa Survey — Lower and Middle Palaeolithic sites.

Site	Drainages								Upland		Piedmont		Lowland		Total:	
Size Classes	8	7	6	5	4	3	2	1	No.	%	No.	%	No.	%	No.	%
‹2500 m²	3	4	11	9	7	6	7	9	18	20	16	18	22	25	56	64
2500 - 4999		1	2			4	2		3	03.5			6	07	9	10
5000 - 7499	1	3	1			1	1		5	06			2	02	7	08
7500 - 9999	1		1			1			2	02			1	01	3	03
›9999	5	3		1		3		1	8	09	1	01	4	04.5	13	15
Total:									**36**	**41**	**17**	**19**	**35**	**40**	**88**	**100**

[1]Slight discrepancies between Tables 2-7 and Table 1 are due to missing or inconsistent site area data which did not allow for placement of sites in a particular size class.



1. Global site elevation distributions by time-stratigraphic units ignoring site size and tributary drainage. The graphs show the percentage of sites represented in each of five 200m elevational bands. Graphs of similar shape are grouped together.[2]

be concentrated more or less exclusively at low elevations. In fact they are twice as common in upland as they are in lowland drainages.

The Middle/Upper Palaeolithic Sample

There are 28 sites in the Middle/Upper Palaeolithic combined sample, of which 21 (75%) are small, Class 1 sites (TABLE 3). In some contrast to the Lower/Middle Palaeolithic distribution, small sites are concentrated in the piedmont (36%) and the uplands (25%). Overall site counts in these two elevational zones account for 79% of the site total, more than triple the site count for the lowlands (6 sites, 21%). There are no Class 4 and only two 'very large' Class 5 sites, both located in the lowlands. An asymmetrical, bimodal pattern is indicated, with small sites concentrated at higher and intermediate elevations. Since these are mostly mixed (rather than demonstrably transitional) assemblages, no clear-cut expectations about pattern are possible.

The Upper Palaeolithic Sample

Extrapolating from the central Negeb highlands, which are on approximately the same latitude as al-Ḥasa, the Ḥasa Upper Palaeolithic should have developed under initially wet, but increasingly drier conditions, interrupted by a humid episode of short duration *c.* 32-27 kyr BP. The early part of the Upper Palaeolithic (*c.* 45-30 kyr BP) is characterized by AP fractions on the order of 16% at Negeb sites D-22 and D-27, compared to *c.* 2% today (Horowitz 1979). Geomorphically and sedimentologically, there is a gradual decline in runoff energetics and an increase in the colluvial component of valley fills after *c.* 35 kyr BP. Climatically, Mediterranean phytogeographic associations are distributed *c.* 150km south of their present locations. The trend toward dessication becomes marked after *c.* 27 kyr BP, and maximum aridity is attained at about 16 kyr BP. Thus, the later Upper Palaeolithic (30-20 kyr BP) in the Negeb is quite arid, in sharp contrast with humid conditions in the northern Levant. There are 28 sites in the unmixed Upper Palaeolithic sample but, contrasted with the Middle/Upper Palaeolithic sample (which also contains 28 sites), the distributional centre of gravity has shifted to lower elevations and the M/U bimodal configuration is replaced by a unimodal one centred on the 7-900m elevational band. Most sites are again small (20, 71%) but there are single, very large sites in both elevational extremes (TABLE 4).

The Upper Palaeolithic sample does not 'fit' either the Marks or the Henry models. Under the expectations of the general model, during xeric intervals, large winter aggregation sites should be concentrated at higher elevations and small summer camps should be located in the lowlands.

Table 3 Wadi al-Ḥasa Survey — Middle and Upper Palaeolithic sites.

Site	Drainages								Upland		Piedmont		Lowland		Total:	
Size Classes	8	7	6	5	4	3	2	1	No.	%	No.	%	No.	%	No.	%
‹2500 m²	1		6	8	2	1	1	2	7	25	10	36	4	14	21	75
2500 - 4999			2						2	07					2	07
5000 - 7499	1		1	1					2	07	1	03.5			3	10.5
7500 - 9999																
›9999						1		1					2	07	2	07
Total:									**11**	**39**	**11**	**39.5**	**6**	**21**	**28**	**99.5**

[2]In previous publications, the elevations on the horizontal axes of the graphs were inadvertently *reversed* in preparing the illustration. They are correct as shown in FIG. 1, with high elevations on the reader's left and low elevations on the reader's right. The shape of the graphs is not affected. Publications containing this error are Coinman *et al.* (1986, 1988) and Clark *et al.* (1986, 1987).

Table 4 Wadi al-Ḥasa Survey — Upper Palaeolithic sites.

Site	Drainages								Upland		Piedmont		Lowland		Total:	
Size Classes	8	7	6	5	4	3	2	1	No.	%	No.	%	No.	%	No.	%
‹2500 m²		1	2	6	3	2	2	4	3	11	9	32	8	28	20	71
2500 - 4999			3						3	11					3	11
5000 - 7499					1			1			1	03.5	1	03.5	2	07
7500 - 9999								1					1	03.5	1	03.5
›9999		1				1			1	03.5			1	03.5	2	07
Total:									**7**	**25.5**	**10**	**35.5**	**11**	**38.5**	**28**	**99.5**

Table 5 Wadi al-Ḥasa Survey — Upper and Epipalaeolithic sites.

Site	Drainages								Upland		Piedmont		Lowland		Total:	
Size Classes	8	7	6	5	4	3	2	1	No.	%	No.	%	No.	%	No.	%
‹2500 m²	1	1	2	1	1	4	1	2	4	23.5	2	12	7	41	13	76.5
2500 - 4999			1					1	1	06			1	06	2	12
5000 - 7499						1							1	06	1	06
7500 - 9999																
›9999								1					1	06	1	06
Total:									**5**	**29.5**	**2**	**12**	**10**	**59**	**17**	**100.5**

Table 6 Wadi al-Ḥasa Survey — Epipalaeolithic and Pre-Pottery Neolithic sites.

Site	Drainages								Upland		Piedmont		Lowland		Total:	
Size Classes	8	7	6	5	4	3	2	1	No.	%	No.	%	No.	%	No.	%
‹2500 m²				12	13	1	3	2			25	73.5	6	18	31	91.5
2500 - 4999				3							3	09			3	09
5000 - 7499																
7500 - 9999																
›9999																
Total:											**28**	**82.5**	**6**	**18**	**34**	**100.5**

Instead, there is the unimodal pattern mentioned above, albeit skewed toward the lowlands, and more large sites in the lowlands than in the uplands. Small sites are, however, in fact concentrated in the piedmont and at lower elevations, corresponding to expectations under the model. The anomalous sites are large, lowland sites like WHS 618, located at *c.* 815m on the shore of a fossil lake and associated with a fossil spring.

The Upper/Epipalaeolithic Sample

The Upper/Epipalaeolithic analytical unit probably retains a degree of compositional and temporal integrity because it is based in part on vectored or directional changes in the characteristics of Levantine Upper Palaeolithic assemblages over time — changes that supposedly can be generalized (see, e.g., Bergman and Goring-Morris 1987). This means that the sample probably consists of sites that date to the later (rather than the earlier) phases of the Upper Palaeolithic, and sites that fall in the Epipalaeolithic time interval (*c.* 20-12 kyr BP). The Ḥasa sample is overall quite similar to that of the Upper Palaeolithic, with only a single, large lowland site and with numerous small sites (13, 76.5%) distributed more or less evenly across all three elevational bands (TABLE 5). The distribution is essentially a unimodal one, with the centre of gravity shifted more toward the lowlands than previously (59% of the Upper/Epi sites occur there, vs 38.5% Upper Palaeolithic ones). There are no large sites in the upland or piedmont drainages, and only two small sites in the piedmont. Given the similarity with the Upper Palaeolithic pattern, a similar explanation is offered: The lowland lakes and springs probably attracted a more sustained human presence during xeric intervals than would otherwise have been the case.

The Epipalaeolithic/Pre-Pottery Neolithic sample

The Epipalaeolithic/Pre-pottery Neolithic sample in al-Ḥasa differs markedly from earlier samples in that there is an apparent total abandonment of the upland drainages, and concentration of sites in piedmont Drainages 4 and 5 (31 sites, 91.5%) (TABLE 6). There are no Epi/PPN sites larger than 5000m², and all but three (of 34 sites) are ‹2500m². Based on normative characterizations of assemblage types, the Epi/PPN combined sample is a fairly

Table 7 Wadi al-Ḥasa Survey — Pre-Pottery Neolithic sites.

Site Size Classes	Drainages 8	7	6	5	4	3	2	1	Upland No.	%	Piedmont No.	%	Lowland No.	%	Total: No.	%
‹2500 m²	1		1	1	6		3		2	09.5	7	33	3	14.5	12	57
2500 - 4999			1	1	1				1	05	2	09.5			3	145
5000 - 7499					3	2					3	14.5	2	09.5	5	24
7500 - 9999					1						1	05			1	05
›9999																
Total:									**3**	**14.5**	**13**	**62**	**5**	**24**	**21**	**100.5**

credible transitional one, and would probably date to *c.* 17-10 kyr BP. The numerous Ḥasa Epi/PPN sites are all relatively small, and are located at relatively low elevations in the eastern 'half' of the main wadi system. The site distribution corresponds most closely to a circulating pattern in the Marks model. Since there are no really large sites, it does not agree with either configuration of the generalized Henry model, nor with his test case of that model using Epipalaeolithic data from southern Jordan (Henry 1987).

The Pre-Pottery Neolithic sample

The PPN sample is generally similar to that of the Epi/PPN, with predominantly small sites heavily concentrated in the piedmont (13 sites, 62%) and secondarily in the lowlands (5 sites, 24%) (TABLE 7). There are, however, three small Class 1 and 2 sites in the uplands, and a single Class 4 site in the piedmont, indicating better size and locational differentiation than during the Epi/PPN. Two clusters of PPNB 'burin' sites occur in the piedmont and the lowlands respectively, underscoring the uniformity of this distinctive kind of assemblage type over vast stretches of the Syro-Arabian desert (Betts 1987).

Conclusions

The question posed at the beginning of this essay was couched in terms of two alternatives: Can Wadi al-Ḥasa site characteristics and distributions be correlated with and explained by pan-Levantine episodes of macroclimatic change, or do site distributions behave independently of macroclimatic change? It would appear that, while the Henry model and its generalization are better supported than that of Marks, the 'goodness of fit' achieved is overall rather poor. Transhumance, and a shadowy kind of cyclical (probably seasonal) aggregation and dispersion are documented throughout the sequence, but there were few unambiguous matches between predicted and observed patterns. There are two reasons for this apparent lack of fit.

The first and most obvious one is simply that Levantine hunter-gatherer site placement models are too coarse grained to be useful in any particular situation other than that from which they were derived. A survey of settlement pattern data from seven ethnohistoric nomadic pastoralist groups in southwestern Asia is given in TABLE 8 (from Lindly 1987). The rationale for looking at these data is simply that they suggest certain seasonal regularities in site location, group size, and duration of occupation. In general, winter camps tend to be located at low altitudes, have large group sizes, are usually occupied for the entire season, and are reoccupied on a yearly basis over a period of several years. Summer camps tend to be located at higher elevations, are composed of small dispersed extended family groups, are occupied for short periods of time, and are seldom reoccupied. However, as Lindly (1987) has pointed out, these generalizations do not always hold. Pastoralists move about the landscape to position themselves and their flocks relative to water and prime grazing areas, the locations of which can vary locally over the short run according to the season and the prevailing rainfall pattern. Hunter-gatherers position themselves based on decisions about the availability of key plant and animal resources which, in the desert regions of the Levant, are likely to have a 'patchy' distribution, strongly correlated with springs and seasonal lakes. Topography exerts a significant influence that is superimposed on these positioning strategies. Previous, 'wadi-wide' analyses produced overall weak (occasionally strong) positive correlations between site size and elevation, and between site size and artifact scatter density, and overall strong positive correlations between site size and proximity to water sources (i.e., wadi courses, springs [where locations could be determined], and Pleistocene Lake Ḥasa). Assuming that the WHS data themselves are at least adequate for this kind of inquiry, it is likely that departures from the generalized Henry model are due in large part to the necessity for balancing 'optimal' locational decisions against temporally and spatially variable key resource distributions and a secure source of water.

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Table 8 Settlement pattern data for nomadic pastoralists in southwestern Asia (from Lindly 1987).

Group & Location	Winter	Spring	Summer	Fall	Source
Bedouin Southern Jordan	- piedmont - large groups - low mobility - reuse of sites	- lowlands - small groups - high mobility - no site reuse	- highlands - small groups - moderate mobility - some site reuse	N/A	Henry 1984
al-Murrah Badu Saudi Arabia	- large camps - moderate mobility - seasonal pasture	- small camps - high mobility - sites clustered around semi-permanent wells	- large camps - no mobility - sites clustered around semi-permanent wells	- small camps - high mobility	Cole 1975
Bedouin Oman	- aggregation near water sources - large groups - sedentism (no mobility)	N/A	- dispersal in uplands - small groups - high mobility	N/A	Wilkinson 1977
Bedouin Negeb Desert	- aggregation in lowlands - moderate sized groups - no mobility	- dispersal to pastures - small groups - high mobility	- dispersal, then aggregation - small, then large groups - high, then low mobility	N/A	Marx 1967
Rwala Badu Syria and Jordan	- plateau - dispersed - small camps - high mobility	- plateau - dispersed - small camps - high mobility	- lowlands - aggregated - large camps - no mobility	N/A	Musil 1928
Basserri Iran	- lowlands - dispersed - small camps - high mobility	- low to medium elevations - aggregated - large camps - moderate mobility	- highlands - aggregated - large camps - moderate mobility	- varies with group	Barth 1964
Arab pastoralists Afghanistan	- lowlands - aggregated - large camps - no mobility	- steppe - dispersed - small camps - high mobility	- highlands - dispersed - small camps - high mobility	- varies with group	Barfield 1981

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Répartition des sites du Paléolithique inférieur en Jordanie

Jusqu'à ces dernières années, le Paléolithique inférieur de la Jordanie n'avait fait l'objet d'aucune synthèse générale, et nos connaissances sur la répartition géographique des sites et les divisions chronologiques pour cette période demeuraient fragmentaires.

Les premiers inventaires archéologiques établis par Field (1925-1950) avaient révélé l'existence de plusieurs gisements paléolithiques, ouvrant ainsi la voie à de plus amples recherches. Après les travaux de Field (1960), de Zeuner (1957) et de Garrard (1972), aucune prospection d'ensemble n'avait été effectuée. A partir de 1979 les recherches et les découvertes se sont multipliées, en particulier dans le sud du pays où trois zones ont été prospectées par des fouilleurs Jordaniens et étrangers:

- Wadi el-Hasa (Macdonald 1980, Macdonald *et al.* 1982, 1983, Clark *et al.* 1986).
- Jurf ed-Darawish (Muheisen 1988, 1987).
- Wadi Hisma (Henry 1979, 1982, 1985, 1986, 1981).

Au nord du pays des prospections et des fouilles ont été menées dans le bassin d'Azraq (Garrad *et al.* 1976, 1977, Rollefson 1980, 1982, 1983, 1984). Parallèlement, la partie supérieure du bassin du Zarqa et la région de Khirbet es-Samra étaient prospectées (Besançon *et al.*, 1984, 1985), ainsi que le wadi el-Janab et la zone de Kharaneh (Muheisen 1983) et la vallée du Jourdain était explorée du nord au sud (Muheisen 1988).

- Par ailleurs, la découverte de-gisements du Paléolithique se multipliaient dans la région: wadi el-Bustan (Rollefson 1981), Abu el Khas, dans la vallée du Jourdain (Villiers 1983), Kharaneh 2, 11, 13 (Muheisen 1983), Jabel 'Uweinid (Rollefson 1984).

Les résultats obtenus sur ces gisements montrent l'importance du pays au Paléolithique. Sur la base du seul matériel lithique, nous avons remarqué que l'occupation humaine avait été continue pendant tout le Paléolithique inférieur. Il faut également noter que:

A-Les restes d'hommes fossiles sont totalement inconnus pour le moment.

B-Aucun reste paléontologique datable du Paléolithique inférieur n'a, à ce jour pu être découvert et ce malgré la recherche de niveaux stratifiés pouvant contenir des restes de faune du Miocène ou du Pleistocène ancien que nous avons entrepris (Johanson *et al,* 1984). Seul le gisement d'Azraq 21 (spring C) a livré des restes d'animaux (Clutton-Brock 1970), datés de l'Acheuléen final ou du Yabroudien par l'industrie lithique associée (Garrard 1985).

-C- Aucune structure d'habitat n'a été signalée pour les périodes du Paléolithique inférieur.

-D- Les objets mobiliers, comme les ossements travaillés, les meules, les éléments de parure, sont totalement absents.

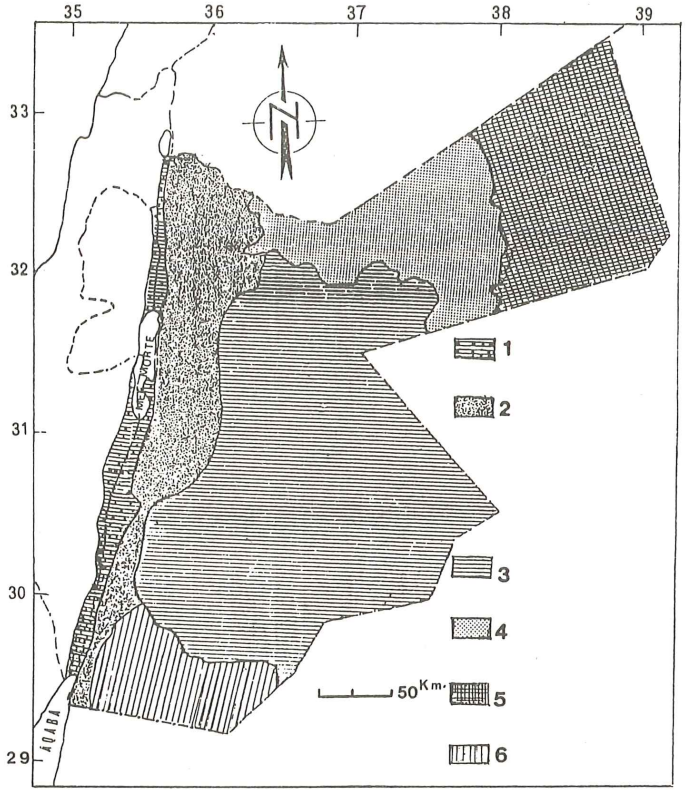
-E- Les gisements les plus vastes connus à ce jour sont ceux de plein air, situés en bordure d'anciens lacs ou de wadis. A ce jour, aucun des gisements connus du Paléolithique inférieur n'a révélé de séquence stratigraphique permettant de connaître le développement de l'occupation humaine de la région. L'industrie lithique reste le seul fossile directeur pour cette période et nous ne pouvons faire que des comparaisons entre gisements équivalents (FIG. 1).

Classification du Paléolithique inférieur en Jordanie

La classification du Paléolithique inférieur et moyen d'Orient pose depuis longtemps un problème, car il n'existe pas de subdivisions exactes pour cette période, comprise entre. 1.500 000 et 90/80.000 ans.

Les spécialistes restent divisés sur cette question. A partir de résultats obtenus pour la Syrie et le Liban et fondés sur la géomorphologie, les fouilles et les quelques datations absolues disponibles. (Hours 1981) proposait les subdivisions suivantes:

- Psléolithique inférieur ancien
- Paléolithique inférieur moyen



1. Géographie physique de la Jordanie.

1- Wadi 'Araba, Rift du Jourdain.
2- Chaîne de montagnes à l'Est du Wadi Araba et du fossé du Jourdain.
3- Plateau Central - désertique (Hamad).
4- Plateau basaltique (Hara).
5- Plateau désertique du Nord-Est.
6- Chaîne montagneuse gréseuse et désertique (Hisma).

- Paléolithique inférieur récent

Outre cette terminologie, les termes Acheuléen ancien, moyen, récent et final sont parfois utilisés. L'emploi de ces subdivisions est loin d'être la règle chez les préhistoriens travaillant en Palestine et qui utilisent seulement les séquences Acheuléen ancien, moyen et supérieur avec des phases intermédiaires entre le Paléolithique inférieur et le Paléolithique moyen (Gilead 1972, Gilead *et al.*, 1975). De nombreuses ambiguïtés demeurent ne serait-ce que dans la définition, des séquences et de leur terminologie. Pour la Jordanie et en attendant la découverte d'un site de référence, il conviendrait de n'utiliser que les termes de Paléolithique inférieur ancien, moyen et récent.

Le palolithique inférieur ancien

Au Moyen-Qrient, plusieurs gisements attribuables au Paléolithique inférieur ancien sont connus. Le plus ancien est celui d'Oubeidiya, au sud du lac de Tibériade, dans le Rift. La date proposée pour ce gisement est située dans un intervalle de temps compris entre. 1.500 000 et 900 000 ans environ (Jaeger 1983). Son industrie est datée du Mindel et l'outillage rappelle celui de la couche II d'Olduvai. Elle est caractérisée par des *chopping-tools, des bifaces* de style abbévillien, des bifaces primitifs à bords sinueux, des bifaces à section triédrique qui sont, selon Bordes, "appelés à tort pics" (Bordes 1984). L'analyse des pièces lithiques a révélé également la présence de boules et de choppers (Stekelis *et al.* 1969). Si l'on compare ce gisement, qui pose encore de nombreux problèmes stratigraphiques, avec les deux seuls autres gisements découverts dans le bassin du Rift (Abu Habil et Abu el-Khas), on constate que ces trois gisements sont situés à des altitudes comprises entre −200m et + 45m, ce qui s'accorde bien avec les conclusions de l'étude stratigraphique du Rift menée par Horowitz en 1969. D'un gisement à l'autre, peu de différences sont à noter dans l'outillage. Dans le conglomérat de Abu Habil, il y a peu d'outils, essentiellement des *choppers,* des *chopping-tools* et des bifaces primitifs. A Abu el-Khas, les outils, également peu nombreux, sont surtout sur éclat.

Les outils découverts dans la formation de Dauqara, dans le bassin d'Azraq (Besançon *et al.* 1984) sont aussi peu nombreux, au point que toute étude comparative précise est impossible, bien que leur appartenance au Paléolithique inférieur ancien soit assurée par la géomorphologie et la sédimentologie.

Non loin du Rift, sur la côte libanaise, à Borj Qinarit, trois outils découverts en contexte stratigraphique ont pû être attribués au "Paléolithique inférieur ancien" (Hours *et al.*, 1972).

Au Liban et en Syrie, le Paléolithique inférieur ancien est connu dans les dépôts de Qf IV et de Qm III, c'est à dire à la fin du Pléistocène moyen. Le gisement d'Ubeidiya est inclu dans cette période. Les bifaces sont présents sur certains gisements comme à Sitt Markho, Cheikh Mohammad, Jebel Idriss et Ubeidiya, alors que d'autres en sont dépourvus: Maharde II, Khattab, Borj Qinarit (Hours 1981).

En Jordanie, le site de Dauqara, le conglomérat d'Abu el-Khas et le conglomérat d'Abu Habil se rattachent au Paléolithique inférieur ancien par la technologie et la typologie de leurs outillages.

Le paléolithique inférieur "moyen"

Cette période est bien connue en Syrie par le gisement de Ḳatamné, daté de l'interglaciaire Mindel/Riss, et qui a livré des restes de faune et des artefacts en abondance (Clarke 1967, 1968). C'est également le seul gisement de cette période qui ait été fouillé. Il sert donc de référence.

L'industrie de cette période est caractérisée par la présence, mais en faible pourcentage, de pièces

Paleolithique inferieur Ancien

Nom des sites	(1) Alt. Abri	(2) Types de Grte		(3) sites P.air	Faune	Pollens	(4) Struct.	Datations absolues	Formations	Principlates carac. de l'industrie	Région	Références
Abu el-Khas	+45	–	–	+	–	–	–	–	Oubeidya?	industrie à éclats, racloirs et couteaux à dos	vallée du Jourdain	Villiers, 1980, 1983
Abu Habil	−100	–	–	+	–	–	–	–	Abu Habil	Bifaces primitifs, éclats, chopping tools et perçoirs	vallée du Jourdain	Huckried, 1966 Muheisen, 1988
Dauqara 19, 21, 22b, 31b, 110, 119 à 124	+650/ +700	–	–	+	–	–	–	– of III	formation de Dauqarn	industrie à èclats, un chopper (peu d'artsfacts	wadi ed-Dhlil	Besancon *et al*, 1984

Paleolithique inferieur Moyen

Nom des sites	Alt. Abri	Tyes de Grte	sites P.air		Faune	Pollens	Struct	Datation absolues	Formations l'industrie	Principales carac. de	Région	Régérences
Biré 22a, 24 29a, 106 116, 118 119b, et 130-134	+650 +700	–	–	+	–	–	–	–	fromation de Biré Of II	Peu de Bifaces, industrie à éclats. Pas de méthode Levallois	Wadi ed-Dhlil Zarqa	Besançon *et al*, 1984
Uweinid	+670	–	–	+	–	–	–	–	Of II?	Bifaces ovalaires, Abbeviliens, Hacher-eaux Cordiformes. Peu de technique Levallois	Bassin d'Azraq	Rollefson, 1984
Jerash	+1000	–	–	+	–	–	–	–	?	Ovalaires, cordiformes	Wadi ez Zarqa	Kirkbride, 1958
Wadi el-Hasa												
Site 337:	+650	–	–	+						Un Biface amydaloide	Wadi el-Hasa	Macdonald, 1980
Site 350	650	–	–	+						Biface cordiforme		

"Levallois" et par la diminution du nombre de *chopper* et *chopping-tools*. Les bifaces sont en général de forme ovalaire ou amygdaloïde, quelquefois lancéolés. Les et racloirs les perçoirs sont également représentés.

Les prospections et les recherches géomorphologiques effectuées en Syrie depuis 1975 ont démontré l'existence de gisements semblables à celui de Latamné (Hours 1975) ainsi que d'autres industries de types différents (industries sans bifaces) (Hours 1981). Tous ces gisements se trouvent sur la côte libanaise, à Berzine, Kellali, Jebel Jibtaa, au Rastane et Joub Jannine.

L'industrie de Joub Jannine II est de même type que celle de la couche supérieure d'Abu Habil mais s'en différencie par l'absence d'outils de type Levallois avec les bifaces de type déjà décrit.

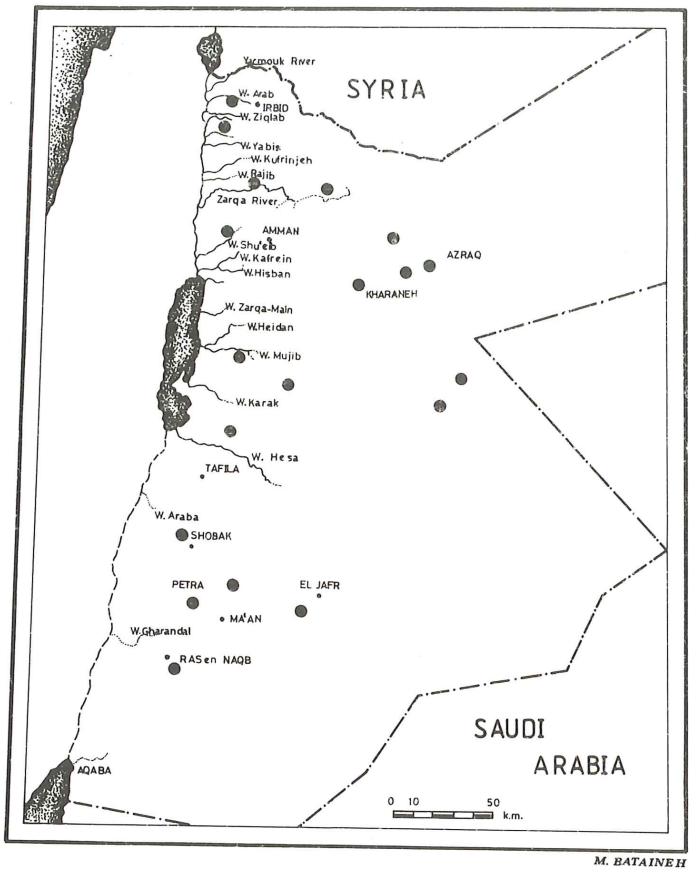
Le Paléolithique inférieur moyen se rencontre en Palestine sur des gisements situés à proximité du lac de Hula, tel le site de Jisr Banat Ya'qub attribué au Riss II par Strekelis (1960). Ce gisement a livré une faune de type villafranchien et l'étude de l'industrie, surtout celle des bifaces, a montré l'existence d'un grand nombre de hachereaux de types variés communs à l'Acheuléen moyen (*Gilead* 1972). Le gisement de "Evorn-Quarry", daté de la régression pre-tyrrhénienne, a livré des hachereaux (Issar *et al.* 1970) et apparaît comparable, par son industrie à celui de Latamné daté de la transition Mindel/Riss (Clark 1967-1968).

En Jordanie, seul le gisement de Jebel 'Uweinid peut être daté de la même période, grâce à la présence très abondante de hachereaux et de bifaces de type Abbévillien et de type ovalaire (Rollefson 1984). La datation de ce gisement repose uniquement sur les critères typologiques et technologiques de son industrie. Inversement, les gisements de la région de Azraq/Zarqa découverts dans un contexte sédimentologique connu (formation de Bire) ne livre que peu d'informations sur la typologie ou la technologie (Besançon *et al.* 1984). A l'heure actuelle, la région montagneuse et la région aride au sud n'ont pas livré de gisements importants datant de l'Acheuléen moyen.

Le Paléolithique inférieur récent (Acheuléen récent)

Il est représenté dans les différentes zones écologiques du Moyen-Orient: de l'Euphrate au nord-est jusqu'au sud de la Jordanie, de la côte méditerranéenne à l'ouest jusqu'à l'Arabie à l'est. Les gisements sont beaucoup plus nombreux pour cette période et correspondent à deux types différents d'implantations:

- gisements en grotte ou sous abri comme à Taboun, Abu Sif, Um, Qatafa, Douara et Yabroud. Ils livrent en général des séquences stratigraphiques,
- gisements de plein air et dont l'industrie se trouve en surface par suite d'une érosion soit de sédiments quaternaires soit de sol d'habitat (Gharmachi Ib) dans la région de l'Oronte (S.Muhesen 1981). Les gisements de la côte méditerranéenne et de ses alentours ont livré des ensembles suffisamment importants pour que l'on puisse les comparer à nos séries. A Mayan Barukh, les bifaces découverts en quantité ont été attribués à l'Acheuléen supérieur (Stekelis *et al.* 1966). Des séries de bifaces comparables ont été découvertes dans la couche F de la grotte de Tabun (Garrod *et al.* 1937), dans les niveaux E2, D2 et D1 de Oum Qatafa au Négev (Neuville 1951) et dans la région de Kissufim (Ronen *et al.* 1974). En Syrie, où les programmes de recherche sont bien avancés le gisement de Yabroud a livré une séquence montrant le développement de l'Acheuléen (couches 24 à 12) (Rust 1950). La grotte de Douara (Akazawa 1974), el-Kom (Besançon 1983), et les gisements de plein air de Hamadine, Maadann, Abu-Chari, 'Ain Tabous, 'Ain Abu Jamaa ont livré une industrie dont la description détaillée est donnée dans la synthèse de Hours (1981). A proximité de la vallée de l'Oronte et du Litani une concentration de gisements acheuléens a été mise en évidence (Hours 1981, Muhesen 1981). Les gisements du Paléolithique inférieur récent de Jordanie, répartis de manière identique n'ont malheureusement livré que peu de renseignements. Ils se situent sur les bordures de plateaux dominant les wadis, à une altitude comprise entre 950 et 1200m au-dessus du niveau de la mer: sites des wadi Muqarine, wadi Ziqlab, wadi el-Mujib, wadi el-Hassa et wadi el-Bustan. Dans la région aride, des sites ont été trouvés dans le bassin d'Azraq et le bassin de el Jafr près d'anciens lacs ou à proximité de wadis descendant vers ces bassins, à une altitude comprise entre 650 et 700 mètres. Les éléments caractéristiques de l'industrie sont les bifaces lancéolés, cordiformes et ovalaires avec un type en forme de lettre "D", particulier au bassin d'Azraq. Les hachereaux sont bien représentés. L'indice Levallois est plus élevé que pour le Paléolithique inférieur moyen et il existe des exemples de débitage laminaire, mais les pointes



2.

Levallois restent rares sur l'ensemble des gisements. Les racloirs simples, concaves sont les plus abondants et caractéristiques. L'absence de grottes et la rareté de séries homogènes pour cette période nous conduit à déduire que la majorité des gisements de Jordanie (FIG. 2) appartiennent au Paléolithique inféreur récent, en raison des ressemblances notées d'une série à l'autre, et que les régions naturelles de Jordanie n'ont pas joué de rôle important en ce qui concerne la variabilité des industries.

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Paleolitheque inferieur Récent

Nom des Sites	Alt.	Types de sites Abri	Grte	P.air	Faune	Pollens	Struct.	Datations absolues	Formations	Principales carac. de l'industrie	Région	Références
El-Muqarne	?	–	–	+	–	–	–	–	?	Peu de Bifaces et Peu d'industrie	wadi el-Muqarne	Kerestes *et al*, 1977-1978
Wadi Ziqlab												
Site 255	400	–	–	+	–	–	–	–	–	Très peu de Bifaces	plateau de wadi Ziqlab	Banning *et al*, 1983
Site 16	300			+	–	–	–	–	–			
Site 63												
Site 28												
Site 38												
Wadi Shueib	+100	–	–	+	–	–	–	–	–	Un seul Biface	Terrasse de wadi Shueib	Zeuner, 1957
Khirbet el-Mahariam	+870	–	–	+	–	–	–	–	–	Industrie à Bifaces et outillage sur éclats	Plateau de wadi Mujeb	Miller, 1979
Fijaj	+1280	–	–	+	–	–	–	–	–	Bifaces lancéolés, cordiformes, ovalaires Hachereaux	Wadu Bustan el-(Shobak)	Rollefson, 19981, 1985
Jebel Qalkha Site J401	+1000	–	–	+	–	–	–	–		Bifaces cordiformes amygdaloides, lancéolés fort indice Laminaire peu de méth. Levallois	Ras en Naqb	Henry, 1982, 1985
Basta 3	+1420	–	–	+	–	–	–	–	–	Bifaces lancéolés	Jeb. Sharà	Muheisen 1988
Ain el-Assad	+505	–	–	+	–	–	–	–	–	Hachereaux, ovalaires cordiformes, lancéolés Méth. Levallois absente	Bassin d'Azrq	Rollefson, 1981

Nom des Sites	Alt.	Types de sites Abri	Grte	P.air	Faune	Pollens	Struct.	Datations absolues	Formations	Principales carac. l'industrie	Région	Références
Wadi Rattam	+530	–	–	+	–	–	–	–	–	Bifaces lancéolés, amygdaloides, ovalaires discoide, "D shape" Mét. Levallois présente	Bassin d'Azraq	Copeland, et al 1988
Wadi el-Harth	+550	–	–	+	–	–	–	–	*in situ* sur graviers	Bifaces ovalaires, Hachereaux. Méthode Levallois présente	Bassin d'Azraq	Zeuner, 1957
Kharaneh												
A ll	+630	–	–	+	–	–	–	–	–	Perçoirs massifs Peu d'industrie	Kharaneh	Muheisen, 1983
A 13	+560	–	–	+	–	–	–	–	–	Peu d'industrie	Kharaneh	Muheisen, 1983
B 2	+550	–	–	+	–	–	–	–	–	Peu d'industrie	Kharaneh	Muheisen, 1983
Bayir	+660	–	–	+	–	–	–	–	–	Un Biface	Wadi Bayir	Field, 1960et Rolleston *et al*, 1982
Wadi es-Sirhan	+700	–	–	+	–	–	–	–	–	Un Biface		Muheisen en préparation
Wadi Abu el-Jurdhan	+1140	–	–	+	–	–	–	–	*in situ* sur formation Quaterlanaire	Peu de bifaces roulés émoussés. Présence de la méthode Levallois	Région de Ma'an	Muheisen 1986, 1988
Figay	+1200	–	–	+	–	–	–	–	–	Biface micoquien, une limande, un hachereau	Région de Màan	Museisen, 1986, 1988
El-Jafr (72)	+650	–	–	+	–	–	–	–	–	Biface ovalaire, Chopper	Bassin d'el-Jafr	Zeuner, 1957
Azraq 21C spring	+670	–	–	+	+	–	–	–	*in situ*	Biface de petite dimension. Racloir convergent, hacherau convergent, hacherau	Bassin d'Azraq	Brock, 1970 et Garrard *et al*, 1988

abréviation
(1) Alt = Altitude
(2) Grte = grorte
(3) P.air = plein air
(4) Struct = Structur

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Les Plateaux du Nord de la Jordanie au Paléolithique

I - Introduction

Bien qu'un certain nombre de travaux aient été récemment publiés, le Paléolithique inférieur de la Jordanie reste encore insuffisamment connu: sans doute serait-il prématuré de tenter une synthèse pour l'ensemble du pays, compte tenu de la diversité des préoccupations des auteurs, de la dispersion et de l'hétérogénéité des données disponibles.

Nous nous contenterons simplement ici de présenter les résultats des travaux réalisés par les chercheurs de l'URA 913-GREMO, entre 1982 et 1986, dans la vallée moyenne du Zarqa et dans la cuvette d'Azraq, et de rappeler brièvement la démarche suivie par cette équipe qui associe étroitement préhistoriens et géomorphologues.

On sait que les artefacts peuvent être découverts dans trois types de gisement:

Les sites d'occupation, avec stratigraphie archéologiques et données concernant notamment la faune (paléontologie) et la flore (pollens).

Les gisements de surface, qui se présentent comme de simples concentrations d'artefacts, souvent d'âges variés, sans trace d'habitat.

Les récoltes en stratigraphie géologique d'artefacts souvent plus ou moins longuement repris par le ruissellement et conservés dans le corps d'une formation alluviale ou encore scellés par un dépôt postérieur.

Parmi ces trois cas, les sites de loin les plus intéressants sont les sites d'occupation, mais ils sont évidemment très rares: en ce qui concerne le paléolithique inférieur de Jordanie, le seul connu à ce jour pourrait être celui de la Source C d'Azraq (L. Copeland, ce colloque). Les deux autres types de gisement ont le double inconvénient de présenter des assemblages typologiquement hétérogènes et, sauf exception, de ne pas contenir de faune. Toutefois, si les gisements de surface ne fournissent pratiquement aucun argument de datation, le troisième type de gisement permet du moins à la fois une datation relative (par l'âge de la formation dans laquelle il se trouve ou sous laquelle il repose) et des possibilités de comparaison avec des gisements similaires de régions pas trop éloignées. C'est à partir de l'étude de nombreux gisements appartenant à ce troisième type que nous avons travaillé en Jordanie du Nord, où nous avons pu établir un cadre lithostratigraphique autorisant des corrélations avec des gisements de même type observés en Syrie ou au Liban. De ce point de vue, les régions de Zarqa et d'Azraq présentent à la fois des points communs et des différences que nous allons brièvement exposer ici.

II - Etude de l'environnement: (FIG. 1).

Ces deux secteurs sont géographiquement très voisins: une centaine de kilomètres séparent l'oasis d'Azraq de la ville de Zarqa. Ils sont tous deux situés sur les plateaux de Transjordanie. Or, ceux-ci sont soumis à un climat méditerranéen dégradé, de nuance aride: des variations climatiques, ailleurs sans conséquence, peuvent y transformer un désert inhospitalier en une steppe arborée relativement accueillante et vice versa. Aujourd'hui, la dégradation végétale d'origine anthropique accentue encore l'impression d'aridité.

Le substratum géologique est constitué majoritairement de calcaires et de marnes parfois riches en rognons ou en lits de silex (le Turonien et le Sénonien notamment) qui ont fourni une matière première abondante et souvent d'excellente qualité. Les deux régions possèdent l'une comme l'autre des espaces couverts de roches basaltiques, vastes coulées de plateaux issues du Jebel Druze qui se sont insinuées jusque dans l'étroite vallée du Zarqa.

Les deux secteurs n'en présentent pas moins des différences notables:

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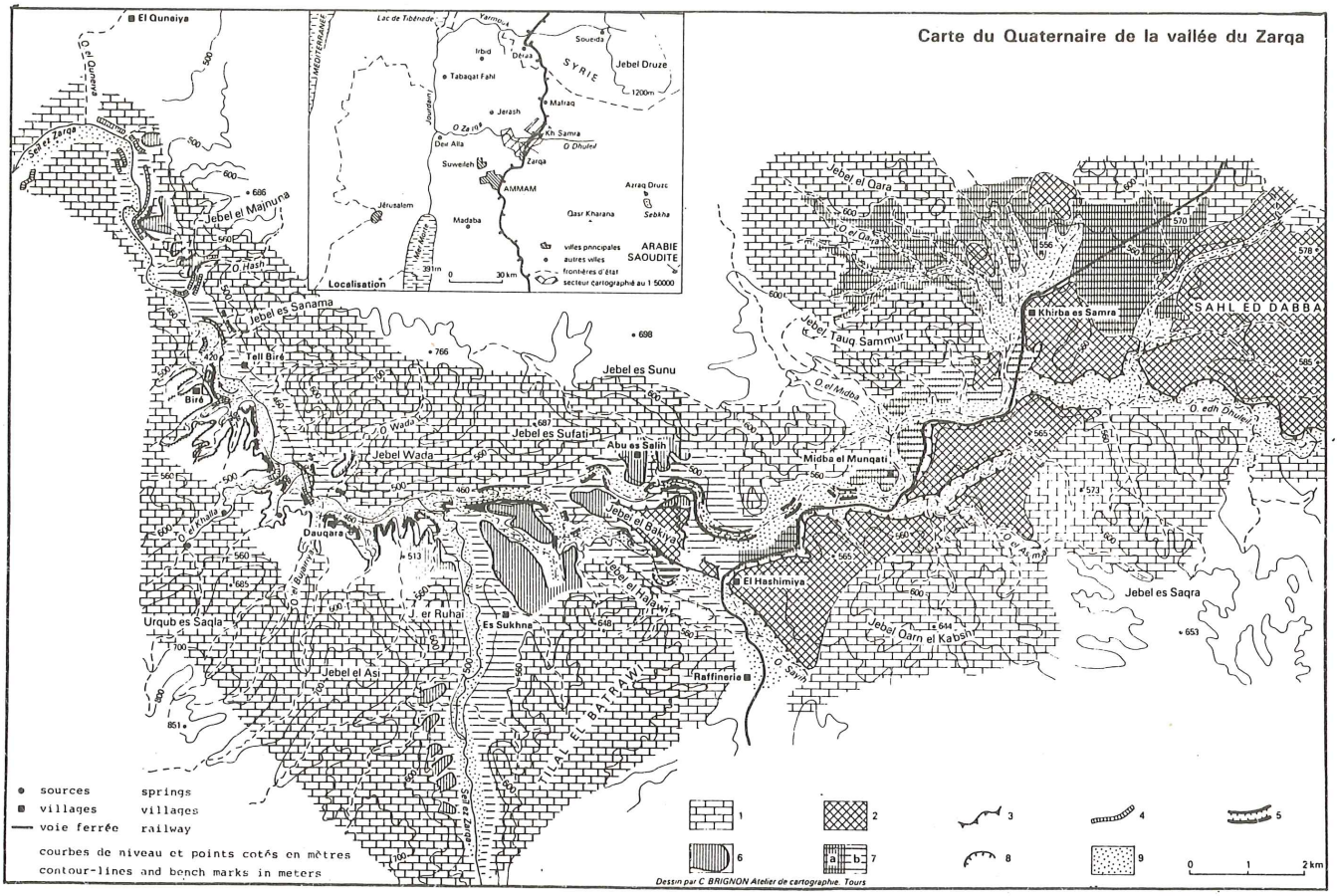
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1 · Carte lithologique et géomorphologique du Quaternaire de la vallée moyenne du Zarqa (Jordanie).

1: substratum crétacé (calcaires, craies, marnes) - 2: mesa basaltique (B1 et B2) - 3: abrupt formé par la mesa basaltique - 4: pointements basaltiques, généralement en fond de vallée (B4 en amont d'Hashimiya et B3 en aval) - 5: coulée basaltique formant généralement une corniche - 6: glacis-terrasse de haut niveau; a) conglomérat à croûte sommitale (formation Dauqara à paléoiithique ancien); b) surface tronquant le substratum crétacé - 7: moyenne terrasse complexe d'altitude variable, ou cône de déjection; a) en amont d'Hashimiya, formations alluviales de Biré et de Dauqara, à Paléolithique ancien, emboîtées et encroûtées; b) en avai d'hashimiya, replat structural ou d'érosion façonné dans le Crétacé ou le basalte B4, ou surface à forte pente transversale tronquant des dépôts alluviaux ou colluviaux emboîtés d'âge divers (formation de Biré surtout, formation de Khirbet Samra et Dauqara également) - 8: abrupt formé par la moyenne terrasse - 9: basse terrasse alluviale (formation Sukhna à Néolithique et Épipaléolithique et formation de Khirbet Samra à Paloélithique moyen).

céréaliculture sèche alors que la cuvette d'Azraq est sensiblement plus aride (moins de 100mm), en raison d'un fort gradient pluviométrique ouest-est.

La première est traversée par une rivière permanente appartenant au réseau du Jourdain, tandis que la seconde est une dépression fermée en voie de désorganisation par individualisation de cuvettes plus ou moins autonomes, malgré la présence en son centre de sources pérennes relativement abondantes.

Dans une topographie qui dans l'ensemble s'abaisse assez régulièrement d'ouest en est, la région du Zarqa est très accidentée, avec une vallée en gorge profondément enfoncée dans des plateaux situés vers 700 à 800 m, tandis que, malgré le relèvement de ses bordures ouest (1.000 m) et nord (Jabel Druze, 1.800 m), la dépression d'Azraq, dont le fond est à 500 m, présente un modelé trés doux, avec des incisions fluviales à peine marquées.

L'étude géomorphologique des modelés et dépôts quaternaires a permis de distinguer les grandes étapes de l'évolution au moins depuis le pléistocène moyen, dans la mesure où la proximité des deux zones et leur même position en latitude permettent de penser qu'elles ont connu à peu près la même histoire.

Les basaltes d'Azraq se seraient mis en place entre la Pliocène et le pléistocène selon Bender (1968), qui envisage un synchronisme entre les dernières coulées de la région (B6) et les basaltes du Yarmouk, datés de 680.000 + 50.000 à 560.000 B.P.

(Siedner et Horowitz, 1974, et Horowitz, 1979). En revanche, les basaltes du Zarqa, que nous avons datés (Baubron et al., 1985), sont beaucoup plus anciens puisqu'ils seraient mio-pliocènes. L'âge attribué à ces deux coulées de vallée, apparemment contemporaines des "Cover Basalts" inférieurs du fossé du Jourdain, prouve qu'une forte incision du Zarqa se serait produite entre 4 et 3,5 MA, probablement à la suite d'un effondrement du fossé du Jourdain plus précoce que certains auteurs (Tchernov, 1989) veulent bein l'admettre.

Mais les artefacts que nous avons trouvés en stratigraphie concernent des périodes beaucoup plus récentes:

Plusieurs phases anciennes de planation ont été reconnues sur la Zarqa et dans la région de Kharana, dans la partie occidentale du bassin-versant d'Azraq. La dernière correspondrait au sommet de la formation de Dauqara, recouverte d'une dalle polychronique, fortement cimentée. Les éclats récoltés dans cette formation sont rares et peu significatifs.

En revanche, la formation Biré sur le Zarqa et son équivalent dans la dépression d'Azraq - un conglomérat surtout visible sur le Butm et à la base des cailloutis du Rattama - ont livré d'assez grandes quantités d'artefacts, en particulier de bifaces qui appartiendraient à l'Acheuléen récent.

La formation suivante (formation Khirbet Samra) est riche en Paléolithique moyen aussi bien sur le Zarqa que dans la région d'Azraq (Rattama). La terrasse la plus basse et la plus récente, parfois dédoublée, contient de l'Epipaléolithique mais parfois aussi des artefacts beaucoup plus récents (Bronze, sur le Zarqa).

En définitive, il est clair que, le long des vallées, des alternances de remblaiements alluviaux, parfois très épais (Zarqa) et de creusement-nettoyage se sont produites à plusieurs reprises. Dans le passé lointain, des phénomènes volcaniques ont pu interférer. Mais la cause profonde de ces modifications enregistrées par la morphodynamique des cours d'eau, aujourd'hui débiles, ne peut s'expliquer que par des oscillations du climat régional, faisant alterner phases pluviales et phases arides.

Cette hypothèse est confortée, dans la bassin d'Azraq, par la présence de modelés dunaires inactuels, de croûtes gypseuses et de dalles, travertins ou conglomérats calcaires. Des variations de la dynamique éolienne sont donc attestées aussi bien que celles de processus géochimiques mobilisant tantôt le sulfate et tantôt le carbonate de calcium.

Les recherches antérieurement menées sur la côte levantine (Liban, Nahr el-Kébir) ont mis en évidence le synchronisme entre les puissants remblaiements fluviatiles et les principales régressions de la méditerranée: les phases "pluviales" majeures du Quaternaire y sont synchrones des "glaciations" des latitudes tempérées. Toutefois, nous avons été amenés à envisager pour les régions d'Azraq et du Zarqa des cycles morpho-climatiques plus complexes. En effet, au maximum d'humidité d'une phase pluviale (plénipluvial), la couverture végétale est très dense et empêche l'érosion des sols; paradoxalement, bien qu'elles soient bien alimentées, les rivières sont peu chargées en alluvions et consacrent donc toute leur énergie au creusement de leur lit. En revanche, en période catapluviale, l'assèchement entraîne la destruction de la végétation; les sols ne sont plus protégés et sont emportés par le ruissellement sauvage. C'est durant cette phase, courte mais brutale, de "rhexistasie" que se mettent en place les grandes nappes alluviales. Pendant la phase d'aridité maximum (interpluvial), la dynamique alluviale s'assoupit mais le vent prend le relais, capable de surcreuser les dépressions (cuvettes hydroéoliennes). Enfin, l'augmentation progressive de l'humidité de la phase anapluviale réanime les cours d'eau tout en diminuant leur charge (Besançon et Sanlaville, sous presse).

III - Les assemblages préhistoriques

Les traces les plus anciennes de la présence de l'homme ont été trouvées dans les dépôts fluviatiles du complexe Dauqara (Pléistocène moyen ou plus ancien). Malheureusement l'échantillon est réduit et les 42 artefacts rassemblés, quoique appartenant apparemment au Paléolithique inférieur, ne sont pas caractéristiques. Ils pourraient être à peu près contemporains du matériel que M. Muheisen (1988 et ce colloque) a récolté à Abu Habil, dans le fossé du Jourdain: celui-ci pourrait dater du Pléistocène moyen mais nous n'avons que de gros nucleus, peut-être un chopper et quelques gros éclats. Rien de tel n'a été trouvé jusqu'ici à Azraq.

Nous avons plus de certitude en ce qui concerne la phase finale du pléistocène moyen, le QfII, puisque, nous avons récolté des assemblages lithiques relativement nombreux dans les deux secteurs étudiés. Dans les cailloutis de la formation Biré nous avons trouvé, près de Soukhné, un assemblage de l'Acheuléen récent représenté par des bifaces, des éclats et des nucleus (Baubron et al., 1985; Besançon *et al.*, 1985). Les bifaces sont épais et la longueur moyenne (sur 8 gisements) est de 10-12 cm; ils sont très typiques de l'Acheuléen récent (tranchants rectilignes, débitage au percuteur tendre, etc...). Un vaste gisement de surface présentant un matériel identique a été trouvé à Fjaje (Rollefson, 1981).

Un faciès technologiquement différent mais typologiquement semblable a été découvert dans le conglomérat QfII du bassin-versant d'Azraq, par exemple dans les Wadis Janab, Mushash, Butm et

Rattama. Le débitage est tourné vers la production de grosses lames à partir de nucleus prismatiques et proto-Levallois et nous avons appelé cette industrie l'Acheuléen des wadis du désert'' ou ''DWI'' (Copeland et Hours, 1988).

Des industries de l'Acheuléen récent sont bien connues dans d'autres régions de Jordanie, spécialement dans la nord du pays et en Galilée, mais jusqu'ici nous ne disposons d'aucune datation absolue. Nous pensons que certains de ces artefacts en stratigraphie alluviale dateraient de 400.000 à 250.000 ans, d'après les successions de terrasses et différents autres critères: en particulier, cette industrie est sensiblement plus ancienne que celle de Birket Ramm.

Une industrie de l'Acheuléen récent évolué existe près des sources d'Azraq (Source du Lion; Source C, Source d'Al-Bayda) ainsi que le long de la vallée du Zarqa (Khirbet Samra 30). Elle daterait d'au moins 233.000 ans. En effet, un assemblage de ce type a été trouvé à Birket Ramm, intercalé entre deux coulées basaltiques dont la plus récente a été datée au Potassium-Argon de plus de 233.000 ans (Goren-Inbar, 1985)

L'Acheuléen évolué (appelé en Syrie ''Acheuléen récent évolué'', Hours, 1981) se reconnaît au nombre élevé de bifaces courts et peu épais (longueur moyenne de 9-10 cm), quelquefois par des techniques de débitage proto-Levallois et par la présence d'outils sur éclats caractéristiques, tels que les racloirs transverses. Cependant, un faciès particulier apparaît à Azraq, par exemple à la Source du Lion (Kirkbride, sous presse; Rollefson, 1980) et à la Source C (Garrard *et al.*, 1988; Copeland, sous presse). Il se trouve à environ 3m sous la surface du sol et est probablement associé à des restes de faune aujourd'hui éteinte récoltés en 1956-58 par Kirkbride et Harding autour des sources (Harding, 1959; Clutton-Brock, 1970 et sous presse). Ce faciès est caractérisé par un nombre anormalement élevé de racloirs bifaciaux, par des bifaces ovalaires et la quasi-absence de lames et de débitage Levallois. Nous avons proposé le nom de ''Acheuléen récent de faciès Azraq'' pour le désigner (Copeland et Hours, 1988).

Notre connaissance du Pléistocène récent (dernier Interpluvial et dernier Pluvial au sens large) est plus inégale. On n'est pas encore sûr de la présence près des sources d'Azraq d'une industrie yabroudienne, mais les Moustériens ont certainement fréquenté le bassin d'Azraq et les vallées du Zarqa et du Dulail, si l'on en juge par les artefacts incorporés dans la terrasse QfI de ces deux secteurs (Besançon *et al.*, 1985 et sous presse). Cependant jusqu'ici nous n'en avons trouvé qu'en petites quantités en place le long du Wadi Rattama: il semble s'agir d'un Paléolithique moyen ancien de type allongé, peut-être du type du Levalloiso-Moustérien de Taboun-D tel qu'on le connaît sur la côte et dans le Wadi Hasa (Clark *et al.*, 1988). Au nord d'Azraq-Druze se trouve l'important (et probablement plus tardif) gisement Levalloiso-Moustérien du Wadi Enoqiya (Hours, sous presse), malheureusement très perturbé par l'érosion. Le matériel récolté en surface autour des sources d'Azraq pourrait inclure des artefacts appartenant aux deux phases moustériennes. Dans la vallée du Zarqa, la terrasse QfI contient des pointes et des éclats levallois mais aussi des artefacts acheuléens, probablement remaniés d'une formation antérieure, si bien que les faciès ne peuvent pas être clairement établis.

En dehors d'une industrie très belle de l'Aurignacien récent trouvée - mélangée avec le Levalloiso-Moustérien - dans le Wadi Enoqiya (Hours, sous presse), nous n'avons récolté nulle part de paléolithique supérieur.

IV - Conclusion

L'homme a fréquenté les hauteurs orientales du fossé du Jourdain assez tôt au Pléistocène moyen. Ses traces sont peu nombreuses et on ne connaît pas encore d'Acheuléen moyen dans le bassin d'Azraq. Il serait cependant prématuré d'en conclure que l'homme s'est installé là plus tradivement qu'ailleurs: cela pourrait être dû seulement à l'insignifiance des témoins alluviaux de cette époque (il n'y a rien, en effet, d'équivalent aux formations alluviales anciennes de type Latamné et encore moins à celles de Khattab ou sitt Markho (Sanlaville, ed., 1979).

La présence de l'homme est en revanche clairement attestée à partir de l'Acheuléen récent, soit probablement dès 400.000 ans. Les industries semblent alors avoir suivi l'évolution ''normale'' observée ailleurs dans le Levant, mais le nom de ''Acheuléen des wadis du désert'' a été adopté pour désigner le faciès à lames du bassin d'Azraq, dans lequel quelques racloirs bifaciaux sont également présents.

Dans la phase suivante, l'Acheuléen récent évolué, les faciès diffèrent sensiblement d'une zone à l'autre: autour des sources d'Azraq (''Acheuléen récent de faciès Azraq''), il est caractérisé, entre autres traits, par l'abondance des racloirs bifaciaux, tandis que dans le Zarqa (Khirbet Samra 30) il est tout à fait semblable aux industries trouvées ailleurs dans le Levant, par exemple à Birket Ramm, où il est daté d'environ 233.000 ans.

Quoique présents le long des vallées dans les deux secteurs au cours du dernier ''pluvial'' au sens large (QfI), les témoins d'une population moustérienne ne sont pas très clairs en dehors du wadi Enoqiya, et encore là le matériel est-il très

mélangé. Des traces similaires ont été relevées par les chercheurs sur tout le territoire de la Jordanie. Les meilleurs observations ont pu être faites dans le sud, où des abris sous roche ont été fouillés, par exemple à Ain Difla par Clark *et al.* (1988) et Tor Sabiha par Henry (1982) ou loin au nord, près de Palmyre, en Syrie.

Il est certain que la frange du désert a attiré les animaux et leurs chasseurs depuis des temps très reculés, comme le montrent les restes préhistoriques appartenant aux différentes périodes du Paléolithique. Les hommes ont su s'adapter aux conditions changeantes – et parfois difficiles – du milieu: dispersés le long des wadis lors des périodes humides (Acheuléen récent), ils se sont au contraire concentrés autour ds sources lors des phases plus sèches (Acheuléen récent évolué), mais apparemment sans abandonner la région malgré l'aridité. Au fur et à mesure que les recherches progresseront, notre connaissance de ces périodes s'enrichira.

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Eastern Jordan: Economic Choices and Site Location in the Neolithic Periods

Archaeological survey in north-eastern Jordan has produced evidence for widespread activity in the Neolithic periods, the seventh, sixth and early fifth millennia B.C.[1] There is also considerable variety in the nature of sites of this period, their location, and the environmental and material remains associated with them. This pattern is largely dictated by the nature of the land. Resources available to prehistoric groups were plentiful and numerous in the rich environment of the Mediterranean zone of the Near East. Choice was more limited and supplies more widely scattered in the semi-arid regions. The natural response of most human groups under such conditions is to diversify, to rely on a variety of different resources so that if one fails there will always be another. Usually, such a strategy will also involve the group in a degree of mobility as the ability to exploit resources over a wide area maximizes the chance of success. Evidence for human groups in eastern Jordan during the Neolithic periods indicates that such a pattern existed. Sites of all types are small and unlikely to have seen permanent occupation, while environmental data show that use was made of a diverse selection of resources. Even within eastern Jordan there is a wide range of environmental conditions, which are dictated by such natural phenomena as geology, tectonic activity, drainage, water supply, and rainfall Varying environmental conditions provide varying availa bility of resources and thus regional variations in human activity. Since the semi-arid steppe of eastern Jordan lies beyond the effective limits of dry farming, the chief subsistence strategies of prehistoric groups were hunting, foraging and, in later periods, sheep/goat pastoralism. Chance agriculture may also have been practised in wadi beds where crops could receive some natural irrigation through surface runoff.

Where groups are only dependent on wild resources they can be more flexible in choice of site than when they have to feed and water domesticated flocks. The primary requirements of hunting and foraging groups are the presence of game and availability of water. Water sources need only be small and may be widely spaced. Secondary requirements are the presence of edible plants, access to sources of raw materials, and contact with other groups. Where choice of site is dictated by the subsistence strategy of its occupants, it follows that distribution of sites, both locally and regionally, should reflect variations in such strategies. Archaeological work to date has shown that such patterning can be detected in sites of the Neolithic periods in eastern Jordan. It is proposed here to limit discussion of Neolithic site distribution in eastern Jordan to the Ḥarra, the basalt region, and the limestone region east of the Ḥarra up to the borders with Syria, Iraq and Saudi Arabia.

The introduction of pastoralism seems to have had a marked impact on site distribution. Preliminary findings from eastern Jordan suggest that pastoralism was first introduced into the economy around the early sixth millennium B.C., the beginning of the Late Neolithic period (Garrard *et al.* 1988; Betts 1990; Cauvin nd; Garrard and Baird pers. com.). Before this, evidence from sites in the steppe indicates that subsistence strategies involved only hunting, foraging, and trade/exchange (Betts 1988a, b; Garrard *et al.* 1988). Most sites of the Early Neolithic period are located in the Ḥarra. Very few have been found beyond the basalt region in the open steppe to the east. Sites of the first part of the Early Neolithic period —the Pre-Pottery Neolithic A (PPNA)—are very rare, but Pre-Pottery Neolithic B (PPNB) sites are common. There is evidence to suggest that these later seventh millennium B.C. sites are connected with intensive exploitation of the wild fauna (Helms and Betts 1987; Betts 1988a). Stage 1 at the site of Dhuweila is a typical example. The site is located well into the Ḥarra, on high ground thickly strewn with

[1]Fieldwork on which this article is based was sponsored by the British School in Jerusalem (1979), the British Institute at Amman for Archaeology and History (1981-3, 1986), and by both B.I.A.A.H. and Edinburgh University (1988). Work took place with the kind permission of the Department of Antiquities of Jordan. Supporting Institutions are listed in Betts 1986, 1988a, Betts *et al.* 1990. This article was written while I was a Research Fellow at The Queen's University of Belfast.

basalt cobbles. It consists of a small cluster of habitation units in the vicinity of a complex of "kite" walls. These "kites" form an elaborate system of game traps which seem to have been used by the occupants of the site. Finds from Stage 1 include a large amount of animal bone, much of which represents gazelle. Other animals include equid and hare; no ovi/caprid remains have been identified (Garrard 1985; Martin pers. comm.). Approximately 25% of the chipped stone tools from the site consist of arrowheads. Similar sites have been found elsewhere in the Ḥarra (Betts 1988a). Typical locations are on high ground with a view over wadis or mudflats. Potential water sources are usually small *ghadirs* in neighbouring wadi beds. PPNB knapping sites are also common in the Ḥarra. These are usually found on hilltops overlooking the larger wadi systems.

There is apparently much greater variety in the types and locations of later Neolithic sites in the region. One group of sites which has been assigned to this period comprises the "burin sites" (Betts 1986; 1987; 1988a; Garrard *et al.* 1988). Typically "burin sites" are represented by a fairly dense scatter of chipped stone artefacts, a very high proportion of which are concave truncation burins. Such scatters may or may not be associated with structures of some kind, mainly low-walled enclosures. The few projectile points that have been recovered from "burin sites" in the Ḥarra are of Late Neolithic type, usually small, bifacially worked points; tanged, or leaf-shaped, in form. Transverse arrowheads also occur. The single C14 date for this type of site in the Ḥarra comes from charcoal recovered in soundings at Jabal Na'ja (Betts 1988b) and falls in the later half of the sixth millennium B.C. (7,430 +/− 100 b.p. OxA 375). However, there is evidence that this type of site, or at least its main type fossil—the concave truncation burin—has much earlier origins in the region. Recent excavations at sites in Wadi Jilat have shown that concave truncation burins, and associated drill bits on burin spalls, are found with diagnostic PPNB artefacts on sites of the seventh millennium B.C. (Garrard and Baird pers. comm.). This means that, although several of the "burin sites" in the Ḥarra can be securely assigned to the Late Neolithic period on the basis of associated diagnostic artefacts, others without diagnostic arrowheads may be earlier. The typical "burin site" found in the Ḥarra might be regarded as a fairly short-term camp site, although some in particularly choice locations may have been reused on a number of occasions. However, recent research has also shown that concave truncation burins are found in relatively high numbers on sites with more substantial architecture, a wider variety of material remains, and in different kinds of locations (Betts and Helms 1987; Betts *et al.* 1990). These sites might be seen as stations, again probably only occupied intermittently, but perhaps for longer periods of time and on a more regular basis. Since there is apparently such a wide range of sites on which the concave truncation burin may be found in relatively high proportions, it is perhaps no longer appropriate to subsume sites of potentially disparate periods and characteristics under one label on the basis of a single diagnostic artefact. It is proposed here to refer to sites with few or no structures and a tool assemblage consisting almost exclusively of concave truncation burins as "burin Neolithic" camps.[2] Sites with substantial structures and toolkits with truncation burins in a mixed chipped stone assemblage including diagnostic artefacts will be refered to as Late Neolithic stations. "Burin Neolithic" camps in the Ḥarra are usually located along wadis where the basalt cobbles give way to water-laid sediment and vegetation. They often lie on east-facing slopes protected from the prevailing wind and adjacent to major areas of grazing. Arrowheads number less than 1% in the average toolkit. Faunal remains are scarce on all such sites but there are a very few ovi/caprid bones from Jabal Na'ja (Garrard 1985). In the limestone country east of the Ḥarra, "burin Neolithic" camps are largely restricted to major wadi systems where wide floodplains occur in conjunction with deeply incised wadi beds; this location thus provides the two main requirements: water from *ghadirs* and extensive grazing areas.

In addition, at least one Late Neolithic site in the Ḥarra appears to be primarily a hunting camp: i.e., Dhuweila in Stage 2 (Betts 1988a). The site was re-occupied in the Late Neolithic, suggesting deliberate selection of a location suitable for hunting. In relation to other Late Neolithic chipped stone tool assemblages, that of Dhuweila 2 has high proportions of arrowheads and preliminary analysis of the faunal remains suggest that ovi/caprids are minimally represented. The bulk of the animal remains are of wild game, chiefly gazelle and equid (Betts *et al.* 1990; Martin pers. comm.). There is also evidence to suggest that the "kite" systems were still in use in this period. In other ways, however, Dhuweila 2 is typical of Late Neolithic sites elsewhere in the region. The PPNB walls were re-used to create a small cluster of irregular occupation units. New walls were built using a construction technique of upright slabs supported at the base by rubble packing. A combination of simple drystone walling and upright slabs is found on most of the excavated Late Neolithic sites in the region.

Other, and apparently different, Late Neolithic sites have been found elsewhere. At the southern end of Qa' Dhuweila lies a series of small clusters of structures. A second cluster of sites has also been found in a comparable location a few kilometres to the east, on the edge of another large mudflat, Qa' al-Ghirqa. These sites have not been excavated but have been subject to detailed surface survey (Betts and Helms 1987). The preferred location for these sites is on the summit of a low rise, adjacent to large mudflats. The rise in elevation above the mudflats is slight

[2]For use of the term "burin Neolithic" see Garrard *et al.* 1988.

and is not usually sufficient to provide a good view of the surrounding landscape. This might suggest that higher ground was chosen merely to keep the occupants above the level of seasonal flooding. Each site consists of various structural elements. These are generally small rounded units, between five and ten metres in diameter, which are either free-standing or incorporated into enclosing walls. Various smaller, simpler structures are placed between them. Two kinds of construction techniques are used. Enclosures have simple, roughly coursed, single-line stone walls. The walls of the rounded units consist either of single upright slabs or double lines of masonry up to three or four courses high and covered with stone slabs in the form of rough corbelling. The chipped stone assemblage includes low proportions of arrowheads of diagnostic Late Neolithic type, and high proportions of concave truncation burins. No environmental data is yet available for these sites.

Similar, but subtly different, sites have been found around the lake at Burqu' on the eastern margin of the Ḥarra (Betts *et al.* 1990). Here excavations have been conducted at six Late Neolithic sites. All six sites are similar in terms of structures and material culture, but variations in the chipped stone assemblages suggest corresponding variations in activities, season of occupation or variations through time. Building techniques include both upright slab construction and simple drystone masonry. The sites are individual honeycomb networks of units, sometimes joined to other units by low enclosing walls. Preliminary analysis of the faunal remains indicates that sheep/goat represent a significant proportion of the bones on several of the sites (Martin, pers. comm.). Given the remote location in the dry steppe, it is likely that herding formed a relatively important aspect of the occupants' subsistence strategy. Wild animals are also present in the faunal remains, but arrowheads form only low percentages within the chipped stone assemblages. Choice of site location appears to be governed by the proximity of water and grazing land.

Despite the fact that study of the Neolithic periods in these regions is only at a preliminary stage, it is clear that there is variety in choice of site location and that this variety is linked, at least in part, to subsistence strategies. It might be suggested that sites of the Early Neolithic (PPNB), were located mostly in the Ḥarra where the nature of the landscape was particularly suited to hunting—especially to mass hunts using traps, i.e., "kites". Further east, in the limestone country, there was little material for the construction of "kites". Moreover it might be more difficult to control movement of wild game or to stalk individual animals in the open steppe. This area may have been exploited in the seventh millennium B.C. but, if so, probably much less intensively than the Ḥarra to the west.

There seems to be marked differences between sites of roughly the same period among the Late Neolithic sites. It might be suggested that, whatever the relationship between the occupants of the various types of sites might be, the differences between them represent different subsistence strategies. This may not necessarily mean completely different ways of exploiting the landscape, but it is perhaps, more likely, indicatative of seasonal differences in exploitation requirements. Two points emerge, whichever way the evidence is viewed. Firstly, "burin Neolithic" camps have a wide distribution over the dry steppe. Recent surveys have shown that they are common in the wadis of the Ruweished system up to the Iraqi border; earlier surveys have also recorded sites all the way across to the Euphrates, southwards into Saudi Arabia and towards Palmyra and al-Kowm in the north.[3] At least some of these sites can be dated in the Late Neolithic, either through C14 analysis or by diagnostic artefacts. Within the area under discussion here, the more substantial stations, such as those at al-Ghirqa and Burqu', are so far restricted to the Ḥarra. The two basic types of site are different in a number of ways. The stations at Burqu' and al-Ghirqa saw regular re-use, possibly on a seasonal basis. They represent considerable investment in terms of construction and contain a variety of domestic and personal items among their remains. These include basalt rubbers and grinding stones, limestone rings and beads made of exotic materials, stone and shell imported over some distance. Chipped stone tools tend to be small, suggesting economical use of raw material. "Burin Neolithic" camps are common but have few structures. It is possible that they are so common precisely because of this. Like modern beduins, ancient pastoralists may have returned to certain areas on a regular basis. Where structures existed, they might be reused, but if there were no structures they would be unlikely to camp in exactly the same spot. This would, of course, result in concentrations of short-term camps. Occupation deposits on the camps are thin and the variety of tools, and other items of material culture are limited. Chipped stone tools tend to be larger than those found on the stations. All of this supports the hypothesis that "burin Neolithic" camps represent short-term occupation in favoured locations. The normal annual cycle among pastoralists in the Near East is one where groups disperse during winter and spring, when water and grazing is widely available, and tend to congregate during the summer in areas where water is perennially available, preferably somewhere adjacent to adequate pastures. It is possible, but by no means certain, that such a pattern is reflected in the type and distribution of Late Neolithic sites in eastern Jordan. Other explanations might include the existance of contemporary groups with different subsistence strategies, or division of groups into sub-groups, some of which are involved in one set of activities in a certain area, others exploiting different resources.

[3]See especially Field 1960, Adams *et al.* 1977; Parr *et al.* 1978; Hanihara and Akazawa 1979; Cauvin 1982; Yoshihiro and Sumio 1986; Betts 1987; Betts *et al.* 1990.

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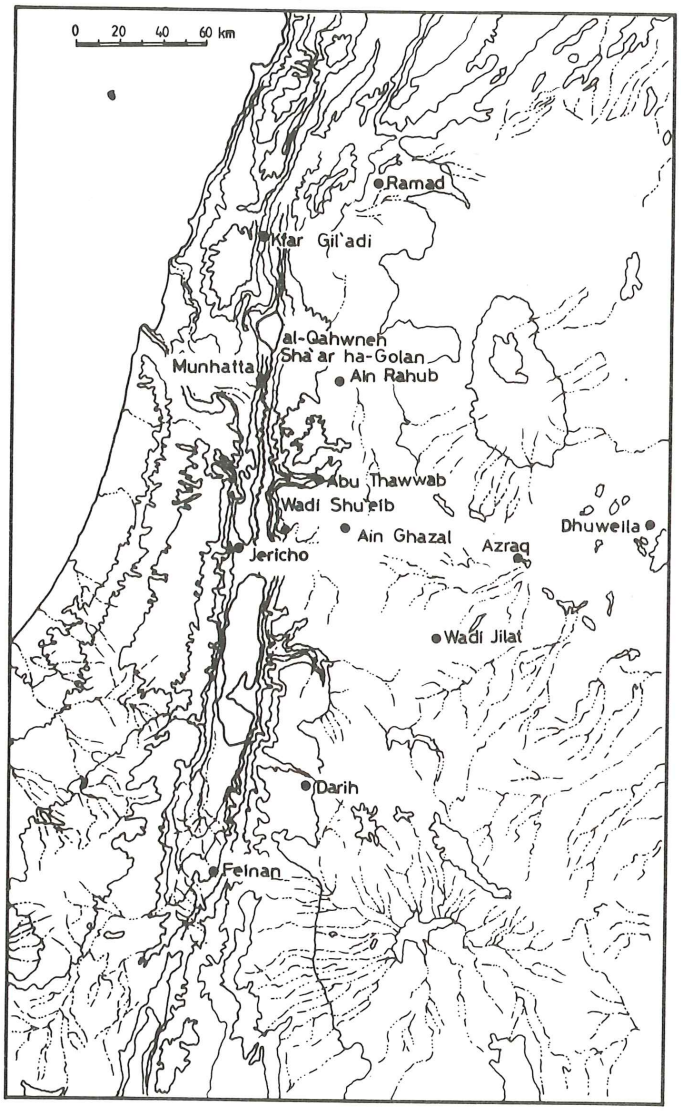
Pottery Neolithic Settlement Patterns in Jordan

It has been suggested by some scholars (e.g. Kenyon 1981; Perrot 1968) that many Neolithic sites in Bilad ash-Sham have Aceramic and Ceramic levels which are separated by a gap of undetermined length. The situation, however, varies from one geographical zone to another. A discussion of the three main geographical zones in Jordan (the Jordan Valley, the Mountain Range and the Desert) is presented below.

Since we have no major excavated Aceramic sites in the eastern part of the Jordan Valley, examples from the western side will be used. Major PPNB sites such as Jericho and Munḥaṭa were abandonned for an undetermined period before they were reoccupied by the Pottery Neolithic people. It has also been suggested that the Jordan Valley experienced a dry period during the early sixth millennium B.C. (Koucky and Smith 1986: 34), and Kirkbride has argued that the hiatus between the Pre-Pottery and the Pottery Neolithic was caused by climatic changes (Kirkbride 1971). The recent excavations undertaken in the Jordan Valley do not contradict the above information.

Recent archaeological excavations on Neolithic sites located on the Jordanian mountain range, e.g. 'Ain Ghazal and Wadi Shu'eib, (FIG. 1) demonstrate that these sites continued to be occupied from the Aceramic to the Ceramic periods without interruption. At 'Ain Ghazal, during the 1984 season, the excavators encountered for the first time Pottery Neolithic cultural remains, including pottery sherds, subterranean pit-dwellings and flint artefacts (Rollefson and Simmons 1986; 1988; Kafafi 1990). During the 1988 season, it was determined that the PPNC (Final PPN) architectural remains were re-used by the Pottery Neolithic inhabitants and new Yarmoukian structures were built directly over the earlier ones. In addition, PPNC cultural remains like small arrowheads and White Ware objects continued to be manufactured by the Yarmoukians (Rollefson, Kafafi and Simmons 1989).

The site of Wadi Shu'eib, located *c.* 9 km to the southwest of the city as-Salṭ on the north bank of Wadi Shu'eib (which flows into the Jordan River), yielded archaeological deposits from the Pre-Pottery and Pottery Neolithic Periods. The excavations of the site reported



1. Map showing the major Pottery Neolithic sites in Jordan.

Pottery Neolithic structures built directly over the PPNC remains (Simmons *et al.* 1989).

In summary, the Pottery Neolithic villages found on the mountain range represent either a continuation of Aceramic settlement or newly established villages. These villages are located on banks of wadis or near springs where perennial water is available. And it is possible that the climate of the mountain range was more pleasant for the inhabitants than either the Jordan Valley or the desert areas.

Settlement patterns in the Jordanian desert attest considerable modification during the sixth millennium B.C. The sixth millennium B.C. sites found differ from the earlier sites in size and function. Archaeological excavations and surveys undertaken in the desert indicate that the area was continuously occupied. The large PPNB villages were replaced by seasonal camps used by pastoralists, semi-nomads or nomads and hunters (Garrard *et al.* 1985a; 1985b; 1986; 1988; Betts 1983; 1984). However, no permanent settlements with pottery have been found up till now, except at Dhuweila where A. Betts excavated very few sherds in the top levels (Betts 1988).

The site of 'Ain Abu Nukheileh in the Wadi Ramm area represents one of the seasonal camps inhabited by people who relied heavily on hunting. This site yielded material culture dated to the beginning of the sixth millennium B.C. (Kirkbride 1978: 9).

Pottery Neolithic Settlement Patterns

Recent archaeological excavations at the site of 'Ain Ghazal indicate that the production of pottery in Jordan was not introduced by newcommers as was previously argued (Mellaart 1975; de Vaux 1966; Anati 1963: 263, 277). Furthermore, as mentioned above, many Pre-Pottery Neolithic B traditions continued into the Pottery Neolithic period. These include rectangular buildings and White Ware objects. In addition to the established sites of the earlier periods in different areas of Jordan, new sites were erected during the sixth millennium B.C. A discussion of the settlement patterns during the sixth and fifth millennia B.C. in the three main geographical zones in Jordan is presented below (cf. TABLE 1).

a. *The Jordan Valley and Wadi 'Arabah*

1. *The Jordan Valley*: Due to the fact that no representative Pottery Neolithic sites have yet been excavated in the eastern part of the Jordan Valley, examples from the western side are discussed below.

The site of Jericho is one of the important Neolithic villages established in the Jordan Valley during the ninth millennium B.C. The excavations revealed that the site had been abandonned for several hundred years after it flourished during the PPNB (Kenyon 1981). It has been suggested that the new settlers of the site during the Pottery Neolithic period came either from the east (Anati 1963: 277) or from the north or northeast (Mellaart 1975: 138) and brought with them their pottery tradition. Moreover, the Pottery Neolithic settlers of Jericho inhabited subterranean pit-dwellings which replaced the well built houses of the PPNB. In the centres of some of these pit-dwellings (*c.* 10-12m in diameter) circular huts (*c.* 3m in diameter) were constructed of bun-shaped mud-bricks on stone foundations (Kenyon 1981; Kenyon and Holland 1982). Similar pit-dwellings were also excavated at Munḥaṭa 2B1 (Perrot 1966). This kind of structure was followed in the Pottery Neolithic B (fifth millennium B.C.) by rectangular houses measuring *c.* 4 by 9m with clay floors, e.g. Jericho VIII and Munḥaṭa Stratum 2A. At Jericho circular huts from the PNA continued alongside the new rectangular structures.

Elements of the Jericho PNA culture have been excavated at various sites in Jordan; at Dhariḥ (Bossut, Kafafi and Dollfus 1988), Dhra' (Bennett 1980) and Wadi Shu'eib (Simmons *et al.* 1989), and in Palestine at Sheikh 'Ali (Prausnitz 1970), Munḥaṭa (Perrot 1968), Giv'at ha-Parsa (Olami; Burian and Friedmann 1977) and Tuleilat Batashi (Kaplan 1958).

We lack detailed information concerning the economy of the Jordan Valley settlers during the Pottery Neolithic periods. It has been noted, however, that the inhabitants of Stratum 2 at Munḥaṭa used the gazelle (25%), pig (22.3%), cattle (19.9%), wild sheep (19.5%), roe deer (6.7%) and goat (3.3%) for their diet (Ducos 1968; 1969). And the people of the Pottery Neolithic Jericho domesticated sheep and goat (Clutton-Brock 1971). It has been argued that the majority of the Pottery Neolithic settlers in the Jordan Valley practiced herding and hunting, and the mountainous regions on the west and east sides were the hunting and herding grounds (Bar-Yosef 1987: 116).

The analyzed floral remains from Jericho indicate that the inhabitants cultivated *Hordeum distichum* (barley), *Triticum monoccum* (einkorn wheat), *Triticum dicoccum* (emmer wheat), *Bromus* and *Cruciferae* (Hopf 1969: 356). This evidence from Jericho suggests that farming was practiced as well.

2. *Wadi 'Arabah*: Archaeological excavations, soundings and surveys in the area of Wadi 'Arabah, have yielded evidence of human occupation from the sixth millennium B.C. (Raikes 1980; Bennett 1980; Hauptmann and Weisgerber, personnel communication).

Raikes, who explored the whole area, stated that "flint implements and other remains from the Stone Ages are found all over Wadi 'Araba" (Raikes 1980: 40). From soundings at Sites A-D in Wadi Feinan, *c.* 43 km south of the Dead Sea, Raikes determined that this semi-arid area had been occupied during the sixth millennium B.C. by settlers who practiced the cultivation of crops. Unfortunately, no information about the faunal and floral remains has been published. However, pieces of a basalt quern or grinder and water conduits were noted (Raikes 1980: 44). The sounded sites are small in size (ranging between 1 to 4 acres) and are located on the Wadi Feinan side near springs that served as permanent water sources for the area. The inhabitants lived in houses built of boulders that were either rectangular (Site B) or circular (Site D). Although

Table 1. Investigated Late Neolithic sites in Jordan.

Pottery Neolithic Sites

No.	Site Name	Dates	Area	Fauna	Flora	Architecture	Social Life	Comments
1.	Munḥaṭa	1. Yarmoukian 2. Munhata Phase 2B1 (Jericho PNA) 3. No C14	Stratum 2 - Area is undefined	Gazelle 25% pig 22.3% cattle 19.9% wild sheep 19.5% roe deer 6.7% goat 3.3%	?	1. Pit-dwelling 2. Round semi-subterranean huts, 3-4m in diameter	Herding Hunting Pastoralist	1. Increase of cattle 2. Increase caprinae 3. Presence small caprinae 4. Storage pits.
2.	Jericho	1. PNA 2. PNB	Stratum IX Stratum VIII		H. distichum T. monoccum T. dicoccum Bromus Cruciferae	- Pit-dwelling (PNA+PNB) - rectangular houses (PNB)	- Herders - Pastoralists. - Farmers (PNB)	
3.	Ghrubba	1. PNB 2. No C14	Pit Levels 5-15	?	?	Pit-dwelling	?	- Levels 0-4 are dated to the Chalcolithic
4.	Dhra'	1. PNA 2. PNB 3. No C14	Undefined Areas I+IV	?	?	- Pit-dwelling	?	- PPN flint artefacts
5.	Tell Wadi Feinan	1. Wadi cut 6410±115 BP 5520-5270 BC 2. Excavation 6110±75 BP 5210-4910 BC	The sites extends 100m alongside Wadi Feinan and 50m south	?	?	- Rectangular structures, 'the stones for building the foundation were brought from Wadi Feinan	- Farmers	Hauptmann and Weisgerber (personnel communication)
6.	'Ain Raḥub	1. Yarmoukian 2. C14 date: 7480±90 BP	Sounding 3×1m and 3.3m below present-day surface	?	1. T. dicoccum (emmer wheat) 2. H. distichum (two-rowed hulled barley) 3. Linum usitatissimum (flax) Wood: 1. Decidceous oak 2. Pistacia atlantica 3. Medick 4. Clover 5. Mallous 6. Rye grass	mud-brick debris	?	- Late Natufian occupation
7.	Abu Thawwab	1. Yarmoukian	c. 300×200m	1. Ovis/capra 68% 2. Gazella sp. 15.2% 3. Bos sp. 12.8% 4. Equus sp. 2.4% 5. One piece Canis sp. 6. One piece Sus sp.	a. Cultivated: 1. lentil 2. emmer wheat 3. field pea 4. two rowed barley b. Wood: 1. pistachio 2. almond	1. Rectangular 2. Rounded 3. Storage pits	1. Farmers 2. Hunters 3. Gatherers	Early Bronze I occupation

Table 1 cont.

No.	Site Name	Dates	Area	Fauna	Flora	Architecture	Social Life	Comments
8.	'Ain Ghazal	1. Yarmoukian 2. No C14 dates from the Yarmoukian	Undefined	1. Capra sp. (goat) 70% 2. Gazelle 6.4% 3. Bos (cattle) 9.1% 4. Sus (boar) 10.8% 5. Equus (onager) 1.35%	?	1. Rectangular 2. Apsidal 3. Sub-terranean pits	1. Farmers?? 2. Pastoralists	1. PPNB and PPNC occupations
9.	Wadi Shu'eib	1. Yarmoukian 2. Jericho PNA 3. No C14 dates	Soundings	?	?	1. Rectangular 2. Sub-terranean pits	1. Farmers??	1. Pottery Neo. burials 2. PPN
10.	Dhuweila	1. Late Neo. 2. No C14 from the LN	*c.* 240 sq m	- domestic sheep/goat - Gazelle - Wild ass and hare	?	- Elongated structure over 8m long	1. Hunters	PPNB and LN small hunting camp. - Few pottery sherds - C14: 8190±60 BP (6240 BC)
11.	Jilat 23	- Burin site - No C14 date	4500 sq m	?	?	1. Stone circle *c.* 18m diameter 2. Two small circles, 5m diameter	Pastoralism	Burin site
12.	Jilat 24	- Burin site	390 sq m	?	?	1. A single stone circle 4.5m external 3.5m internal	Pastoralist	Burin site
13.	Azraq 31	- Late PPNB - Late Neo. - C14: 8350±120 BP	4300 sq m	1. Goat and sheep 12.5% 2. Gazelle sp. 3. Lepus cap. 4. Equus sp. 5. Bos primigenius 6. Vulpes sp. 7. Canis lupus 8. Felis sp.	- Cultiveted barley (H. Sativum) - Wheat (T. riticum sp.) - Grasses	- Hearths - pavement of angular limestone pebbles	- Pastoralism - Small farming	- Appearance of domesticated goat and sheep
14.	Jabal Na'ja	- Burin site - C14: 7340± 100 BP (5480 BC)	?	1. Sheep/goat 2. Hare 3. Gazelle	?	- Three hearths	Pastoralism	Burin site

no C14 dates have been published from the sites reported by Raikes, the flint tool industry and the excavated pottery sherds at Site B date to the second half of the sixth millennium B.C. (Raikes 1980: 44).

The excavations of the joint expedition of the Department of Antiquities of Jordan and the Bergbau-Museum at Bocham/West Germany at the Site "Tell Wadi Feinan" produced Pottery Neolithic archaeological material, i.e. bifacial retouched very small arrow-heads (Najjar *et al.* 1990). The site consists of a small low hill located directly on Wadi Feinan which cuts it on the northwestern side. Excavations have demonstrated that the area continued to be inhabited during the succeeding periods without any interruption.

The following C14 dates from Tell Feinan indicate that the site was occupied during the second half of the sixth and the fifth millennia B.C. (Najjar *et al.* 1990: 32):

a. C14 dates from the cut made by Wadi Feinan

(Profile B):
1. 6410 +/− 115b.p. (uncalibrated)
   5520 − 5270 B.C. (calibrated)
2. 6360 +/− 45 b.p.
   5345 − 5240 B.C.

b. C14 dates from the Tell excavations:
1. 6110 +/− 75 b.p. (uncalibrated)
   5210 − 4910 B.C. (calibrated)
2. 5375 +/− 30 b.p.
   4330 − 4165 B.C.
3. 5740 +/− 35 b.p.
   4675 − 4575 B.C.

Another Pottery Neolithic village that was found by Raikes and sounded by Bennett in the area of Bab adh-Dhra', just to the north of Wadi 'Arabah, is the PNA and PNB site of Dhra'. The site, Dhra', lies on the southern side of Wadi adh-Dhra', near the spring of Dhra'. The soundings revealed that the inhabitants lived in pit-dwellings. Grinding and grounding stones, flint tools and pottery vessels of the Jericho PNA and PNB traditions were excavated (Bennett 1980). Although no faunal or floral remains are published, the excavated cultural remains allow us to argue that the site may have functioned as a farming village.

b. *The Mountain Range (Highlands)*

Scholars of the Near East Neolithic have concentrated their efforts on the Pre-Pottery Neolithic. The Pottery Neolithic received less attention. This is perhaps due to the fact that priority was given to the study of the origins of agriculture. However, during the last few years in Jordan, archaeological research undertaken on the mountain range revealed that the area was heavily occupied during the Pottery Neolithic. The sites of 'Ain Raḥub (Gebel and Muheisen 1985; Muheisen *et al.* 1988), Abu Thawwab (Kafafi 1988), 'Ain Ghazal (Rollefson and Simmons 1988; Simmons *et al.* 1988), Wadi Shu'eib (Simmons *et al.* 1989) and Dhariḥ (Bossut, Kafafi and Dollfus 1988) were excavated or sounded. Some of these sites either continued to be occupied from the Pre-Pottery to the Pottery Neolithic, e.g. 'Ain Ghazal and perhaps Wadi Shu'eib, or were newly established, e.g. 'Ain Raḥub, Abu Thawwab and Dhariḥ.

The site of 'Ain Raḥub, which was sounded in 1985 by M. Muheisen and Hans G. Gebel, is located *c.* 13 km northwest of Irbid, northern Jordan, on the lower terrace of the west bank of Wadi ar-Raḥub. The soundings revealed Natufian and Pottery Neolithic (Yarmoukian) archaeological remains. The floral remains studied by R. Neef indicate that the Yarmoukian people of 'Ain Raḥub cultivated emmer wheat (*Triticum dioccum*) and two-rowed barley. Only one grain of einkorn wheat (*Triticum monococcum*) was recovered. Flax (*Linum usitatissimum*) was also domesticated. A single C14 date was obtained from the test unit containing the Yarmoukian remains: 7480 +/− 90 b.p. (GrN - 14539) (Muheisen *et al.* 1988: 498).

The argument that the settlers of 'Ain Ghazal had switched from their PPN agricultural life-style (from farmers during the Pre-Pottery) to pastoralists during the Pottery Neolithic based on the shift of economy (Simmons *et al.* 1988: 38) may be acceptable for sites in the desert area, but not for those established sites on the mountain range. At 'Ain Ghazal the economic situation during the sixth millennium remains vague. Faunal and floral remains, and the very small number of excavated sickle blades show a decline in the economy. This decline has been attributed to a change of life-style of the inhabitants from farmers during the PPNB to pastoralists in the Pottery Neolithic period (Simmons *et al.* 1988: 37-39; Rollefson and Simmons 1988: 417; Köhler-Rollefson, Gillespie and Metzger 1988). This deduction is based on a limited amount of material culture excavated from a small area of the site of 'Ain Ghazal during the 1984 season. Results of the 1988 season of excavations at 'Ain Ghazal contradict this argument.

The Pottery Neolithic (Yarmoukian) settlers at 'Ain Ghazal built either apsidal or rectangular permanent houses. Due to the larger excavated area during the 1985 and 1988 seasons, it was determined that the Yarmoukians settled at both the South and Central Fields of the site. Yarmoukian cultural remains including pottery sherds, flint tools and other small objects were found all over the site. The preliminary study of the Yarmoukian pottery from the site indicates that the settlers manufactured a large number of jars for their daily use (Kafafi 1990). This may indicate that the 'Ain Ghazal settlers of the Pottery Neolithic stored their food or products inside those jars. Similar jars were excavated at 'Ain Raḥub and Abu Thawwab.

It seems that the Yarmoukian inhabitants of 'Ain Ghazal practiced different subsistence strategies. They inhabited the site throughout the year. Part of the community cultivated plants and others were herders and hunters. Both domesticated and wild animals are attested in the Pottery Neolithic levels. They domesticated goats (*Capra sp.*, 70.6%) and cattle (Bos 9.1%). Bones of boar (Sus, 10.8%), gazelle (6.4%) and onager (Equus, 1.35%) were found (Köhler-Rollefson, Gillespie and Metzger 1988: 426; TABLE 1). Unfortunately, no information about the Yarmoukian floral remains from the site is published or available yet.

The settlers of the Yarmoukian village of Abu Thawwab (*c.* 200 by 300 m in size, located on the main road between Ṣweileḥ and Jarash), were farmers, hunters and gatherers (Kafafi 1988). The water sources of the site and the surrounded area are the perennial Wadi ar-Rumman, which flows into 'Ain Ras al-Ma' and other springs such as 'Ain Umm Karam, 'Ain Umm Rabi' and 'Ain Ṣafṣafa. The Yarmoukian people at Abu Thawwab resided in rectangular or curvilinear houses built of boulders. They stored their crops in storage jars or in pits dug into the earth (Kafafi 1985a).

The inhabitants of Abu Thawwab cultivated lentils (*Lens*

culinaris), emmer wheat (*Triticum dicoccum*), field pea (*Pisum sativum*) and two-rowed barley (*Hordeum distichum*). They gathred pistachio (Pistacia sp.) and almond (Amygdalus sp.) (Neef, report in preparation).

Domesticated and wild animal bones were excavated from the site. Goat and sheep (Ovis/Capra sp.) predominate (68%). There is also gazelle (Gazelle sp., 15%), cattle (Bos sp., 12.8%) and three bones of onager (Equus sp., 2.4%) and one each of boar (Sus sp.) and Canis sp. (Köhler-Rollefson, report in preparation).

The large number of sickle-blades and grinding and grounding stones indicates the agricultural style of life, while the large quantity of small bifacial retouched arrow-heads indicates that hunting was also widely practiced.

Six other smaller Yarmoukian sites were registered in the area of Abu Thawwab during ar-Rumman survey in 1985 (Gordon and Knauf 1987). Since Abu Thawwab is located in the middle of these sites, larger than all of them and closer to the water sources; this suggests that the site was a central village for the surrounding area.

Other Pottery Neolithic villages, e.g. Wadi Shu'eib (Simmons *et al.* 1989) and Dhariḥ (Bossut, Kafafi and Dollfus 1988) which were founded on the mountain range, are still under investigation. Recent excavations at Wadi Shu'eib uncovered rectangular houses built of stone. Subterranean pits that contained Yarmoukian and Jericho PNA pottery were excavated as well. The site is located near a spring on the northern side of Wadi Shu'eib and *c.* 9 km to the west of as-Salṭ (Rollefson 1987). Due to the small area excavated nothing precise can be said about the nature of the occupation. However, the location of the site, the large number of grinding and grounding stones collected from the surface and the permanent water sources suggest a farming community.

Wadi Shu'eib is the only site which has provided us with information about burial customs during the Pottery Neolithic period in Jordan. Two burials excavated in Area II (Nos. 3 and 4) in 1988 assigned to this period indicated that the community continued the PPNB practice of burrying the dead in the residential areas (Butler nd). Burial 3 belonged to a child about 18 +/−6 months of age. It was situated to the southwest of a house and was enclosed by a circle of stones. The body was put in a flexed position.

Burial No. 4 was located in the area of Burial 3. It was a secondary burial of an adult. The long bones of the skeleton were arranged parallel to each other and their axes oriented approximately north/south (Butler nd).

c. *The Desert Area*

Archaeological investigations undertaken by Andrew Garrard and Alison Betts in the Desert Area indicate that the inhabitants of the early sixth millennium B.C. lived in seasonal hunting camps, called "Burin Sites" (Garrard *et al.* 1985a; 1986; 1987; 1988; Betts 1983; 1984; 1988). These sites differ in size, ranging between 4500 sq m at Jilat 23 (Garrard *et al.* 1987:7) and 240 sq m at Dhuweila (Betts 1988). It has recognized that the desert dwellers built large stone circles of upright slabs measure *c.* 18 m in diameter at Jilat 23.

The economy was based mainly on hunting and pastoralism. There is little evidence of cultivation. At Azraq 31, Dhweila and Jabal Na'ja gazelle and hare were hunted. Domesticated sheep and goat were identified at the Site Azraq 31 (Garrard *et al.* 1988: 333) and Dhweila (Betts 1988).

The site of Azraq 31 is the only site in the desert area where barley (*Hordeum sativum*) and wheat (Triticum sp.) were cultivated. Grasses, cyperaceae, and legum seed were also collected (Garrard *et al.* 1988: 332).

C14 dates from Azraq 31 (8350 +/− 120 B.P.) and Jabal Na'ja (7340 +/− 100 B.P.) indicate that the burin sites were established during the first half of the sixth millennium B.C. No pottery sherds were excavated at those sites except for the above mentioned ones from Dhuweila.

It may be worth mentioning here that many desert sites produced small bifacial retouched arrow-heads. This type of flint tools was encountered at the Pottery Neolithic from other areas in Jordan. Thus, it may indicate that the inhabitants of the Jordanian Desert, during the sixth millennium B.C., were in contact with the farming villages in the other areas of the country. Moreover, burin sites were spreading from the eastern Jordanian desert area to Amman in the mountainous region (Rollefson, Kaechle and Kaechle 1982; Simmons and Kafafi 1988).

Conclusions

To conclude, the Pottery Neolithic cultures of Jordan were diversified by differing bases of food production. During this period there was a strong emphasis on agriculture, especially in the coastal and mountain ranges, though herding of domesticated animals played an important role in the subsistence of the population as well. Gathering of wild fruits and hunting of animals continued to be practiced.

The inhabitants of Jordan manufactured pottery vessels for their daily use. Two pottery traditions are recognizable and perhaps were contemporaneous during the sixth millennium B.C.; the Yarmoukian and the Jericho PNA. These two pottery traditions may reflect different populations. The Yarmoukians settled in the areas of the Jordan Valley from Yarmouk River in the north as far as al-Qahwaneh "Sha'ar ha-Golan", in Wadi 'Arabah at Tell Feinan and in the mountain ranges at sites such as 'Ain Raḥub, Abu Thawwab, Wadi Shu'eib and 'Ain Ghazal.

The Pottery Neolithic A group also settled in the Jordan Valley, as at Munḥaṭa, Sheikh 'Ali and Jericho, and spread in Jordan at Wadi Shu'eib, Dhariḥ (near aṭ-Ṭafilah) and Dhra' just to the north of Wadi 'Arabah.

The Yarmoukians in the Jordan Valley inhabitted pit-dwellings as in the cases of al-Qahwaneh and Munḥaṭa.

On the other hand, the Yarmoukians who lived on the mountain ranges built themselves well constructed stone houses as at Abu Thawwaab, 'Ain Ghazal and Wadi Shu'eib.

The Pottery Neolithic A people lived in huts and in pit-dwellings. This kind of pit was encountered at the sites of Wadi Shu'eib and Dhra'. The PNA Culture was succeeded on many sites during the PNB (Pottery Neolithic B) by people more developed than their predecessors. Their houses were rectangular in shape and built of bun-shaped mud-bricks as at Jericho. Although the excavations of Tell ash-Shuna North (Gustavson-Gaube 1985; 1986) and the soundings at Ghrubba (Mellaart 1956) revealed archaeological remains of the Jericho PNB tradition (fifth millennium B.C.), and surveys of the different areas in Jordan recorded many sites from the PNB tradition, we still lack excavated sites and detailed information about the nature of the settlement patterns from the fifth millennium B.C.

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Neolithic Settlement Patterns in Northern Jordan and Palestine

Introduction

Settlement pattern studies normally are possible only when detailed reports concerning surveys and excavations are available. In view of the relatively recent nature of so many of the research projects in Jordan in general, and northern Jordan in particular, the current status of publications is such that it is difficult to integrate the new material in a systematic manner.

The purpose of the present study is to summarize what is known of the distribution of Aceramic Neolithic sites in Palestine (where the long and intensive history of prehistoric investigation has produced a considerable body of information) and northern Jordan and to try to account for perceived changes in those patterns over time.

The PPNA Period (*c.* 8500-7600 B.C.)

The development of cereal agriculture by the middle of the ninth millennium in the Levant marked an enormously different relationship between human society and the environment. The Pre-pottery Neolithic A (PPNA) period witnessed the culmination of a process of sedentarism that had begun earlier in the previous Natufian period, but it achieved greater stability as a consequence of the abundant productivity and eminent storability of domesticated wheat and barley. Nevertheless, meat protein in PPNA diets was still obtained solely through the hunting of a wide variety of wild animals.

The immediate consequences of farming *sensu stricto* were not evidently "revolutionary" in the sense that the populations of Jordan and Palestine underwent sudden increases in absolute sizes or densities. The list of PPNA sites in Jordan is very short, known only at what appears to be a temporary camp at Ṣabra, in the Petra region (Gebel and Starck 1985: 112), and at a possible hamlet in Wadi al-Ḥasa (Site 1008; cf. MacDonald *et al.* 1983). In fact, throughout the southern Levant there are only a handful of known PPNA hamlets and villages (e.g. Kenyon 1979: 26-30; Noy *et al.* 1973; Bar Yosef *et al.* 1980; Bar Yosef n.d.; Noy *et al.* 1980; Lechevallier *et al.* n.d.). There are recent claims of newly discovered PPNA sites on the western side of the lower Jordan Rift system (cf. Rollefson n.d.a), but no systematic investigations of them have been initiated. In any event, it is noteworthy that the number of recognized PPNA sites is not much larger than the number known from the previous thousand years.

The Earlier PPNB Period (*c.* 7600-6500 B.C.)

It is to wards the end of the eigth millennium that changes in settlement patterns in Jordan and Palestine become vivid. While the earliest manifestations of the Pre-Pottery Neolithic B (PPNB) cultural complex are better documented in northern Syria and southern Anatolia (Cauvin 1987: 328-333; cf. Rollefson n.d.a), it was not until about 7200 B.C. that the "classic" PPNB settlements such as PPNB Jericho, Beiḍa and 'Ain Ghazal were founded. Settlement sizes ranged from small hamlets (e.g. Wadi al-Ḥasa Site 892 [MacDonald *et al.* 1983]) to small villages of about 4 hectares or less in extent (e.g. Jericho, early 'Ain Ghazal, Tell Abu aṣ-Ṣuwwan). In addition to settlements of larger size, the number of PPNB sites grew appreciably larger than for the PPNA period, and virtually every major areal survey has revealed evidence of PPNB hamlets and villages (e.g. MacDonald *et al.* 1983; Rollefson 1987a; Rollefson n.d.b) in the arable parts of Jordan and temporary camps or semipermanent settlements in the eastern steppe and desert (e.g. Betts 1988; Garrard *et al.* 1988; Muheisen n.d.).

It is apparent that this period witnessed a major increase in population in Jordan and Palestine, testimony to the effectiveness of cereal agriculture and the newly domesticated pulses such as peas and lentils. Another new element undoubtedly made a major contribution to the population expansion as well, for by the beginning of the seventh millennium, goatherding was widely practiced throughout the southern Levant[1] as an integral part of the subsistence economy (Köhler-Rollefson n.d.a). By the middle of the

[1]Except in the coastal and highland areas of northern Palestine, such as at Yiftahel (Garfinkel 1987) and Horvat Galil (Gopher, pers. comm.) where hunting continued to be the sole means of obtaining meat throughout the earlier PPNB period.

seventh millennium goats contributed approximately one-half of the meat in PPNB diets, the rest obtained from hunting a broad array of wild animal species (Köhler-Rollefson *et al.* 1988).

The Late PPNB Period (6500-*c.* 6000 B.C.)

At about 6500 B.C. Jordan and Palestine experienced a major upset in settlement patterns. Many farming villages and hamlets were abandoned in a relatively short period of time (cf. Rollefson n.d.c), their populations dispersing into the countryside to other locales that would support an agricultural existence. As the older sites were abandoned, newer ones were established for the first time in terrain and ecological settings as diverse as those of Mossad Mazal near the Dead Sea, Abu Ghosh high above Jerusalem and Beisamoun in the northern Jordan Valley. Not all of the earlier PPNB settlements were abandoned, on the other hand; one exception, at least, was 'Ain Ghazal, which continued to thrive throughout the seventh millennium.[2] Some of the post-6500 B.C. settlements remained on the smaller end of the scale of site size: Khirbet al-Ḥammam in Wadi al-Ḥasa, for example, was a hamlet of only about 2 ha in area (Rollefson and Kafafi 1985), and Abu Gosh and Mossad Mazal were smaller than Jericho. Thus while the settlement pattern *shifted* from some specific sites to other locales, the pattern in these cases was not otherwise altered.

What is striking about the settlement patterns in the second half of the seventh millennium is the immense size that some of the settlements attained. 'Ain Ghazal more than doubled in size shortly after 6500 B.C., and it increased by double once again to about 10 ha by 6000 B.C. (Rollefson and Simmons 1988). Similarly, Beisamoun covered more than 10 ha, as did Khirbet Sheikh 'Ali (Rollefson 1987b; cf. Gebel 1984), and Basṭa approached 14 ha (Nissen *et al.* 1987). The enormous surface scatter of Late PPNB lithics at Kharaysin (Edwards and Thorpe 1986), in the greater Jarash region, suggests another gigantic late seventh millennium town. Farther afield, Syrian sites reached 6-11 ha in extent (Rollefson 1987b).

Hard evidence to explain the mid-seventh millennium site abandonment is not available, nor is it clear why the "megasite" phenomenon developed at the same time. As to the former event, it seems highly unlikely that deteriorating climatic conditions were responsible, since as a regional phenomenon alterations in weather should have had similar impacts on all sites throughout Palestine and Jordan, and this clearly was not the case. Instead, it is more probable that under certain ecological conditions the destructive effects inherent in the integrated farming and goatherding economy practiced by earlier PPNB inhabitants had degraded the microenvironments of many of the permanent settlements. This culturally-induced degradation included the destruction of natural habitats of wild animal species during the clearing of vegetative cover for farming plots and the removal of trees for housing construction, plaster manufacture, and domestic fuel requirements. The close-browsing habits of goats prevented effective regeneration of trees and other vegetation, exposing the delicate and often shallow soils to erosion by wind and precipitation, and the decrease in soil fertility and outright soil loss over an extended period of constant cropping evidently made farming unproductive within reasonable distances from permanent sources of fresh water (Rollefson and Köhler-Rollefson 1989; Köhler-Rollefson and Rollefson n.d.; cf. Rollefson n.d.c).

It is also highly unlikely that the growth of the megasites can be attributed to enormous birth rates among the populations of certain settlements. In other words, it must be admitted that at least some of the areal expansion of settlements in the latter half of the seventh millennium was the result of a collapse of previously autonomous settlements into focal areas that were ecologically suitable to sustain unprecedented population densities (e.g. Köhler-Rollefson *et al.* 1988).

The persistent growth of several megasite settlements in Jordan and Palestine is an issue of great complexity. Certainly the scale of population concentration reached at 'Ain Ghazal was not the inevitable outgrowth of PPNB subsistence strategies or cultural preferences, for the presence of much smaller contemporaneous sites is enough to argue against such an assessment. Nevertheless, it is apparent that the mixed herding and farming economy was sufficiently productive to feed large clusters of people, and the permanent interaction of so many inhabitants at each of the megasites must have entailed some cultural adjustments in order to temper increasingly conflicting demands in such areas as access to farmland and pasturage, storage of food, and such cooperative exploits as harvesting, housebuilding, trade and incipient economic specialization, to name a few.

But despite the vigor of Late PPNB settlements after 6500 B.C., the florescence came to a relatively abrupt halt by about 6000 B.C. As had been witnessed on a smaller scale some 500 years earlier, farming villages and towns were once again deserted on a grand scale, including *all* of the known PPNB sites in Palestine.

The PPNC Period (6000-*c.* 5500 B.C.)

After 6000 B.C. we have evidence of permanent settlements only at Tell Ramad in the Damascus Basin (de Contenson 1985), 'Ain Ghazal, Wadi Shu'eib (Simmons *et al.* 1989) and possibly at Basṭa and the people living at these locations must have represented only a small fraction of the total regional population of the late seventh millennium.

[2]The case for PPNB Wadi Shu'eib remains unclear. While it is certain that the site was occupied throughout the latter half of the seventh millennium, it is unknown when the site was originally established (cf. Simmons *et al.* 1989).

The reason(s) for the severe disruption of settlement patterns at about 6000 B.C. remains hypothetical at the present time, but it would appear that decreased rainfall cannot be cited (e.g. Perrot 1968; Mellaart 1975: 67-68). Once again, if rainfall was insufficient to sustain the Late PPNB farming communities of Beisamoun and Abu Ghosh, farming should not have been possible at 'Ain Ghazal or Wadi Shu'eib. Again, it is likely that economic mismanagement continued, as earlier at Jericho, to decimate the local environments, but this time on a larger scale.

How then was it possible that Wadi Shu'eib persisted, and that 'Ain Ghazal even continued to grow in size? We suggest that two related factors operated to temper the effects of the cultural degradation of the environment around these sites, permitting the sustained presence of large and dense populations in a limited number of cases.

The first factor concerns the greater ecological setting of Wadi Shu'eib and 'Ain Ghazal (and probably Baṣṭa and Tell Ramad). These sites were situated in relatively close proximity to habitats that had been largely underexploited by PPNB agricultural groups: The non-arable steppes and deserts of eastern Jordan. It is likely that hunting by settled farming populations from the fringes of the area continued to play a substantial role in feeding families back in the village. Furthermore, in these unarable regions the relatively sparse plant cover could nevertheless be converted to abundant "harvests" by transforming it to meat protein. By taking herds of goats (and possibly sheep by the beginning of the sixth millennium) away from the villages to the seasonally available vegetation during and after the winter rains, sixth millennium inhabitants of 'Ain Ghazal and Wadi Shu'eib could achieve two important results simultaneously: First, they could diminish the harmful effects of browsers on the fragile soils immediately around the permanent villages. Second, the previously untapped productivity of the steppe/desert vegetation could greatly increase the stable supply of goat meat to compensate for the diminished wild animal resources of the badly deteriorated habitats near the permanent settlements. Furthermore, the absence of a possibly large proportion of the village population for several months at a time would have reduced the stresses on the agricultural productivity of the land around the villages (Köhler-Rollefson 1988; n.d.b).

The second factor that served to allow continued occupation at 'Ain Ghazal and Wadi Shu'eib is in the cultural modifications that were installed by the beginning of the sixth millennium (cf. Rollefson and Simmons 1986: 155-161), and these differences may be taken to represent accomodations of varying degrees to the stresses engendered by the long duration of demands of a growing population in a deteriorating environment. In addition to the increased utilization of the resources of the arid steppe and desert, the local agricultural component of the economic system may also have undergone some change, for sickle blades and grinding stones from PPNC contexts at 'Ain Ghazal (and perhaps at Wadi Shu'eib?) occur in much rarer relative frequencies than in PPNB times. It is possible that the methods of harvesting and processing domesticated crops may have changed, and that even the kinds of crops relied upon may have altered considerably (flotation samples have been entirely negative in this regard).

One important question about the PPNC period remains a major enigma: What happened to all the people who used to live at those Late PPNB sites that were in fact abandoned? Earlier interpretations suggested that the greater part of Palestine and Jordan were essentially evacuated, and that the PPNB inhabitants moved *en masse* to areas of the north (e.g. Mellaart 1975: 68). If this were so, one would expect to see a significant increase of sixth millennium sites in Lebanon and Syria, but this does not appear to be the case.

The following scenario seems more plausible. Although the arable land around the larger permanent sources of fresh water (e.g. at Beisamoun, Khirbet Sheikh 'Ali, etc.) would have been devastated under the conditions of the Late PPNB overexploitation described above, considerable areas of land suitable for farming undoubtedly remained available in Palestine and Jordan near springs that could supply the needs of smaller, hamlet-sized communities. Cultural adjustments were adopted to prevent the widespread environmental degradation that characterized the seventh millennium. The smaller farming communities could maintain a pastoral component of the subsistence economy only if they relied on domesticated cattle and pigs, leaving goat husbandry to those populations in close proximity of the steppe/desert habitats. Small herds of cattle and pigs would be productive in terms of meat, but they would not interfere with habitat maintenance or regeneration under subsistence economy conditions (Köhler-Rollefson and Rollefson n.d.). One early sixth millennium site from Palestine that might reflect such a focus is Hagoshrim (e.g. Ducos 1968), although details on the material culture from this site are admittedly scant.

Another factor is related to the impact of changes in PPNC chipped stone tools and their impact on the "visible" record available to survey teams. Lithic scatters from the normally small PPNC farming communities tend to be relatively light and diffuse compared to the norm for the larger and more densely populated PPNB sites; therefore it would be less likely that PPNC hamlets would be recognized at all. Furthermore, the differences between PPNB and PPNC lithics are more in the realm of degree rather than kind (Rollefson and Simmons 1986: 157; 1988: 404-405). Under these conditions, then, even if small PPNC surface scatters were discovered by survey teams, it is very possible that the artifacts would be mistakenly identified as "Late PPNB".

The Aceramic-Ceramic Neolithic "Interface"

It is a popular idea of long-standing that held that pottery manufacture was "invented" in the northern Levant (e.g.

Kenyon 1979: 41,49; Mellaart 1975: 238-241), and that under the "exodus" model prominent in the 1950s-1970s, when Palestine and Jordan were "repopulated", colonies of immigrants brought the new technology with them to the south.

Because we do not accept the "exodus" and "repopulation" models for the sixth millennium in the southern Levant, it is necessary to question the idea of a "northern invention" and "importation" of pottery manufacture into Palestine and Jordan.

Evidence for an *in situ* transition across the PPNC-Yarmoukian "interface" has been suggested by the results of the 1988 and 1989 seasons at 'Ain Ghazal, including a small sample of atypical potsherds from PPNC contexts, architectural continuity from one phase to the other and close similarities in lithic production and other aspects of material culture (Rollefson *et al.* 1989). Such a link between the end of the Aceramic Neolithic and the beginning of the Pottery Neolithic reinforces the model described above for the cultural modifications and predictable changes in settlement pattern for the main PPNC and Yarmoukian periods in Palestine and Jordan. Yarmoukian settlements in Jordan, at least, are known principally from small hamlets such as Tell Abu Thawwab and other nearby sites (Kafafi 1988) and 'Ain Raḥub (Muheisen *et al.* 1988), situations that would be anticipated under the ecological conditions stipulated in the model. Other aspects of continuity are seen in the persistence of the large and dense settlements at those former PPNC concentrations such as Wadi Shu'eib and 'Ain Ghazal located near the edge of the steppe/desert.

Concluding Remarks

The explanations presented above for changes in settlement patterns during the Pre-Pottery and Pottery Neolithic periods in Palestine and Jordan are hypothetical, although preliminary assessments of the results of the recently concluded field seasons at 'Ain Ghazal and, to a lesser extent at Wadi Shu'eib, suggest that the proposed models are preferable to previous scenarios based on much more limited information. Only continued excavation, on the one hand, and intensified surveys on the other, not only from northern Jordan but from the rest of the country as well, will establish to what degree the new models are applicable.

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The 'Zarqa Triangle': A Preliminary Appraisal of Protohistorical Settlement Patterns and Demographic Episodes

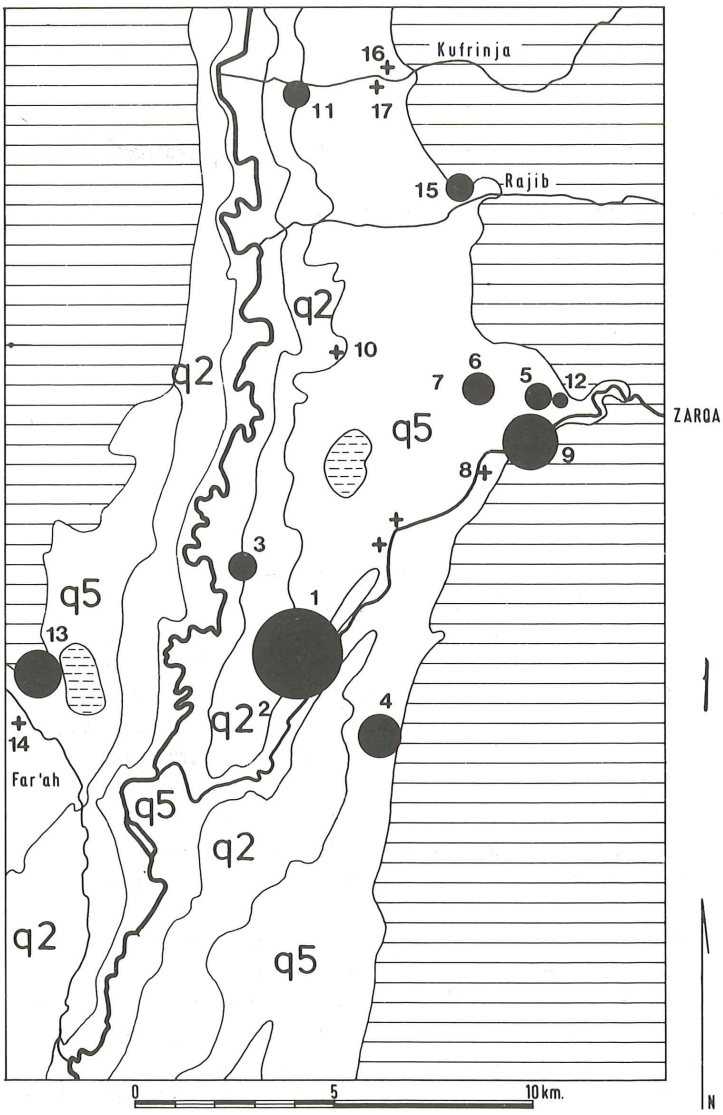
I

Reconstructions of socio-economic trends in the southern Levant during the fourth and third millennia are based on un- or semi-processed data, most of which have come from west of the Jordan River. The chronology for the period is based on various interpreted C14 determinations (e.g. Mellaart 1979; Callaway and Weinstein 1977), strictly sequential ceramic typologies constructed from tomb assemblages, and excavated but largely unpublished nucleated settlements of the third millennium, and hearsay. Tomb assemblages do not normally represent stratified sequences; nucleation obscures earlier as well as later 'transitional' episodes. Abandonment of nucleated settlements gives rise to deflation and erosion of later layers. Subsequent re-occupation in the Middle Bronze Age in turn obscures earlier evidence. These are some of the technical and archaeological restrictions to interpretation. They are obvious limitations which we all recognize, but they nevertheless colour much of what is thought, said and written. In addition, inappropriate use of socio-economic models and terminology from economically disparate regions such as Mesopotamia, northern Syria and even the northern Levantine coast, has lead to notions which do not fit even the most minimal information to hand. And perhaps most seriously, only one part of a greater geo-economical unity was studied in detail, while Transjordan and southern Syria remained virtually unexplored and ignored.[1]

An exception was Prag's work at Tell Iktanu in the 1960s (now resumed) which was summarized in 1974 (Prag 1971; 1986) but not fully documented. Had it been, then many of the notions regarding the later third millennium (i.e. 'EB IV') might have been different (e.g. Dever 1980; cf. Helms 1989b) and not so tied to a model of nomadic pastoralism. The imbalance in the data base is now being redressed through the excavation of smaller settlements in the specific region under discussion here, and elsewhere. Excavations at Khirbet Iskander (Richard 1982; Richard and Boraas 1984), Tell Umm Ḥammad and its cemetery at Ṭiwal ash-Sharqi, and surveys of the Jordan Valley (Ibrahim *et al.* 1976; 1988) and other subregions (e.g. Palumbo pers. comm. who reports a fortified EB IV site north of az-Zarqa) now provide a more representative set of data which dramatically alter out perception of the later third millennium. At the broader geo-economic level, surveys in southern Syria (Braemer 1984; 1988; al-Maqdissi 1984) now provide evidence for settlement in the fourth and third millennia. Moreover, direct cultural links can now be established between these areas and Palestine in 'EB IB' and 'EB IV' at Khirbet Umbachi and Labwe (el-Laboué) (Braemer pers. comm.; Helms 1989a).

For the fourth millennium, new excavations at Tell Abu Ḥamid (Dollfus and Kafafi 1986; *Abu Hamid* 1988) have produced data regarding the Chalcolithic period, as well as demonstrating regionality throughout the Jordan Valley, adjusting to some extent the unrealistic predominance of Tuleilat al-Ghasul for this period. This has been complemented by surveys and excavations in the southern steppic zones of Palestine (e.g. Levy 1987). Excavations at Tell Umm Ḥammad and ash-Shuna North (Gustavson-Gaube 1984) now provide deep stratigraphy for the time between the Chalcolithic (or late Chalcolithic) period about 3500 B.C. or a little earlier and EB I: the latter being much longer than has been supposed: perhaps more than 500 years rather than *c.* 200 or less (FIG. 2). If we add to this 'transition' the 300 years normally ascribed to 'EB IV' and set this against the time-span of 'EB II - III' (*c.* 600 years), then the so-called urban era of the third millennium with its

[1]Direct connections in both EB I (B) and late EB III and IV ('B/C') between the Jordan Valley and sites in the eastern sectors of Jabal ad-Druz have now been established as a result of cooperation with F. Braemer of IFAPO in both Damascus and Amman. Pottery comparisons were conducted jointly with N. Vaillant.



1. 1, Tell Umm Ḥammad; 2, Ṭiwal ash-Sharqi; 3, Qaṭaret as-Samra; 4, Tell al-Mafluq; 5, Ruweiḥa; 6, Tell Qa'dan; 7, Tell Deir 'Alla; 8, Dhra' al-Ḥuṣeini; 9, Tell Abu Zighan (Tell al-Ḥandaquq South); 10, Tell an-Nkheil; 11, Tell as-Sa'idiyeh; 12, Ze'azeyyeh; 13, Khirbet al-Maḥruq; 14, Jiftlik; 15, Tell Qos; 16 & 17, Buweib.

'cities' and 'city-states' could be regarded as an anomaly, rather than typical of the whole of the protohistorical era. To this may now be added typological and technological analysis of stratified pottery from Abu Ḥamid and Tell Umm Ḥammad (Vaillant and Helms forthcoming) which indicates a measure of cultural and technological continuity between the Chalcolithic period and EB I, although we still have no stratigraphic contexts in which both 'pure' Chalcolithic and EB I pottery forms occur together, giving rise to the notion of contemporary but separate, discrete socio-economic entities in the same landscape. The link between Tell Umm Ḥammad in early 'EB IA' and Jawa (Helms 1981; 1987a; Helms and Vaillant forthcoming) extends the area of the protohistorical landscape to the eastern steppic zones of southern Syria which in turn can now be related with trends towards more complex economies in the Ḥawran and the Damascene (Braemer 1984; 1988; pers. comm.). In short, we not only have more information now than ever before about a distinct zone which is economically separate from the rest of the Near East, but this information differs significantly from what was known a few years ago. It represents a new perspective from which to re-examine interpretations of what may have happened between about the middle of the fourth millennium and 2000 B.C., an era which was followed by what can be regarded as the first 'international' stage in the region (Helms 1989a).

The present work is a preliminary essay summarizing the available evidence regarding one component of an economic subregion, the land about the confluence of the Zarqa and Jordan Rivers, the 'Zarqa Triangle'.[2] In this essay it is assumed that settlement size is a function of population density, maximum potential population density a function of landuse potential (specifically in terms of irrigation), and settlement size therefore also a function of landuse potential.

II

The following is a summary of the main evidence on which a preliminary reconstruction of demographic episodes may be based. Periodization linked with the stratified sequences at Tell Umm Ḥammad (TUH) is as follows (Helms 1986: TABLES 2 and 3; 1987: TABLE 1):

Table 1

Chalcolithic	EB IA	EB IB	EB II	EB III	EB IVA	EB IV'B/C'	MB IIA
TUH 1 = Ghasul = Abu Ḥamid time	TUH 2	TUH 3	TUH 4	?	TUH 5	TUH 6 – 8+	?
B.C. 3500			2900		2300		2000

Key sites comprise the following (FIG. 1)[3]: Tell Umm Ḥammad (Helms 1984; 1986) and its cemetery (Helms 1983; Tubb 1985), Qaṭaret as-Samra (Leonard 1983), Tell al-Mafluq (Mellaart 1962; Leonard n.d.; Helms survey), Ruweiḥa (Ibrahim *et al.* 1988; Helms survey), Qa'dan (Ibrahim *et al.* 1976; Kafafi 1982; Helms survey), Deir 'Alla (Franken 1969), Dhra' al-Ḥuṣeini (Kafafi 1982), Tell Abu Zighan (Ibrahim *et al.* 1988; Helms survey), Tell

[2]A comprehensive treatment in progress and will appear with the final publication of the excavations at Tell Umm Ḥammad.

[3]Sites which have been visited by the writer are noted with 'Helms survey', carried out with the permission of the Department of Antiquities, the cooperation of Ibrahim *et al.* and individual excavators and surveyors.

an-Nkheil (Glueck 1951; Kafafi 1982), Tell as-Sa'idiyeh (Tubb 1988; Ibrahim *et al.* 1976), Ze'azeyyeh (Ibrahim *et al.* 1988; Palumbo pers. comm.), and Buweib (Ibrahim *et al.* 1976). Settlement areas were measured directly in the case of Tell Umm Ḥammad and Qaṭaret as-Samra (Leonard 1983), and by the use of large-scale maps (1:10,000) and air photographs for the rest. Erosion, deflation and modern agricultural development have destroyed much. Measurements will therefore never be accurate. However, it is hoped that enough has remained to identify broad changes which can be set against an admittedly imperfect relative chronology.

Population density and settlement pattern studies for Palestine have been incorporated (Gophna 1984; Broshi and Gophna 1984): these demonstrate the basic differences between the protohistorical era and the Middle Bronze Age. RAF air photographs (1930s: Glueck 1951) were used since they preserve 'fossil' canalization (e.g. irrigation potential) prior to intensive modern irrigation schemes in the Jordan Valley since the 1960s. They also sometimes show site dimensions which are now either obscured or gone entirely. New surveys and excavations in Transjordan such as az-Ziraqun (Ibrahim and Mittmann 1986), the Zarqa region (Palumbo pers. comm.), Khirbet Iskander (Richard 1982; Borass and Richard 1984) and Tell Iktanu (Prag 1971; 1974; 1986) supplement certain notions such as different settlement strategies in response to different environmental factors which include not only landuse but also the proximity of the eastern steppe (Badiyat ash-Sham), as well as difficult topography. Thus we might now identify distinct but inter-related economic sub-regions within the greater zone: (i) good agricultural land suitable for irrigation such as the Jordan Valley, the Marj Bani 'Amer, al-Ḥulah Basin and the Ghuṭa of Damascus, (ii) the western and northern Syro-Palestinian uplands, including the aj-Jawlan, more suited to pastoralism in this period, (iii) the eastern Transjordanian uplands from 'Ajlun to Ma'an, likewise better suited to pastoralism, (iv) the more open landscape north of the 'Ajlun hills including Ḥawran and Jabal ad-Druz with braided wadi systems suitable for both agriculture and pastoralism, and (v) the interfaces with the steppe, the Negeb in the south and Badiyat ash-Sham and northern Arabia in the east and north (Helms 1989a: FIG. 2).

III

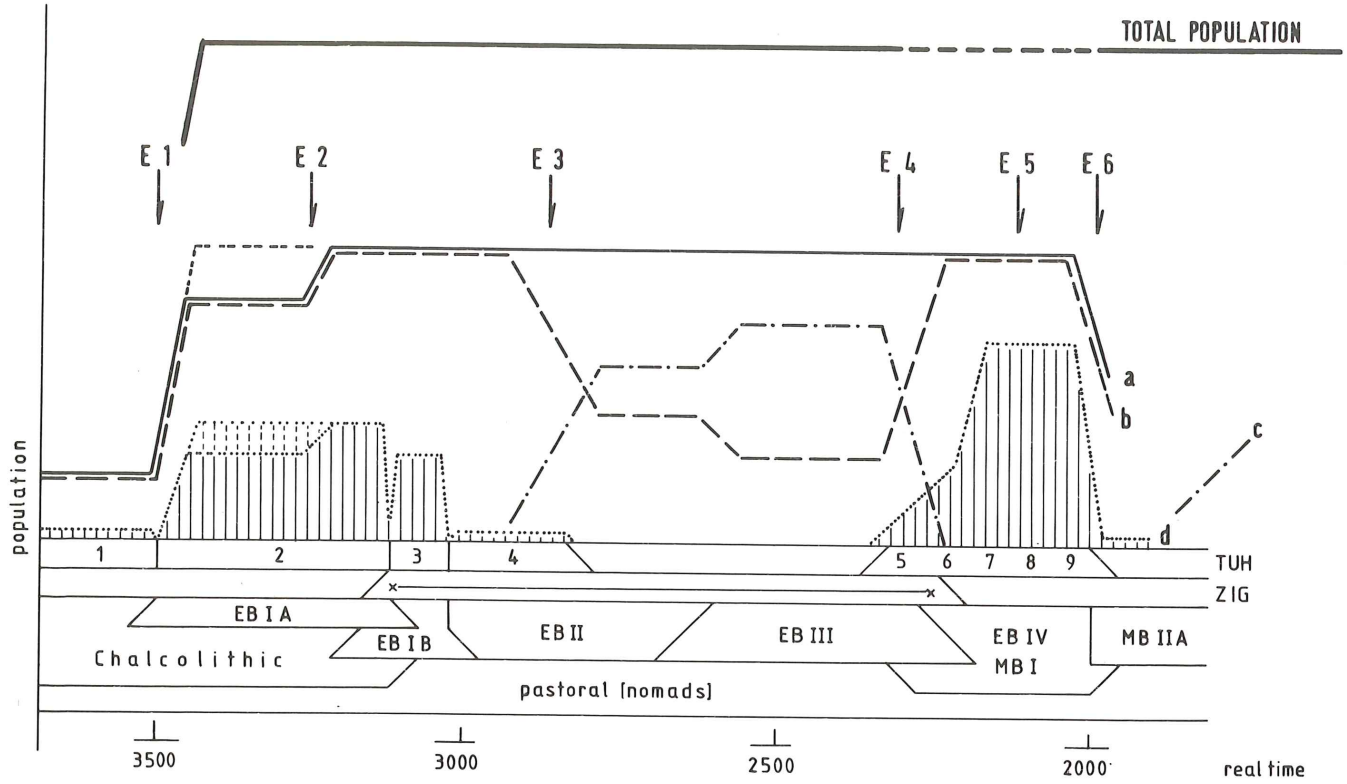
Returning now to the settlement pattern between *c.* 3500 B.C. and 2000 B.C. in the Jordan Valley, and specifically the area of the 'Zarqa Triangle', the available evidence suggests a cyclical pattern of change. Comparison of settlement density in 'EB III' and TUH5 (= 'EB IVA') suggests that the trend towards centralization, nucleation and 'militarization' which began in EB II is reversed, marking a return of settlements to the open countryside. Tell Umm Ḥammad and presumably also other, smaller villages like Ze'azeyyeh and Tell an-Nkheil were once again established as open settlements and since the material culture in terms of pottery at least is the same, we may argue either that people began to move away from Abu Zighan, or that different folk entered the sub-region but brought no new pottery traditions with them, 'trading' for vessels with the nucleated settlement. The former suggestion is more probable. Moreover, it is hypothesized here that the total size of the population in the sub-region did not change, regardless of the relative size of its component areas.

While the depositional/structural record at Umm Ḥammad suggests a new establishment after TUH5 ('EB IVA'), the pottery evidence tends to support the notion of material cultural continuity. With the start of TUH6 (*circa* the beginning of 'EB IVB/C'; Helms 1986, 1989b) Abu Zighan seems to have been deserted, while Umm Ḥammad was a very large thriving settlement which continued as such up to the end of the EB IV period: i.e. up to the beginning of MB IIA. This stage therefore marks the next major change in settlement pattern in the sub-region and abandonment of fortified positions. It also marks the completion of a full circle in terms of settlement in relation to the countryside: back to the pattern which saw its floruit at the end of the Chalcolithic period, in EB I (Helms 1986; 1987a). The characteristic 'militarism' of the EB II/III period seems to have become redundant and unnecessary by this time. But can we go any further than this?

It remains an open question whether we are dealing with new, different folk or simply the same population as before — essentially a population which has its roots in the late fourth millennium — or some combination of old and new. The 'military' nature of some grave goods cannot be used to resolve this one way or another. Nor can the violent demise — a clear case of homicide — of at least one individual who was buried near Umm Ḥammad (Ṭiwal ash-Sharqi: Rolston n.d.) support notions of a general catastrophe. We simply do not know, and the mute archaeological record can probably add no more. However, if we put aside catastrophe hypotheses (though they are not inappropriate) and look at the sub-region once again in purely local economic terms, we may first of all suggest that there were few, if any changes. Mixed farming, irrigation and pastoralism continued as before. Within our greater zone one or the other facet of the economy may have been more or less important. This, however, should not lead to accepting a 'model of pastoral nomadism ... as a basis of discussion to explain Jericho society' (Palumbo 1987). Jericho and its countryside is analogous to Tell Abu Zighan and the 'Zarqa Triangle'. The landuse potential is smaller and therefore the nucleated site is smaller. We know nothing about the ethnic makeup of the population and cannot prove at any point that it was exclusively pastoralist.

With regard to the 'Zarqa Triangle' we may, secondly, measure the population (in terms of settlement size) and note that the figures can imply numerical stasis (FIG. 2).

We may also discern a number of 'episodes' which do not



2.

neccessarily conform to periodization derived from material culture (typologies) within this hypothetical reconstruction of population density. In order to highlight these, we must extend the demographic analysis backwards to the late fourth millennium, doing so with the understanding that we must first test the sub-region in isolation before considering (see fn. 2) the much more problematical and complex parallel and alternative demographic mechanisms at an inter (sub) regional level.

With reference to FIG. 2, at least six such demographic 'episodes' may be suggested.

1) About the middle of the fourth millennium both settlement size and number increase. This is demonstrated at Tell Umm Ḥammad (FIG. 2: 'curve' d) and supplemented by survey and sondages at Qaṭaret as-Samra, and survey at al-Mafluq, Ruweiḥa and Qa'dan. The Chalcolithic repertoires are linked typologically and technologically with Stage 2 at Umm Ḥammad, but also include totally new material (Helms 1984; 1986; Vaillant and Helms forthcoming). It may be appropriate to use the term 'population increment' (see already Lapp 1968) of this first 'episode' in the sub-region and to speak of population growth which cannot be explained away by natural processes of propagation. As to where the 'increment' came from is open to debate; it may be a matter of typological/artefactual 'trace elements' which tend to point west of the Jordan Valley and north of the Carmel ridge along the Mediterranean coast. This episode can be paralleled elsewhere in the region (Jordan Valley) and beyond.

2) The second 'episode' is shown by minor changes in material culture at Umm Ḥammad (early-mid Stage 2), also at Qaṭaret as-Samra, and perhaps at Ruweiḥa where a contemporary occupation may be indicated, but without new material (i.e. appearance of genres paralleled at Jawa; Helms and Vaillant forthcoming). Internal structural evidence at Umm Ḥammad suggests an increase in building density: but this is not enough to support an increase in overall settlement density in the sub-region. Thus we may not need to introduce a notion of further population 'increments' at this stage. Indeed, the natural propagation argument could be used more appropriately now. However, the material 'cultural' additions to the pottery assemblage (including stamp seal impressions; Helms 1987b) can be traced via Wadi az-Zarqa into the 'Ajlun hills and beyond, as far as Jawa southeast of Jabal ad-Druz: and it may be significant in terms of specific routes (of diffusion etc.) that no directly comparable material has been found in contemporary assemblages such as those at ash-Shuna North (Gustavson-Gaube 1984), along Wadi al-'Arab (Hanbury Tennison 1986), or across the Jordan River, particularly in Marj Bani 'Amer (Braun 1984; 1985). At the very least this episode indicates a new 'cultural' and perhaps also economic connection with the north-east, with

southern Syria and the Ḥawran/Damascene.

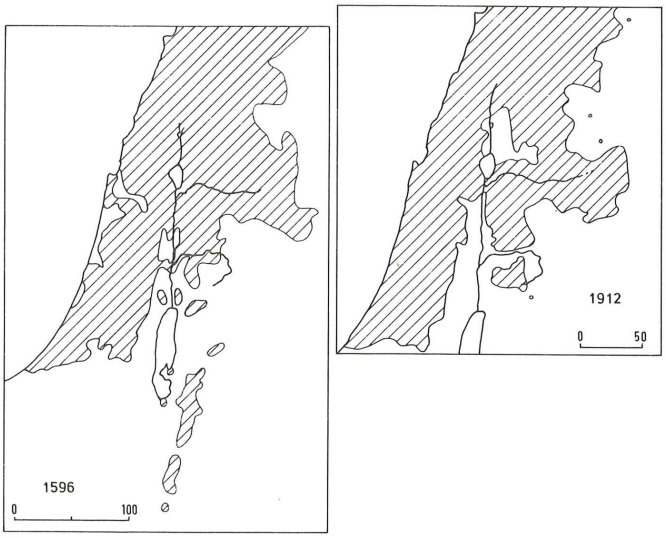
On the other hand, derived pottery forms of this new material have been noted at Jericho (Helms 1987a). This 'episode', and continuing activities in the subregion (= TUH3) can still be described as 'EB IA' and by this time also as 'EB IB'. There are some marked changes in pottery technology, but much represents a continuous, unbroken technological and stylistic development. There is also an apparent internal reduction in structural density at Umm Ḥammad (Stage 3); but, as we noted earlier, now more settlement evidence based on contemporary assemblages (= 'EB IB') is known in the sub-region (also at basal Abu Zighan). In measurable demographic terms therefore, the internal changes at Umm Ḥammad as well as changes in pottery fashions (or preferences) may not imply a demographic 'episode'. It is postulated that population growth had levelled off and that settlements consisted of both large and small, open and unfortified house clusters, mostly sited on low-grade agricultural land along the rivers (FIG. 1:q2). It is further suggested, though not proven, that the subsistence economy consisted of mixed farming, including pastoralism and horticulture. There is little evidence (but for stamp seals) for inter sub-regional exchange and even less for formalized long-range exchange (but see Rosen 1983; cf. Helms 1987a: FIG. 22).

3) The third 'episode' appears not to have affected the population figures; it did however affect settlement choice and type and therefore has demographic significance. While open, undefended settlements such as Umm Ḥammad, Ruweiḥa, Qaṭaret as-Samra and al-Mafluq were either abandoned or much reduced in area, the large site of Abu Zighan (and its counterpart Khirbet al-Maḥruq across the Jordan River) began to be settled more intensively. We therefore hypothesize that while the open-settlement population 'curve' (FIG. 2:b) drops dramatically, that of the nucleated and defensible ones began to climb (FIG. 2:c), crossing at a hypothetical point sometime between whatever the real-time location of EB II/III may be in the sub-region. And, given the internal evidence at Umm Ḥammad between Stages 4 and 5 as well as surface survey data, we may hypothesize a second divergence in 'curves' b and c during 'EB III'. At any rate, the hypothetical population density remains the same, while landuse may have been intensified (i.e. irrigation). Farther afield we may hypothesize that open settlements on sub-regional boundaries such as Tell as-Sa'idiyeh during EB II (Tubb 1988) ceased to be 'safe' and were abandoned, some after violent episodes. Elsewhere, establishments in environmentally marginal locations such as Arad also ceased to exist. In both cases their economic function may have been re-located in 'safer' areas, or allowed to atrophy altogether. That is to say, if EBA Arad's economy was primarily pastoral, the abandonment of the fortified settlement may not signify a major economic shift but simply a trend away from centralized control. This is analogous to the later shift at Tell Abu Zighan where the economy was based more on agriculture.

4) This 'episode' concerns the changes during the problematical 'late EB III-early EB IV transition'. Once again, the two hypothetical 'curves' (FIG. 2:a and b) cross, this time in inverted trends, and preliminary settlement density analysis suggests stasis in the total population. But, the fortified positions are now abandoned in favour of locations in the open countryside.

5) The open settlement at Umm Ḥammad grew rapidly to cover up to 44 hectares along the banks of the Zarqa River (Stages 5 and 6-8+) and although a typological continuity can be demonstrated in ceramic terms between Stages 5 and 6, there are many differences, not only in the pottery repertoire, but also in architecture. No comparable pottery has been found at Abu Zighan and it is therefore surmised that the site was abandoned. Several other open settlements, however, are now known: e.g. an-Nkheil, and Ze'azeyyeh next to Tell Abu Zighan across Wadi az-Zarqa, supporting stasis in the total sub-regional population figures (FIG. 2: 'curve' a). The 'episode' is thus similar to 'episode' 2 which saw a change in material culture, technology and architecture between 'episodes' 2 and 3 ('EB IB'). We argued there that insufficient evidence was available to hypothesize about the regional or even 'international' demographic implications of such changes, although we could 'trace' some elements farther afield. 'Episode' 5 saw a technological change which may be linked with North Central Syria and specifically with evidence from Tell Mardikh/Ebla 2B1 (Mazzoni 1986). At intra sub-regional level a similar stylistic and technical division has long been noted (i.e. EB IVA›‹EB IVB/C, or more traditionally EB IV›‹MB I; Helms 1989b), although we must also note that TUH5 is largely contemporary with phase 1 at Tell Iktanu (Prag 1974) where the architecture does not seem to change in the next phase which in turn corrresponds to TUH6+ (Prag 1971; 1980). Recently explored sites such as Tell Abu an-Ni'aj (Falconer 1987; Palumbo pers. comm.) will probably show the same trend in relation to other subregions in the Jordan Valley.

6) Finally we may imply a sixth 'episode'. Evidence for this, however, is still sparse. No MB IIA pottery has yet been found at Abu Zighan, perhaps the best candidate for a renewed centralizing trend; little is known from Tell Deir 'Alla, or from Tell as-Sai'diyeh (but see Ibrahim *et al.* 1976); only a few surface sherds of the period (MB IIA/B) were found at Umm Ḥammad. This in itself implies a demographic 'episode' which — perhaps for the first time since 'episode' 1 (i.e. EB IA/Late Chalcolithic) — saw a decrease in population density in the 'Zarqa Triangle' (but cf. Falconer 1987). Such sub-regional population shifts have now been implied by the compilation of data for the MB II west of the Jordan River (Broshi and Gophna 1984) with the conclusion that population figures did not change dramatically at regional level compared to EB II/III, but



3.

that settlement strategies were now affected by super-subsistence economy.

A series of compelling demographic parallels is available in Ottoman records where settled land configurations change from time to time (Wirth 1971; Hütteroth and Abdulfattah 1977). In the 16th century, for example, Wadi az-Zarqa and the 'Zarqa Triangle' as well as Jericho and other sub-regional components are settled; in 1912 they are not, although nomadic pastoralists continued to practice transhumance in both periods (FIG. 3).

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Seasonal Movements of Fourth Millennium Pastoral Nomads in Wadi Ḥisma

In conducting archaeological investigations over the last ten years along the southern edge of the Jordanian Plateau, I have noticed some remarkable parallels between contemporary land-use patterns and those present some 5-6000 years ago. These parallels are present in several domains of evidence that cross archaeological and ethnographic records. Within both of these temporal windows, the inhabitants of this mountainous region appear to have subsisted mainly on the herding of sheep and goats. They lived a nomadic existence and moved seasonally to different elevational belts in order to take advantage of available resources and more comfortable settings. And in addition to altering their mobility levels and environmental settings from season to season, they also appear to have adjusted the sizes of their groups on a seasonal basis in order to accommodate differences in the densities of critical resources.

Environmental Settings: Present and Past

The region is characterized by marked relief that in conjunction with major differences in bedrock creates three distinct physiographic units, with each of these corresponding to a distinct biotic zone. The uplands, found on the edge of the plateau between 1500-1700m (asl), receive some 200-350mm precipitation annually. Here limestone bedrock has been eroded into low rolling hills veneered by thin soils (including terra rosa) that support a severely overgrazed Mediterranean plant community. The piedmont, resting on the flanks of the plateau between 1300-1000m, receives some 100-200mm of rainfall annually. In the piedmont, sandstone bedrock has been eroded into steep cliffs and canyons with steppic plants predominating. The lowlands, located between 1000-700m on the floor of Wadi Ḥisma, receive less than 100mm of rainfall annually. The floor of this wide valley is covered in drift sand occasionally punctuated by steep sandstone inselbergs and playas. The lowlands support a true desert vegetation with plants often being widely separated.

With exception to several springs in the uplands (and a few isolated springs in the lowlands), natural surface water is available for only three to four months a year. Depending upon the variation in annual rainfall, water can be found in potholes in the dry, sandstone streambeds of the piedmont and lowlands from January to April. Ironically, the uplands receive considerably more precipitation than the adjacent piedmont or lowlands, yet surface water is generally unavailable in streambeds during the wet season because of the absence of potholes.

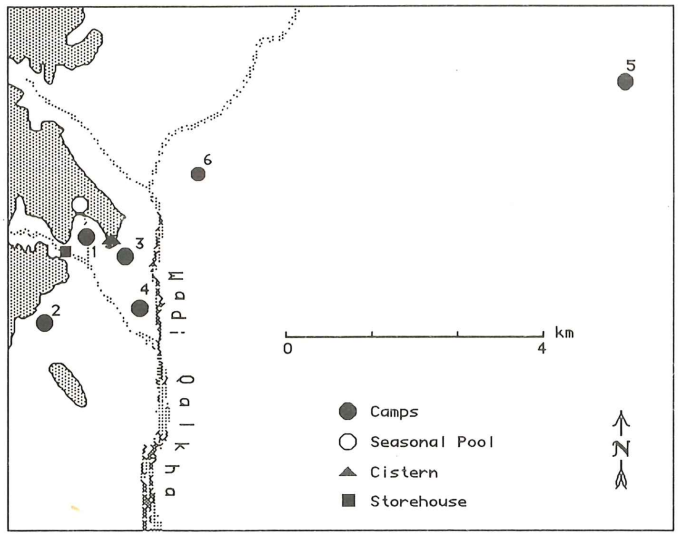
Mid-Late Holocene Climate

Direct evidence from the region points to an arid setting, not unlike today's, for the interval of 5000-6000 years ago. Pollen diagrams from Chalcolithic horizons at sites J8, J14 and J24 reflect a semi-desert halophilic flora dominated by chenopodiaceae (Henry *et al.* 1985). Interestingly, cereal type pollen is absent or scarce in these diagrams. Faunal evidence from site J14 is consistent with the pollen data in that gazelle constitute the large majority of remains of wild animals. A geomorphic study of the Judayid Basin near Ras an-Naqab also indicates an arid setting as reflected in the erosion of the basin's floor concurrent with the deposition of drift sand (containing Chalcolithic occupations) along its margins (Henry *et al.* 1983).

Although palaeoclimatic data drawn from the Negeb (Horowitz 1979; Goldberg and Bar-Yosef 1982) and the Lisan and Beisan lakes of the Rift Valley (Neev and Emory 1967; Koucky and Smith 1986) point to moister conditions from about 5400-4500 B.P., a recent pollen diagram from Lake Kinneret (Baruch 1986) suggests conditions similar to those of today. Even when a Chalcolithic moist interval is advanced, it is still recognized as a predominantly dry interval (Levy 1983). In the main it would appear then that for the last 5000-6000 years the environs of Wadi Ḥisma experienced climatic conditions not greatly unlike those of the region today.

Modern Land-Use Patterns

When examining the modern patterns of land-use, it is important to distinguish between "contemporary" and "historic" practices. The use of motorized vehicles and the



1. Map of the Jabal Ḥumeima area showing the six camp locations occupied by a tent family between November 1983 and October 1984. Note the locations of the storehouse, Nabataean cistern, and seasonal pool. Camp numbers indicate sequence of occupation.

emergence of new water sources over the last 50 years have significantly altered the mobility levels and annual schedules of groups inhabiting the area.

Contemporary

Detailed information on contemporary land-use strategies comes from data I collected in the summers of 1979 and 1980 in the Judayid Basin and over most of a year in 1983-1984 in the Jabal Ḥumeima area. During the course of an annual round (stretching from October 1983 through August of 1984) I noted six camp moves for a tent family living in the vicinity of Jabal Ḥumeima (FIG. 1). What is remarkable is that five of the camps were established within a radius of 2km of one another. The number of tents in the camps ranged from 1 to 4 with camp populations ranging from 4 to 21.

Camp 1 (November - December, 3-4 tents) was established near the confluence of two steep walled canyons. The primary water sources (after rain in December) were five large kettle holes located within 300m of the camp. Prior to the rains water was obtained from a tank mounted on a wagon and drawn by a tractor. Beyond the water the site was favored because of good grazing, ample fuel, and wind protection. Each of the tent families owns storage houses found within 100-200m of the camp. These stone structures are normally built in the rockshelters and overhangs that line the canyon walls. They are used to store grain, chaff and other bulky or heavy items (camel saddles, ploughs, winnowing forks, etc.) that are not carried by the family during most of the year.

Camp 2 (January - March, 1 tent) was established in order to gain better wind protection and a more plentiful fuel supply; and to reduce the distance to the primary grazing area now located about 1-2km southwest of Camp 1. The tent family consisted of a man ('Aeid), his wife (Faṭma), and two daughters (ages two and four). The main water source was still the kettle holes near Camp 1.

Camp 3 (April - June, 2 tents) was established near a large Nabataean cistern that now became the primary water source with the drying-up of the kettle holes near Camp 1. Grazing was supplemented with chaff from the store houses.

Camp 4 (July, 2 tents) was established about 1km south of Camp 3 in more open terrain close to barley fields. Water in the Nabataean cistern was depleted and now water was obtained from a tank mounted on a wagon. The tank was filled in Quweira about 20km to the south. Barley was harvested and the herds were grazed on the stubble fields. Sufficient fuel was hard to find within the grazing catchment of the camp so a large amount of brush was collected some 6-8km away and returned to camp by tractor.

Camp 5 (August - September, 2 tents) was established about 6km northeast of Camp 4. This move was not normally followed in the family's annual cycle. It was made in order for Faṭma, who was nearing the birth of a third child, to have some help from her brother's family whose camp they joined. Their water was obtained from a wagon-mounted tank.

Camp 6 (October, 2 tents) was established in the vicinity of the Nabataean cistern. Although I was not in the field in October, 'Aeid told me that he would move back to the stubble fields in that area for grazing after the child came. They would have again relied upon the tank for their water supply.

In reviewing the annual nomadic cycle of the family, it is noteworthy that were it not for the water from the wagon-mounted tank they would have been without water from July through November. They could not have occupied camps 1, 4, 5 and 6 during this time. Furthermore, without the water from the Nabataean cistern, Camp 3 could not have been sustained during April.

Historic

Prior to the use of tractors and pick-up trucks, the Bedouin herders of the region were more dependent upon the natural distribution of water. And this dependence was reflected in their annual scheduling of camp moves. According to my informants in the Judayid Basin, large tent camps were established during the winter in the piedmont. Here they took advantage of the runoff from rain and snow in the uplands and at the same time enjoyed the milder temperatures of the lower elevations. This segment of the annual nomadic cycle thus closely parallels the contemporary pattern.

Following the winter rains, the large camp groups of the piedmont broke-up into smaller camp units of one or two

tents and moved to the lowlands. The spring and early summer is the time of year when the lowlands have their best pasturage and the greatest amount of water away from the few perennial springs. But even during the most favorable years, pasturage and water resources are sparse. In order to compensate for the low densities of resources, camp units were kept small and new camps and catchments were established frequently. This segment of the historic nomadic cycle differs from the contemporary pattern in two important ways. First, in lacking the water tanks and chaff for augmenting the grazing, historic Bedouins were obligated to move camps much more often. And secondly, such moves required them to exploit a much larger territory.

By early to mid-summer, the lowlands were abandoned because of poor grazing and insufficient water. From summer through autumn groups moved to progressively higher elevations through the piedmont and into the uplands. By the end of the dry season the only water available was from springs and grazing was confined to the uplands. Again the historic pattern of transhumance differs significantly from the contemporary pattern. During this segment, historic groups traversed each of the physiographic units and ultimately found themselves tethered to springs in the uplands. In contrast, 'Aeid's tent family remained in the piedmont and relied upon water from the wagon-mounted tank and chaff to augment the poor grazing.

With the coming of the winter rains and the colder temperatures, historic groups moved from the uplands to the piedmont. Here they had dependable water and good grazing for one to three months. They coalesced into larger tent groups and moved less often for this segment of their annual cycle. Historic and contemporary groups show quite similar patterns over this winter segment.

Prehistoric Land-Use Patterns: Chalcolithic Transhumance

During surveys conducted in the region, twenty-four sites were identified as Chalcolithic. Site placement was made on the basis of a shared set of artifacts and features including: tabular scrapers, lunates, triangular transverse arrowheads, small bi-polar cores, thick flint-tempered pottery, and oval stone structures with adjoining walls. Sixteen sites were found in the piedmont and eight in the lowlands. The eleven sites displaying architecture were restricted to the piedmont. Also site density was more than twice as high in the piedmont than in the lowlands (i.e. piedmont - 1 site/km^2; lowlands - 1 site/2.5km^2).

Chronology

Despite a great amount of ash and fire-cracked rock at many of the sites, the quantity of charcoal sufficient for dating was obtained only from Site J24 (Jabal Qeisa). A radiocarbon date of 5720+/−149 B.P. (SMU-804) was collected from a hearth near the base of the Chalcolithic horizon in Layer B.

Several of the characteristics of Jabal Qeisa and other sites in Wadi Ḥisma strongly resemble those described by Kozloff (1972/73; pers. comm. 1980) for Timnian sites in eastern Sinai. The thick, plain, flint-tempered pottery is common to both groups of sites as is the oval and curvilinear architecture. And the chipped stone assemblages from both areas share tabular scrapers, lunates and bi-polar cores. A comparison of the radiocarbon date from Site J24 with the eighteen dates from the Timnian shows that it falls near the center of the distribution (TABLE 1).

Rosen (1983) has recently argued that small lunates represent a useful chronological marker for Early Bronze I/II horizons falling near the end of the fourth millennium B.C. In that lunates are clearly associated with occupations in south Jordan and eastern Sinai dated to the beginning of the fourth millennium or when calibrated (Damon *et al.* 1974) even to the mid-fifth millennium B.C., it would seem that they were not exclusively associated with Early Bronze I/II occupations.

Table 1 Distribution of radiocarbon dates for the Timnian and Site J24 (Jabal Qeisa).

Site	Date	+/−	Lab Number
713 A	7037	232	SMU 836
649 EX	6843	62	SMU 702
649	6594	205	SMU 835
713	6403	76	SMU 641
332	5789	70	SMU 675
J24	**5720**	**149**	**SMU 804**
649 EX	5210	51	SMU 676
332	5708	81	SMU 809
650	5665	119	SMU 740
713	5654	57	SMU 742
650	5625	115	SMU 822
713	5523	73	SMU 788
332	5523	69	SMU 790
650	4427	68	SMU 743
699	4355	66	SMU 701
699 K	4267	65	SMU 677
699 K	4263	55	SMU 700
650 I	4251	64	SMU 642
713	4237	56	SMU 789

Elevational Patterns in Site Types

The sites from the piedmont and lowlands differ markedly in size, features, artifact densities and artifact inventories. The seven sites that were surface collected and test excavated reflect the overall pattern revealed in the survey, which shows the piedmont sites to be considerably larger with thicker cultural deposits often associated with architecture (TABLE 2). Lowland sites, located in the open and in shallow rockshelters, are usually confined to the surface or display thin shallowly buried cultural deposits. Although the lowland occupations are associated with deep hole conical mortars and pictographs, their artifact inventories are confined to chipped stone specimens and an occasional pottery sherd. In contrast, the artifact inventories of the piedmont sites include grinding slabs and mullers,

Table 2 Comparison of the various characteristics of Chalcolithic sites in the lowlands and uplands.

	LOWLAND				PIEDMONT		
SITE	J521	J408	J11	J14	J17	J20	J24
ELEVATION	880	940	1250	1185	1150	1100	1100
AREA m^2	115	140	1200	6000	8000	600	170
MORTARS	+	+	–	–	–	–	–
STRUCTURES	–	–	+	+	+	–	+
EXPOSURE	SW	O	E	S	SE	NE	NE

bone tools, ornamental objects of stone and shell, and a greater abundance of pottery and chipped stone items.

The stratigraphy and architecture revealed at sites J17, J14 (Jabal al-Jill) and J24 (Jabal Qeisa) point to camps of from 3-5 semi-subterranean stone-lined pithouses often positioned adjacent to a stone walled corral. Stratified hearths and ash layers (often 20-50cm thick) separated by culturally sterile windborne sand indicate periods of abandonment and reoccupation. At Site J14, a floor of compact sand within the Locus 7 pithouse perhaps indicates foot-traffic at a time when the floor was wet — most likely during the winter wet season. The location of a corral at J14 (and perhaps also at J17) is also consistent with a winter occupation, given the location downwind from the dwellings.

An examination of the chipped stone assemblages shows a number of patterned differences between the piedmont and lowland sites. Although the lowland sites are much more distant from raw material sources (confined to the piedmont and uplands) they show higher percentages of cores and primary elements (TABLE 3). While these data appear to indicate a greater emphasis upon initial processing activities in the lowland sites, tools (representing final steps in manufacturing) actually form a much higher proportion of the chipped stone inventories in the lowlands than in the piedmont (TABLE 3). This indicates that both cores and tools were imported to the lowland sites, whereas the occupants of the piedmont sites most likely conducted much of their initial processing at off-site locations near raw material sources. Blanks (blades and flakes) produced at such settings would then have been returned to camp for subsequent fabrication into tools.

Tool-kits also vary significantly between the piedmont and lowlands (TABLE 4). In general, the tool-kits of the lowland sites are somewhat specialized with only three classes (scrapers, retouched pieces and denticulates) accounting for 88% of the tools. The tool-kits from the piedmont sites are not only better balanced, but a number of classes are present that are absent from the lowland assemblages. Points, lunates, hammerstones and perforators are common to the piedmont sites, but rare or absent from the lowlands. These differences, parallelling those seen in other artifact categories (pottery, worked bone, groundstone), suggest that a wider range of activities was conducted in the piedmont than in the lowland encampments. This is in agreement with the proposed greater permanence of the camps in the piedmont for it is likely that with the longer period of occupation, the inhabitants would have engaged in a greater range of activities.

Table 3 Comparison of artifact inventories for lowland and piedmont assemblages.

	LOWLAND		PIEDMONT	
	N	%	N	%
TOOLS	52	16.20%	141	1.77%
DEBITAGE	116	36.14%	2229	27.91%
Cores	10	8.62%	42	1.88%
Blades	11	9.48%	434	19.47%
Flakes	77	66.38%	1687	75.68%
CrtrEl	0	0.00%	38	1.70%
PrimEl	18	15.52%	28	1.26%
MicroB	0	0.00%	0	0.00%
BurSpl	0	0.00%	0	0.00%
DEBRIS	153	47.66%	5615	70.32%
Chips	86	56.21%	4789	85.29%
Chunks	67	43.79%	826	14.71%
TOTAL ARTIFACTS	321		7985	
RATIOS				
Tool/Core	5.2		3.4	
Deb/Tool	2.2		15.8	
Debris/Tool	2.9		39.8	

Table 4 Comparison of tool classes for lowland and piedmont assemblages.

	LOWLAND SITES		PIEDMONT SITES	
Scr	12	20.69	29	20.42
Bur	0	0.00	1	0.70
Geo	0	0.00	8	5.63
NGm	1	1.72	20	14.08
Trc	1	1.72	2	1.41
RtP	31	53.45	49	34.51
Dnt	8	13.79	5	3.52
Nth	4	6.90	11	7.75
Pfr	1	1.72	7	4.93
Utp	0	0.00	5	3.52
Pt	0	0.00	5	3.52
	58		142	

Chalcolithic Transhumance

The site types and artifact inventories of the Chalcolithic occurrences in the region suggest a transhumant pattern similar to that practiced by Bedouin groups inhabiting the region in historic times.

Winter Camps: The large piedmont sites are thought to represent the winter segment of an annual transhumant cycle. They would have been associated with an aggregation of groups in semi-permanent camps. Beyond the larger sizes and markedly higher artifact densities of these piedmont sites, their architecture, thick cultural deposits,

and considerable artifact diversity point to relatively long-term encampments by large groups. The pottery (mainly in the form of large vessels with constricted openings) and the storage pits are also indicative of greater permanence. The lithic tool-kits suggest a wide range of activities including hunting (bifacial and transverse arrowheads, lunates).

Spring-Early Summer Camps: The lowland sites are interpreted as having been occupied during the spring and early summer by small, mobile groups. Without the artificial water sources of today, this, in fact, would have been the only time of the year when the lowlands could have been occupied. Water and pasturage are unavailable during the other parts of the year. These small, shallow sites with low artifact densities are what one would expect of such an ephemeral occupation of the lowlands. The specialized lithic tool-kits are also in keeping with the proposed high degree of mobility where activities at any one locus over a short period of time would have been limited.

Summer-Fall Camps: If the prehistoric pattern paralleled the historic cycle of transhumance, the summer - fall camps should be found in the piedmont and uplands. And like the lowland sites they should be relatively small with evidence for only ephemeral occupations. Such sites are present in the piedmont (e.g. Site J20) but similar data are unavailable from the uplands. Although the uplands were surveyed in 1979, it soon became evident that *in situ* occupations were absent or rare due to the extensive erosion. Even though artifacts ranging from Levantine Mousterian through Chalcolithic are common to the eroded surfaces of the uplands, especially in the vicinity of springs, surface concentrations or buried occupations were not found.

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Some Technological Features from a Chalcolithic Site at Magaṣṣ-Aqaba

Magaṣṣ was discovered in 1967 during the construction of the Wadi 'Arabah road, while its western half was bulldozed. It is situated in the alluvial fan of Wadi al-Yutum, about 4km north of the Aqaba coastline, alongside the road to the Aqaba airport.[1]

In 1985, a team from the Department of Archaeology - University of Jordan excavated at two trenches, A.1 and B.1 (4×5m each) in the undisturbed part of the tell which measures about 75×50m. The dig revealed walls of buildings made of undressed stones. Some inner faces of the walls were covered in straw-reinforced mud mortar. Also, an installation composed of at least two pits was discovered with bottoms and sides lined with mud. A number of artefacts were retrieved from both trenches such as various types of pottery, flint tools and waste material, shell objects and detritus material, metallurgical remains in the form of raw copper ore, slag, copper pellets and corroded copper artefacts. Study of the various types of artefacts in their stratigraphic contexts indicates a late Chalcolithic date for the site.[2]

The following is a study of the industrial aspects of lithic and shell manufacture, copper metallurgy and conclusions.

Lithic and Shell Manufacture

There are four main methods of shaping stone tools: flaking, abrading and abrasion drilling, pulverizing and cutting. The appropriateness of any particular method for working the various types of stone depends mainly on two characteristics of the raw material, its hardness and fracturity.

Flint: The number of flint tools discovered during the 1985 season was 30, the waste consists of 84 items, mostly of small and medium flakes. The study of the waste material can be as helpful in understanding the flint industry as the study of tools. However, the flint collection here is so small that it is not enough either for correlation between the artefacts and waste material, or for any quantitative study.

There are two major methods of flaking flint tools, either by direct percussion with a hammer (block-on-block), or indirect percussion by applying heavy pressure at a point. The manufactured flint can be either flake-tool or core-tool. All the known forms discovered at the site are flake-tools, consisting of blades, sickle-blades, scrapers and an awl, usually on tabular flint.[3]

It is difficult to determine the method of production of flint tools without broad generalization. Of 16 blades and sickle-blades from Magaṣṣ, only the Canaanean blade shows a very small bulb, the blade is broken at the end near the striking platfrom.[4] It has been suggested that the Canaanean blades were flaked by indirect percussion using either a metal or an antler punch.[5] However, it is possible that the bulb was truncated during the manufacturing processes, e.g. a long blade can be broken into blade segments without bulb of percussion so that the bulb was truncated deliberately for hafting purposes. Examples from the Chalcolithic period showing evidence of blade hafting were discovered at Tuleilat al-Ghassul[6] and Arad.[7]

Further working to improve the shape or the function of the manufactured implements is called secondary flaking or retouch. Notching along the edge of a blade to give a saw-edge is an important modification. Only the pressure method can be applied using a bone or metal point for such denticulation. A number of the thin and wide sickle-blades

[1]T.D. Raikes, 'Notes on Neolithic and Later Sites in Wadi Arabah and Dead Sea Valley', *Levant* 12 (1980), pp. 40-60.

[2]L. Khalil, 'Preliminary Report on the 1985 Excavation at el-Maqaṣṣ - Aqaba', *Annual of the Department of Antiquities of Jordan* 31 (1987), pp. 481-483, *idem*, 'Excavation at el-Maqaṣṣ - 'Aqaba, 1985', *Dirasat* 15 N1.7 (1988), pp. 71-117.

[3]L. Khalil (1988), *op. cit.*, pp. 93-97 and Figs. 11-13.

[4]*Ibid*, Fig. 11:9.

[5]S.A. Rosen, 'The Canaanean Blade and the Early Bronze Age', *Israel Exploration Journal* 33 (1983), p. 16.

[6]J.R. Lee, *Chalcolithic Ghassul: New Aspects and Master Typology*, Unpublished Ph.D. thesis (Hebrew University, 1973), p. 251.

[7]R. Amiran, *Early Arad: The Chalcolithic Settlement and Early Bronze Age City*, (Jerusalem, 1978), p. 60.

of Magaṣṣ illustrate irregular notchings along their working edges.

Except for the surface end-scraper, nine tabular scrapers with flat cortical surfaces were more likely made from flint nodules. Seven scrapers have either a broken bulb of percussion or a pronounced one (FIG. 1:2), therefore, direct percussion with a hard hammer or block-on-block technique was applied in their manufacture.

The raw material of the Magaṣṣ flint collection varied in colour from dark brown, light brown, to grey brown. Only four artefacts are distinct in their colour; a Canaanean blade and two segements of blades are white in colour, and a pale brown sickle-blade is made of a very fine semi-translucent flint (FIG. 1:1).

There are no sources of flint in the Aqaba region. The nearest flint deposits are at Ras an-Naqab north of Aqaba and in the Negeb northwest of Aqaba. One cannot relate the origin of the Magaṣṣ flint artefacts to either of these deposits with any certainty. A local origin cannot be excluded, pebbles and flint nodules derived from the upland hills in the east and northeast of the site can be collected at Wadi al-Yutum. It has been suggested that the raw material for the flint industry at Horvat Beter was collected from the nearby river bed.[8]

Stone: In addition to pierced stones, querns, mullers, pestles and grinding stones were found at Magaṣṣ.[9] Of the pierced stones, two are of interest because they show evidence of the manufacturing technique. The alabaster mace-head has a cylinderical perforation (FIG. 1:3). The shaft-hole is not smoothed, therefore, it indicates three stages of working. Usually, this type of perforation only needs drilling from both sides of the object in two stages to form an "hour-glass" shaped perforation. The need for three stages of working may be due either to the hardness of the alabaster or the use of a short drill. The common method of piercing stone artefacts is by using a simple solid drill, tipped with a flint or metal head and operated by hand.[10] The final stage of working is essential to give the mace-head its fine appearance by smoothing and polishing the outside and the perforation by abrassion.

The unfinished limestone object (FIG. 1:4) was intended to be completed as a ring stone. It is another example of the manufacturing technique of pierced stone. The presence of this incomplete artefact is an indicator that manufacturing took place on the site.

Shell: Various species of shell and mollusc were used for personal ornaments in antiquity. The small shells were only drilled for suspension, and the large shells were either worked or cut to segements to be made into different shapes of ornaments.

Most of the shell consist of calcium carbonate. Therefore, apart from removing the false camaes from variegated species, the technique of manufacturing seems to be similar to working.[11] Because shell is rigid and fragile, elaborate techniques must be used for the cleaning, cutting, incising and drilling processes.

Magaṣṣ produced evidence of shell ornament manufacture. Fragments of raw material, unfinished artefacts of crescent shape, smooth segments with incising on one side and very polished curved artefacts were found (FIG. 1: 5-9). The only finished object is a broken pendant, which has a single perforation and incising decoration on the edge.

Two pendants were excavated at Horvat Beter,[12] also, three species of shells were found at the same site, whose origin is in the Red Sea.[13] A pendant of mother-of-pearl with two drilled holes was discovered at Arad.[14] Tuleilat al-Ghassul is another Chalcolithic site where fine worked shell artefacts, mostly from mother-of-pearl, were found. The origin of this type of shell is the Red Sea.[15] Timna, north of Aqaba known as a major site for copper production, also produced evidence of using shell from the Red Sea.[16]

Because the Gulf of Aqaba is rich in various types of shells, the indentification and assignation of origin will help trace the diffusion and transport routes for these artefacts. It is evident that shells from Magaṣṣ were originally from the Gulf of Aqaba. Artefacts made of various species including conch, giant clam and mother-of-pearl were found on the surface at Magaṣṣ in 1967.[17]

Copper Metallurgy

In the recovery of copper artefacts from minerals, there are five main stages of production involved, such as mining the ores, preparation of the ores, smelting the ores with fluxes to produce metallic copper, melting and casting the metal, and finally shaping the manufactured artefacts by hot or cold hammering. Each stage of manufacture is represented by metallurgical remains at ancient sites. Remains from the Magaṣṣ excavation consist of ore, slag, metallic copper in the form of pellets, lumps and artefacts.

Ores: A number of copper mineral nodules of varied size (0.5-4.5 cm) and weight (600 gms) were discovered, five samples (FIG. 2: 1-5) were analysed by X-Ray diffraction (XRD) using the Philips model at the Department of Geology - University of Jordan (TABLE 1).

Archaeological evidence for copper mining during the

[8]E. Yeiven, 'The Flint Implements from Horvat Beter', *Atiqot* 11 (1959), p. 47.

[9]L. Khalil (1988), *op. cit.*, pp. 99-101 and Figs. 14-16.

[10]H. Hodges, *Artifacts: An Introduction to Early Material and Technology*, (London, 1976), p. 102.

[11]*Ibid*, p. 172.

[12]M. Dothan, 'Excavation at Horvat Beter', *Atiqot* 11 (1959), Fig. 11: 23 and 26.

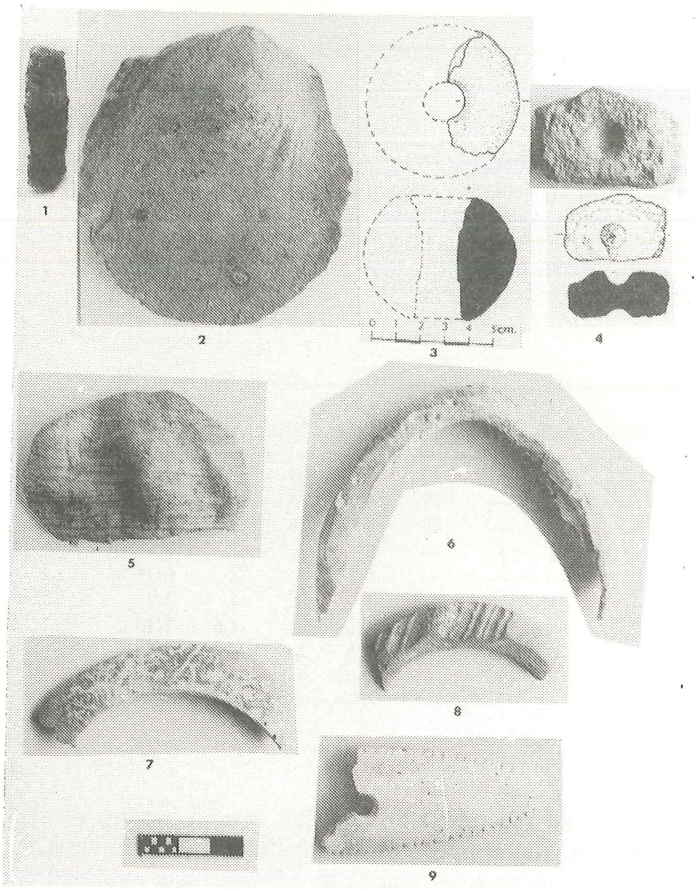
[13]*Ibid*, p. 31.

[14]Amiran, *op. cit.*, Pl. 67: 1.

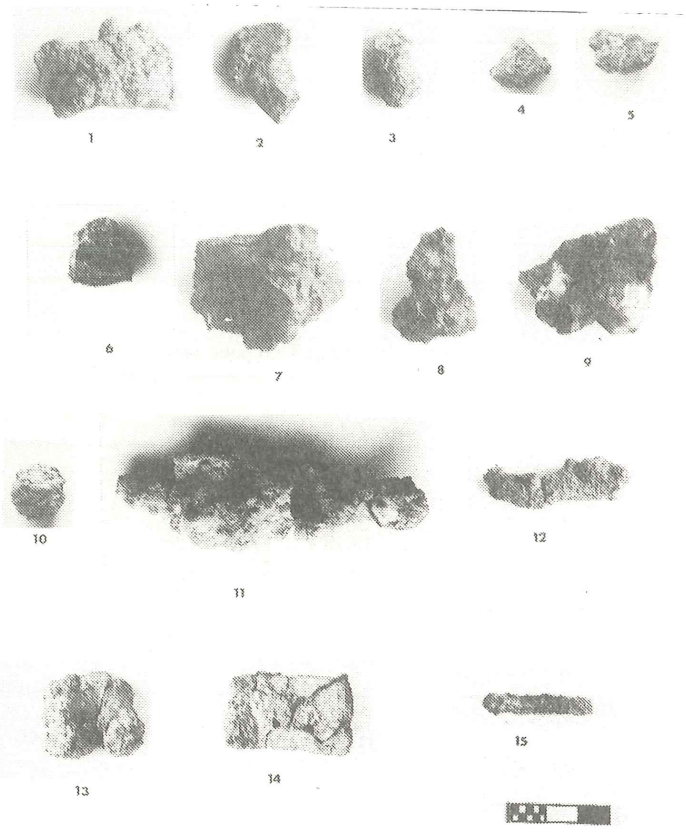
[15]Lee, *op. cit.*, pp. 308-310 and Fig. SL2.

[16]B. Rothenberg, *Timna, Valley of the Biblical Copper Mines*, (London, 1972), pp. 170, 176.

[17]T.D. Raikes, *Ancient Sites in the Wadi Araba and Nearby*, unpublished typescript (n.d.).



1. (1-4) Lithic artefacts and (5-9) shell implements.



2. (1-5) Copper ore nodules, (6) fragment of pottery crucible, (7-9) slags, and (10-15) metallic copper remains.

Chalcolithic period is reported at two areas: Feinan - Wadi Khalid and Wadi aj-Jariya on the east side of the 'Arabah,[18] and at the Timna valley (Meneiyeh) on the western side of Wadi 'Arabah.[19] The deposits are weathered copper sulphide ore which is associated with much iron and manganese, and copper silicate with little if any iron and manganese. Both types were not used at the same time during the early stages of copper metallurgy in the Chalcolithic period.[20]

The important type of ore as far as ancient metallurgy is concerned, is the nodular ore disseminated in the layers known as "Upper Nubian Sandstone". In Timna, the content of this type of nodular ore is mostly chalcocite with covellite and rich in limonite, but rarely has native copper. Besides this, there is the existence of cuprite, malachite, azurite, atacamite and chrycocolla in minor quantities.[21] Also, copper mineral nodules of various sizes were reported from Feinan. The exposed nodules in the ancient mines show copper minerals mostly in the form of malachite, chrycocolla and rarely sulphide, this means that they are different from the Timna nodules.[22]

The ores from Magaṣṣ are of the nodular type, examination of lumps of ores from sites contemporary to Magaṣṣ such as Abu Maṭar,[23] and Timna[24] indicate a similar composition.

The copper rich nodules were usually crushed in granite querns and mortars to be ready for smelting, either iron oxide or silica can be added as reducing agents, various sizes of querns and pestles were discovered at Magaṣṣ.

Slag: The amount of slag found at Magaṣṣ is relatively

[18]H.D. Kind, 'Antike Kupfergewinnung Zwishen Rotem und Totem Meer', *Zeitschrift des Deutschen Palästina-Vereins* 81 (1956), pp. 56-73; H.G. Bachmann and A. Hauptmann, 'Zur alten Kupfergewinnung in Fenan und Hirbet en-Nehas Im Wadi Arabah in Sudjordanien', *Der Anschnitt* 36 (1984), pp. 110-123; A. Hauptmann *et al.*, 'Archaometallurgische und Bergbarchaologische Untersuchungen im gebirt von Fenan, wadi Arabah (Jordanien)', *Der Anschnitt* 37 (1985), pp. 167-195.

[19]Rothenberg, *op. cit.*

[20]C. Milton *et al.*, 'Slag from an Ancient Copper Smelter at Timna Israel', *Journal of the Historical Metallurgical Society* 11 (1976), p. 25.

[21]B. Rothenberg *et al.*, *Chalcolithic Copper Smelting: Excavation and Experiments*, Institute for Metallurgical Studies, (London, 1978), p. 8.

[22]Bachmann and Hauptmann, *op. cit.*, p. 114.

[23]R.E. Tylecote *et al.*, 'The Examination of Metallurgical Material from Abu Matar, Isreal', *Journal of the Historical Metallurgical Society* 8 (1974), p. 32.

[24]A. Lupu, 'Metallurgical Aspects of Chalcolithic Copper Working at Timna (Israel) 2', *Bulletin of the Historical Metallurgical Group* 4 (1970), p. 21.

Table 1 Analysis of copper ores.

Sample	Area. Square	Locus: Pail	Colour of powdered sample	Mineral composition	FIG.
1	A.1	24:42	Light green	Quartz, malachite, atacamite.	2:1
2	A.1	24:42	Dark green	Quartz, atacamite, malachite, cuprite.	2:2
3	A.1	1:9	Dark green	Quartz, atacamite, malachite, cuprite.	2:3
4	A.1	11:21	Dark grey	Cuprite, quartz, tenorite.	2:4
5	B.1	18:24	Light green	Atacamite, quartz, tenorite.	2:5

Table 2: Analysis of slag and metallic copper artefacts.*

Sample	Area. Square	Locus: Pail	Description	Cu%	As%	Sn%	Ni%	Zn%	Pb%	Ca%	Fe%	Si%	Al%	FIG.
1	A.1	1:1	Slag	2.7	—	—	—	2.6	—	20	45	24	3.5	2:7
2	A.1	1:1	Slag	2	—	—	1	1	—	19	43	26	2	2:8
3	B.1	8:15	Slag	3	—	—	1	—	—	20	40	26	2.5	2:9
4	B.1	10:18	Metal pellet	92	—	T	1.2	0.2	T	—	2	3	1	2:10
5	B.1	5:21	Metal lump	80	—	—	—	—	—	—	0.5	6	2	2:11
6	B.1	9:16	Metal piece	80	—	—	—	—	T	—	1	8	4	2:12
7	B.1	4:9	Ingot-like	79	T	1	2	0.4	T	—	1.5	6	1.5	2:13
8	B.1	6:6	Awl-like	92	—	0.5	—	—	—	—	1.5	3	—	2:14
9	B.1	4:3	Awl	92	—	0.5	0.5	0.3	T	—	0.5	3	1	2:15

* In this analysis, the elements are considered as oxides. T = trace.

small (weight: 300 gms) to presume that furnace copper smelting occured at the site. It is known that a single smelting process in a small furnace will produce a relatively large heap of slag and waste material.[25] This means that either the smelting operation took place somewhere else and the copper pellets were only brought to Magaṣṣ, or crucible smelting produced the metallic copper pellets.

At al-Mrashshash, a site on top of a hill to the west of Magaṣṣ near the Gulf of Aqaba, two small heaps of slag were reported. Though no pottery was discovered, the site was dated to the Early Iron Age.[26] A Chalcolithic date has also been suggested by the comparison between the chemical analyses of slag from the site and Timna.[27] Both dates were rejected and the Middle Bronze Age I has been proposed.[28]

Crucible smelting of copper is possible, and it has been experimented by Tylecote who explains the operation as "... possible in the case of the pure oxides such as cuprite (Cu_2O), tenorite (CuO) and the basic carbonates such as malachite. When a mixture of these and a reducing agent is heated in a crucible, grains of copper are formed".[29] This fact was also proven by a simple experiment using a crucible, charcoal, crushed rich ore and a blowpipe. With the skill of the operator and the proper timing of the operation, the copper can be smelted.[30] It is interesting that the ore nodules found at Magaṣṣ and analysed in TABLE 1 are rich in copper.

A small furnace filled with charcoal with a crucible was supported about halfway up, air induced from underneath by means of bellows would be essential to reach a temparture about the 1083°C necessary for the reduction process.[31]

A very small fragment of a "pottery vessel rim" (FIG. 2: 6) with black-brown vetrified material was found from (B.1, 6:5). Pottery crucibles were also reported from the site.[32] Many layers of ash-charcoal were discovered at a corner and inside of the possible building in square A.1. Between these layers, a number of copper pellets, small mud-bricks and burnt clay fragment were found. More excavation is necessary to determine if the area was a furnace complex.

Three slag fragments (FIG. 2: 7-9), varied in size between 2-5cm, were submitted to a semi-quantative analysis using Wavelength Dispersive X-Ray Flourescence (XRF), type PW 1404 Philips at the Royal Scientific Society.

The chemical composition of the slag is similar (TABLE 2:

[25]H.G. Bachmann, *The Indentification of Slags from Archaeological Sites*, Institute of Archaeology Occasional Publication No. 2, (London, 1982), p. 5.

[26]N. Glueck, *Exploration in Eastern Palestine II, Annual of the American Schools of Oriental Research* 15 (1935), p. 48.

[27]M.W. Several, 'Dating the Mrashshash Slag' *Israel Exploration Journal* 23 (1973), pp. 103-104.

[28]B. Rothenberg, 'Ancient Copper Industries in Western Arabah', *Palestine Exploration Quarterly* 94 (1962), p. 61; *idem*, 'More on Dating the Mrashshash Slage Heap', *Israel Exploration Journal* 25 (1975), pp. 23-41.

[29]R.F. Tylecote 'Can Copper be Smelted in a Crucible?', *Journal of the Historical Metallurgical Society* 8 (1974), p. 54.

[30]L. Khalil and H.G. Bachmann, 'Evidence of Copper Smelting in Bronze Age Jericho', *Journal of the Historical Metallurgical Society* 15 (1981), pp. 105-106.

[31]Tylecote *et al.*, *op. cit.*, p. 34.

[32]Raikes, *op. cit.*, p. 2.

1-3). Two specimens (2-3) show weathered drops of metallic copper 0.2-0.5mm in diameter. When they were thin sectioned and examined by normal microscopy at the Department of Geology, green copper droplets were identified in the slag texture.

The silica/iron ratio is an important factor in the analysis of slag. Though the Chalcolithic slags from Timna (site 39), are very inhomogenous in their composition, it has been established that the silica content is higher than that of iron oxide. Meanwhile, the slags of the Early Iron Age have higher silica than iron in their composition.[33] However, the number of the analysed slag here are small and two of them were found in (Locus 1) which is the top soil layer.

Metallic Copper: The relative amount of metallic copper from the Magaṣṣ excavation is large, and can be classified in the following groups:

1) Metal pellets or drops: They vary in size between 0.5-2.0cm diameter (FIG. 2: 10), the total weight is 320 gms. They are globular in shape and badly weathered. These metallic drops are the first to be recovered from any smelting process. Their analyses in TABLE 2 show almost pure copper with low iron content.

A number of these metal pellets can be smelted or melted in a crucible to produce a lump copper ready for further working.

2) Lumps of copper - ingot like: Various lumps of copper were discovered during the excavation, their total weight was 490 gm. They are shapeless (FIG. 2:11-13) or in the shape of an ingot (FIG. 2:14). The lump can be cold or hot hammered to any required shape.

Their chemical analysis indicated that they are almost pure copper with either low percentages or traces of other elements including arsenic, nickle, zinc and lead. They contain iron in the range between 0.5-1.5%. The presence of 2% nickle in sample number 7 is unusual. It is important that the presence of silicate and aluminum in the composition of all the metallic copper is meaningless, because it is possible that this was caused by the mixture of the corrosion with sand and soil at the site. Besides, the analysed samples were not taken from the core of the metal because of the severely weathered condition of the artefacts.

3) Artefacts: Only simple types of metal artefacts like awls (FIG. 2:15) were found. They were very corroded. The analysis of the awl (TABLE 2:9) showed almost pure copper and only traces of impurities in the composition. Therefore, it was easily worked to shape from a lump of copper by either hot hammering or cold hammering and annealing.

Conclusion

The settlement at Magaṣṣ was a small but major site, one component of which is clearly workshops to manufacture lithic, shell and copper artefacts.

The derived pebbles and flint nodules from the eastern hills usually accumulated in yearly alluvial deposits. The ancient people could acquire these raw materials for flint and stone industry. Flint can be percussed immediately, the final flaking and the secondary retouch can be done on site. Only a sickle-blade (FIG. 1:1) is of different raw material from the other flint implements, it is made of semi-translucent flint with advanced lithic technique. Therefore, it may be assumed that it was imported.

Stone pebbles can be obtained in the same way as flint nodules. As mentioned before, the presence of the unfinished object which was intended to be completed as a ring stone is a good indicator that it was worked on site.

It seems that the lithic industry was local and sufficient for the residents' requirements. It is difficult, however, to locate the place of this industry in the development of lithic technique in Jordan and Palestine.

The Gulf of Aqaba is very rich in different species of shells. Evidence for shell ornament manufacture was found, and it is logical that shells from the Red Sea were discovered at sites contemporary to Magaṣṣ such as Ghassul, Horvat Beter and Timna. This indicates that there was trade between Aqaba and these sites.

Timna, located 30kms north of Aqaba, is considered as one of the earliest centres for copper metallurgy during the Chalcolithic period. It was also a main source of copper ores. This may suggest that the copper nodular ores from Magaṣṣ were exchanged with either raw material or manufactured shells that were found at Timna.

From the study of the metallurgical remains from Magaṣṣ, it may be concluded that they are debris from a metal workshop. The amount of the discovered metallic copper is relatively large in relation to the size of the settlement. A small, rectangular piece of metal in the shape of an ingot was found. Copper ingots of various shapes dated to periods later than the Chalcolithic were reported from Palestine, e.g. Early Bronze Age from Jericho[34] and Middle Bronze Age I from Har Yerham south of Beersheba and the Hebron Hills.[35] Ingots from the Bronze Age were historically and scientifically studied to develop an understanding of trade in the Mediterranean during the Bronze Age.[36] Nevertheless, the capacity of the metal workshop at Magaṣṣ seems more than the need of the settlement. Therefore, it may suggest extra production used to fulfill the requirements in the neighbourhood. It is

[33]Lupu, *op. cit.*, p. 21.

[34]L. Khalil, *The Composition and Technology of Copper Artefacts from Jericho and some Related Sites*. Unpublished Ph.D. thesis, University of London (1980), p. 51.

[35]R. Maddin and T.S. Wheeler, 'Metallurgical Study of Seven Bar Ingots', *Israel Exploration Journal* 26 (1976), pp. 170-173.

[36]T.S. Wheeler *et al.*, 'Ingots and Bronze Age Copper Trade in the Mediterranean: A Progress Report', *Expedition* 17 (1975), 31-38.

as yet difficult to draw a map for copper trade during this era. However, an unexcavated tell, Ḥujeirat al-Ghuzlan, twice the size of Magaṣṣ at about 1.5km to the east, could have provided a market for the Magaṣṣ metal production. The pottery sherds and other artefacts from the surface collected by the author indicate a contemporary date with Magaṣṣ.

In summary, remains from Magaṣṣ demonstrate a level of skill common during the second half of the fourth millennium BC in manufacturing pottery, flint, stone, bone and shell artefacts. Besides, metallurgical relics were another element not only important in illustrating the technological level in the production of metallic copper, but also in presenting evidence for communication with other sites in the area. If the lustre on the working edges of most discovered sickle-blades is interpretated as evidence for harvesting cereals, it means that the site was self-sufficient from an economic point of view. Aletrnatively, the site could have been especially devoted to industry.

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The Jordan Valley (East Bank) during the Middle Bronze Age in the Light of New Excavations

Our knowledge of the eastern Jordan Valley is derived mainly from the archaeological surveys carried out during the last forty years[1]. During this time many sites have been carefully examined and a fair number have now been excavated. Thus although we now know much more about the occupational history of the eastern Jordan Valley during the Middle Bronze Age than we did forty years ago, the time still remains premature for writing the history of this period.

On the other hand the accumulation of material during the last forty years has reached such proportions that the time may be approaching when a synthesis will be possible. The aim of this paper is to try to draw synthetic conclusions about the occupational history and the settlement patterns in the eastern Jordan Valley during the Middle Bronze Age, based on evidence from individual sites.

Thanks to the excavations at such sites as Deir 'Alla[2], Ṭabaqat Faḥl (Pella)[3] and Tell al-Ḥayyat[4], several facts of settlement patterns, including intersite organization, can be examined. However, this paper will only consider the distribution of sites and intersite relationships during the Middle Bronze Age as well as the relationships of the Middle Bronze Age sites with the earlier (Early Bronze Age) and the later (Late Bronze Age) sites.

The author hesitates to touch the question of chronology. It is enough to say that the chronological framework of W. Dever[5], placing the Middle Bronze Age in 2000/1950-1550 B.C., is followed.

1. Geophysical Characteristics

The Jordan Valley extends from Central Syria in the north, between the two Lebanon mountain ranges, down the Jordan and along Wadi 'Arabah to the Gulf of Aqaba, a length of *c.* six hundred and fifty kilometres. The area discussed in this paper is restricted to the stretch between the Yarmouk river to the north and the northern edge of the Dead Sea to the south, a rift over 75km long. To the east run the hills of 'Ajlun and al-Balqa', their long level edge over a kilometre above the Jordan river, broken only by a few wadis.

Between the hills to the east and the river to the west, the valley varies in width from 5 to 13km. 40km south of Lake Ṭabariyah the width is no more than 5km. The valley expands to 8-9km in the plain of Deir 'Alla and Ghor Nimrin and reaches its maximum width of about 13km in the plain of Ghor al-Kafrein. What we have then, between the Yarmouk river and the Dead Sea, is a narrow valley expanding at Ghor al-Kafrein to the dimensions of a plain. A large part of this valley is of exuberant fertility, and the whole may be cultivated.

Down the valley a deeper narrower bed exists (the Zor). Its banks are mostly of white marl. The river itself is from 25-30m wide and varies from 0.9m depth at some fords to as much as 3.5m in maximum depth.

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[1]W.F. Albright, *The Jordan Valley in the Bronze Age. Annual of the American Schools of Oriental Research* 6 (1926), pp. 13-74; N. Glueck, *Explorations in Eastern Palestine IV. Annual of the American Schools of Oriental Research* 25-28 (1951), pp. 238-404; 'Some Biblical Sites in the Jordan Valley', *Hebrew University College Annual* 23 (1951), pp. 105-129; J. Mellaart, 'Preliminary Report of the Archaeological Survey in the Yarmouk and Jordan Valleys for the Point Four Irrigation Scheme', *Annual of the Department of Antiquities of Jordan* 6-7 (1962), pp. 126-157, Pls. 24-32; S. Mittmann, 'Die romische Strasse in der nordwestlichen Belka', *Zeitschrift des Deutschen Palästina-Vereins* 79 (1963), pp. 152-163, Fig. 11, Pl. 16; H. de Contenson, 'The 1953 Survey in the Yarmuk and Jordan Valleys', *Annual of the Department of Antiquities of Jordan* 8-9 (1964), pp. 30-46, Pls. 7-20; M. Ibrahim, J.A. Sauer and K.N. Yassine, 'The East Jordan Valley Survey, 1975', *Bulletin of the American Schools of Oriental Research* 222 (1976), pp. 41-66, Figs. 1-24; K. Yassine, J.A. Sauer and M. Ibrahim (Amman, 1988) 'The East Jordan Valley Survey, 1976', in K. Yassine, *Archaeology of Jordan: Essays and Reports*, (Amman, 1988), pp. 185-207.

[2]H.J. Franken, 'The Other Side of the Jordan', *Annual of the Department of Antiquities of Jordan* 15 (1970), pp. 5-10; H.J. Franken and M. Ibrahim, 'Two Seasons of Excavations at Tell Deir 'Alla, 1976-1978', *Annual of the Department of Antiquities of Jordan* 22 (1977-1978), pp. 57-79; M. Ibrahim and G. van der Kooij, 'Excavations at Tell Deir 'Alla Season 1979', *Annual of the Department of Antiquities of Jordan* 23 (1979), pp. 41-50; 'Excavations at Tell Deir 'Alla Season 1982', *Annual of the Department of Antiquities of Jordan* 27 (1983), pp. 577-585; 'Excavations at Tell Deir 'Alla Season 1984', *Annual of the Department of Antiquities of Jordan* 30 (1986), pp. 131-144.

[3]R.H. Smith *et al.*, 'Preliminary Report on the 1979 Season of the Sydney-Wooster Joint Expedition to Pella', *Annual of the Department of Antiquities of Jordan* 24 (1980), pp. 13-40; J.B. Hennessy *et al.*, 'Preliminary Report on a Second Season of Excavations at Pella, Jordan', *Annual of the Department of Antiquities of Jordan* 25 (1981), pp. 267-309; J.B. Hennessy *et al.*, 'Preliminary Report on the Fourth Season of Excavations at Pella, 1982', *Annual of the Department of Antiquities of Jordan* 27 (1983), pp. 325-361.

[4]S.E. Falconer, B. Magness-Gardiner and M.C. Metzger, 'The 1982 Excavations of the Tell el-Hayyat Project', *Annual of the Department of Antiquities of Jordan* 27 (1983), pp. 87-104; S.E. Falconer, 'Village Pottery Production and Exchange: A Jordan Valley Perspective', in A. Hadidi (ed), *Studies in the History and Archaeology of Jordan III*, pp. 251-259.

[5]W.G. Dever, 'The EBIV-MBI Horizon in Transjordan and Southern Palestine', *Bulletin of the American Schools of Oriental Research* 210 (1973), pp. 37-63; 'New Vistas on the EBIV ("MBI") Horizon in Syria-Palestine', *Bulletin of the American Schools of Oriental Research* 237 (1980), pp. 35-64.

The climate is very hot. The temperature average in July is 40°C, it has been known to rise to 47°C in August.

Rainfall in the Jordan Valley may be violent in winter, but the great heat of summer dries everything up, except for areas within reach of permanent water sources.

2. History of Exploration

In "The Historical Geography of the Holy Land", first published in 1894, G.A. Smith gave a detailed description of the Jordan Valley, mentioning that:

> "...on the eastern side of the valley was the large town of Livias or Julias, opposite Jericho, immediately north of that smaller towns, with the city of Adam perhaps at present Tell Damieh and Succoth at tell Deir Alla, but after these, till the Yarmouk is reached, nothing except some nameless villages, unless Pella, which lay on the first terrace above the Valley ... The number of mounds, some of which have been found to consist of sun-dried bricks, are probably remains not of cities, but of brick fields"[6].

Why, then, have towns always been few in the valley? Smith said it was due to the high temperature, the presence of wild beasts and the frequency with which the Valley was over-run by "Arabs". Is this really true?

Forty years after Smith, W.F. Albright investigated the Jordan Valley from Tell Qaḍi in the north down to Wadi 'Arabah in the south. Albright mentioned 16 archaeological sites in the eastern Jordan Valley between the Yarmouk and the northern tip of the Dead Sea:

> "The Jordan Valley was the first part of Palestine to be intensively developed, and in spite of its heat and mosquito-breeding swamps ... The Jordan Valley was almost the only part of the country suited to support a sedentary population".[7]

According to the results of his survey, Albright divided Palestine into three sections:

1. The Jordan Valley and the Plain of Esdraelon, where "all the Bronze Age sites ... were already settled before the end of the third millennium, while most of them probably date back to the first half of this millennium, at least"[8].
2. The towns of the hill country, where "the vast majority ... were not occupied until the Late Bronze or Early Iron"[9].
3. The coastal plain, where "the Early Bronze deposits are generally thin, and do not suggest an intensive occupation before about 2500 B.C."[10].

What is important for us here is Albright's statement about a complete break of sedentary life starting from the end of the Early Bronze Age until the end of the Late Bronze Age. It is quite understandable due to the lack of information at that time. Of the 16 archaeological sites located by Albright, he stated that 9 belong to the Early Bronze Age and the other 7 belong to the Late Bronze Age. None belong to the Middle Bronze Age. This is not the real case in the Jordan Valley.

The statement of Albright was developed by N. Glueck. In Glueck's survey of the eastern Jordan Valley, more than 120 archaeological sites were located between the Yarmouk river and Wadi 'Aẓeimeh at the northern tip of the Dead Sea. Among them 21 belong to the EBIV, 13 belong to the Middle Bronze Age and 15 to the LB periods. Despite this Glueck concluded that there was a break of sedentary life in the Jordan Valley and the entire area south of Wadi az-Zarqa during the Middle and Late Bronze Ages. This is not the case. As we will see later, some sites were missed by Glueck on the one hand, and on the other hand, the area between Wadi az-Zarqa and Wadi Nimrin was never heavily populated, even during such periods as the Early Bronze and the Roman, due to the lack of permanent water resources.

Six years later an additional number of archaeological sites was located (10 new sites, 7 belonging to EBI-III, one to Middle Bronze Age). Among the sites already visited by Glueck, it was found that four had EBIV sherds (Khirbet al-Ḥammeh, Tell al-Ḥayyat, Tell al-Ma'ajajeh and Tell 'Ammata). At Tell al-'Aqarib and Tell al-Mazar, Middle Bronze Age sherds were found.

During the East Jordan Valley survey of 1975-1976, all these sites were revisited and 129 new archaeological sites were located. Of these new sites, 40 belong to EBI-III, 24 to EBIV, 19 to MB and 12 to LB. So for now we have a total of 39 archaeological sites belonging to the Middle Bronze Age.

SITE LIST[11]

1. Baqurah (north site)
2. Jisr al-Majami'
3. Tell ar-Rayy (North)
4. Tell ar-Rayy (South)
5. Kh. Ma'adh
6. Tell as-Sakhineh
7. Tell al-Qeṣeibeh
8. Tell al-Arba'in
9. Kh. ash-Sheikh Moḥammad
10. Kh. al-Marqa'ah
11. Tell ar-Refeif

[6]G.A. Smith, *The Historical Geography of the Holy Land.* (New York, 1966), p. 314.

[7]W.F. Albright, 'The Jordan Valley in the Bronze Age', *Annual of the American Schools of Oriental Research* 6 (1926), p. 67.

[8]*Ibid*, p. 67.

[9]*Ibid*, p. 67.

[10]*Ibid*, p. 67.

[11]The site numbers are those in Fig. 1 and do not refer to any specific survey.

12. Ṭabaqat Faḥl (Pella)
13. Tell Zaqqum (North)
14. Tell al-Ḥayyat
15. Tell Maqbarat Wadi al-Yabis al-Qadimah
16. Makhadat Abu as-Sus
17. Tell Heneideh (main site)
18. Maqbarat as-Sleikhat
19. Tell Zor al-Maqbarah
20. Tell Abu Ḥamid
21. Tell al-Fashush
22. Qaṭar Ghor al-Ḥamra
23. Tell as-Sa'idiyyeh
24. Sa'idiyyeh Village
25. Tell Seqaah
26. Tell al-Mazar
27. Tell an-Nkheil (south)
28. Tell Deir 'Alla
29. Tell ar-Rkabi
30. Qaṭaret as-Samra I
31. Qaṭaret as-Samra II
32. Qaṭaret as-Samra IV
33. 'Ain al-Baṣṣah
34. Tell 'Alla (al-Ḥandaquq)
35. al-Msaṭṭarah
36. Damiyah aj-Jadidah
37. Qaṭar Kibid
38. aj-Jazair
39. Tell aṭ-Ṭaḥuneh

3. The Distribution of the Sites in Space and Time (Geographically and Historically) (FIG. 1)

A. Geographically

The region of the Jordan Valley under consideration can be roughly divided into three areas: 1. The section between the Yarmouk River and Wadi al-Yabis; 2. The section between Wadi al-Yabis and the Zarqa River; and 3. The section between the Zarqa River and the 'Aẓeimeh River.

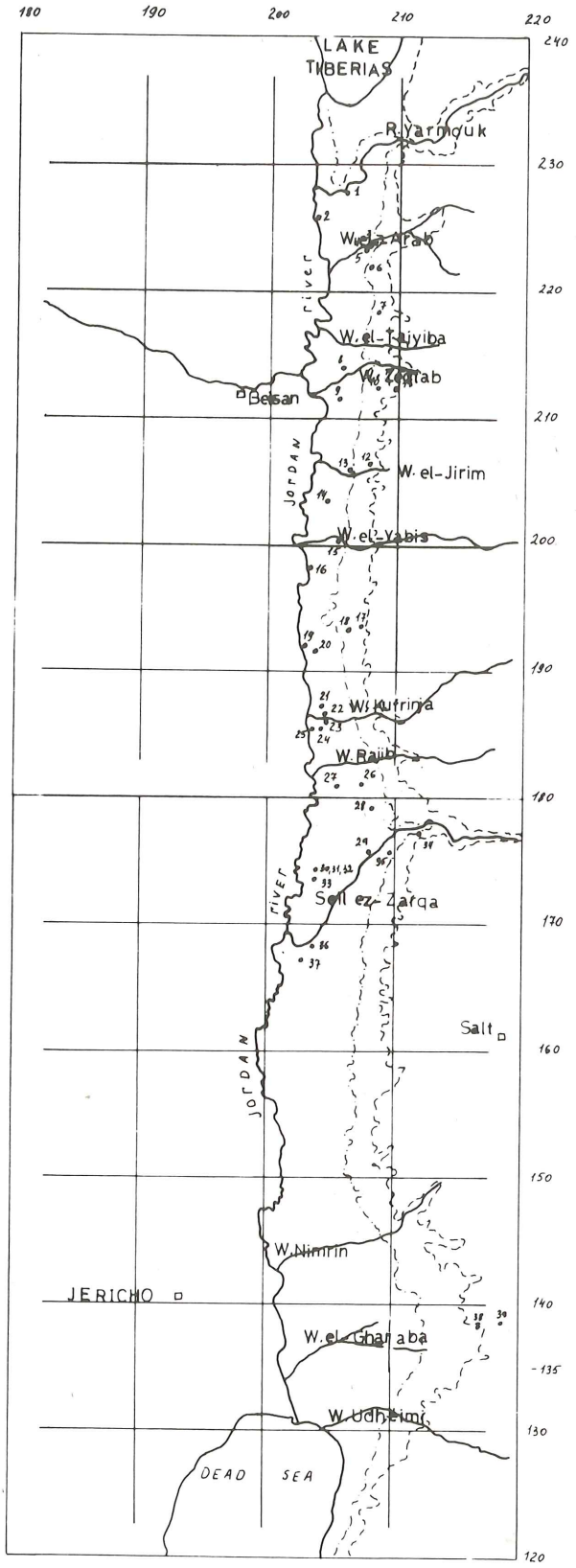
In the first section, the northern Ghor, there are 14 sites (FIG. 2a):

1. Baqurah; 2. Jisr al-Majami'; 3. Tell ar-Rayy (North); 4. Tell ar-Rayy (South); 5. Kh. Ma'adh; 6. Tell as-Sakhineh; 7. Tell al-Qeṣeibeh; 8. Tell al-Arba'in; 9. Kh. ash-Sheikh Moḥammad; 10. Kh. al-Marqa'ah; 11. Tell ar-Refeif; 12. Ṭabaqat Faḥl (Pella); 13. Tell Zaqqum (North); 14. Tell al-Ḥayyat.

All of these sites are located in the Jordan Valley bed except for Pella and Tell ar-Refeif, which are at the foot of the eastern hills.

In the second section, the central Ghor, there are 17 sites (FIG. 2b):

15. Tell Maqbarat Wadi al-Yabis al-Qadimah; 16. Makhadat Abu as-Sus; 17. Tell Heneideh (main site); 18. Maqbarat as-Sleikhat; 19. Tell Zor al-Maqbarah; 20. Tell Abu Ḥamid; 21. Tell al-Fashush; 22. Qaṭar Ghor al-Ḥamra; 23. Tell as-Sa'idiyyeh; 24. Sa'idiyyeh Village;



1. Location map.

25. Tell Seqaah; 26. Tell al-Mazar; 27. Tell an-Nkheil (south); 28. Tell Deir 'Alla; 29. Tell ar-Rkabi; 30. Qaṭaret as-Samra I; 31. Qaṭaret as-Samra II; 32. Qaṭaret as-Samra IV; 33. 'Ain al-Baṣṣah.

The heaviest concentration of sites seems to be in this area, where rich and extensive fields are combined with plentiful water.

In the third (southern) section, there are 6 sites (FIG. 2c):

34. Tell 'Alla (al-Ḥandaquq); 35. al-Msaṭṭarah; 36. Damiyah aj-Jadidah; 37. Qaṭar Kibid; 38. aj-Jazair; 39. Tell aṭ-Ṭaḥuneh.

The relatively small number of sites in this area has no connection with Glueck's theory of depopulation during the Middle and Late Bronze Ages. This area simply lacks one of the most important components characterizing the typical Bronze Age (and later period) settlements: the abundance of water sources.

Concluding Remarks

- If one were to judge from surface finds alone (the conclusions drawn from which should always be treated carefully), it would seem necessary to conclude that settlement was less heavy and less extensive in the Middle Bronze Age than during the Early Bronze Age.

- Traditional scholarship, based on Glueck's surveys, holds that during the Middle and Late Bronze Ages much of Transjordan, including the Jordan Valley, was unsettled. Such a view does not agree with analysis of the archaeological data.

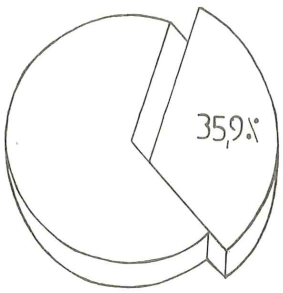
- The concentration of Middle Bronze Age sites is in the northern and central parts of the Jordan Valley (84.6%), between the Yarmouk and Zarqa rivers.

- Studies of the locations of the sites inhabited during the Middle Bronze Age have shown that they are characterized by the following factors: 1. desirable agricultural land; 2. aviable perennial major wadis; and 3. accessible transportation and communication routes.

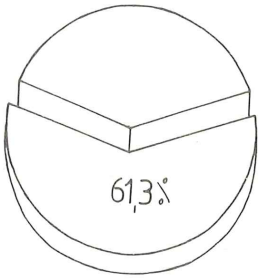
It is important to mention in this connection that among the nine sites founded in the Middle Bronze Age, two (Makhadet Abu as-Sus and Tell Zor al-Maqbarah) are located on the Jordan River itself which lies too deep to be used for irrigation purposes. It seems that the location of these sites is determined mainly by transportation and communication routes.

- A striking factor characterizing the locations of Middle Bronze Age sites is the close proximity of many of them. The conclusion about intersite relationships thus seems obvious.

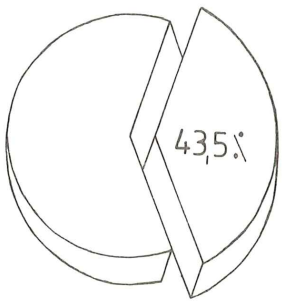
Concerning the studies of exchange patterns, emphasis has to be given to the study of the region or the site as a socio-cultural and economic system, because the history of the region or the site is not the history of its destruction and rebuilding. Only this approach will provide a framework for understanding the interrelations between different sites.



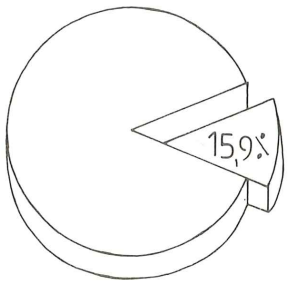
2a. The area between the Yarmouk River and wadi al-Yabis.



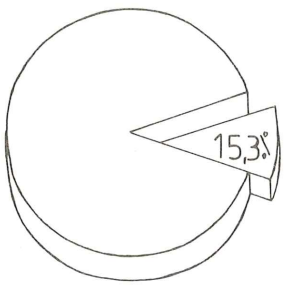
2d. EBI-III sites reused in the Middle Bronze Age.



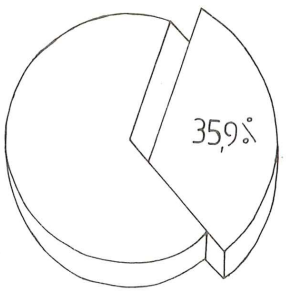
2b. The area between Wadi al-Yabis and the Zarqa River.



2e. EBIV sites reused in the Middle Bronze Age.



2c. The area between the Zarqa River and Wadi 'Aẓeimeh.



2f. Middle Bronze Age sites reused in the Late Bronze Age.

2. Distribution of the Middle Bronze Age sites in the eastern Jordan Valley geographically and historically.

B. Historically

Relationships of the sites with the former and later periods.

Two sites represent the reuse of Neolithic/Chalcolithic sites:

15. Tell Maqbaret Wadi al-Yabis al-Qadimeh; 20. Tell Abu Ḥamid.

Twenty four sites represent the re-occupation of EBI-III sites, which were not reused during the EBIV (FIG. 2d).

1. Baqurah; 2. Jisr al-Majami'; 4. Tell ar-Rayy (South); 5. Kh. Ma'adh; 6. Tell as-Sakhineh; 7. Tell

al-Qeṣeibeh; 8. Tell al-Arba'in; 9. Kh. ash-Sheikh Moḥammad; 10. Kh. al-Marqa'ah; 11. Tell ar-Refeif; 12. Pella; 13. Tell Zaqqum (North); 17. Tell Heneideh (main site); 23. Tell as-Sa'idiyyeh; 25. Tell Seqaah; 28. Tell Deir 'Alla; 29. Tell ar-Rkabi; 30. Qaṭaret as-Samra I; 31. Qaṭaret as-Samra II; 33. 'Ain al-Baṣṣah; 39. Tell aṭ-Ṭaḥuneh.

Three sites represent the continuation of the occupational history beginning from the Early Bronze Age until the Middle Bronze Age (including the EBIV).

3. Tell ar-Rayy (north); 18. Maqbarat as-Sleikhat; 34. Tell 'Alla (al-Ḥandaquq).

Four sites represent the re-occupation of EBIV sites, which were founded during the EBIV (FIG. 2e).

14. Tell al-Ḥayyat, 24. Sa'idiyyeh village; 27. Tell an-Nkheil (south); 35. al-Msaṭṭarah.

Nine sites were founded during the Middle Bronze Age:

16. Makhadet Abu as-Sus; 19. Tell Zor al-Maqbarah; 21. Tell al-Fashush; 22. Qaṭar Ghor al-Ḥamra; 26. Tell al-Mazar; 32. Qaṭaret as-Samra IV; 36. Damiyah aj-Jadidah; 37. Qaṭar Kibid; 38. aj-Jazair.

Fourteen sites represent the continuation between the Middle Bronze Age and the Late Bronze Age (FIG. 2f).

6. Tell as-Sakhineh; 11. Tell ar-Refeif; 12. Pella; 17. Tell Heneideh (main site); 18. Maqbarat as-Sleikhat; 20. Tell Abu Ḥamid; 21. Tell al-Fashush; 26. Tell al-Mazar; 27. Tell an-Nkheil; 28. Tell Deir 'Alla; 30. Qaṭaret as-Samra I; 33. 'Ain al-Baṣṣah; 38. aj-Jazair; 39. Tell aṭ-Ṭaḥuneh.

Concluding Remarks

- The Middle Bronze Age represents the beginning of a return to "classic" settlement patterns throughout the Early Bronze Age, abandoned during the EBIV, including the re-occupation of the major tells, which had been inhabited during the Early Bronze Age. Among the 39 Middle Bronze Age sites, 21 represent the reuse of the Early Bronze Age sites. Meanwhile the Middle Bronze Age represents the continuation of the former period (EBIV). Seven sites of this period had been reused in the Middle Bronze Age. Among the 39 sites, nine were established in the Middle Bronze Age.

- Middle Bronze Age sites had been reused in the Late Bronze Age. Of the 39 Middle Bronze Age sites, 14 continue into the Late Bronze Age. With this number of sites, Glueck's statement of a break in sedentary life in Jordan during the Middle Bronze Age and the Late Bronze Age negates archaeological evidence.

In this connection it is not superfluous to mention two sites, no. 12 Pella and no. 18 Maqbarat as-Sleikhat, which represent the continuation of a very long occupational history from the Neolithic/Chalcolithic up to the Late Bronze Age, going through the Early Bronze Age, EBIV and the Middle Bronze Age (in the case of the Pella area well into the Islamic periods). Of coarse, one site or even ten sites do not make history. However, I believe that the publication of the material at hand, new analyses, and over all the forthcoming excavations in Jordan at multi-phase sites will undoubtedly fill out the "gaps" which are, in my opinion, gaps in our knowledge rather than gaps in the history of Jordan. They will also provide more accurate ideas about the "grey areas" in the occupational history and settlement patterns during the Middle Bronze Age.

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Bronze Age Settlement Patterns in the South Jordan Valley: Archaeology, Environment and Ethnology

Introduction

The ideas discussed in this paper stem from a three year project during which it is planned to link the evidence of surveys and excavation in assessing a regional archaeology. The project area is located north-east of the Dead Sea, between Wadi Shu'eib and Wadi Ḥesban. The excavations at Tell Iktanu and Tell al-Ḥammam are sponsored by the British Institute at Amman, with the permission of the Department of Antiquities of Jordan. Among the questions addressed in this paper are: 1) is the marginal nature of much of the terrain reflected in the sporadic pattern of occupation at Tell Iktanu and other sites in the vicinity; 2) can modern ethnographic patterns help in understanding ancient occupation patterns; 3) specifically, can modern patterns of transhumance be applied in interpreting archaeological evidence from the Early Bronze Age and the Intermediate Early Bronze-Middle Bronze Age; 4) can some aspects and implications of large scale population movements in the 20th century be applied to elucidate the archaeological record.

Archaeology

Ancient and modern settlement in the region appears to conform to patterns. Most sites lie on or near the perennial streams. Most of the modern towns are located in the western part of the project area, in open flat land in the same locations as the principal Roman/Byzantine settlements, at Shunat Nimrin (Bethnamaris or Bet Nimra), Khirbet al-Kafrain (Abila), ar-Rama (Livias) and Tell al-Mazar, regularly spaced in areas suitable for irrigation farming on the alluvial soils. The Early Bronze settlements and fortifications of the Iron Age and other periods are mainly further east, against the hills, still on the banks of the streams, but strategically located on the edge of the marginal land, overlooking alluvial farming land from the east.

In summary, there are at least nine sites of the Early Bronze 1 period in the area, of varied size and some appear to be unfortified and relatively ephemeral settlements. Some of the numerous dolmen fields may date to this period (cf. Yassine 1988: 51). Cist grave cemeteries may pre-date them (Mallon *et al.* 1934: 154; Prag 1989: 34-45). There appear to be fewer sites of the Early Bronze 2 and 3 periods, but the large and almost certainly fortified sites at Tell al-Ḥammam and Tell Muṣṭaḥ suggest a change in social patterns, with occupation of a more permanent nature. There are numerous sites of the Intermediate Early Bronze-Middle Bronze Age in the region, some of which are newly-founded, extensive settlements. They appear to be unfortified villages. At Tell Iktanu excavation indicates that there are two main phases of occupation between which the village was abandoned, and then completely abandoned at the end of the second phase. A large village also existed just north of Shunat Nimrin (Mellaart 1962: 130, 138; Prag 1974: 97; Yassine *et al.* 1988: 192), and probably at Tell al-Ḥammam, but there are also many small sites mainly along the perennial streams, with often in the vicinity of the main sites. Ephemeral and dispersed settlements appear to be the norm.

Less is known of Middle and Late Bronze Age settlements. Recent discoveries at Rawḍa/Ḥammam and Nimrin suggest that traces of these periods are buried under later occupational deposits, and thus finds in survey have been rare. It seems likely that a return to consolidated settlement patterns similar to those of Early Bronze 2, but with smaller sites, will emerge as the norm, with few other sites of these periods yet identified in the region. Certainly there was occupation in the Middle and Late Bronze Ages on the plateau to the east, at sites like Umm al-Qanafidh, Madaba and Amman; as well as at major sites like Deir 'Alla and Pella further north in the Jordan Valley.

Generally, the pattern of settlement in the project area during the Bronze Age seems to fluctuate through time, from dispersed/ephemeral to fortified permanent settlements, with long periods of abandonment on some sites. The question is whether on the basis of archaeological and ethnographic material, such changes can be linked to environmental, social and political causes.

Environment

The project area includes part of the foothills of the Transjordan plateau, and a section of the flat upper terrace of the Jordan Valley. Most of the land has an annual rainfall of less than 200mm, in the winter and spring, and very hot, dry summers. The region is dissected by several west-flowing perennial streams, the Shu'eib/Nimrin, the Meqṭa'a/Kafrain and the Ḥesban/Rama, with numerous subsidiaries. The water in these streams is now dammed or channelled for agriculture, but they still retain some moisture even in summer. In winter torrents from the higher rainfall areas on the plateau bring down substantial deposits of alluvium, followed by flooding and seepage in the alluvial soils of the Ghor. Winter dry-farming of cereals, and perennial irrigation farming take place on these soils. Under irrigation the Ghor is very fertile, with bananas and vegetables as modern crops. Much work remains to be done on the history of irrigation farming in the vicinity of Nimrin, Kafrain and Rama. There is a great dichotomy between the cultivable alluvial soils and the marginal pastoralist land in the foothills to the east and south, which is mainly used in the winter and spring. By May dry-farmed crops have been harvested, and the grazing and flocks have virtually disappeared from the vicinity.

Ethnology

Modern ethnographic patterns are one source of potential information which is being explored with particular reference to the settlement of the Early Bronze and Intermediate Early Bronze-Middle Bronze Ages at Tell Iktanu (Prag 1985). The premises underlying this work are 1) that much of the land in the vicinity of Iktanu is marginal land of use only to pastoralists in winter and spring; 2) that pastoralism and forms of pastoral nomadism or semi-nomadism suited to marginal lands in the Near East follow ancient patterns which may go back to the Neolithic period and the domestication of sheep/goats; 3) that the shifts between semi-nomadic pastoralist/cultivators and semi-sedentary or sedentary cultivators are relatively easily achieved, slowly if suitable conditions arise (e.g. Muhsam 1966: 113 = "spontaneous sedentarization"), but can be very rapid if political factors are involved (e.g. Muhsam *idem*, "initiated sedentarization"), or by reverse processes, nomadization. Local environmental factors are clearly of fundamental importance to all these processes, and thus it is of interest to explore modern ethnographic patterns within the environmental peculiarities of the region itself.

The 'Adwan

The 'Adwan are the main tribe in the Shu'eib/Ḥesban region.

1. History. Oppenheim (1943) and Peake (1958) summarize 'Adwan history into the early 20th century, as derived from oral traditions collected from amongst the tribes of Transjordan. Such accounts are not certain evidence for earlier history, particularly for chronology. Some sources say the 'Adwan are linked to a tribe who lived in the northern Ḥijaz in medieval times, and are related to the Dhafir tribe who live on the borders of Najd and Iraq. Oppenheim rejects this genealogy in favour of the 'Adwan tradition that they descend from one of two brothers who came to power in the Ḥesban area of al-Balqa' of Transjordan in the 17th century.

Gaudefroy-Demombynes, with Arab writers of the Mamluk period as source material, notes that the tribal map of the Syrian desert changed radically after the 15th century (1923: 201, n.1). He records the 'Adwan as a sub-tribe of the Murra, one of the three divisions of the Bani Rabi'a (*idem*. 192, and n.11). The Bani Rabi'a (who counted ar-Ramlah among their fiefs in Fatimid times and expanded considerably in the 12th and 13th centuries under the Ayyubids) were the most important tribal federation in Mamluk times, when their territory extended from both banks of the Euphrates and the borders of modern Iraq south-west through Ḥawran to the Dead Sea. The Murra sub-section (under an amir in the Mamluk administration) occupied the area from Ḥawran to the Dead Sea, hence the 'Adwan may be located in the approximate area of their modern territories as early as the 13th-14th centuries.

By the beginning of the 18th century (according to the oral tradition) the 'Adwan had gained control (by inter-tribal battles) of the Ghor around Nimrim, Kafrain and Rama. From that time the genealogy of the tribe and ethnographic patterns are fairly positive. Setting aside the complex accounts of inter-tribal feuds, disputes with the towns people of Salṭ and complex intrigues for or against the Ottoman government, the normal pattern of 'Adwan exploitation of their territory seems clear and was described by Conder (1889: 290). In 1881 he estimated the 'Adwan to have 2200 tents, and a total population of 11,000 including their subsidiary tribes in al-Balqa'. They controlled approximately 1000 sq. miles, with many small tribes allied to them. Jaussen in 1907, describing just the 'Adwan, not their subsidiaries, lists between 340 and 400 tents in the areas of Ḥesban, the land east of Salṭ, the Biqa' and Ghor. The 'Adwan feuded with the Bani Ṣakhr whose territory was contiguous to the south and east, and with the 'Anaza to the east and north.

2. Pastoral transhumance. The 'Adwan practised pastoral transhumance, using the winter and spring grazing in the warm Jordan Valley. When the grazing ran out and the weather became hot in May, they moved with their flocks to the cooler plateau for summer grazing. There were two main branches of the tribe, the elder (or Ṣaliḥ) tribe who spent the summer months on the plateau to the north of al-'Ali and descended by 'Iraq al-Amir to Shunat Nimrin for the winter. The shaikh in 1881, 'Ali Diyab, had a winter encampment of 80 tents and some mud huts at Nimrin (Conder 1889: 238). The shaikh in 1907, Sulṭan ibn 'Ali Diyab had a summer encampment of 140 tents near Ḥesban (Jaussen 1908: 401). Oppenheim (1943: 215) records

Shaikh Majid al-'Adwan with 80 tents in summer at Ḥesban and in the winter at Shunat Nimrin. The younger (or Nimr) branch of the 'Adwan spent the early summer near Jubeiha, and later 'Ain Fudaili, and lived the rest of the year at Kafrain where there were tents, and also a few huts of small masonry and reeds, on the north bank of the stream in 1881. In 1907, the Nimr chief was Fahd ibn Qublan who had a camp of *c.* 60 tents (Jaussen 1908: 401). Oppenheim (1943: 216) records that the Nimr shaikh was Barakat al-Falaḥ, with 70 tents in summer at Ḥesban and in winter at Ghor al-Kafrain. Also according to Oppenheim, another branch of the 'Adwan had two chiefs, 'Ajed al-Ma'arik and 'Abdallah al-Darda, who spent the summer at Yajuz and the winter at Ghor ar-Rama. The winter headquarters of the various branches of the 'Adwan were thus regularly located at Nimrin, al-Kafrain and ar-Rama; in summer they were located at Ḥesban and to the north in the region of Ṣweileḥ on the plateau. They possessed many flocks of sheep, and some camels.

3. Integrated nomadism. 'Adwan relations with the nearest important town at Salṭ, where there was a fort sometimes controlled by the 'Adwan, are also relevant to the nomadic pattern. The townspeople of Salṭ formerly paid tribute to the 'Adwan; who also imposed market taxes, and levied toll on every camel load of potash exported from the Dead Sea (Oppenheim 1943: 212). Salṭ was important for political and economic reasons, being both a market town and a centre of Ottoman administration. In 1867 the Turks put the citadel at Salṭ in order, and built block houses at Nimrin and Ḥesban. 'Adwan relations with the Ottoman government varied. Different branches of the 'Adwan supported or opposed the central government on various occasions. Peake (1958: 170) records the tale of Ṣaliḥ (al-'Adwan) who took refuge in the fort at Salṭ in *c.* 1780; the inhabitants of the town killed him and sent his head to the government. Salṭ is still an important market and administrative centre today, though only the merest remnants of its ?Ayyubid castle and Ottoman citadel remain. The 'Adwan thus demonstrate a form of integrated nomadism with the settled people at Salṭ.

4. Agriculture and spontaneous sedentarization. In the 19th century the 'Adwan did not themselves cultivate in the Ghor but controlled the Ghawarni tribes, who farmed the Saisiban plain as their serfs, growing maize (corn was grown further north, near az-Zarqa). Field boundaries were marked. According to Jaussen (1908: 401, 403) the Ghawarni tribe who served the 'Adwan were the Gohran al-'Abid who lived mainly at Masouḥ, whose chief Sulaiman Ḥamdan was a vassal of Sulṭan ibn 'Ali Diyab. According to Oppenheim (1943: 212) the 'Adwan had cultivated in the Biqa' for a long time and by the mid-20th century were in full transition from semi-nomads to farmers.

5. Shrines. Conder (1889: 238) noted a shrine of the Muslim saint al-Khaḍr to the south of ar-Rama. This tradition is today identified by local 'Adwan with Tell al-Mazar ("the place which is visited"), where there are Byzantine ruins, and a modern cemetery, but no shrine. Also in the tribal territory is the shrine of Nabi Shu'eib in Wadi Shu'eib. The present mosque (adjacent to the cenotaph of Jethro, priest of Midian and father-in-law of Moses) is forty years old, but replaces an earlier one. North of Salṭ is the shrine of Nabi Yusha' (Joshua).

6. Burial. On top of Tell Nimrin in 1881 were three masonry tombs, the graves of chiefs of the Ṣaliḥ branch of the tribe, with smaller graves around them (Conder 1889: 238). There was also a white painted tomb of a member of the Nimr branch of the 'Adwan on the top of Tell al-Kafrain (Conder 1889, 140). Ar-Rama in 1881 also had tribal tombs on the top of the tell, here the white painted tomb of Daḥis (Conder 1889: 238) with other graves around. The cemetery on top of the tell is prominent today. Excavation has shown that the top of both tells at Iktanu, and various places in the vicinity were in use for burial in the 20th century. Not far away, at the junction of Wadi al-Kafrain and Wadi ar-Rama was the now destroyed but previously substantial decorated masonry tomb of Findi al-Fa'iz, a shaikh of the Bani Ṣakhr who died *c.* 1841 (H. 1257, according to the marker on the modern concrete tomb) or *c.* 1877 (according to Conder) on his way home to the Madaba region after a visit to Nablus (Conder 1889: 113-115; cf. Yassine *et al.* 1988: 193, no. 207, Qabr 'Afandi).

7. Initiated sedentarization. The visible traces of perhaps some centuries of occupation of the project region by the 'Adwan may therefore amount to little more than burial grounds, field boundaries, and the randomly located foundations of a few very poor houses. These nonetheless represent a long-lived, numerically large and structured society whose political and battle strength continued into the 20th century. An 'Adwan revolt was suppressed in the summer of 1923. In the 1930's land registration began and confirmed 'Adwan territorial rights. As landowners there was increased incentive to settle on the land.

In 1965 the site of Iktanu was owned (inherited in shares) by six members of one 'Adwan family living in a small house in the Ghor to the north-west. The strategic (Iron Age) nature of Iktanu was re-emphasized when the army occupied it for some years during the 1970s. Since the arrival of the East Ghor canal, implementation of the Ḥesban-Kafrain Irrigation Project in 1980, and the promulgation of land redistribution laws (Khouri 1987: 88ff.) sedentarization of the 'Adwan has been virtually completed. In 1987 many of the 'Adwan lived by irrigation farming on small farms on the alluvial soils of the Ghor. The site of Iktanu itself had been subdivided: the north and south tells are now separately owned, the latter perhaps best described in modern idiom as an investment property.

In following the 'Adwan history from a process of spontaneous to initiated to completed sedentarisation we can learn something of the factors involved. The understanding of environmental and political factors can be

further reinforced and expanded in the history of local events. The workmen employed on the excavations at Iktanu in 1966 were 'Azazma Bedouin refugees from the Beersheba region, newcomers to the area after 1948. Their history also adds to the data to be assessed in this region.

The 'Azazma

1. History. The 'Azazma tribal federation occupied land south and south-east of Beersheba in the Negeb, *c.* 16,000 strong in the census of 1946 (Muhsam 1966: 7). The other tribes of the Negeb (total Bedouin population of the Negeb in 1946 was possibly 65,000 people — Muhsam *idem.*) had varied origins, some were perhaps indigenous, some came from Arabia, some from Sinai and Egypt; the origins of the 'Azazma (like those of the 'Adwan) are not certain but they are said to belong to the Quda'a who lived before Muhammad in the Northern Ḥijaz and the Syrian Desert. They arrived in the Negeb at some date prior to the mid-19th century, probably during the period of weak Ottoman government when the Bedouins flourished. As pastoralists, practising transhumance on a limited territorial scale, they underwent a process of sedentarization started under the Ottomans and continued under the British Mandate. By 1946 they were still mainly tent-dwellers moving according to the need for pasture, but doing some cultivation in the northern part of their territory. Their territory stretched from the Wadi 'Arabah to the fringes of Sinai, and up to Beersheba (Oppenheim 1943: 122; Bailey 1985: 49). Of the 16,000 'Azazma in the Negeb in 1946 only about 1000 remained in the new State of Israel. The remainder moved to Jordan, first to the West Bank, then across to Transjordan, at the time of the fighting between the Egyptian and Israeli forces in the Negeb. In Jordan the problems of re-establishing such large numbers of people and flocks in other tribal territories was obviously difficult. A government plan to settle the 'Azazma near al-Jafr 15km from Ma'an met local tribal opposition; another project was designed with UNRWA help for the Karak area, which included feeding centres, new schools, tents and animals (Plascov 1981: 86). The particular group living near Iktanu (only a part of the much larger 'Azazma population in Jordan) say they went first to Na'ur, then moved to Karak for seven years, before coming to their present land (*c.* 1956?).

2. Pastoral transhumance. The 'Azazma within the project area have adopted a very similar environmentally imposed pattern of pastoral transhumance to that formerly practised by the 'Adwan. In 1966 the 'Azazma workmen at Iktanu had black tents just to the south of the Dead Sea Highway at ar-Rama, and also on the marginal lands right to the edge of the foothills. They lived here for most of the year, but in May moved with their flocks to the areas around al-Mushatta, al-Ḥallabat and Lail, just west of al-Ḥallabat. There they remained for three to four months, for the grazing and the cooler weather. They regarded the heat of the Jordan Valley in the summer as unhealthy for man and beast. They have sheep, goats and a few donkeys, few camels, and no cows.

3. Sedentarization. Since their arrival the process of sedentarization has been even more rapid than for the 'Adwan, speeded by various political, social and economic factors including land rights, schooling and wages. By 1987 the extensive village known as Maṣna' ar-Rama, south of ar-Rama, had been built by the 'Azazma, but many still live in tents in the vicinity, up to two days walk away. However most of the people still migrate with the herds in the summer, taking tents and bedding but leaving most of their possessions in the care of old people in the houses. They use the market towns of Deir 'Alla and Madaba, and Salṭ remains important for administrative and medical reasons. However in winter 1989 many of the houses were untenanted, or lacking roofs, emphasisng the still uncertain roles of sedentarization.

It seems that they have fitted into a niche left vacant by the now sedentarized 'Adwan; adhering very much to the same environmentally imposed patterns of pastoralism, but not in quite the same places; generally this group occupies the pastoral land of former 'Adwan territory, in winter land south of alluvial soils, and in summer territory at a greater distance to the south and east, which are also in more marginal environments than the old summer territory of the 'Adwan at Ḥesban. The environmental constraints on sheep/goat pastoralism have imposed themselves on the newcomers to the area.

Present conditions are governed by very complex factors, but the presence of other pastoralists who now (1989) use the marginal land in winter should be mentioned: the Jairat from the Karak area, the 'Ajarma and the Shawabka from the Madaba area. There is also the largely but not entirely sedentary population of 'Amarin refugees (like the 'Azazma, from the Beersheba region) who are said to comprise 50-60% of the population in the village of Rawḍa. They are more sedentarized than the 'Azazma, but there was an 'Amarin camp on Iktanu during the summer of 1988 whose flocks were supplied with water and fodder by pipe and truck. There is an the even more recent influx of Egyptian and Syrian workmen due to economic rather than political factors. A Syrian from the Aleppo area was employed as a shepherd for sheep and goats on the tell in January 1989. Our small workforce in 1989 was drawn from four different tribes, plus one Egyptian.

Hypotheses

Environmental as well as political and economic constraints are operative on the life-style of the population in the area. It is possible to build several hypotheses to test against the excavation and survey evidence for ancient settlement in the same area: not to suggest exact patterns and parallels, but to assess similar constraints on ancient populations.

1. Transhumance. The regional environment imposes definable patterns on pastoralists. If the population has large flocks of sheep, goats or camels then it may have to

move or send them away to pasture on the plateau in the care of shepherds in the summer due to the heat and the lack of grazing; for towns dependant on a mixed economy of agriculture and pastoralism flocks sent away in summer in the care of shepherds would be vulnerable. It may be one reason that large urban centres in the Middle and Late Bronze Age were a less viable proposition. More ephemeral patterns of occupation in the Intermediate Early Bronze-Middle Bronze Age and perhaps in the Early Bronze 1 period may indicate that the settlements were regularly abandoned in the summer (like that of the 'Azazma).

2. Sedentarization, spontaneous and initiated. Rapid shifts from nomadic to sedentary life are well within the range of pastoralist groups and are illustrated by the formerly transhumant tribes living in the project area who now occupy large and small unfortified villages, hamlets and farm houses. The reverse process is also observable, for the failure of the winter rains even today is disastrous for those inhabitants of the area who still depend on dry-farming for cereals. The occupation and abandonment of the site at Iktanu in the Early Bronze 1 and the Intermediate Early Bronze-Middle Bronze periods could be explained in these terms. Lack of grazing and empty silos would make continued occupation impossible in a society not structured to provide relief.

3. Population mobility in pastoralist zones. Contacts outside the region should be considered. Normal transhumance in the region ranges from valley to plateau. But in this century political factors have brought a large immigrant population from the Negeb, whose contacts with Egypt have been close in the past. The Negeb population as a whole had closer contacts both in their origins and in their pastoral and political activities with Egypt, the south Jordan Valley, south Transjordan, Syria and even Iraq, than with central and north Palestine (indeed Muhsam notes specifically that the contact between the Negeb tribes and those of north Palestine in the 20th century hardly existed, though this is not so for earlier periods — see Hutteroth 1975; such contact may depend on political and urban factors within Palestine). The homogeneity of the Syrian, Palestinian and Negeb marginal zones are reinforced in their use for pastoralism. There are possible implications to be considered here in the homogeneous patterns of ceramic distribution in south Palestine and south Transjordan in the late third millennium.

4. Large scale population movements and the archaeological record. In particular the mobility of very large groups of people within the project area is attested, as is their absorption with very little archaeological trace apart from the increased size and number of settlements. Investigation of the 'Azazma and 'Amarin houses and artifacts is likely to offer little variation from that of their 'Adwan neighbours. Sedentarization of the 'Adwan has been fully achieved in approximately sixty years, and of the 'Azazma partly achieved in less than twenty years. How should these factors be considered in the light of recent debates on changes at the beginning of the Early Bronze 1 or the beginning of the Intermediate Early Bronze-Middle Bronze Age as due either to population increments from outside, or as due to purely internal social change? Contemporary literature, as exemplified by the Mari texts, indicates large scale pastoralist mobility is not a purely modern Bedouin phenomenon. Political factors in Palestine, Egypt and Syria may well have influenced expansion of settlement in marginal zones in the late third millennium.

5. The significance of isolated burial grounds. The archaeological evidence for several hundred years of 'Adwan occupation of the area is mostly restricted to burial grounds, often on prominent mounds or away from the area of the alluvial soils. Should the extensive dolmen fields and isolated cemeteries in this region of the Jordan Valley and Transjordan plateau be assessed in the light of the practices of these transhumant pastoralists? In both examples the lack of direct association with settlement sites, and sometimes random scattering on the landscape, could be used to identify dolmens and isolated cemeteries more closely with pastoralists than with the cemeteries of sedentary communities. The evidence (Yassine 1988: 52) suggests at least some dolmens date to the Early Bronze 1 period; is this another implication to be assessed in describing the Early Bronze 1 population (or large parts of it) as semi-sedentary?

6. Integrated nomadism. 'Adwan and 'Azazma connections not just with Nimrin and al-Kafrain, but with market towns to the east (Salṭ, Madaba) and further up the Jordan Valley (Deir 'Alla) may reflect a pattern of occupation in the Middle and Late Bronze Age, when material for settlement appears to be scarce in the project area.

Finally, it should be stressed that it is not intended to interpret the archaeological evidence directly in terms of recent Bedouin ethnographic patterns, but rather to explore hypotheses or patterns that they may reveal or illustrate, in conjunction with the analysis of the results of our investigations on the sites themselves.

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A Reassessment of Nelson Glueck on Settlement on the Jordan Plateau in Early Bronze III and IV

Even though it has been fifty years since Nelson Glueck completed his pioneering survey of the Transjordanian plateau, it is still a difficult task to reassess fairly the results of his work in this region for the EB III-IV cultural periods. The reasons why it remains difficult seem obvious. First, only a handful of sites designated as important EB III-MB I ruins by Glueck have actually been excavated. Second, although Glueck set an admirable example in publishing his results, only selected groups of Early Bronze Age sherds were published for a small percentage of the sites surveyed. Third, although there has been a series of comprehensive surveys since Glueck's work, especially since 1970, the publication of these surveys has been sporadic and only a few projects have published the Early Bronze Age ceramic finds in detail.

Previous Reassessments of Glueck's Survey Work

A history of varied, often contentious, judgments on the value of Glueck's survey efforts does not ease the problem of reassessment. An early review severely criticized Glueck for his lack of thoroughness in reporting on sites (Alt 1936: 163). Recent surveys have clearly demonstrated the validity of this criticism by recording large numbers of sites that were not visited by Glueck. Mittmann, for example, lists 330 sites *in addition* to the 200+ sites of Glueck between Wadi al-Yarmuk and Wadi az-Zarqa (Mittmann 1970: 3). More recent surveys also record similar differences from Glueck's totals although it should be recognized that a fair number of the newly recorded *sites* are isolated sherd scatters and buildings.

When Glueck's sites have been reexamined, there have also been, not infrequently, significant differences in results and overall interpretation. Abundant pottery has been found at sites reported by Glueck as having no pottery (Miller 1979a: 90), and numerous potsherds of certain periods when none was reported for these periods by Glueck (Mittmann 1970: 2). One of the harsher judgments, relying on an examination of his publications and a selected number of sherd bags, is that his "pottery study, and the conclusions drawn from that study are in many ways both defective and misleading" (Franken and Power 1971: 119). In addition, some of Glueck's broad conclusions on settlement patterns, particularly for the gap in the Middle Bronze and Late Bronze periods, have been dismissed on the basis of recent evidence (Sauer 1986: 4).

Glueck has obviously not fared well in recent studies but not all the judgments on his survey work have been negative. Even his critics continue to recognize his pioneering efforts (Mittmann 1970: 1), the continuing value of his descriptive evidence in the light of the subsequent destruction of sites (Franken and Power 1971: 119) and the later substantiation of the settlement patterns he recognized for certain periods (Sauer 1986). Not surprisingly, Albright has given the most positive assessment of Glueck. He recognizes him as the first of his students to master the art of dating Palestinian pottery and comments that "during the rest of his life I recall scarcely an instance in which I was not in agreement with his assignment of given characteristic sherds to their original archaeological period," (Albright 1971: 3). Overall the pluses and minuses have been succinctly stated in the judgments that the positive evidence cited by Glueck is generally still reliable and that most of the problems in reassessing Glueck revolve around the theories he constructed based on negative evidence (Dornemann 1983: 5).

Methodology

The positive evidence offered by Glueck for the settlement patterns on the Jordanian plateau during the EB III-IV periods is the primary concern of this article. This evidence may be assessed at several levels. First, published results from the few sites that have been subsequently excavated may be used to evaluate his conclusions on the occupational history of these sites. Then, it should be possible to reassess the published ceramic survey finds of Glueck with the help of subsequent typological refinements developed for the Early Bronze Age. Finally, where the evidence is available, even in summary form, one can compare the results of Glueck with subsequent surveys. Using these three approaches it should be possible to make some

judgments of the validity of the overall settlement patterns observed by Glueck.

We have confined the area treated to the Jordanian plateau approximately above 750m above sea level stretching from the Wadi az-Zarqa to the Ras an-Naqab south of Petra. Other papers in the conference will treat the Early Bronze Age materials north of the Wadi az-Zarqa and in various areas in the Jordan Valley. Within the area south of the Wadi az-Zarqa it seems best to proceed region by region beginning with the South and proceeding to the North as Glueck himself did. Four major areas may be considered using the major river valleys as dividing lines: the plateau region south of the Wadi al-Ḥasa to the Ras an-Naqab scarp, from Wadi al-Ḥasa to Wadi al-Mujeb, from Wadi al-Mujeb to Wadi Ḥesban and from the latter to Wadi az-Zarqa.

The time period designations continue to be debated. Glueck varied in his designations but most consistently labeled the periods in question EB III and EB IV-MB I. For the latter period Kenyon (1979), Prag (1974; 1984; 1985) and others, have stressed the intermediate nature of this period by adopting the term EB-MB. Dever (1980; 1985), and Richard (1980; 1987), have stressed the continuity with EB and the break with MB II by eliminating the term MB I and extending the EB IV term breaking it down into subdivisions of EB IVA, EB IVB and EB IVC. This latter terminology which appears to be the best fit for the picture in southern Transjordan will be used in this paper.

Glueck's EB IV Settlement Patterns

Before turning to an examination of the evidence, the problem of the EB III-IV settlement patterns needs to be placed in proper perspective by examining the various statements of Glueck on the patterns along with subsequent scholarly judgments.

From 1932 through 1938 Nelson Glueck took advantage of a long term residency in Jerusalem and the 'new' knowledge of the utility of ceramic typological differences based on stratigraphy to carry out a series of surveys on the Jordanian plateau. His extensive series of published preliminary and final reports, as noted above, have ever since been the starting point for scholars interested in studying the history of settlement patterns in this area.

By the publication of the third volume of his explorations, Glueck had become increasingly convinced of a series of basic features associated with the EB IV sites:

> "Sufficient numbers of EB sites have now been found in southern and central transjordan to justify the conclusion that during EB IV-MB I especially, there was an extensive and intensive agricultural civilization in the land. Most of the sites are large, strongly walled, and frequently built on an eminence easy of defence." (Glueck 1939: 82).

After he had investigated similar sites between Amman and Wadi az-Zarqa, these conclusions are reinforced. Commenting on the site of ar-Ruṣeifeh he states:

> "At this site we see again the conformity to a pattern for the choice of sites in the Early Bronze Age period, which occurs with almost monotonous regularity. Given a high, flat topped hill, which is almost completely cut off from it's surroundings, a strong spring nearby, and cultivable soil on the top and slopes of the hill, the fellahin of the period were almost bound to choose it as a site for fortification and settlement." (Glueck 1939: 206).

In addition to the pattern of extensive agriculture and the great walled sites of this period, Glueck assessed the pottery of EB IV-MB I to be uniform throughout the length and breadth of the land.

All three of these patterns, a highly developed agricultural system, strongly walled sites and the cultural uniformity of Trans-and Cis-Jordan were subsequently rejected for the EB IV period by most scholars in the light of later exploration and excavations. On the basis of her excavations at Jericho and other evidence from Palestine, Kenyon offers a very different assessment of this period:

> "We have a clear picture of a very numerous people, not interested in town life. They were in fact pastoralists and not agriculturalists, and many of their dwellings may have been tents or shelters scattered over the hillsides, leaving little trace for the archaeologist other than the occasional potsherd." (Kenyon 1979: 143).

The results of the surface surveys in the Negeb, Sinai and Transjordan by Glueck are assessed as remains which consist mainly of potsherds and a few fragmentary walls, and are likely to be camp sites of semi-nomad seasonal pastoralists, or perhaps traders. Kenyon (1979: 144), R. de Vaux (1971: 237) and Wright (1961: 86) offer similar assessments of this period with varying degrees of emphasis.

Since 1970 this later assessment by Kenyon and others has been modified with the recognition of sizable town populations during the EB IV period (Lapp 1970: 116) and sedentary tendency of the EB IV peoples in the Jordan Valley (Prag 1985: 82). Still, a major break between the permanent settlements of EB II-III periods and the more ephemeral occupation of EB IV (EB-MB) continues to be stressed. Richard's investigations of the walled fortress of Khirbet Iskander have introduced a new element leading her to call for a radical re-interpretation of the Early Bronze III/IV horizons. Yet, she also continues to recognize a shift from "urban to non-urban and pastoral adaptive strategies" (1987: 39).

Even these qualifications of the earlier interpretations of Kenyon strongly clash with the patterns assigned by Glueck to the EB IV period. Why do the assessments of the settlement patterns of this period differ so radically? Was Glueck's evidence totally ignored or is it completely wrong

in the light of subsequent work?

The key element is understanding the settlement patterns observed by Glueck, originally uniformly assigned to EB IV, is his own recognition that some of the pottery of these 'walled' sites should be assigned to an earlier period. In the pottery notes of his third volume it is obvious that Glueck is wrestling with some of the conclusions arrived at by Wright in his study of the Early Bronze Age pottery (Wright 1937). In his comments on the history of the "pinch lapped ledge handle" (Glueck 1939: 254), Glueck notes that these handles may belong to EB II and are certainly not later than EB III. This evidence, as well as that from other forms, leads Glueck to state in his conclusions, that "there is evidence that the history of some of the Bronze Age sites south of the Wadi Zerqa also precedes EB IV, and excavations would probably reveal that their history begins with EB I." (Glueck 1939: 268). At the same time he still insists in a further conclusion that "the EB IV-MB I period, in particular in eastern Palestine south of the Zerqa, was one of a highly developed, agricultural civilization..." (Glueck 1939: 268). However, he further qualifies this judgment in the 1970 revision of *The Other Side of the Jordan*, with the statement that "the inhabitants of Jordan during this period (EB IV-MB I) and earlier were predominantly a *semi-sedentary and semi-agricultural people*" (Glueck 1970: 157) (emphasis mine).

Keeping these revisions of Glueck in mind we may now turn to review the descriptions and published evidence of the various sites originally assigned by Glueck to EB IV. To reassess Glueck's work fairly several questions need to be posed. Is it possible to reevaluate the time period of those sites that fit the patterns noted by Glueck of being located on high flat topped hills, with evident signs of thick walls, and strong springs nearby? Are these patterns as uniform as Glueck stressed? Have the new surveys turned up any contrasting patterns?

Early Bronze Age Sites South of Wadi al-Ḥasa to Ras an-Naqab

The plateau region south of Wadi al-Ḥasa rises steadily and steeply in rugged, forbidding terrain to heights ranging from 1700m to over 1850m. In May 1933 Glueck spent one week in the northern part of this area recording 28 sites, most of which were between Shobak and aṭ-Ṭafilah and none of which yielded sherds from the Early Bronze Age. During 1934, Glueck concentrated on the area south of Wadi al-Ḥasa, including an extended trip down the 'Arabah of two weeks. Approximately five weeks were spent in the area between Aqaba and Wadi al-Ḥasa in May and June of 1934. On the plateau area he recorded 209 sites, some of which had been recorded earlier and were now revisited. Only one site, Khirbet Mashmil is assigned to the Early Bronze Age on the plateau region. (Later in 1936 Glueck revisited the site of 'Ain Nejel after being shown a pushed up scalloped ledge handle from this site but was unable to find any further evidence of Early Bronze occupation near the site). Khirbet Mashmil is described as a "maze of ruined foundations among which are some cave-cisterns." A few pieces of Nabataean and Roman pottery were recorded along with some unmistakable sherds belonging to the Bronze Age, "approximately 2200-1800 B.C." (Glueck 1935: 108). No sherds are published from Khirbet Mashmil.

Subsequent surveys in the plateau region south of Wadi al-Ḥasa have turned up further evidence of Early Bronze Age occupation. The Wadi al-Ḥasa Archaeological Survey between Wadi al-Ḥasa and aṭ-Ṭafilah recorded 50 sites yielding Early Bronze pottery (MacDonald 1988: 155). Most of these belonged to EB I (38) and EB I-II (1). Only one site had EB I-III pottery and two sites had EB IV pottery. Eight sites had EB pottery in general. The EB I-III site, Beidar Raḍwan, recorded 19 EB sherds out of a total of 233 and is described as two rectangular structures. The site also had Nabataean, Iron Age, and possible Late Bronze. The two EB IV sites, Rabab and Mashmil/al-Mushmimin also have later material and the final report concludes that it is "unlikely that the architectural remains at either site date to this period" (EB IV) (MacDonald 1988: 163). In his final assessment MacDonald states "that it appears there was both sedentary and pastoral occupation of the area during the Early Bronze Age, especially during the EB I period" (MacDonald 1988: 166). The evidence for occupation in EB III-IV, however, is severely limited.

Between aṭ-Ṭafilah and Ras an-Naqab, surveys carried out in 1984 and 1985 report only one site with possible Early Bronze occupation. At Khirbet Qurein North (Palestine Grid 19539461), near the modern village of Qurein, about 12km north of Ras an-Naqab, an antiquity site is described as a large hill covered with many walls and enclosures. Soundings were carried out in 1985 that revealed an extensive fourth millennium (Chalcolithic/Early Bronze Age?) settlement (100m east-west) with 1.5m of deposit and three clear architectural phases. The scarcity of finds did not allow for "meaningful divisions" in the pottery or flint (Hart 1987: 35) A few possible Chalcolithic or Chalcolithic/Early Bronze sherds were mentioned in the 1984 report in which it was stated that "virtually no material pre-dating the Iron Age was found" (Hart and Falkner 1985: 257).

South of Ras an-Naqab to Aqaba the surveys of Jobling have focused on the epigraphic remains (1981; 1982; 1983a,b). Some Chalcolithic sites are reported but there is a general chronological gap in the region between the Chalcolithic and Iron Ages. At one site, Tell al-Kharaza, Pal. Grid 194911, a rock shelter cave was sounded with the assistance of Crystal Bennett and 19 levels were recorded from the pottery Neolithic to the end of the Middle Bronze Age but no further information is given on the various periods represented (Jobling 1983a).

In addition to these few sites some EB IV-MB I pottery is recorded near Petra from a settlement near Wadi Musa

Table 1 Glueck's Early Bronze Age sites between Wadi al-Ḥasa and Wadi al-Mujeb.

Site Name	Pal. Grid	Est. Size	Type	Later Occupation
al-Lajjun	232.5/072.2	18 ha	Walled	Roman, Ottoman
al-Balu'	224.5/085.5	?	Walled	Iron, Nabataean
Rujm al-Qleib	223.3/092.0	0.25 ha	Tower?	Nabataean
Kh. Mes'ar	221.3/086.5	?	Ruins	EI 1, Nabataean, Arab
al-Maṣna'	223.0/077.0	0.4 ha	Possible walled	EI 1, MB II, Nabataean
Ader	223/067	4 ha	Walled	EI, Roman, Byzantine
al-'Aineh	223.7/043.0	"Large"	Acropolis	Nabataean
Kh. Umm as-Sedeirah	215.0/047.0	"Large"	Walled?	Nabataean
Kh. aṣ-Ṣerarah	213.0/048.0			Nabataean
Mudawarah	212.5/051.2	2 ha	Walled	Hellenistic
Feqeiqes	211.0/054.1	"Large"	Wall traces	Nabataean, Arab

(Kirkbride 1959; Parr 1960b).

Although some new sites have been recorded for this area since Glueck, particularly for EB I, it seems clear that the settlement pattern assessment of Glueck for EB III-IV has not been substantially altered. This region was only sparsely occupied during EB III-IV and none of the sites in the region fit the pattern of heavily walled sites located on top of a large flat hill.

From Wadi al-Ḥasa to Wadi al-Mujeb

TABLE 1 lists the Early Bronze IV sites recorded by Glueck in the plateau region between Wadi al-Mujeb and the Wadi al-Ḥasa. The Palestine Grid co-ordinates used in the tables are taken from the Ross catalogue of Early Bronze Age sites (1987). These co-ordinates frequently differ slightly from those found in Thompson (1979).

Three of the sites, al-'Aineh, Khirbet Umm as-Sedeirah, and Khirbet aṣ-Ṣerarah, are located on the northern slopes of Wadi al-Ḥasa.

Two others, Mudawarah and Feqeiqes, are on the plateau south of Karak and the remaining six are on the plateau north of Karak.

Glueck published pottery from four of these sites, all in the South: al-'Aineh, Khirbet Umm as-Sedeirah, Mudawarah, and Feqeiqes. The pottery from al-'Aineh includes both EB III forms, wavy ledge handles and inverted rim platter bowls, and EB IV forms with vestigial handles and 'tea pot' rims (Glueck 1935: Pl. 25b: 14-25). The Emory University team recorded sherds at al-'Aineh from EB II-III (31) and EB IV (59) (Mattingly 1984: 89). At Khirbet Umm as-Sedeirah a series of pushed up and pushed up and scalloped ledge handles published by Glueck are probably EB III but most of the material including rolled and flattened rims, pinch-lapped handles and scalloped rims and bands fit comfortably in the EB IVA period (Glueck 1939: Pl. 1,2). This site with its evidence of ancient terrace walls appears to be one of the major reasons why Glueck argues for an extensive agricultural component in the EB IV phase (Glueck 1939: 82-83), later reassessed to EB II-IV (Glueck 1970: 145). Miller's Moabite survey lists sherds at Khirbet Umm as-Sedeirah for EB I (5), EB II-III (35), and EB IV (19) but also more numerous sherds from the Middle Bronze (46) and Late Bronze (23) (Mattingly 1984: 85). Only a few sherds from Mudawarah, a pinch lapped ledge handle and a small cup with grooving on the exterior, appear to be EB IV. Most of the material is earlier in the Early Bronze (Glueck 1939: Pl. 3). The Emory team describes the sherds as predominantly Early Bronze with 33 from EB II-III. The pottery from Feqeiqes appears to be the latest from these four sites with folded down, ribbed rims, vestigial handles, and raised molded bands (Glueck 1939: Pl. 4), but the latest survey also includes EB II-III (38) with the predominant group from EB IV (160) (Mattingly 1984: 83).

The site of Mudawarah is the only site that clearly fits the pattern of a strongly walled site on top of an isolated hill with a strong spring nearby. The pottery from this site basically predates EB IV. Feqeiqes might fit the pattern since Glueck does describe traces of a thick wall at the top of the hill but the large number of Nabataean and later Arabic sherds make this site more questionable.

Among the remaining sites, al-Lajjun is the best candidate for a walled EB III town in this area. It is the largest of the plateau sites and contains an acropolis area with corner towers. The central Moab survey recorded both EB II-III and EB IV material at al-Lajjun (Mattingly 1983: 486). It is interesting that Glueck reports that most of the EB IV material at this site was on the lower southern slopes of the tell between the springs and the east wall. On several visits to this site I have noticed the same distribution. It is possible that a change in settlement pattern occurred at al-Lajjun similar to that observed at Bab adh-Dhra' where the EB IV settlement is concentrated outside the main EB II-III tell.

Ader remains the most problematic site. The soundings here in 1933 outside the walled area of the tell recorded three levels but the published pottery all fits within the EB IV range (Cleveland 1960: Pl. 13-15). On the other hand

Table 2 Glueck's Early Bronze Age IV sites between Wadi al-Mujeb and Wadi Ḥesban.

Site Name	Pal. Grid	Est. Size	Type	Later Occupation
Jawa		2 ha	Walled	EI 1,2
Jalul	231.0/125.0			EI 1,2,MB, LB
al-Lahun	230.5/097.0	4.5 ha	Walled	Nabataean
'Ara'er	228/098	0.25 ha	Building	
Kh. Qarn al-Kabsh	223.5/128.0	2.7 ha	Walled	
Kh. al-'Aqrabah	226.0/098.3		Exposed cut	Nabataean, Roman, Byzantine, Arab
Kh. Iskander	223.3/107.2	2.2 ha	Walled	
Kh. Abu Khirqah	221.6/108.0	"Large"	Wall fragments	

(TABLE 2 does not include four sites that are mentioned by Glueck because no sherd evidence is cited.).

the central Moab survey recorded a large number (67) of EB II-III sherds at Ader in addition to those (99) assigned to EB IV (Mattingly 1983: 484).

At al-Balu', Crowfoot's soundings within and nearby the walled area on the southern rim of Wadi Qurri produced only Iron and later strata (Crowfoot 1934). Glueck appears to have found most of the EB IV sherds here on dumps below the tell. The central Moab survey recorded only a few Early Bronze sherds from the walled area but also discovered a large sprawling site north of Wadi Qurri, al-Balu' (N), with wall remains and predominantly EB IV pottery (Mattingly 1983: 484). Rujm al-Qleib is a small site with wall remains and some later pottery. From the Early Bronze Age, Glueck recorded only EB IV but an examination of the pottery from this site stored at the Smithsonian revealed earlier phases including line group wares from EB IB. The Emory survey found predominantly earlier pottery at this site (187 from EB II-III) but EB IV was also well represented (95) (Mattingly 1983: 484).

In addition to the sites mentioned above, the Emory University team recorded a number of significant Early Bronze Age sites missed by Glueck. Prominent among the new sites are two large tells with over 50% of their pottery from the Early Bronze Age: Rujm Birjes and Rujm Munsahilah. Rujm Birjes is a walled town area that appears to fit Glueck's pattern of a fortified site on an isolated hill top with a nearby spring. Most of the pottery (89%) from this site was Early Bronze with the great majority of the sherds from EB I-III (215) and a small number (14) from EB IV (Mattingly 1984: 78). Another tell with predominant EB II-III pottery is Rujm Munsahilah with 92% Early Bronze Age, including 160 EB I-III and 9 EB IV (Mattingly 1984: 78). Three smaller sites with predominantly Early Bronze Age pottery include two sherd scatters, Karyah and al-Balu' (S), and a dolmen structure north of ad-Dimnah. Two tells, Ḥumeimat NW and Umm al-Habaj, have materials predominantly later than the Early Bronze Age but also include a good representation of EB IV pottery (Mattingly 1983: 484-485).

Although the reassessment of Glueck's material and the new information available from the more recent survey do help, it is still difficult to reconstruct accurately the settlement patterns of the Early Bronze Age in this area. There was obviously extensive Early Bronze occupation but the changing patterns of settlement appear much more complex than envisaged by Glueck (Mattingly 1983: 487-488). One may conjecture that sites such as Mudawarah, al-Lajjun, Rujm Birjes and possibly Rujm Munsahilah best fit the pattern of strongly walled EB II-III sites. A second group, Rujm al-Qleib, Ader and Umm as-Sedeirah appear to have been occupied continuously from EB II to EB IV. Still others appear to have been more extensively occupied in EB IV: Ḥumeimat (NW), Umm al-Habaj, Feqeiqes, Khirbet aṣ-Ṣerarah, and al-'Aineh. Al-Balu' (N) stands out as an open village type, exclusively EB IV.

Between Wadi al-Mujeb and Wadi Ḥesban

Glueck published pottery from four sites between Wadi al-Mujeb and Wadi Ḥesban: Qarn al-Kabsh, Khirbet al-'Aqrabah, Khirbet Iskander and Khirbet Abu Khirqah (cf. TABLE 2). The pottery from Khirbet al-'Aqrabah and Khirbet Iskander is all EB IV and the sherds published from Qarn al-Kabsh and Khirbet Abu Khirqah are predominantly earlier. The excavations at Khirbet Iskander have demonstrated that it was a fortified site of EB IV (Richard and Borass 1988). Later excavations have also located a large cemetery nearby which included tombs of EB I and EB IV. Khirbet al-'Aqrabah is described as a long flat topped spur with large quantities of EB IV pottery on the slopes. No traces of houses or walls were found (Glueck 1939: 113-14). Khirbet Abu Khirqah is located in Wadi al-Walah to the west of Khirbet Iskander. Some wall fragments of large, roughly hewn flint blocks, were observed. The location of the site above a strong source of water on the slope of a hill reminded Glueck of the site of al-Lajjun (Glueck 1939: 130). The evidence is slim but it is possible that Khirbet Abu Khirqah may have been a fortified site of EB II-III.

Excavations at 'Ara'er revealed it to be an unwalled settlement of EB IV with two phases. There was some evidence that agriculture was practiced. Later occupation included a fortress of the Iron Age and Hellenistic and

Table 3 Glueck's Early Bronze Age sites between Wadi Ḥesban and Wadi az-Zarqa.

Site Name	Pal. Grid	Est. Size	Type	Later Occupation
Kowm Yajuz	237.7/160.0	1.5 ha	Walled	EI 1,2
Kh. Umm ar-Rujum	237.5/159.0	0.4 ha	Walled	
ar-Ruṣeifeh	248.0/158.7	0.4 ha	Walled	EI 1,2
Kh. ar-Ruṣeifeh	248.7/158.7			EI 1,2
Kh. Abu Ḥamed	233.7/166.0		Walled	EI 1,2
Mumani	229.5/167.0		Buildings	EI 1,2, Byzantine, Hellenistic
al-Qṣeir	225.0/163.7	3.5 ha	Walled	
Rujm al-'Aṣaigh			Small mounds	EI 1,2, Byzantine, Arab
Kh. Ureimeh	226.0/175.2	0.3 ha	Tower	Byzantine, Arab
Kh. Juret al-Khazneh	226.7/168.2	Small		EI 1,2, Byzantine
Tell al-Ureimeh	225.0/167.7	0.8 ha	Walled?	Byzantine, Arab
at-Teleil	228.7/169.5	0.3 ha		EI 1,2
Kh. ar-Rumman	228.5/174.2	0.3 ha	Walled	EI 1,2, Byzantine, Arab
Kh. Abu Zebna	229.5/177.2	Small		EI 1,2, Roman, Byzantine
Kh. al-Meshobesh	230.0/172.7	0.8 ha	Walled	Roman, Byzantine
Kh. al-Ḥawaja	241.0/172.7		Stone circle	Byzantine
Kh. al-Breitawi	251.2/165.7	0.2 ha		Byzantine, Arab
ar-Reḥeil	249.5/170.5	1.7 ha	Wall, towers	Byzantine, Arab
Kh. Wadah	249.2/173.5	'Large'		EI 1,2, Roman, Byzantine
an-Nimrah	248.0/172.7	'Small'	Village	EI, Roman, Byzantine, Arab
Kh. al-Bireh	246.2/173.7	'Large'	Wall traces	EI 1,2, Roman, Byzantine, Arab
Kh. Ṣakhara	240.0/176.2	'Small'		EI 1,2, Roman, Byzantine
Kh. Momghareh	241.3/177.5		Traces	Byzantine
Tell Faqahiyeh	238.0/176.7		No walls	EI 1, Byzantine
Kh. Banat	236.2/177.5		Buildings	Byzantine, Arab
Tell Faqqas	235.0/180.0	0.4 ha	Wall traces	EI 1,2, Roman, Byzantine, Arab
Kh. aṣ-Ṣuwari	229.0/178.2		Wall traces	EI 1,2, Byzantine, Arab
Tell ar-Reḥeil	226.2/177.2	0.6 ha	Wall traces	EI 1,2, Byzantine

(Umm Tell and Rujm al-Beiḍa, which are at lower elevations in Wadi az-Zarqa, are not included in TABLE 3).

Nabataean levels (Olavarri 1969).

At al-Lahun, Glueck described and planned two walled areas on the southern limits of this site separated by a wadi. The larger walled site on the east (4.5 ha) contained large quantities of EB IV pottery but the brief descriptions given, such as plain ledge handles, suggest that some of this material could be earlier (Glueck 1934: 48). Soundings in the western walled area have dated the walls there to Late Bronze-Iron with some previous EB I occupation. An EB IB tomb has also been recovered to the north above the Nabataean area of the site (Homès-Fredericq and Naster 1982; 1984; Naster and Homès-Fredericq 1979).

Khirbet Qarn al-Kabsh is one site in this region described by Glueck that appears to fit his pattern of a walled site located on high flat topped hill. It is a large site (2.7 ha) with large quantities of EB sherds which, from the publication, appear to be EB I-III. The Ḥesban survey describes this site (al-Qarn) as walled and exclusively Early Bronze, including EB III (Ibach 1988: 151). Another possible candidate is Jalul that is listed among the EB-MB sites by Glueck, although its pottery is described as mostly Early Iron with some from the Middle and Late Bronze (Glueck 1934: 5). The Ḥesban survey lists Jalul as one of three major sites in this area with substantial Early Bronze Age pottery. The others are Tell Iktanu, visited by Glueck in his Jordan Valley survey, and Tell al-'Umeiri which is not described by Glueck. The current excavations at Tell al-'Umeiri have excavated several phases of the late Early Bronze Age (possibly "late EB III" and EB IV pottery, Herr, personal communication) on the northern terrace of the tell (Geraty, Herr and LaBianca 1985). Umm al-'Amad is described as a fourth major site but with light representation of Early Bronze (Ibach 1988: 155). The survey recorded 46 Early Bronze Age sites in the Ḥesban area, with the Early Bronze dominant at eight sites. Ibach concludes that the "EB settlements were located mainly in well-watered areas where cultivation and vine dressing were convenient and defense was not a primary concern." (Ibach 1988: 155).

Again, in this area, the settlement patterns are much more complex than those discerned by Glueck. 'Ara'er and Khirbet Iskander represent two different types of settlement in the EB IV, unwalled and walled. Qarn al-Kabsh appears to be the best candidate for a walled EB II-III settlement. Other possibilities are Jalul, Tell al-'Umeiri, Khirbet Abu Khirqah and al-Lahun.

Between Wadi Ḥesban and Wadi az-Zarqa

TABLE 3 lists the Early Bronze Age sites recorded by Glueck between Wadi Ḥesban and Wadi az-Zarqa.

The heaviest concentration of EB IV sites recorded by Glueck occurs in this area, particularly along Wadi

az-Zarqa. Thirty sites are listed, although only four appear to be over 1 ha. Fourteen sites are described as walled and located on a high hill and from this group the pottery is published for six: Kowm Yajuz, Khirbet Umm ar-Rujum, ar-Ruṣeifeh, al-Qṣeir, Tell Faqqas and Tell ar-Reḥeil. Kowm Yajuz is described as on top of a high hill, enclosed by a great wall, and completely destroyed. The published pottery all appears to be EB III or earlier with no obvious EB IV forms (Glueck 1939: Pl. 12). Only one sherd each is published from the sites of Khirbet Umm ar-Rujum and al-Qṣeir, both of which are pushed up EB III or earlier ledge handles. Al-Qṣeir has recently been revisited by the team surveying the Baq'ah Valley and described as having an encircling defense wall with pottery from EB II-IV (McGovern 1980: 64). The pottery from Tell Faqqas (Pl. 16) and Tell ar-Reḥeil appears to belong to EB I and IV while that of ar-Ruṣeifeh is predominantly EB IV.

A recent survey in the ar-Rummam area lists 31 sites or parts of sites as occupied during the Proto-Urban but few sites (one is at-Tell) are assigned to the Early Bronze II-III. Two sites offered some EB IV evidence, Umm al-Basatin II (Pal. Grid 229.7/175.3) and Wadi Dulani I (site 34) (Gordon and Knauf 1987).

As in the southern regions, the published ceramic evidence is limited but it is clear that Early Bronze occupation is extensive. Many of the sites have traces of walls and are located on high hills with springs nearby and it seems to be this region that best testifies to Glueck's observed patterns. However, most of the sites also have Iron Age occupation. Only excavation will determine the history of these sites but it does appear that the larger sites such as Kowm Yajuz and al-Qṣeir definitely have EB II-III materials and these sites may reflect the patterns observed in the south and elsewhere in Palestine of the EB II-III town culture.

Conclusions

It seems clear that the true nature of the settlement patterns in the areas described will not emerge until many more sites are excavated. South of Wadi al-Ḥasa, there does not appear to have been extensive settlement during EB III-IV on the plateau. In the central region there are several very promising walled sites that seem likely to be fortified EB II-III sites such as Mudawarah, al-Lajjun and Rujm Birjes, while many others appear to be open village EB IV sites. Similar complex settlement patterns appear to be present in the north up to Wadi az-Zarqa, with the latter area apparently containing the largest number of Early Bronze walled sites but the later occupation of many of these sites calls for caution in assigning the construction of the walls to the Early Bronze Age.

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De l'occupation à l'utilisation de l'espace à l'aube de l'age du Bronze dans la région de Jérash et sa péripheire Orientale

La prospection de la région de Jérash que J.W. Hanbury - Tenison vient de publier[1] concernait surtout la période Proto-urbaine (PU) et dans un sens plus large, les périodes Chalcolithique et du Bronze ancien I-II; je n'ai pas la prétention de refaire ce que propose un spécialiste de ces périodes; le matériel céramique et lithique récolté au cours de ma prospection dans cette région et concernant cette période, ne modifie pas l'image d'ensemble de la documentation déja publiée. Cependant, mes observations de terrain, sur des traits caractéristiques des milieux physiques et l'intégration à ces milieux de structures communes, mais peu étudiées prace que difficiles à dater (tumuli, dolmens et enclos), permettent de dresser une nouvelle perspective.

D'emblée, je précise deux points de géographie.

1- Je définis la région de Jérash d'une manière un peu plus étroite que ne le fait Tenison. J'appelle région (ou district) de Jérash la partie orientale du massif de l'Ajlûn, depuis les hauteurs boisées de l'ouest (altitude: 1,200m, pluviométrie annuelle moyenne: 550mm) jusqu'aux hauteurs steppiques (1,000-800m et 300mm/an) qui limitent à l'est, la zone des affluents du Zarqa, riche en sources (ligne nord-sud: Ras Abu Iyyad - Medwar - Jabel Mutawwaq). Elle est limitée au nord par la ligne de crête qui sépare les deux bassins du Yarmuk et du Zarqa et au sud, par le Nahr ez-Zarqa lui-même. La région de Jérash est donc constituée de quatre vallées de la rive droite du Zarqa et de leurs interfluves. L'encaissement de ces vallées s'accentue vers le sud et vers l'ouest, jusqu' à former ce que l'on pourrait appeler des canyons; partout ailleurs, elles ont tendance à s'évaser et ménagent tantôt des fonds, tantôt des replats de versants aux sols riches. Le relief relativememt ouvert, le climat méditerranéen plus ou moins dégradé et les ressources en eau (précipitations et sources) donnent à la région de Jérash ainsi délimitée, une certaine unité. Pourtant la marginalité climatique qui permet ou exclut l'agriculture pluviale selon les variation cycliques, la présence ou l'absence d'encroûtement calcaire, la nature variée de sols plus ou moins stables, sont autant de facteurs de différentiation des milieux de vie. Ainsi s'opposent entre eux, les secteurs occidentaux et orientaux de cette région, justifiant alors de traiter la partie orientale comme un ensemble cohérent et spécifique.

2- Il convient de concentrer l'attention sur la partie orientale de la région, de Jérash à Medwar (secteurs X, XI et XII de la carte), et de la relier à la région périphérique située encore plus à l'est, mal connue jusqu'à présent et pourtant riche en sites et en structures de la période qui nous intéresse.

I- La région périphérique orientale

Pour intégrer les secteurs orientaux de la région de Jérash à la région périphérique orientale (secteurs XIII-XIX et XXX), une carte des deux territoires, jointe à un tableau analytique des données de la géographie physique et de l'archéologie présentant la région périphérique, suffiront (FIGS. 1 et 2).

L'occupation probablement saisonnière, dans la région périphérique, paraît avoir été plus intensive au Chalolithique final qu'au Bronze ancien I-II. Trois

[1]CF. "Jérash Region Survey 1984", *ADAJ* XXXI, (1987), pp.129-157. Je choisis de ne conserver ici la nomenclature chronologique de Tenison que pour les cartes, faisant apparaître ainsi le BAIA sous le nom de "Proto-urbain", afin de souligner au moins le caractère "charnière" de cette période située au milieu du 4e millénaire, du point de vue de l'évolution socio-culturelle des populations. Bien que ce terme spécifique puisse suggérer les chevauchements, a priori inévitables, des typologies céramiques et lithiques actuellement établies pour le Chalcolithique final et le Bronze ancien I, j'évite de l'utiliser dans le texte, car il manque encore à celles-ci les séquences stratigraphiques régionales qui devraient permettre de cerner correctement leurs rapports chronologiques (cf. S.W. Helms, "Jawa, Tell Umm Hamad and the EBI/Late Chalcolithic Landscape", dans *Levant* XIX, 1987, tableau, p.77).

Secteurs	Milieux physiques	Ensembles Chalc. final & Proto-Urbain	Ensembles Bronze Ancien I B - II
XIX	steppe très aride (<150mm/an); cuvette centrale WNW-ESE bordée de collines calcaires à relief doux et traversée en écharpe par une coulée de laves que le Wadi edh-Dhleil et sès affluents ont entaillée et dégagée en forme de plateaux et de mesas	au sud,3 ens. à gravures rupestres sur basalte et à sites d'habitat, d'enclos et de tumuli; rien dans la cuvette centrale; ens. à sites d'habitat et enclos et quelques séries de tumuli dans les collines nord	réutilisation épisodique probable des sites d'habitat et des enclos voisins (dont l'un au BM II !)
XVIII	steppe aride (250-150mm/an); collines calcaires à relief modérément accentué, vallons "en berceau", sols rouges et de mélange	4 ensembles importants de tumuli en séries dont 3 comportent habitat et enclos	réutilisation probable des sites d'habitat et des enclos voisins
XVII	même climat; auge centrale WNW-ESE, dite "cuvette de Belaama", bordée de vallées très évasées, riches en sols rouges	2 ens. d'habitat avec plusieurs enclos et un réservoir et avec tumuli; 2 ens. à enclos et quelques tumuli; 1 ens. à structures d'habitat et quelques tumuli	" " "
XVI	même climat; collines douces, vallées "en berceau", sols rouges et de mélange abondants	4 ens. d'habitat avec enclos nombreux et réservoirs; 4 ens. de tumuli en séries plus ou moins longues; quelques tumuli importants et isolés (étude incomplète du secteur)	
XV	steppe semi-aride (300-200mm/an); hautes collines, vallées encaissées, restes de sols rouges dans les fonds de vallées	2 ens. de tumuli en grappes (secteur peu étudié)	
XIV	steppe semi-aride (350-250mm/an); hautes collines, vallées encaissées vers l'ouest, sols rouges et de mélange dans les fonds des hautes vallées	tumuli en séries et tumuli isolés; 4 sites d'habitat avec ou sans enclos, proches des sources de Khreisan (étude incomplète du secteur)	une douzaine de champs de dolmens étirés en chaine selon un axe N-S
XIII	même climat; hautes collines, vallées encaissées vers le sud-ouest, sols rouges et de mélange dans les hautes vallées; petites sources	3 grands sites d'habitat:Zakhireh, Marajim et Makhadha avec tumuli en grappes; plusieurs petits groupes de maisons et enclos; séries de tumuli et murs de crête; groupe d'enclos (étude incomplète du secteur)	1 site d'habitat en forme de tell: El-Ain (peut-être un autre à Marajim); 7 champs de dolmens, dont le champ important de Hmeid
XXX	même climat; vallée à fond plat du Nahr ez-Zarqa, hautes terrasses fluviatiles et coulées basaltiques en plateau et placages; 5 sources importantes et rivière pérenne	3 sites chalc.de rive droite: Sukhneh, Ain Nimra et Mutawwaq-Khreisan (chalc.-PU) et un site de rive gauche: Nebi Haddad-versant sud (à l'ouest de la citadelle d'El-Bireh) (étude incomplète de la rive gauche)	2 sites d'habitat: Sukhneh (qui perdure jusqu'au BA IV) et Mghaniyeh; important champ de dolmens de Jebel Mutawwaq

1.

grands sites et de nombreux ensembles comportant habitat, enclos, réservoirs, voire tumuli en séries et gravures rupestres, en sont d'excellents témoins. Au Bronze ancien, les champs de dolmens datés a priori de cette période, répartis surtout selon des concentrations dans les secteurs XIII et XIV, puis vers l'ouest en groupes plus épars, prédominent sur les traces de réoccupation d'habitats antérieurs. On notera que trois sites nouveaux au Bronze ancien, voisins de sites chalcolithiques, et ayant plus ou moins la forme de tells (el-Ain, Marajim et Qnayeh, peut-être Meghaniyeh), paraissent avoir eu une occupation plus permanente et plus longue que les autres.

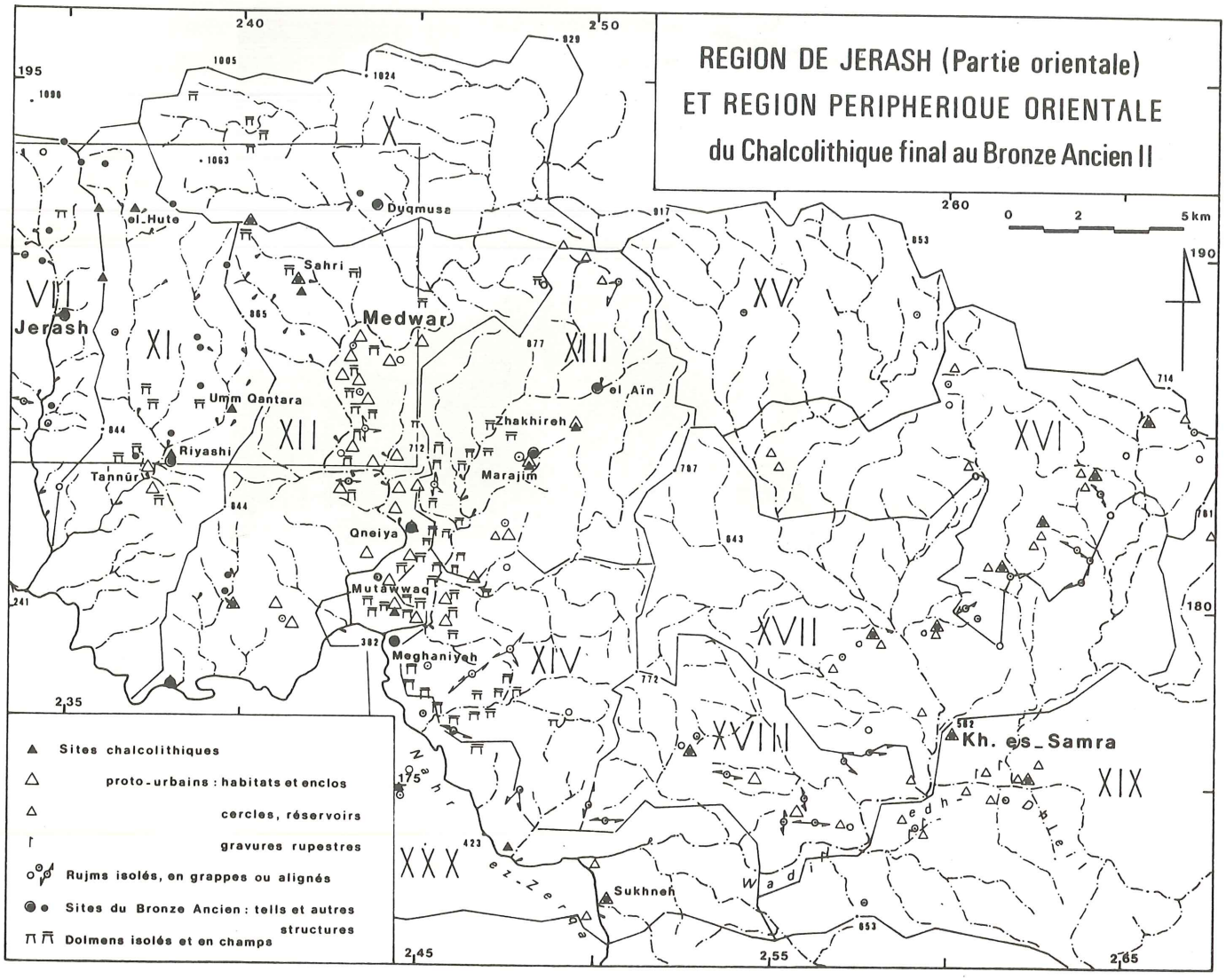
II- Surfaces érodées (FIG. 3)

L'érosion antique des sols est un processus difficile à dater ou à intégrer dans une échelle chronologique, là où manquent les dépôts colluvio-alluviaux avec materiel suffisammant groupé et datable, ou fossilisant des gisements archéologiques. Cependant, des repères de chronologie relative existent dans notre cas.

J'avais déjà signalé le rôle du processus pédologique d'encroûtement des versants et la fragilité des sols sus-jacents, dans l'évolution des milieux physiques aménagés par l'homme[2]. Cet encroûtement s'est développé dans la zone climatique des 400-150mm/an, c'est-à-dire dans la partie orientale de la région de Jérash ainsi que dans sa périphérie orientale. En fin de compte, il est une caractéristique essentielle pour toute la zone considérée. La croûte calcaire s'est fixée particulièrement sur des affleurements rocheux d'un certain type, à savoir les séries lithologiques où dominent les calcaires marneux - ici les séries du Cénomanien supérieur et de la base du Turonien[3]. Les affleurements et l'encroûtement qui les recouvre de manière plus ou moins continue, occupent de larges surfaces dans les deux bassins-versants situés immédiatement à l'est de Jérash. En raison de l'érosion et de la fragilité des sols sur encroûtement,

[2]Cf. SHAJ II, London, 1985, pp.225-226.

[3]CF. Lexique stratigraphique international, vol III, fascicule 10 cl: Jordanie, 2e édition, révisée par W.Heimbach, CNRS, Paris 1976, pp.61-63.



2.

les deux bassins-versants ont attiré mon attention sur les interventions humaines ayant provoqué ou accentué les processus naturels d'ablation.

L'occupation dense et l'utilisation intense de l'espace rural à époque classique, dans les secteurs orientaux de la région de Jérash, ont laissé des traces indubitables d'aménagement de certaines surfaces, surtout sur les croupes et le hauts des versants: parcellaire dense et chemins de desserte dans des zones aujourd'hui colonisées par une pelouse sur sols squelettiques ou pelliculaires devenus incultivables, zones livrées depuis lors au parcours des troupeaux. Cependant d'autres surfaces, à encroûtement continu et plus denudées que les précédentes, bien qu'à pente souvent plus faible, ne portent aucune trace d'aménagement antique. On en déduit qu'elles étaient devenues inutilisables pour l'agriculture avant même l'époque classique. Or, en remontant le cours des siècles, on ne retrouve d'occupation relativement dense dans ces secteurs, que durant la periode du Chalcolithique final et du Bronze ancien I[4], objet de notre étude. J'ai indiqué à la (FIG. 2), par une trame

[4]La prospection que j'ai menée peu à peu de 1982 à 1988 sur l'ensemble constitué par la région de Jérash et la périphérie orientale steppique a fait apparaître, pour la période couvrant le Bronze moyen et le Bronze récent, un vide relatif assez sensible dans les secteurs X, XI et XII - mis à part les zones de crêtes, l'environnement des sources les plus importantes et la vallée du Zarqa. La seconde partie du Bronze ancien (BA III et IV) est presque absente de la région de Jérash. En effet, elle ne paraît attestée qu'à Tell Riyashi et à Jérash/Ain Karawan. Il faut attendre le Fer I pour voir un renouveau relatif de l'occupation dans les secteurs orientaux de la région de Jérash (voir la communication de F. Braemer). Après le Fer II, c'est un vide encore plus complet qui semble s'instaurer dans ces trois secteurs jusqu'au début de l'époque romaine (une seule attestation hellénistique jusqu'à présent: anse rhodienne estampillée à el-Huteh - site 19 de Tenison - pourrait suggérer une reprise de l'occupation en pleine période hellénistique, mais il faudra attendre d'autres indices sur d'autres sites pour la confirmer).



REGION de JERASH – PARTIE ORIENTALE (Chalc. final - B A II)

STRATIGRAPHIE GEOLOGIQUE

Turonien: calcaires surtout cristallins encroûtement discontinu

Cénomanien:
étage supérieur: calcaires marneux encroûtement continu

étage moyen: calcaires noduleux parfois marneux encroûtement discontinu

étage inférieur: grès plus ou moins friables pratiquement sans encroûtement

EROSION DES SOLS : Zones très érodées

alternance d'affleurements rocheux, d'encroûtement et de poches de sols

encroûtement totalement décapé et sans sols

STRUCTURES ARCHEOLOGIQUES

dolmen isolé et groupe de dolmens ou tumuli

sites chalcolithiques (Chalc. final)

sites proto-urbains

sites du Bronze Ancien I-II :
tells
structures et artifacts
enclos

TRAITS PHYSIQUES

courbes isométriques tous les 100m

courbe isométrique intermédiaire (700m)

principaux talwegs :
cours d'eau pérenne
cours d'eau temporaire

sources

3.

particulière plus ou moins dense et surimposée, les zones fortement érodées parmi lesquelles je distingue celles relativement dénudées et celles qui le sont complètement: la croûte calcaire n'y a comme seule couverture qu'un semis irrégulier d'épineux (poterium spinosum) accrochés aux micro-fentes.

Deux traits généraux caractérisent ces surfaces fortement érodées: a] - exposition majoritaire à l'ouest et au sud-ouest; lorsqu'on les trouve exposées à l'est et au nord-est, elles mettent en évidence des relations particulières avec les sources, cf. infra; b] - pente forte ou moyenne des versants concernés (les zones les plus denudées ne sont pas nécessairement, ni d'une manière générale, celles qui présentent les pentes les plus fortes).

Pour leur interprétation géo-archéologique, je propose une hypothèse de travail dont l'argumentation peut être la suivante: 1-Il faut tout d'abord rappeler les deux types d'utilisation de l'espace, susceptibles après déboisement, de mettre en jeu des processus d'érosion: l'agriculture sans terrasses ni amendement des sols et le sur-paturage sur brûlis. 2-Confirmée par des observations récentes sur des retenues de sols au niveau des corniches bordant les sites du Bronze ancien I A dans le secteur XII, l'hypothèse d'une mise en culture de surfaces plus ou moins pentues, dès cette période ne doit pas être écartée; il faut dire que les sols cultivables des fonds de vallée, donc relativement stables, représentent encore aujourd'hui, dans les secteurs XI et XII, plus du 1/10 de leur étendue. 3-Il faut enfin rappeler les conséquences morphogénétiques des pratiques

agropastorales qui font alterner, sur les mêmes surfaces, cultures et pacages, surtout là où prédomine la pratique pastorale intensive. Le piétinement répété des sols dénudés, déjà partiellement déstructurés par des cultures répétitives, les rend particulièrement fragiles aux processus d'érosion. On remarquera alors la trame quasi-continue que dessinent sur la carte les zones les plus érodées, en particulier dans le secteur pourvu de nombreuses petites sources (nécessaires aux troupeaux), là où trois vallons orientés est-ouest et relativement évasés assurent des jonctions faciles entre les deux bassins-versants d'axe nord-sud. Tout cela suggère un réseau de parcours de troupeaux surimposé à des surfaces potentiellement cultivables et postule une utilisation mixte de ces zones avec dominance pastorale.

III - Tumuli, dolmens et grands enclos polygonaux

Les deux types les plus courants parmi les structures funéraires du Chalcolithique-Bronze ancien, les tumuli-cistes et les dolmens, sont des éléments d'occupation de l'espace suffisamment nombreux dans la région de Jérash et sa périphérie orientale, pour que leur répartition géographique et leur relation avec l'érosion des sols permettent de tirer quelques conclusions significatives.

Sur leur lien avec les phénomènes d'érosion, deux points paraissent s'imposer.

1- Les tumuli, dont le bourrage est constitué de petites pierres, furent contemporains d'un déboisement ou proche dans le temps. Les deux raisons principales sont d'abord, l'enfoncement quasi constant des cistes funéraires dans l'épaisseur d'un sol puis, la présence fréquente et en grande abondance des cailloux à depôt calcique (ceux-là même qui apparaissent dans les coupes de terrain, en forte concentration à la base des sols). Leur utilisation en grand nombre dans les tumuli, oblige à considérer leur disponibilité comme témoin d'un certain degré d'érosion des sols environnants, après arrachage des souches d'arbres (essartage).

2- Les dolmens sont liés à une érosion nettement plus avancée, puisque les monolithes verticaux reposent en général sur le roc nu et sont maintenus par un podium fait de gros blocs rapportés.

En conséquence, la position topographique des tumuli, disposés essentiellement en séries alignées sur les croupes ou crêtes et de préférence sur leurs points éminents, cependant pourvus de terre, s'oppose à celle, beaucoup plus variée, des dolmens. On voit en effet ceux-ci, soit dispersés, soit regroupés en grappes ou en véritables "champs", en bas de versant aussi bien qu'à mi-pente ou en haut de versant, de préférence dans les zones d'affleurement de bancs rocheux pré-débités. Les dolmens attestent donc une érosion très avancée des versants, aussi bien en bas qu'en haut. Cela induit nécessairement, entre tumuli et dolmens, une place différente dans l'évolution du milieu physique – évolution ici irréversible – et dans la chronologie.

Également instructive me paraît la répartition géographique des tumuli et des dolmens (FIG. 2). Les tumuli se répartissent des environs de Khirbet es-Samra à l'est, aux hauteurs dominant le Nahr ez-Zarqa et le Wadi Sahban-Qnayeh à l'ouest (confins orientaux de la région de Jérash proprement dite). Ils réapparaissent à nouveau, semble-t-il, dans des secteurs plus proches de Jérash mais en petit nombre seulement et sur des hauteurs ou sur des croupes proches des sources.

La zone de répartition des dolmens recoupe partiellement celle des tumuli, car ils n'apparaissent qu'à l'ouest d'une ligne el-Ain-Sukhneh. De cette ligne à la vallée de Sahban-Qnayeh, on connaît une douzaine de champs de dolmens, parfois si proches les uns des autres qu'ils forment une chaîne presque continue. A l'ouest de cet ensemble bien caractérisé, les dolmens se présentent plutôt en grappes moins fournies et plus distantes les unes des autres (mis à part un ensemble proche des sources de Riyashi et-Tannûr, où il s'agit de dolmens particuliers).

Répartition géographique, localisation topographique et relation aux processus d'érosion des sols, donnent l'impression d'une progression d'est en ouest du déboisement et de l'érosion consécutive que ces structures funéraires semblent accompagner. Ceci témoigne aussi du progrès d'est en ouest et de l'efficacité toujours plus redoutable des processus humains et naturels conjoints. Les ressources en eau, nettement plus abondantes dans les secteurs orientaux de la région de Jérash que dans ceux de la périphérie, auront certainement conduit une population relativement importante, à opérer sur leur milieu de vie des déboisements rapides, généralisés et répétés et des pratiques culturales et pastorales plus ou moins intenses[5].

Chronologiquement, les tumuli paraissent associés à du matériel chalcolithique final et Bronze ancien I : herminettes, hachereaux, grattoirs ta-

[5]Appliquée à la période néolithique, l'hypothèse d'une pression excessive, provoquée par une économie mixte de type agro-pastoral dans des milieux marginaux fragiles, pour expliquer l'abandon de la plupart des sires PPNB du Levant sud, a été proposée et solidement argumentée par I. Koehler-Rollefson. CF. "The Aftermath of the Levantine Neolithic revolution in the light of the Ecological and Ethnographic Evidence", dans Paléorient XIV / 1, 1988, p. 87-93. Cette hypothèse me paraît pouvoir être appliquée au moins aux secteurs orientaux de la région de Jérash à l'aube de l'âge du Bronze.

bulaires, lames à dos, tandis que les dolmens pourraient couvrir une longue période d'utilisation à partir du Bronze ancien I.

Un type particulier de tombes, découvertes en grand nombre dans le secteur XI (au nord de Ain Tannûr) et à la confluence du Nahr ez-Zarqa et du Wadi Jérash, pourrait être daté du Bronze ancien IB d'après le matériel céramique sorti d'une tombe récemment pillée. Il s'agit de tombes creusées dans le roc (calcaire ou grès) soit en falaise soit en affleurement subhorizontal plus ou moins démantelé. Elles sont soit entièrement creusées dans le roc, présentant alors une entrée frontale quadrangulaire presque carrée (avec fenêtre sommitale en plus, observée dans deux cas), soit partiellement creusées. Dans ce dernier cas, la cuve funéraire, tout en présentant une entrée frontale, est couverte soit par une grosse dalle (ou plusieurs dalles), soit par un petit dolmen et, comme pour tous les dolmens, protégée par un tumulus de gros blocs, au moins pour le podium. Les tombes sont monocellulaires ou bicellulaires. Dans ce dernier cas, les chambres sont placées soit en enfilade, soit perpendiculairement l'une par rapport à l'autre. Leurs dimensions permettaient des ensevelissements soit en position allongée (170-190 cm), soit contractée (85-110cm). Assez souvent, le démantèlement de l'affleurement rocheux a continué, partageant en deux, les tombes elles-mêmes. Il ne reste alors que des niches perchées plus ou moins haut sur une corniche, ou au ras du sol actuel, parfois même dans un bloc erratique basculé[6]. L'érosion a été importante dans les zones des nécropoles concernées.

Il faut au moins mentionner les grands enclos isolés ou jumelés qui ont été repérés sur quelques croupes ou replats du secteur XI. Généralement polygonaux, certains gardent trace d'un habitat saisonnier et la céramique permet de les dater du Bronze ancien I-II. Témoins des pratiques d'élevage de cette période, ils semblent avoir été utilisés ultérieurement, au moins jusqu'au Bronze moyen II.

Conclusion:

Si les sites Bronze ancien I-II de la région de Jérash témoignent, comme l'a montré Tenison, d'une économie de production toujours plus agricole, ses secteurs orientaux semblent avoir été consacrés, toujours davantage, à l'élevage, en raison même de la dégradation que les pratiques liées à cette forme d'économie mixte, auraient fait subir au milieu physique. La région de Jérash (ses secteurs orientaux tout particulièrement) aurait ainsi été marquée d'une manière durable dès le Chalcolithique final et surtout au Bronze ancien IA et B. Cette période aux contours encore mal definis, que certains (dont Tenison) continuent à désigner "Proto-urbain" depuis K. Kenyon, attire donc sur elle l'attention des chercheurs jusque dans le domaine de l'utilisation de l'espace qui relève de la géo-archéologie et de l'ethno-archéologie.

[6]Il semble que ce type de tombes ait été noté dans la vallée du Wadi es-Sîr comme dans celle du Wadi Kufrinjeh (communications orales de F. Villeneuve et de J. Greene respectivement).

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Shifts in Settlement Patterns of Late Bronze and Iron Age Ammon

The issues to be addressed in this paper include the geopolitical and ethinic boundaries of ancient Ammon through time and space, as well as the type of material culture held in comon by the various parts of the region and how that material culture reflects the larger processes of cultural, economic and social change. Most of the discussion is based on the results of the Madaba Plains Project.

The terms "Ammon" and "Ammonite" may be applied to an ethnic entity of central Transjordan that is best defined during the late Iron II period. At this time aspects of the material culture and epigraphy suggest a coherent, unified ethnic consciousness, separate from other groups nearby. Primarily beginning with the work of Lugenbeal and Sauer (1972), a growing awareness of the distinctive late Iron II pottery forms of this region has taken place. At the same time epigraphists have isolated a script and language that can be called "Ammonite" (Cross 1975; Herr 1978: 55-78; Aufrecht forthcoming).

Distinctive elements of this culture are found almost exclusively north of Madaba and south of Wadi az-Zarqa. Sites outside this region have produced very few of the typical "Ammonite" late Iron II pottery forms found, for example, at Tell Ḥesban (Lugenbeal and Sauer 1972). Likewise, the script which epigraphists call "Ammonite" has been found in this same area (Cross 1975).

The precise southern boundary of the culture was probably the Madaba-Jalul region. Iron Age tombs at Mount Nebo, just a few kilometers from Ḥesban, did not produce typical Ammonite pottery (Saller 1966). The probable northern boundary was Wadi az-Zarqa, because, while the Ammonite corpus of late Iron II pottery is apparently represented at Deir 'Alla and Tell al-Mazar (Yassine 1988), very little was found at Tell as-Sa'idiyeh just a few kilometers to the north (Pritchard 1985). In the east, it apparently extended unbroken to the desert, while it did not occur at Jericho in the west. These seem to be the borders of the region of Ammon in contemporary Assyrian and biblical texts.

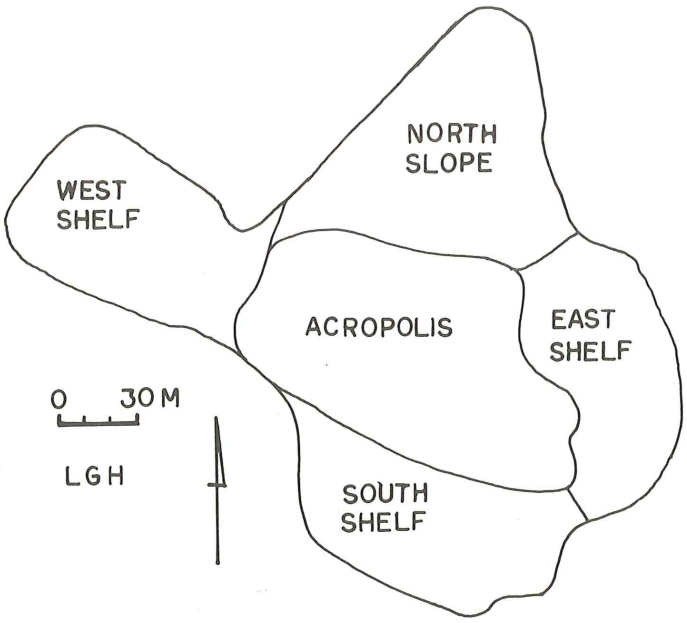
The chronological boundaries of Ammon are somewhat more difficult to define clearly. The Ammonite script seems to last at least until the middle of the sixth century B.C. in its cursive form on the Ḥesban ostraca (Cross 1975). At that time scribes replaced it with the Aramaic script which seems to have lasted to the end of the sixth century B.C., again on the Ḥesban ostraca (Cross 1975). The distinctive corpus of pottery seems to have also lasted at least through the sixth century and possibly into the fifth. An Attic sherd and other early Persian forms were discovered with Ammonite forms in fill beneath the floor of the latest Ammonite citadel at Tell al-'Umeiri.

To trace this culture in the earlier Iron Age centuries is, however, more difficult. The Amman Citadel Inscription of the ninth century may be considered Ammonite (Cross 1969), but a distinctive local ceramic corpus of early Iron II and Iron I has not yet been isolated. However, it would seem reasonable to infer that the "Ammonite" culture of late Iron II was the product of the growth of a coherent ethnic group from earlier periods.

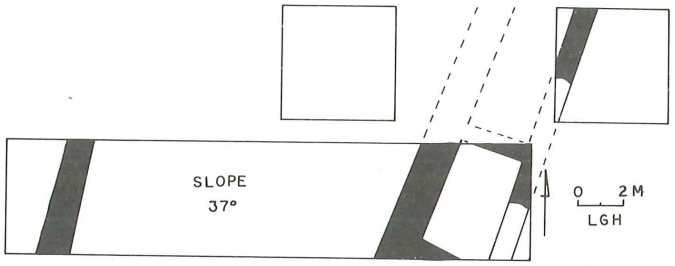
The ethnicity of the region, or indeed the demography and the subsistence patterns of its inhabitants, in the Late Bronze Age is almost completely unknown. At present, we should probably not speak in terms of "Ammon" and "Ammonites", though it is equally difficult to suggest they materialized out of nowhere.

Five seasons of excavation at Tell Ḥesban in the 1960s and 1970s and three at Tell al-'Umeiri by the Madaba Plains Project have shown that a series of five broad cycles of settlement intensification and abatement took place in the frontier region of central Transjordan, especially on the plateau. The processes of intensification and abatement refer not only to quantities and sizes of sites, but also changes in sophistication and specialization in economics, society, and culture. The second cycle included a long, gradual intensification during the Iron Age with a somewhat more rapid abatement during the early Persian period.

Tell al-'Umeiri was primarily occupied from the Early Bronze Age to the early Persian period. After a random surface survey and three seasons of excavation, we suggest a steadily shrinking settlement through time. From a maximum size in EBIII, when all parts of the site were occupied (FIG. 1), each subsequent settlement gradually diminished in size to a minimum during the early Persian period. However, the economic and social strategies of the inhabitants do not seem to reflect the same linear pattern of degeneration. Indeed, the greatest prosperity and highest degree of job specialization probably occurred while the site was near its smallest size during late Iron II. The



1. Sketch map of the sectors of settlement at Tell al-'Umeiri.



2. Sketch map of the Iron I casemate fortification system at Tell al-'Umeiri.

settlement history which follows is tentative, pending future excavation.

During the Late Bronze Age, Tell al-'Umeiri was an exception to general regional settlement patterns. The late MBII occupation, with its earthen rampart, continued into early LB, although the size of the settlement seems to have been reduced by about half (*c.* 1.17 hectares). No LB architecture has been found outside the acropolis (FIG. 1). However, extra-urban activities, such as terracing, were suggested by remains on the north slope and east shelf. It would seem that, compared to the MBII city, the LB remains reflect an abating settlement, both in terms of size and sophistication of social and economic forces. While evidences of trade have been found in MBII deposits, no imported LB material has so far been found, except one probable example of base-ring ware.

In the central plateau, occupation was in an abated state. There is no doubt that town settlements, such as al-'Umeiri, Saḥab, and Umm ad-Dananir occurred, but they were relatively rare and small in size. Little activity seems to have occurred in rural areas. However, this was not the case in the Jordan Valley where LB sites are more frequent.

During Iron Age I the settlement again seems to have been no larger that the acropolis (*c.* 1.17 hectares). However, economic and social intensification is suggested by the construction of a casemate fortification system (FIG. 2). Excavations have uncovered both the outer and inner walls, as well as two crosswalls. Stacked inside the casemate room were at least 13 storejars, almost all of the collar-rim variety. Running up to the outer wall was a beaten-earth rampart (*glacis*), the upper levels of which were laid in layers corresponding to the stone courses in the outer wall, strongly suggesting that the primary purpose of the rampart was to support the wall. The latest pottery in the rampart from top to bottom was Iron I. At the base of the rampart a dry moat *c.* 3.5m deep was excavated out of the bedrock.

Such a strong fortification system would suggest significant civic or governmental involvement, which infers extensive job specialization and regional economic interaction. In mid to late Iron I a massive destruction laid the town waste. Two meters of debris, including wooden beams, covered the casemate room and, even in other areas of the site, an ash layer separates Iron I from Iron II.

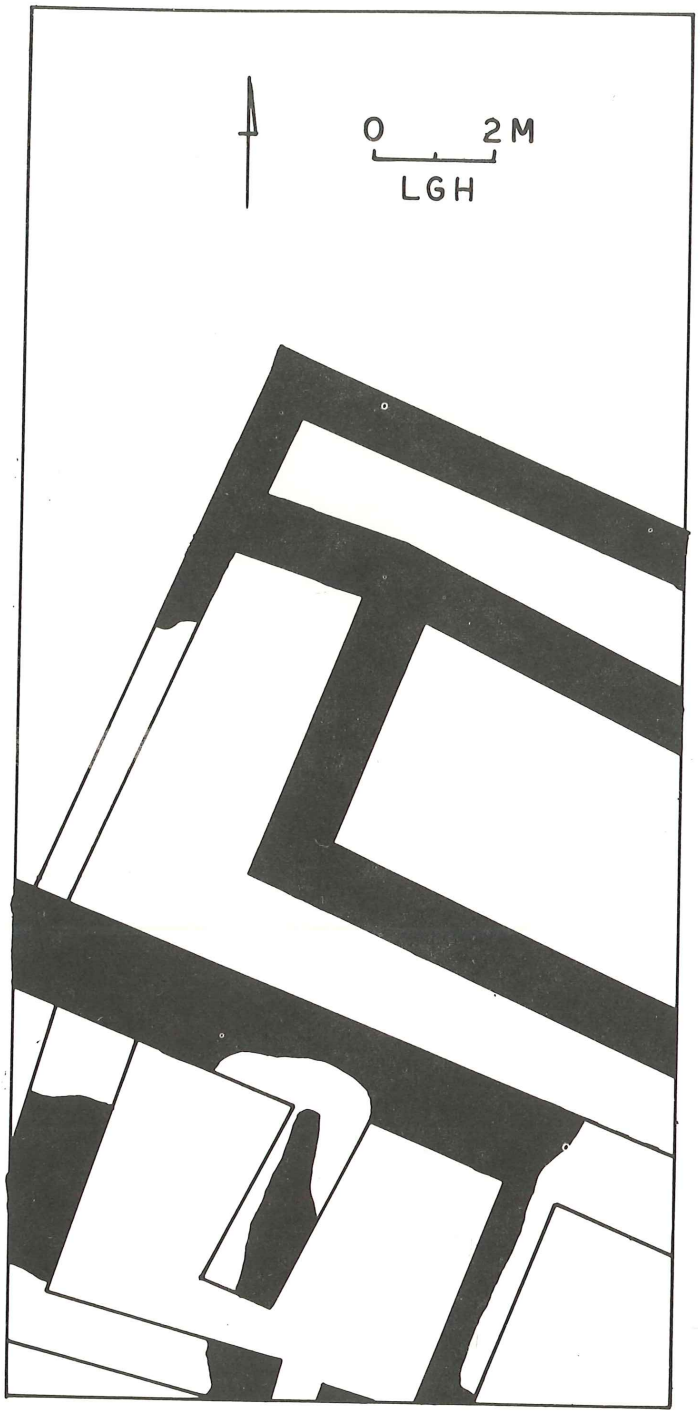
At nearby Ḥesban occupation began in the Iron I period. However, virtually all of the remains were destroyed by later occupation. What remains suggests that the settlement was an unfortified village. Elsewhere in the region, surveys have shown that many small settlements were founded. It would seem that this period of intensification represents the settlement of the groups that would become the various nations known from Assyrian and biblical literary texts in the Iron II (eg. Ammonites, Moabites, Israelites).

During early Iron II at Tell al-'Umeiri, the settlement did not grow outside the LB and Iron I limits of the acropolis (FIG. 1). Indeed, the inner wall of the casemate fortification system went out of use, giving way to a domestic storeroom. The outer wall and the rampart, however, continued in use. It would thus seem that the site experienced a slight abatement, at least as far as maintenance of infrastructure is concerned.

At Ḥesban, however, significant intensification is implied by the construction of a large reservoir near the top of the mound, perhaps as early as the ninth century B.C. Such a large structure suggests either a great deal of civic energy or the involvement of a central government.

With the seventh century B.C. the process of change at Tell al-'Umeiri took a significant turn toward intensification, although the settlement became smaller. Excavation on the eastern shelf produced a possible gate complex, though the foundations for the structure were very shallow. Fortification lines are traceable only around the acropolis.

Although the small size of the site would appear to belie the assertion that intensification was taking place at the time, a major construction project occurred at the western edge of the acropolis that can only be interpreted as indicating economic and social intensification. Two seasons of excavation have uncovered large foundations for what we have called the "Ammonite Citadel" (FIG. 3). The builders first excavated a large area through early Iron II and Iron I strata for the basement foundations of the



3. Sketch map of the late Iron II Ammonite citadel at Tell al-'Umeiri.

structure. They then laid the basement walls for a large, thick-walled structure. A seal impression of the servant of the Ammonite king Ba'alyasha' was found here in 1984, suggesting the area was used to house governmental officials and their activities. The settlement seems to have taken on a highly specialized social function reflecting the activities of a centralized government.

Nearby, domestic occupation was indicated by a four room house and a second, larger house which included many domestic objects. The great quantities and high quality of small finds from this period suggest that, in spite of its small size, this was the most prosperous settlement so far encountered at the site.

Along with the decrease in site size was an apparent decrease in concern for security. The city wall in the west was not thick and the walls for the "gate" on the eastern shelf were not founded very deep. Moreover, at the same time, the region around 'Umeiri was apparently secure enough for small rural settlements to proliferate. Surveys have found the region dotted with agricultural complexes of all sizes.

The Ḥesban and 'Umeiri surveys, among others, have located scores of late Iron II sites, from large urban settlements to small agricultural complexes and field watchtowers. Job specialization and capital investment in large-scale projects, probably by a central government, is evidenced eveywhere.

The Ammonite Citadel was rebuilt, with a reduction in both size and quality of construction, in the early Persian period (a small Attic sherd was found beneath the floor of the rebuild). On the eastern shelf the possible gate went out of use and was replaced by a series of pits and ephemeral terrace walls representing a less intensive pattern of use. The abatement leading to the abandonment of the settlement at Tell al-'Umeiri was therefore more gradual than sudden.

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Settlement Patterns of the Late Bronze and Iron Ages in the Greater Amman Area

Any reconstruction of the Late Bronze and Iron Age settlement patterns in the Greater Amman area is fraught with difficulties and hence very hypothetical. The data base primarily consists of a small number of published tomb groups and single period sites (of debatable contemporaneity with better dated assemblages in neighbouring countries), stratified sequences (with occupational gaps and few absolute dating markers), and surveys (often done non-systematically).

The limited data base directly affects the temporal and geographical frameworks of this study. The Late Bronze and Iron Ages broadly date to *c.* 1550-400 B.C. A relative sequence of well-attested archaeological horizons is generally agreed upon, but, without better chronological controls, absolute dating is very approximate, viz., LB I (*c.* 1550-1400 B.C.), LB II (*c.* 1400-1200 B.C.), Iron IA (*c.* 1200-1050 B.C.), and Iron IIC/Persian (*c.* 650-400 B.C.). Iron IB-C and IIA-B are especially problematic for the Amman area, although well attested elsewhere in the country (e.g., the Jordan Valley and Edom). Some periods are already quite long and eventually will probably be divided into shorter phases. Yet, in at least one instance, viz. Iron IIC/Persian, further extension, down into the Hellenistic period, is not unlikely.

Massively constructed Late Bronze and Iron Age buildings, unique to the Amman area and distributed over an approximately 20km radius from the Citadel, provide a regional framework, at least to a first approximation. This area includes Saḥab, the Baq'ah Valley, and Tell al-'Umeiri, which today are outside the Greater Amman governorate (Hashemite Kingdom of Jordan 1987: FIG. 4.4).

Late Bronze Age Settlement Pattern

Tomb groups account for most of the published Late Bronze Age evidence, including the Citadel (Harding and Isserlin 1953; Ward 1966; Piccirillo 1978), Jabal an-Nuzha (Dajani 1966b), Saḥab (Dajani 1970), and the Baq'ah Valley (McGovern 1986). These tombs contained multiple burials, and probably span several generations. Based on typological parallels with better dated contexts west of the Jordan River, LB I and late LB II materials appear to be best represented, with possible extensions of these periods back into the Middle Bronze Age and down into the Early Iron Age, respectively.

Late Bronze Age architectural remains and associated artifacts have been excavated at the Amman Airport in Marka (Hennessy 1966, 1970; Ward 1964; Hankey 1974; Herr 1983), Saḥab (Ibrahim 1974; 1975b), and in the Baq'ah Valley (McGovern 1986: 61-63; 1989). Nine Late Bronze Age sites were documented in the northeastern Ḥesban/Madaba Plains surveys, including Tell al-'Umeiri West, Umm as-Sarab, Jalul and Iktanu (Ibach 1981; Geraty *et al.* 1986: 125-126). Transitional MB/LB and LB/early Iron sherds were associated with Rujm al-Ḥenu East in the middle of the valley (McGovern 1980; 1983; 1986: 11-13). Fragments of 'Ajjul Bichrome and Egyptian-style blue-painted wares (Dornemann 1983: 22) and a unique jug (Bennett and Northedge 1977-78: 178) were also found on the Citadel in poorly stratified contexts.

Although extremely limited, the combined published LB evidence from excavation and survey cannot be explained as primarily due to a "nomadic" or pastoralist population in the area. Large burial deposits, in which males and females of all ages had been buried together with hundreds of whole pottery vessels and other artifacts, were common throughout Late Bronze Age Palestine. The similarities of the Amman burial assemblages with those of tomb groups (e.g., Lachish, Gezer, Megiddo, Pella) found along the coast and in the main inland valleys are especially noteworthy, since the latter were definitely associated with well-established sedentary communities.

The architectural evidence accords with a sedentary way of life. Saḥab (Ibrahim 1974, 1975b) and Tell Safuṭ (Wimmer 1987) had exterior fortification walls. The *Quadratbau* architectural layouts of the Amman Airport Building and structures in the Baq'ah Valley (Khirbet Umm ad-Dananir and Rujm al-Ḥenu East) conform to a courtyard type that had a long history in Palestine (Yassine 1983). The bone (human and animal, burnt and unburnt)

and artifactual remains (e.g., miniature and zoomorphic vessels, imported pottery) from the Amman Airport Building and the Khirbet Umm ad-Dananir structure argue strongly for their use in the cult (McGovern 1989). The buildings might have been located some distance from the main areas of occupation — possibly under the terminal at the Amman Airport and on a higher terrace at Khirbet Umm ad-Dananir, as were the Mount Gerizim *Quadratbau* structures near Nablus (Boling 1975).

As a working hypothesis, it may be proposed that small sedentary Late Bronze Age communities were distributed throughout the Greater Amman area and centered around a larger city-state on the Citadel. These communities were probably also integrated economically and socially to some degree. The large sectors of the area lacking Late Bronze Age remains are most likely the result of non-systematic surveying, deeply buried deposits, and/or misdating of the pottery; where intensive surveying has been carried out, a low density of small sedentary communities, close to springs and in the vicinity of arable land, has been noted.

Iron Age Settlement Pattern

The primary evidence for Iron Age settlement in the Greater Amman area is also derived from tomb groups. For Iron IA, burial caves at Saḥab (Dajani 1970; Ibrahim 1972; 1975a) and in the Baq'ah Valley (McGovern 1986) have been published. Numerous Iron IIC/Persian tombs can be cited: the Citadel (Harding 1951; Harding and Tufnell 1953), Jabal aj-Jofeh (Harding 1945; Dajani 1966a), Jabal 'Amman (Harding 1951), Saḥab (Harding 1948; Ibrahim 1972), Meqablein (Harding 1950), Khilda (Yassine 1988: 11-31), Umm Udheina (Hadad 1984), and Abu Nuṣeir in the Baq'ah Valley (Abu Ghanimeh 1984).

Most distinctive of Iron Age settlement in the Amman area are the many circular (*rujm malfuf* type) and rectangular (*qaṣr* type) buildings, constructed of huge boulders. Survey evidence is cited in Glueck 1937; 1939; de Vaux and Benoit 1938; Department of Antiquities 1973; Hashemite Kingdom of Jordan 1987; Gese 1958, Hentschke 1960, Fohrer 1961, Reventlow 1963, and von Rabenau 1978 for the western suburbs; Ibach 1978a, 1978b, and Geraty *et al.* 1986 for the northeastern Ḥesban and 'Umeiri region; and McGovern 1980, 1985, 1986 for the Baq'ah Valley. An unpublished survey of the Jubeiha and University of Jordan sector (Muheisen 1976) has recently been translated by K. 'Amr of the Department of Antiquities. A dissertation on the subject is being prepared by C. Cretaz (1986).

Some of these buildings are quite comparable to the LB *Quadratbau* type (above): Qaṣr aṭ-Ṭabaqa (Gese 1958: FIG. 3), Jabal al-Akhḍar (Khouri 1988: 26, with plan), and al-Mabrak (Yassine 1983). Others have casemate rooms surrounding a large open courtyard — Khilda (Yassine 1988: 15, FIG. 2) and Rujm al-Ḥenu West (McGovern 1983: FIG. 3). Somewhat irregular layouts have also been noted (e.g., Hentschke 1960: FIGS. 8, 9, 11), and completely isolated towers occur (e.g., Glueck 1939: 159). More rarely, the architectural types are combined together to form extensive complexes, e.g., Khirbet Muḍmar in the center of the Baq'ah Valley (McGovern 1983: PL. 19.2). They are often built upon exposed outcrops of bedrock, close to cultivatable land.

Early explorers were understandably intrigued by these "megalithic" buildings, and dated them to the "prehistoric" period (Mackenzie 1911: 39; Watzinger 1933: 22-24) or Roman times (Conder 1899: 193). Recent test soundings suggest that the majority of these buildings belong to the Iron IIC/Persian period. Excavations at Khirbet al-Ḥajjar (below), Rujm al-Malfuf South (Thompson 1973), Rujm al-Mekheizin (Thompson 1984), and Rujm al-Ḥenu West (McGovern 1983) support this dating. The preponderance of Iron IIC/Persian pottery sherds near many other structures implies that they also date to this period. Both Iron I and IIC/Persian surface sherds were found at Khirbet al-Ḥajjar in the western Greater Amman area. Excavation (Thompson 1972; 1977) revealed three phases of Iron I occupation, in association with three undefined walls. A gap of several hundred years followed before the circular tower was constructed in the Iron IIC/Persian period (seventh-sixth centuries B.C., according to the excavator). Many other such structures probably belong to some phase of the Iron Age (see Glueck 1937: 19; 1939: 157, 165-166; the western series of buildings investigated by the German Institute of Archaeology; Hashemite Kingdom of Jordan 1987: 4.62-72; Muheissen 1976), but test soundings have sometimes shed doubt on survey dating (cf. Boraas 1971 with Glueck 1939: 165-166).

Other survey evidence is better controlled. The northeastern Ḥesban/Madaba Plains survey, overlapping partly with the area covered by the German investigators, was very intensive and systematic. Consequently, more sites were located, and greater confidence can be placed in the pottery dating. Although the data is yet to be fully synthesized and published (see Ibach 1978a; 1978b; Geraty *et al.* 1986; LaBianca 1990), *qaṣr* and *rujm malfuf* type buildings predominated in Iron I and II, especially the latter period. Because of their proximity to arable land and associated installations (e.g., presses for olives or grapes and millstones for grinding), these structures are interpreted as "farmsteads" (Geraty *et al.* 1986: 123-124; LaBianca 1990).

The survey evidence from the Baq'ah Valley fits a similar pattern as that from the Ḥesban/Madaba Plains survey. The numerous *qaṣr* and *rujm malfuf* type structures throughout the valley date primarily to Iron IIC/Persian, although some earlier Iron II and Iron I sherds were also recovered (McGovern 1986: TABLE 1). Buildings were located close to arable land but not on it. The environmental setting of a large complex of buildings at Khirbet Muḍmar in the center of the valley, which were built on bedrock shelves in midst of fertile fields, points to it being a large farming community. Where soundings have been

carried out (e.g., Rujm al-Ḥenu West — McGovern 1983), agricultural activities have been well substantiated. Some of the buildings might also have played a defensive role, although the standard watchtower hypothesis (Conder 1899: 193; Mackenzie 1911: 25-26; Gese 1958: 57; Landes 1964: 72-74; Glueck 1939: 163, 165-167; 1970: 183; Sasson 1979), in which the primary function of the buildings was to protect approaches to Amman, will probably require substantial modification.

Saḥab provides the best excavated example of continuous sedentary occupation from the Late Bronze into the Iron Age (Ibrahim 1974; 1975a; 1975b). The Iron IA remains are particularly extensive, including houses and storage caves. A gap in occupation followed the destruction of the Iron IA town, after which a smaller but more carefully planned settlement with a complex of pillared and rectangular rooms was built in the Iron IIC/Persian period. The same periods emerge as the most important at Khirbet Umm ad-Dananir (McGovern 1989). Iron IIC/Persian architectural and artifactual remains are well represented at the Amman Citadel (Zayadine 1973: 28-35) and Tell al-'Umeiri (Geraty *et al.* 1986). The fortification walls excavated at the Citadel by Dornemann (1983: 89-103) appear to belong to the tenth-ninth centuries B.C.

Comparable to the LB II settlement pattern, the available Iron Age evidence is best accounted for by a network of small, dispersed villages throughout the Greater Amman area, centered on the Citadel. The apparent gap or diminished occupation of the area in later Iron I and the early phases of Iron II may be due to the poorly established pottery chronology and/or limited surveying and excavation. The immediately succeeding period, Iron IIC/Persian, however, is one of the most intensively occupied episodes in Amman's history. Although irrefutable excavation evidence is lacking, the placement of sites near arable land and the increased subsistence requirements of what is evidently a much larger population (based on the number and size of buildings) indicate that agriculture was crucial to the economic prosperity of the period. Greater specialization, most often associated with more complex, hierarchical societies, is attested by the extremely well-made, wheel-thrown pottery and artistic productivity, including unique sculpture (Dornemann 1983: 153-164).

Broader Implications and Future Prospects

Up until the Iron IIC/Persian period, the number and sizes of settlements appear to be relatively constant throughout the area. Late Bronze Age remains are better attested than those of Iron I and/or Iron IIA-B in certain sectors of the area, especially when intensive survey has been followed up by excavation. Some Late Bronze Age sites were newly founded, such as Khirbet Umm ad-Dananir, Rujm al-Ḥenu East, and the Amman Airport Building, and other sites (the Citadel and Saḥab), which were occupied in both periods, show no signs of destruction between the Middle and the Late Bronze Age. The implication is that sedentary occupation increased in the area during the Late Bronze Age and that transition from the Late Bronze to the Iron Age in the Greater Amman area was not marked by major military upheaval. Similar findings have been reported for the Jordanian plateau north of Wadi az-Zarqa and for Moab (Boling 1988: 13-18). In other sectors of the Greater Amman area, however, a decrease in Late Bronze Age sites, which moreover are in different locations than the Middle Bronze Age sites, suggests a divergent settlement pattern development (Boling 1988: 30-35). Whether or not the more general phenomenon of an increased number of Late Bronze Age settlements in Transjordan is inversely correlated with a decrease and a reduction in the size of sites west of the Jordan River (Gonen 1984) cannot be assessed until more intensive survey and excavation has been carried out in Transjordan.

The unique architecture of the Amman area, including courtyard type buildings constructed of massive boulders, has a long history, extending from at least the Late Bronze Age to Roman times. Where intensive surveys and excavations have been carried out in the study area, however, the Iron IIC/Persian period clearly stands out as a "building boom". Whether single buildings or huge complexes, the structures are most often sited on bedrock outcrops close to arable land. The most plausible interpretation of the settlement pattern is that the buildings are primarily farming communities and/or associated agricultural installations. This hypothesis does not rule out their exclusive or concomitant use for defensive, political, religious, or other economic purposes. As more exact dating of these structures is established by excavation, it may be possible to reconstruct a gradual intensification process beginning in the early Iron Age and reaching a climax in Iron IIC/Persian (LaBianna 1990). Alternatively, some combination of political factors (alliances of Ammon with Assyria and Babylonia; movements of peoples from west of the Jordan River onto the plateau after the Babylonian devastation of Jerusalem and Judea) may explain the extraordinary build-up in Iron IIC/Persian.

Sadly, it may already be too late to recover an adequate data base for reconstructing settlement patterns in the Amman area. Thirty years ago, many ancient structures dotted the landscape; perhaps half that many remain today, as detailed in the comprehensive development plan of the Greater Amman Council (Hashemite Kingdom of Jordan 1987: 4.62-72). Intensive surveys in sectors as yet relatively unaffected by modern development may yield an archaeological/environmental sequence which has broader application to the area as a whole. Selected excavation of a range of sites of different sizes and types throughout the Amman area is particularly essential to the development of regional models.

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Vingt ans d'Epigraphie transjordanienne

En 1970, il y a presque vingt ans, l'amitié de notre regretté Abbé Starcky m'orientait vers l'étude de l'épigraphie transjordanienne de l'Age du Fer. Je souhaiterais revenir aujourd'hui sur les découvertes importantes de ces deux décennies en essayant de classer leurs éléments de convergences dans leur cadre local et/ ou régional[1]. On déplore que l'état de la documentation actuellement disponible contraigne à différer trop souvent telle ou telle interprétation mais le corpus des textes transjordaniens s'accroît pourtant, grâce aux fouilles régulières qui ont mis au jour il y a quinze ans la bouteille inscrite de Tell Siran ou de manière plus inattendue, comme en témoigne le papyrus inscrit dont la présentation clôturera cet exposé.

'Ammon, Moab et Edom sont trois dénominations géographiques traditionnelles dans la Bible, désignant grosso modo le Nord, le centre et le Sud du territoire transjordanien par les noms d'ancêtres éponymes mentionnés dans la Genèse. Edom regroupait les descendants d'Esaü, le fils aîné d'Isaac que la Bible surnomme Edom 'le rouquin', tandis que 'Ammon et Moab descendraient de l'union incestueuse de Lot, neveu d'Abraham, avec ses propres filles. Les textes assyriens utilisent aussi ces termes ethnico-géographiques dont la réalité historique devait être vérifiée sur le terrain il y a un peu plus d'un siècle pour Moab, pendant les années trente pour 'Ammon et pendant les années cinquante pour Edom.

On présentera les nouveautés épigraphiques de ces deux décennies en examinant successivement leur apport à notre connaissance des écritures, des langues et de l'onomastique religieuse.

I) ECRITURES

A) Moab.

Le premier témoignage d'une écriture transjordanienne fut apporté il y a un siècle par la stèle de Meša', qui reste encore aujourd'hui le seul document extra-biblique de quelque importance relatif à la Transjordanie de l'Age du fer. On avait d'ailleurs noté d'emblée lors de sa publication, la ressemblance entre l'écriture de la stèle et celle des inscriptions hébraïques qui lui sont pourtant toutes postérieures. Cette ressemblance entre l'alphabet hébreu et l'alphabet moabite est encore perceptible aujourd'hui[3] mais aucun document lapidaire récemment découvert n'est venu la confirmer. La quarantaine de sceaux moabites inscrits[4] reconnus comme tels depuis vingt ans et datant des 8e-7e siècles, s'ils attestent l'existence d'un alphabet[5], d'une iconographie (croissant et astre radié, griffon, etc.) et d'une onomastique moabites spécifiques, ne permettent pas de remonter jusqu'à l'écriture de Meša' antérieure pourtant de quelques décennies seulement puisqu'on date couramment ce texte des environs de 850 av.J.-C.. Par exemple, trois formes de lettres tout à fait caractéristiques de l'épigraphie sigillaire moabite comme le/ Ḥ/, le /M/[6] et le /Ṭ/[7] ne sont pas attestées sur la stèle de Meša'.

B) 'Ammon

L'existence de l'écriture ammonite a été évoquée implicitement pour la première fois par N.Avigad[8] à propos de quelques sceaux portant des lettres caractéristiques: /'Ayin/ de forme carrée, /Y/, /K/, /W/. En 1970 un article consacré à la langue des

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[1]Le contenu de ce rapport doit beaucoup à la collaboration de mes amis Dennis Pardee, Professeur à Université de Chicago et Felice Israel, enseignant à l'Université de Gênes. Le premier a bien voulu me laisser vous donner la primeur de notre publication du papyrus moabite, le second m'a fait part de plusieurs réflexions nouvelles sur l'épigraphie de Transjordanie.

[2]On connaît aussi quelques fragments d'inscriptions moabites: voir L.Reed-F.W. Winnett *BASOR* 172 (1963) p. 1-9; D.N.Friedmann *BASOR* 175 (1964) p. 50s.; F.Zayadine *ADAJ* XXX (1986) p. 302-304.

[3]J.Naveh 'The Scripts of two Ostraca from Elath '*BASOR* 183 (1966) p. 27-30 (p.29).

[4]Aux trente-cinq sceaux publiés on ajoutera cinq inédits dont l'un est signalé par N.Avigad: *Hebrew Bullae from the Time of Jeremiah*, Jerusalem 1986 p. 29; cinq autres, déjà publiés, ont été reconnus par F.Israel 'Studi moabiti I: rassegna di epigrafia moabita e i sigilli '*Atti della 4a giornata di studi camito-semitici e indoeuropei* ed. G.Bernini e V. Brugnatelli Bergama 1988 p. 101-138.

[5]J.Naveh *art.cité* (1966) p.30.

[6]Voir P.Bordreuil *Catalogue des sceaux ouest-sémitiques inscrits de la Bibliothèque Nationale, du Musée du Louvre et du Musée biblique de Bible et Terre Sainte*, PARIS 1986 No 66.

[7]M.Abu Taleb *ZDPV* 101 (1985) p. 21-29.

[8]N.Avigad *PEQ* 1946 p. 125-132 (p.130) et de manière explicite dans *IEJ*2 (1952) p. 163s.

ammonites rassemblait pour la première fois une suite importante mais incomplète de documents inscrits identifiés alors comme ammonites[9]. Il était complété en 1973 par une étude paléographique sur le même sujet[10]. En 1976 était tenté un essai de coordonner entre elles les données épigraphiques, iconographiques et onomastiques de plusieurs sceaux ammonites publiés ou inédits[11], ce qui a permis d'établir le caractère ammonite de plusieurs exemplaires déjà publiés.

L'écriture non sigillaire, peu attestée au 9e siècle (inscription de la citadelle de 'Amman)[12], ne permet pas encore de proposer un classement typologique et on constate l'absence totale d'inscriptions lapidaires monumentales pendant le 8e et le 7e siècles[13]. L'inscription de la bouteille de Tell Siran[14] qui date du début du 6e siècle présente une heureuse combinaison d'éléments d'origine locale (/K/, /H/, /N/) et d'origine extérieure[15], ceux-ci acclimatés sur place sans doute antérieurement. Le phénomène le plus manifeste est l'ouverture des têtes de lettres, d'origine typiquement araméenne, qui coïncide avec l'intrusion assyrienne en 'Ammon sous Tiglat Phalazar III[16].

Les sceaux les plus anciens sont datables postérieurement à 750 et la production locale semble perdurer jusqu'à la fin du 6e siècle. Dès le début, l'écriture, inspirée d'un modèle araméen, présente des formes typiques qui seront reproduites par les scribes ammonites jusqu'à l'aramaïsation complète de l'écriture[17]. On trouve par exemple des sceaux dont l'écriture révèle clairement le caractère ammonite et qui présentent en même temps des formes nouvelles de lettres ouvertes[18]. Avec la bouteille de Tell Siran ils constituent sans doute les meilleurs exemples d'association entre écriture lapidaire et écriture cursive.

C) Edom

A la suite des découvertes épigraphiques à Tell Kheleifeh[19] l'épigraphie édomite a été inaugurée explicitement par un ostracon et une bulle royale fragmentaire de QWSG [BR] MLK '[DM] dont un exemplaire a été découvert à Umm el Biyarah[20] et d'autres plus tard à Buseirah. La spécificité de l'écriture édomite a été reconnue depuis 1966[21] et une première liste de documents a été établie en 1971[22] en les classant d'après leur provenance. On constate, grâce à de nouvelles découvertes comme l'ostracon de Khirbet Ghazze (Ḥorvat 'Ouzza)[23], une structure parallèle de développement avec l'écriture ammonite, c'est à dire une écriture locale conservée jusqu'à la fin du 6e siècle et absorbée ensuite par l'araméen. Les différents documents édomites sont des sceaux, des ostraca (cf. infra: langue), l'autel de Lakich et, au 5e et au 4e siècles, les ostraca en écriture araméenne de Beer Sheba[24] les ostraca de Khirbet el Qom[25] et ceux de 'Arad[26] dont l'onomastique est édomite. On note une forme remarquable de /D/ renversé[27] et plusieurs formes de têtes ouvertes (/B/ et /R/) qui sont propres à l'écriture cursive (Cf. aussi /H/ et /Q/).

II) LANGUES

A) Moab

L'extension qu'ont connue les corpus des autres langues de la région ne concerne pas la documentation linguistique moabite et l'essentiel de notre information remonte aussi à la stèle de Mesha'. Le papyrus qui sera présenté en fin d'exposé n'en est que plus important. Par exemple l'onomastique n'a livré aucun acquis substantiel à la connaissance du dialecte moabite. Ce dernier présente des analogies avec l'ammonite: conservation du /-T/ au fem. sg. abs. mais plur. masc. en /-N/, alors que l'ammonite connaît le masc. plur. en /-M/. Le relatif 'ŠR/ est commun au moabite et à l'édomite alors que l'ammonite emploie les relatifs /Š/ et /'Š/.

B) Edom

Un progrès récent vient d'améliorer notre connaissance de l'édomite; il s'agit de la mise en évidence sur l'ostracon de Khirbet Ghazze (Ḥorvat 'Ouzza) du relatif 'ŠR dont on vient de parler. Il s'ajoute à d'autres traits linguistiques cananéens déjà élucidés[28] tels que l'évolution des interdentales et la

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[9]G.Garbini *AION* 20 (1970) p. 249-258; repris dans *Le lingue semitiche* Istituto orientale di Napoli, Ricerche IX 1972 p. 97-108.
[10]P.Bordreuil 'Inscriptions sigillaires ouest-sémitiques I: épigraphie ammonite' *Syria L* (1973) p. 181-195.
[11]P.Bordreuil-A.Lemaire *Semitica* 26 (1976) p. 55-63.
[12]G.van der Kooj *Studies in the History and Archaeology of Jordan* III, Amman 1987 p. 115, 118; tableau paléographique p. 116.
[13]L'inscription de la statue de YRḤ'ZR est en effet rédigée en araméen: voir G.van der Kooj *art.cité* p. 111 n.19; p. 112 fig. 10 et fac simile très soigné.
[14]F. Zayadine, H.Thompson *Berytus* XXII (1973) p. 115-140.
[15]F.Israel me signale un seul parallèle du /H/ sur une tablette cunéiforme; il s'agit du sceau V 160: BRHD; cf. *Iraq* 25 (1963) p 97.
[16]Voir C.M.Bennett 'Some Reflexions on the Neo Assyrian Influence in Transjordan' *Essays for Kathlenn M.Kenyon* Warminster 1978 p. 164g-171.
[17]P.Bordreuil *Studies in the History and Archaeology of Jordan* III Amman, 1987 p. 283-286 (p. 283s.).
[18]Par exemple N.Avigad *EI* 13 (1977) p. 108-110 (p. 109 No 4).
[19]Bibliographie dans F. Israel *Riv.Bib.Ital.* 27 (1979) p. 173-175.
[20]C.M.Bennett 'Fouilles d'Umm el Biyara'*RB* 73 (1966) p. 372-403 (p. 398-401).
[21]J.Naveh *art.cité* (1966) p.3).
[22]J.Naveh *BASOR* 203 (1971) p. 27-32.
[23]I.Beit Arieh-B. Cresson *Tel Aviv* 12 (1985) p.96-101.
[24]J.Naveh *Tel Aviv* 6 (1979) p. 182-198.
[25]L.Geraty *BASOR* 220 (1975) p. 55-61 (publication d'un ostracon); bibliographie sur ce document dans F.Israel *Riv.Bib.Ital* 27 (1979) p. 177; ajouter L.T.Geraty 'The Historical, Linguistic and Biblical. Significance of the Khirbet el Kôm Ostraca' dans *The word of the Lord Shall Go Forth*, Essays in Honor of David Noel Freedman in Celebration of his Sixtieth Birthday, ed. C.L.Meyers and M.O'Connor, Eisenbrauns Winona Lake 1983 p. 545-548.
[26]Y.Aharoni *Arad Inscription* Jerusalem 1975 p. 153-176.
[27]Notée d'abord par F.Israel *art.cité* (1979) p. 176 et *Riv.Bib.Ital* 35 (1987) p. 338.
[28]Voir F.Israel *art.cité.* (1979).

présence de l'article mais on ignore encore quelles étaient les désinences du masc. plur. et de l'état abs. fém. Du point de vue littéraire, on remarque la formule introductive de Khirbet Ghazze (Ḥorvat 'Ouzza) 'MR LMLK (LMLK - NP) 'MR LBLBL (BLBL-NP) qui apparaît aussi sur l'ostracon ammonite No3 de Tell Mazar sous la forme 'MR PLṬ 'MR L'BD'L[29]. Ces rares exemples montrent bien à quel point notre connaissance de l'édomite reste fragmentaire.

C) 'Ammon

L'ammonite qui est somme toute tard venu dans le champ de l'étude des langues ouest-sémitiques a été longtemps réputé comme une langue proche de l'hébreu. Un examen linguistique sérieux, que les découvertes récentes des inscriptions de la Citadelle, de Tell Siran[30] et de l'ostracon No A3 (ex Ḥeshbon IV) de Tell Ḥesbân[31] ont rendu possible, met plutôt en évidence des traits communs d'origine cananéenne. Le masc plur. /-M/, les interdentales, l'article défini /H-/ et les relatifs /Š/ et /'Š/ bien attestés sont aussi bien des isoglosses avec le phénicien. La découverte de l'ostracon de Tell Mazar a permis d'établir sur une base solide l'existence du fem. sg. en /-T/.[32] On note aussi des particularités dans la documentation onomastique[33]. En effet cette influence est surtout notable dans le domaine de la phonétique et de la formation des n.p. dont on reparlera plus loin.

Dans un avenir que l'on espère proche, les publications d'un ostracon inédit de Ḥesbân[34], de Tell 'Umeyri[35] et des ostraca de Deir 'Alla permettent d'escompter de nouveaux acquis linguistiques. La comparaison de la langue de ces derniers avec les inscriptions sur plâtre déjà connues dont on va parler n'en sera certainement pas le moindre intérêt.

D) Deir Alla

Il a un peu plus de vingt ans la découverte des inscriptions sur plâtre de Deir 'Alla marquait une date scriptions sur plâtre de Deir 'Alla marquait une date importante pour l'épigraphie transjordanienne. Publiées moins de dix ans après leur mise au jour elles sont importantes à cause de la mention du prophète Bile'am mentionné dans la Bible[36]. Si la datation ante quem de ces textes est maintenant établie grâce à l'archéologie, leur interprétation reste incertaine du point de vue linguistique en particulier à cause de la lecture mal assurée de quelques passages; selon certains on aurait un morphème araméen typique à l'état emphatique mais cette lecture est contestée par plusieurs auteurs et l'éventuelle attestation d'un cas d'état emphatique n'est pas tout à fait attestée. Le fait le plus caractéristique de l'araméen serait la notation du /ḏ/ proto-sémitique par /q/ comme dans certaines inscriptions araméennes anciennes mais cette évolution a pu dans les différentes langues sémitiques ne pas être aussi claire que certains l'ont pensé. Le pronom relatif *ZY* n'apparaît pas dans les inscriptions sur plâtre et du point de vue méthodologique la présence du relatif *ZY* sur une céramique inscrite n'implique pas que les deux sortes d'inscriptions[37], aient été exécutées par des gens de même origine[38]. Un essai de classement linguistique nous ramène au même cas de figure que pour les inscriptions yaoudiennes. Ces inscriptions sont en effet difficilement classables linguistiquement en raison de l'absence d'éléments sûrement araméens (état emphatique incertain et pronom relatif)[39] et le lexique n'est pas aussi déterminant à cet égard qu'on aurait pu le penser. Il est très possible que le lexique de l'inscription de Deir 'Alla remonte en réalité à un moment de l'histoire des langues sémitiques où la distinction nette entre araméen et cananéen n'était pas encore nettement établie[40]. Cette situation pourrait rappeller celle des anciens passages de la poésie biblique où les vocabulaires hébreu et araméen sont mêlés[41].

III) ONOMASTIQUE

Pour l'étude du vocabulaire et de l'onomastique des langues de Transjordanie on remarque d'abord la différence qualitative entre les divers groupes de documents. La documentation moabite par exemple s'est accrue de manière inattendue par la trouvaille d'un papyrus qui révèle quelques termes nouveaux et par la publication de nouveaux sceaux. Le plus remarquable est celui de PLṬY HMZKR[42] dont la fonction de mémorialiste existait aussi à la cour de

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[29]Kh.Yassine-J.Teixidor *BASOR* 264 (1986) p. 46-50 (p. 47s. No3); F.Israel *Riv.Bib.Ital* XXXV (1987) p.340s.

[30]En dernier lieu E.J.Smit 'The Tell Siran inscription. Linguistic and historical implications' *Journal of Semitics* 1 (1989) p.108-117.

[31]F.M.Cross 'An Unpublished Ammonite Ostracon from Ḥesbān 'dans *The Archaeology of Jordan and Others Studies presented to Siegfried H.Horn* ed. L.T.Geraty & L.G.Herr Andrews University Press Berrien Springs 1986 p. 475-489.

[32]Malgré la présence du nom féminin 'LYH (*PEq* 1942 p.109) qui indique une évolution vers /H/.

[33]Voir F.Israel 'Note ammonite I: gli arabismi nella documentazione onomastica ammonita' *SEL* 6 (1989) p.91-96.

[34]L'un est signalé par F.M. Cross *art.cité* p. 481 sous le No A 6.

[35]Signalé dans *AUSS* 26 (1988) p. 246.

[36]Voir H.Rouillard. *La péricope de Balaam (Nombres 22-24)*. Etudes Bibliques n.s. No 4 J.Gabalda Paris 1985.

[34]L'un est signalé par F.M.Cross *art.cité* p. 481 sous le No A 6.

[35]Signalé dans *AUSS* 26 (1988) p.246.

[36]Voir H.Rouillard *La péricope de Balaam (Nombres 22-42) Etudes Bibliques n.s. No 4 J.Gabalda Paris 1985*.

[37]Voir J.Hoftijzer-G.van der Kooy. *The Aramaic Inscriptions of Deir Alla*, Leiden 1976 p. 167 pl. 19b, 20, 21a.

[38]E.A.Knauf *ZDPV* 102 (1986) p.187-191 (p.190s.) préfère suggérer que, dans le domaine religieux, les gens de Deir 'Alla utilisaient une langue plus archaïque.

[39]Voir E.A.Knauf *art.cité*.

[40]Voir B.Halpern 'Dialect Distribution in Canaan and the Deir Alla Inscriptions' dans *Working with No Data* Semitic and Egyptian Studies presented to Thomas O.Lambdin ed. David M.Golomb Eisenbrauns Winona Lake 1987 p. 137-139 (p.136).

[41]Voir G.R.Driver 'Hebrew Diction 'dans Congress Volume Copenhagen 1953 *SVT* 1 (1953) p26-39 (p. 37s).

[42]Cf. M.Abu Taleb *art.cité* (1985).

David et de Salomon (II *Sam.* 8:16 etc.).

L'onomastique moabite révèle aussi ses liens étroits avec celles des autres langues transjordaniennes. L'onomastique ammonite est riche de plus de cent n.p. parmi lesquels on note la présence des racines NDB et TMK et la fréquence de théophores de 'EL.[43] Certaines racines sont communes à Moab et à Ammon voire à toute la Transjordanie comme 'MṢ et PLṬ. D'autres n.p., pour des raisons phonétiques ou à cause de la présence de terminaisons hypocoristiques particulières au nord arabique et aux dialectes syriens, sont révélateurs de l'influence linguistique arabe en 'Ammon[44]. L'onomastique ammonite présente aussi quelques phénomènes archaïques: dans MLKY'ZR le verbe 'ZR pourrait être à l'inaccompli.

L'onomastique édomite qui est peu documentée montre, en même temps que disparaissent écriture et langue ammonite, une arabisation clairement discernable à partir des n.p. des ostraca de Beer Sheba'[45] et de 'Arad: par exemple les théophores de Qaus et des n.p.présentant des racines nord arabiques ou des faits phonétiques (interdentales) de type arabe[46].

IV) Religion

Si la documentation épigraphique récente a permis de faire de grands progrès dans la définition des langues de Transjordanie, le bilan est assez maigre pour l'étude des religions de cette région. En dehors des n.p. théophores les textes découverts depuis vingt ans n'ont livré que peu d'informations sur les cultes locaux et même le papyrus moabite ne donne aucune précision sur le MRZḤ qu'il mentionne. On constate la même carence pour le prophétisme qui est connu à Deir 'Alla mais dont on ignore les pratiques et dont le cadre reste imprécis. Les divinités comme KMŠ apparaissent dans des n.p. comme KMŠYT[47]. D'autres éléments comme 'D sont aussi attestés en moabite dans des documents connus[48] et inédits; de même MLK[49], quelle qui soit sa vocalisation.

La publication des ostraca édomites de Beer Sheba' a accru la liste des théophores de Qaus qui est aussi mentionné dans une bénédiction à Khirbet Horvat 'Ouzza et dans un contexte peu clair à Qiṭmit[50].

V) Le papyrus moabite

Dans le courant de 1984 Dennis Pardee recevait à Chicago la photographie avant déroulement d'un papyrus scellé par une bulle inscrite. Sur un cliché du même document déroulé on pouvait lire une inscription exécutée à l'encre. A la même époque, je recevais ainsi que plusieurs collègues une reproduction envoyée par Terence C. Mitchell Conservateur en chef du Western Asiatic Department du British Museum[51].

Sur deux lignes en parfait état de conservation on lit une inscription écrite à l'encre dont voici la traduction: 'Ainsi ont parlé nos dieux à SR': pour toi le marzeaḥ, les deux meules et la maison. YŠ' 'en est exclu. MLK' est le garant'.

A) La bulle inscrite

On lit *LMLK*
'KT[N]

Les trois lettres de la première ligne évoquent de manière convaincante l'écriture moabite, en particulier le /M/ et le /K/ qui sont bien reconnaissables.

Le nom de la seconde ligne évoque certainement le lieu où le roi (MLK) exerce sa souveraineté[52]. On lit 'KT[ ] et je propose de restituer un /N/ en fin de ligne. La toponymie moderne de Jordanie connait le Tell Iktanu, situé à une dizaine de kilomètres, où des fouilles archéologiques ont été entreprises depuis 1985[53]. Comme ailleurs, le nom arabe moderne peut avoir transmis le nom ancien de la ville qui aurait été conservé aux trois quarts ('KT[N]) sur cette bulle. L'identification de ce site avec *bayit haram* 'le haut lieu' de *Jos.* 13:27 est possible car le Tell Rameh voisin qui pourrait rivaliser sur ce point avec le Tell Iktanu ne semble pas avoir connu d'occupation à l'âge du Fer[54]. Nous verrons que l'identification du Tell Iktanu avec *bayit haram* n'est peut-être pas sans importance pour l'intelligence du texte.

B) Le papyrus

L'écriture à l'encre, très régulière et disposée sur deux lignes, n'est guère différente de celle des ostraca hébreux. Seuls le /Ḥ/ à deux obliques et le /*'Ayin*/ ouvert pourraient rappeler l'écriture sigillaire moabite. En l'absence de parallèles significatifs on proposera de dater ce texte de la seconde moitié du 6e

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[43]Voir plusieurs anthroponymes dans l'ostracon No VII de Tell Mazer. Kh. Yassine et J.Teixidor *BASOR* 264 (1986) p.45-50.
[44]ḤMYWS': *Syria* LX (1983) p.338: /W/ en début de syllabe; SMṬ: *ibidem:* prononciation sourde du /S/; PLṬW: *Syria* L (1973) p.190: désinence arabe; cf. F.Israel *art.cité* (1989).
[45]J.Naveh *art.cité* (1979).
[46]VOIR E.A.Knauf 'Qaus *'UF* 16 (1984) p.93ss.; 'Qaus in Agypten *'Göttinger Miszellen* 73 (1984) p.33-36.
[47]En dernier lieu F.Zayadine *art.cité;* cf. *Le Monde de la Bible* 46 (1986) p. 27; sur Kamoch voir F.Israel 'Studi moabiti II: da Kamiš a K'moš, *SMSR* 53 (1987) p.5-39.
[48]Cp. le. n.p. 'Ḥ'D dans F.V.attioni *AION* 28 (1978) No 444 p.254.
[49]*Idem* et F.Israel *art.cité* (1988) p.114.
[50]F. Israel *art.cité* (1987) p.343s.
[51] Nos remerciements vont à T.C.Mitchell et à l'auteur de la photographie qui nous est inconnu.
[52]Cf. *supra* I C: MLK 'lDM[; sur les déterminations du titre royal; , voir ,.Bordreuil 'Les premiers sceaux phéniciens à paraître dans les *Atti del secundo Congresso di studi fenici e punici* Rome 1987.
[53]Voir la carte reproduite dans *Studies in the History and Archaeology of Jordan III* Amman 1987 p. 166; cf. K.Prag *Levant* XXI (1986) p.33-45.
[54]Voir A.H. van Zijl *The Moabites* E.J.Brill Leiden 1960 p.93.n.1.

siècle.

KH 'Ainsi', connu en hébreu, en araméen ancien et à Deir 'Alla.

'LHN 'Nos dieux' n.c.m.pl. + suff.1 p.pl.

HMRZḤ qui apparaît en compagnie d'une maison et de deux meules ne désigne pas ici une confrérie vineuse mais la pièce où cette 'amicale' se réunissait. On sait qu'à Ougarit un MRZḤ était établi dans une maison privée[55].

HRḤYN 'les deux meules'. Ce mot est un duel qui n'est pas en /-YM/ comme en ammonite mais en /-YN/ comme en moabite. Il désigne en hébreu les 'meules dormantes', associées dans un moulin à l'élément mobile qui est le rouleau (rakeb). Ici on ne sait pas s'il s'agit de deux meules dormantes ou de l'association meules dormantes - rouleau.

HBYT 'la maison', mais ce mot pourrait aussi désigner un sanctuaire, ce qui s'accorderait bien avec la mention du marzeaḥ. On doit bien entendu s'interroger sur les rapports éventuels entre BYT de ce papyrus et *bayit haram* qui dans la Bible pourait désigner précisément le site de Tell Iktanu.

Pour essayer de déterminer quelle est la langue de l'inscription de ce papyrus on procèdera par élimination; la présence du duel en /-YN/ exclut le phénicien, l'hébreu et l'ammonite. La présence de l'article /H-/ exclut l'araméen et la langue de l'inscription sur plâtre de Deir 'Alla. Un élément important est le maintien de la diphtongue /ay/ dans BYT qu'on ne trouve pas en moabite dans la stèle de Mesha': M'TN 'deux cents'.

On a vu que la paléographie de la bulle de scellement de ce papyrus évoquait fortement l'écriture moabite. Si l'hypothèse de la localisation de 'KT]N[au Tell Iktanu, lui-même identifié à *bayit ḥaram* biblique, est recevable, on constate que ce dernier endroit se trouve dans la plaine de Moab. Enfin les rares données morphologiques de ce texte bref s'accordent avec la langue moabite, sauf pour le cas de /ay/. On proposera par conséquent de considérer ce document comme le premier papyrus moabite, rédigé dans un dialecte un peu différent de celui de Mesha'.

Conclusion

On voit que le moabite, l'ammonite et l'édomite appartiennent avec l'hébreu au groupe cananéen, parenté linguistique et ethnique que la Bible fait remonter à des ancêtres éponymes. Les données récentes qui ont été présentées dans ce rapport montrent aussi, en dépit d'une documentation trop indigente que, dans le second quart du premier millénaire, les langues de Transjordanie doivent être examinées d'ores et déjà moins en termes de similitudes que de différences. A la lumière des données épigraphiques, linguistiques et lexicales actuellement connues, il convient certainement de donner la priorité à leurs caractéristiques locales. On en trouvera l'illustration sur un sceau qu'on peut qualifier de transjordanien puisqu'il a été découvert à Pétra. Son propriétaire, du nom de B'ZR'L, n'était pas 'serviteur' ('BD) de YB'L comme on l'a pensé jusqu'à maintenant[56] mais l'inscription doit être lue: LB'ZR'L 'BD HB'L, 'Appartenant à Be'azri'el serviteur *du* Ba'al'[57], c'est à dire du dieu *local*[58].

[55]Voir RS 1957.702: P.D.Miller dans L.R.Fisher *The Claremont Ras Shamra Tablets* An.Or. 48 Rome 1971 p.37-48. L'étude des parallèles ougaritiques en collaboration avec D.Pardee sera développée dans une étude sur ce texte à paraître dans les Hommages à M.Sznycer *Semitica* XXVIII-XXIX (1988-1989).

[56]Voir F.Vattioni *Biblica* 50 (1969) p.372 No 118.

[57]Voir déjà *Le Monde de la Bible* 46 (1986) p. 45.

[58]Cf. II *Rois* 10:19 etc. et les Baals locaux de *Jg.* 2:11; I *Rois* 18:18.

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Occupation du sol dans la région de Jérash aux périodes du Bronze Récent et du Fer

Dès le premier congrès d'archéologie jordanienne, en 1982, le problème de la transition Bronze Récent/ Fer en Jordanie avait été posé par R. Dornemann et M. Weippert[1]. Ils insistaient tout deux sur l'existence d'une occupation au Bronze Récent, au moins dans la moitié nord du pays, et sur la difficulté d'évaluer l'occupation du Fer I. En effet, comme le constatait Dornemann, il est nécessaire, pour apprécier correctement les changements intervenus à l'âge du Fer, d'avoir une bonne compréhension des périodes précédentes du Bronze Récent; il est impossible de définir un assemblage archéologique correspondant à la culture matérielle du Fer I, en raison du nombre trop limité de fouilles stratigraphiques permettant d'établir des séquences chronologiques de matériel; enfin les prospections de surface ont permis d'obtenir des informations précises sur les concentrations géographiques d'établissements et leur typologie, mais les problèmes de datation restent en fait entiers.

J. Sauer publiait en 1986[2] un bilan critique de l'archéologie jordanienne qui aboutissait en gros au même résultat.

Depuis le congrès d'Oxford, plusieurs sites de ces époques ont été fouillés dans le centre et le nord du pays: Umm ed Dananir et la Beqa'ah, Tell Umeiri, Jawa, Tell Safut, citadelle de Amman, Mafraq, Jerash, Irbid, Pella. De nombreuses missions de prospection dans la Belqa, les Wadi Sir, Zarqa, Kufrinje, Yabis, Ziqlab, 'Arab et dans la région de Jerash à Mafraq se sont attachées à réétudier des zones déjà visitées par Glueck, Mittmann ou l'équipe du Jordan Valley Survey. On doit bien constater que les nouvelles prospections, n'ont permis de découvrir que très peu de nouveaux sites dans le massif de l'Ajlun. Leur apport essentiel a été un affinement de la datation.

Le temps nécessaire au travail de terrain puis à sa publication fait que, mis à part le projet de la Beqa'ah Publié en 1986[3], nous ne pouvons pas encore utiliser les résultats de ces entreprises pour réinterpréter correctement les données si nombreuses apportées par les prospections à l'échelle de la région.

Le résultat essentiel, en fait, est la certitude que la zone nord la Jordanie était occupée, de manière relativement dense, au Bronze Récent. Il paraît y avoir partout une continuité d'habitat jusqu'à l'âge du Fer, sans destruction ni abandon massif des centres du Bronze Récent. P. Mc Govern a fort bien exposé le phénomène dans le chapitre de conclusion de la publication sur la Beqa'ah[4].

Dans les lignes qui suivent, nous tenterons dans un premier temps de faire le point d'ensemble sur les sites du Bronze Récent et du Fer dans les montagnes de l'Ajlun en comparant cette occupation à celle de la rive est de la vallée du Jourdain. Dans un deuxième temps, nous présenterons les résultats principaux de notre étude dans la région de Jerash afin de saisir, dans le détail, la manière dont se sont effectués les changements aux diverses époques.

1. Les périodes du Bronze Récent et du Fer dans le nord de la Jordanie.

Pour étudier la question des continuités et des ruptures d'occupation à l'échelle régionale, nous utiliserons une présentation quantitative qui ne tient compte que du nombre de sites occupés à chaque période, sans se soucier de leur nature.

Nous avons bien conscience que les chiffres sont toujours trompeurs. Bien que plus de 160 sites aient été jusqu'à présent répertoriés dans la zone considérée, il est vraisemblable que d'autres existent; par ailleurs, les méthodes d'identification et

[1]Dornemann, 1982; Weippert, 1982 (les références renvoient à *Archaeology of Jordan, I, Bibliography*, Bruxelles 1986).

[2]Sauer, *BASOR*, 1986, 263, p. 6-15.

[3]McGovern, *The Late Bronze and Early Iron Ages of Central Transjordan*, Philadelphie, 1986, malheureusement peu de matériel du Fer I y est publié.

[4]McGovern, id. p. 335-344, et *SHAJ, III*, p. 267-273.

de datation des sites ne sont pas homogènes, certaines étant plus imprécises que d'autres[5] selon les chercheurs.

Néanmoins, l'image très grossière que l'on peut tirer de ces chiffres n'est pas sans intérêt car elle permet d'établir des tendances évolutives qui ne sont manifestement pas les mêmes dans les zones de montagne et les zones de plaine et de vallée.

Nous avons répertorié tous les sites localisés entre le Jourdain et la steppe orientale au niveau de Mafraq, et du Zarqa à la latitude du Wadi Tayyibeh/ Irbid au nord[6]. Cette zone comprend donc deux ensembles géographiques que nous allons comparer, les montagnes de l'Ajlun d'une part et, d'autre part les vallées profondes du Jourdain et du Zarqa, ainsi que le plateau d'Irbid/ Mafraq au nord-est.

La période chronologique considérée va du Bronze Moyen II B/C, époque d'un changement global de l'occupation dans l'ensemble du nord de la Jordanie, à la fin de l'âge du Fer qui est suivi généralement par une phase d'abandon durable, au moins dans les montagnes. Les tranches chronologiques retenues sont larges (BM II B/C, BR, Fer I et Fer II) pour pouvoir tenir compte des sites qui sont les plus mal datés (Fig. 1-3)[7].

Nous commencerons par commenter le tableau suivant.

	Nb. de sites par période		Nb. de sites occupés sur deux périodes consécutives	
	Vallées et plaine	Montagne	Vallées et Plaine	Montagne
BMIIB/C	10	8		
			5	4
BR	19	20		
			13	17
Fer I	43	84		
			34	44
Fer II	39	65		

Considérons tout d'abord les phénomènes de continuité sur la longue durée: 18 sites sont occupés au BM IIB/C, 10 dans les vallées et 8 dans les montagnes, la moitié d'entre eux dans chaque zone vont être abandonnés à la fin de la période, l'évolution est donc identique; on constate par ailleurs que sur les 19 sites occupés dans la vallée au Bronze Récent, 12 le seront jusqu'à la fin du Fer II, et en montagne 13 des 20 sites du Bronze Récent connaîtront cette occupation de longue durée. Il y a donc une forte stabilité des points d'implantation et en proportions identiques dans les deux zones géographiques considérées.

Le nombre des sites s'accroît notablement au Bronze Récent, en proportion plus forte en montagne (nb. multiplié par 2,5) qu'en vallée (nb. multiplié par 1,9). On peut interpréter cette donnée par un accroissement de population plus fort dans les montagnes que dans les vallées, mais il est plus vraisemblable de faire l'hypothèse d'un accroissement de population sensiblement identique dans les deux zones accompagné d'une plus forte dispersion de petites installations en montagne contrastant avec une concentration de l'habitat dans les vallées. L'examen de la carte des sites montre en effet une répartition des implantations dans presque toutes les vallées de l'Ajlun et une concentration des sites autour de Deir 'Alla dans la vallée du Jourdain.

Des 39 sites occupés au Bronze Récent dans les deux zones, 30 (soit 76,9%) le seront encore au Fer I, ce qui dénote une grande continuité globale des implantations. Mais cette continuité est beaucoup plus forte en montagne où 85% des sites du Bronze Récent se perpétuent au Fer I, alors que dans les vallées cette proportion s'élève à seulement 68,4%.

Les différences s'accentuent si l'on considère l'augmentation du nombre de sites. Dans les vallées ce nombre est multiplié par 2,2 alors qu'en montagne, il l'est par 4,2. Il y a donc proportionellement dans le massif de l'Ajlun beaucoup plus de créations d'implantations nouvelles qui viennent s'ajouter aux implantations anciennes nombreuses, alors que dans les vallées le taux de déplacement des lieux d'implantation est plus fort.

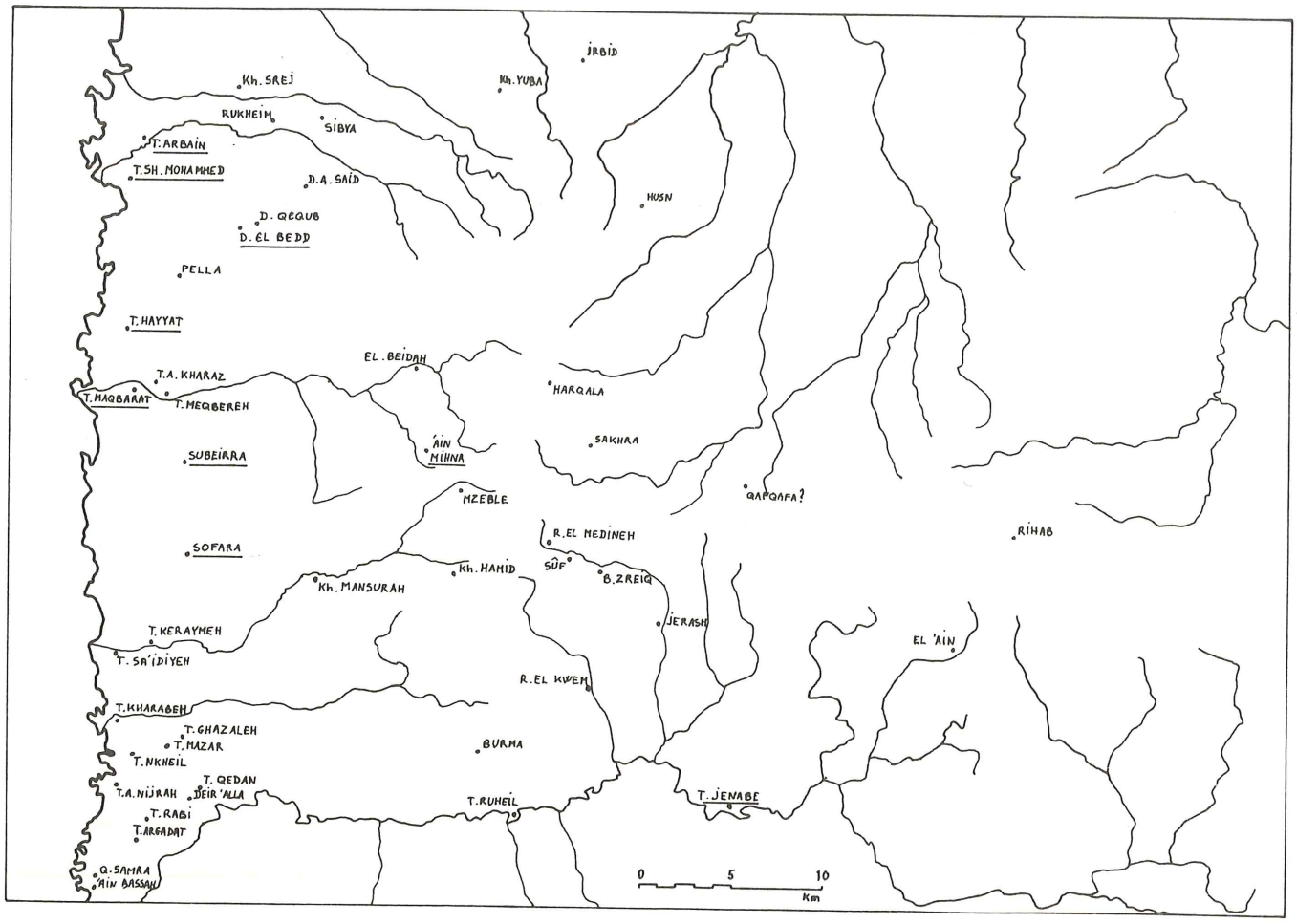
A la période suivante, la tendance observée ci-dessus va s'inverser. Dans les deux zones il y a une diminution globale du nombre des sites, plus forte en montagne (22,62%) que dans les vallées (9,31%). Le nombre de sites à occupation continue du Fer I au Fer II est lui plus fort dans la vallée (79,06%) que dans les montagnes (52,38%). Les implantations dans les vallées apparaissent donc beaucoup plus stables que dans les montagnes où de nombreux sites sont abandonnés au Fer II.

L'interprétation des données sur l'âge du Fer est délicate. Cependant on peut formuler quelques hypothèses de travail. L'augmentation globale du

[5]C'est en particulier le cas des datations de Glueck qui attribue à l'âge du Fer en général ("Fer I-II") un grand nombre de sites, plus par incapacité, bien compréhensible à l'époque, de distinguer entre les deux périodes, que par identification réelle de la céramique.

[6]D'après les travaux de Glueck, 1951a; Mittmann, 1970a; Ibrahim et alii, 1976, et *Archaeology of Jordan*, Amman 1988, p. 189-207; Kerestes et alii, 1977-78; Gordon et Villiers, 1983; Gordon, *ZDPV*, 103, 1987, p. 67-71; Banning, *Pastoral and agricultural land use in the Wadi Ziqlab*, PhD Toronto, 1985; Hanbury Tenison, *ADAJ*, XXXI, 1987, p. 129-175; Leonard, *ADAJ*, XXXI, 1987, p. 343-390; nous avons pu en outre utiliser les informations aimablement communiquées par J. Greene sur le Wadi Kufrinje et par J. Mabry et G. Palumbo sur le Wadi Yabis.

[7]Au moment où nous avons rédigé cet article (nov. 1988) je ne pouvais pas connaître l'ouvrage de I. Finkelstein, *The Archaeology of the Israelite settlement*, Jerusalem, 1988 qui p. 114-116 fait une synthèse analogue à celle que je présente ici, avec des résultats analogues.



1. Sites occupés au Bronze Moyen IIB/C et/ou au Bronze Récent.

nombre de sites au Fer I est si forte qu'elle ne peut que traduire un accroissement notable de la population dans toute la zone. Mais contrairement à ce que nous avions dit à propos de l'âge du Bronze, une dispersion très poussée des implantations (liée donc à un changement complet de système économique) que l'on peut envisager en montagne, ne peut plus expliquer raisonnablement le quadruplement du nombre des sites dans cette zone. L'exemple de la vallée de Jerash nous le montrera. L'hypothèse la plus vraisemblable est qu'il y a eu dans les montagnes un apport brutal de population, et la carte montre bien que cet apport a pu se faire dans les espaces laissés libres entre les implantations occupées de manière continue du Bronze Récent au Fer I. I1 s'agit essentiellement de la zone centrale du massif de l'Ajlun. C'est d'ailleurs cette même zone qui va être presque vide de sites au Fer II. Dans la vallée du Jourdain, la concentration principale des sites à l'âge du Fer reste autour de Deir 'Alla où le nombre d'implantations s'accroît. Le phénomène nouveau est l'installation d'une chaîne continue de sites le long de la vallée sur les collines du piémont. Cette installation reste stable sur les deux périodes du Fer.

Nous avons dit que pour l'âge du Fer, il y avait une certaine incertitude sur l'attribution des sites à l'une ou l'autre des deux phases de cette période. Elle est dûe aux datations globales "Fer I-II", attribuées par Glueck à 22 sites qui n'ont pas été revisités par la suite. Dans les chiffres donnés plus haut, nous avons attribué ces sites aux deux phases. Nous devons maintenant voir ce que deviendrait l'évolution du nombre de sites par périodes dans la montagne en les datant tous de l'une ou de l'autre phase. Nous procédons donc en examinant les hypothèses extrêmes.

Si tous ces sites doivent être datés du Fer I, les chiffres d'évolution du Bronze Récent au Fer sont toujours valables. En revanche, le nombre de sites du Fer II diminue très fortement pour arriver à 43; donc presque la moitié des sites du Fer I seraient



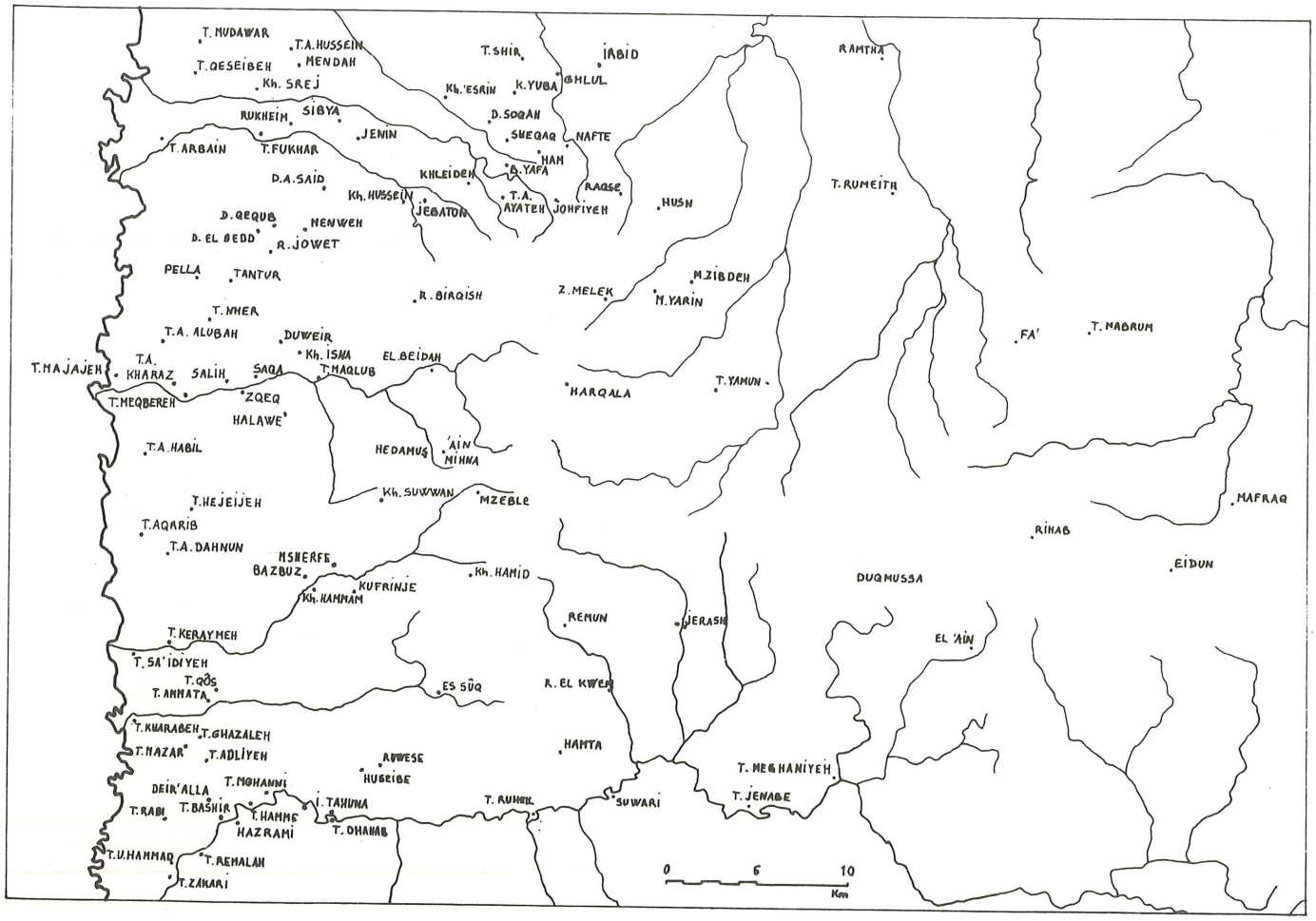
2. Sites occupés au Fer I.

abandonnés au Fer II, et le nombre de sites occupés dans les deux périodes tombe à 22, soit un peu plus du quart des sites du Fer I. Cette hypothèse renforce donc la tendance illustrée plus haut et on doit conclure à un abandon massif de la zone de l'Ajlun au Fer II.

Si tous les sites datés par Glueck doivent être attribués au Fer II, le tableau change quelque peu. Dans la montagne le nombre de sites du Fer I passe à 62, ce qui fait encore plus que tripler le nombre des sites du Bronze Récent. La tendance est donc identique à celle exposée en premier lieu, mais moins forte. De même la tendance à la stabilité d'occupation entre le Bronze Récent et le Fer I reste la même puisque un seul site serait à éliminer de la liste. Par contre le renouvellement au Fer II devient beaucoup plus important. Le nombre de sites occupés augmente (de 62 à 65), mais comme celui des sites occupés sur les deux périodes diminue pour passer à 22, ce sont 43 nouveaux sites qui sont créés. Cette hypothèse met en valeur la possibilité d'un changement important de la localisation des sites dans la montagne non seulement au Fer I, mais aussi au Fer II.

Quelques soient les chiffres retenus, l'évolution de l'occupation dans la zone de l'Ajlun est de toute manière très différente de celle observée dans les vallées et la plaine. C'est ce phénomène que les études de terrain futures devront examiner avant que toute tentative d'explication et d'interprétation définitive puisse être avancée.

De cette évolution très contrastée de l'occupation du sol dans cette partie de la Jordanie nous retiendrons deux traits majeurs: la stabilité des lieux d'occupation du Bronze Récent au Fer I plus forte en montagne que dans les vallées, et l'accroissement brutal du nombre de sites au Fer I dans l'Ajlun qui paraît dépasser ce que l'on pourrait attendre d'un accroissement normal de population ou d'un changement social; l'hypothèse d'un apport de population nouvelle doit donc être étudiée. Les réponses aux multiples questions que nous pourrions poser à partir de l'observation des chiffres ne pour-



3. Sites occupés au Fer II.

ront être données que lorsque des études de détail sur des petites zones ou sur des sites auront pu résoudre les problèmes de chronologie relative des implantations et estimer la nature de ces implantations. Ainsi pourront-être évaluées correctement dans l'espace et dans le temps les données de l'occupation du sol à l'échelle régionale.

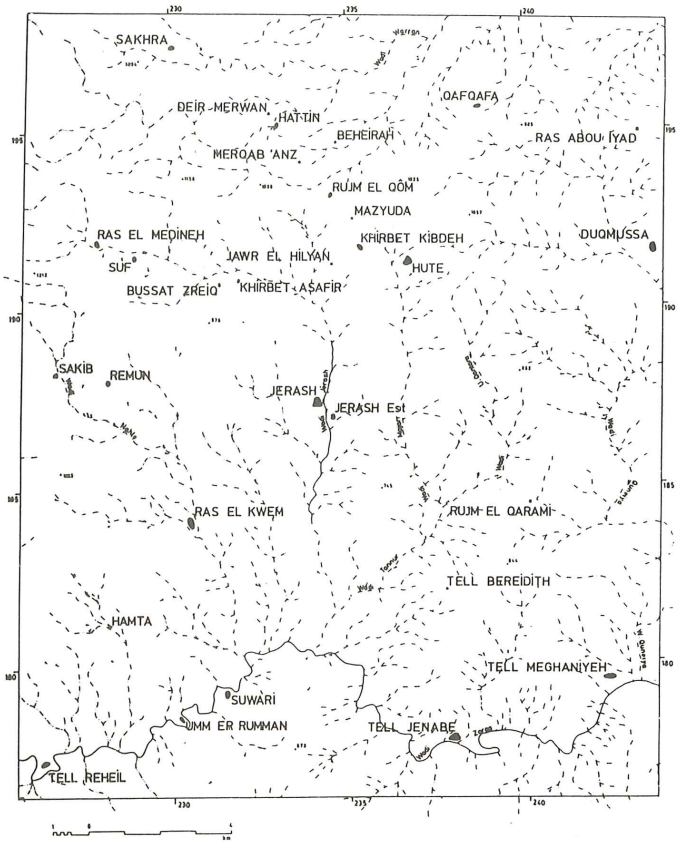
2. La région de Jérash aux périodes du Bronze Récent et du Fer (FIG. 4).

Notre programme de recherche dans la région de Jerash, se situe dans cette perspective. Nous avons en effet tenté de mettre en relation les résultats d'une prospection détaillée de la vallée de Jerash et de deux vallées adjacentes entreprise par J. Sapin depuis 1982, avec ceux de la fouille du tell ancien de Jerash que nous avons effectuée en 1985 et 86[8].

La prospection a utilisé toutes les données disponibles à la suite des grands "surveys" de Glueck et de Mittmann complétés par ceux de Tenison et Leonard et de notre propre mission. Afin de pouvoir tenir compte des différences de paysage, et d'environnement géographique, notre prospection s'est étendue outre la vallée de Jerash à celle du Wadi Tannur à l'est, à la haute vallée du Wadi Warran et aux crêtes orientales sur une vingtaine de km au nord.

Notre enquête ne peut cependant pas encore résoudre de manière satisfaisante tous les problèmes. En effet l'ampleur limitée des fouilles de Jerash interdit d'établir une séquence fine de matériel céramique propre au site: l'échantillonnage est insuffisant, et nous n'avons pas pu vérifier notre séquence en plusieurs points de la fouille. C'est particulièrement vrai pour l'âge du Fer I pour lequel nous n'arrivons toujours pas à produire une périodisation cohérente des divers types de

[8]Sapin, 1985; Braemer, *ADAJ*, XXXI, 1987 p. 525-529.



4. Carte des sites de la région de JERASH.

céramique. Par prudence, nous avons donc conservé des fourchettes de datation large pour le matériel céramique, donc pour les sites étudiés.

La région de Jérash

Situé au coeur du massif de l'Ajlun, sur son versant oriental, le Wadi Jerash suit un cours ouest-est puis nord-sud avant d'aller se jeter dans le Wadi Zarqa. Cette vallée a la configuration de la plupart de celles du massif à l'ouest et au sud: assez ouverte et large dans le cours supérieur du wadi, elle se resserre à l'altitude de 500m environ dans une gorge entaillant la falaise qui domine la vallée profonde du Wadi Zarqa. Dans le cours supérieur du Wadi Jerash, on peut distinguer deux zones étagées, l'une à l'ouest de Suf et l'autre de Ain Busas à Jerash, séparées par une petite gorge encaissée. La vallée du Wadi Tannur, immédiatement à l'est de celle de Jerash est plus courte et possède la même configuration, mais son cours supérieur est divisé en deux branches.

La haute vallée du Wadi Warran au nord a une structure assez différente. Le cours supérieur de cet affluent du Wadi Shellalleh, qui se jette au nord dans le Yarmuk, est encaissé et reçoit de multiples petits affluents séparés par des collines plus ou moins élevées. On a là un paysage morcelé, contourné s'opposant assez fortement au paysage ouvert des vallées de Jerash et du Wadi Tannur.

A l'ouest et au nord de Jerash toute la montagne est boisée, alors que immédiatement à l'est commence la zone steppique dénudée.

La ligne de partage des eaux entre les bassins du Jourdain, du Zarqa et du Yarmuk constitue la crête sommitale nord-sud et ouest-est du massif. Les plus hauts sommets encadrent la vallée du Wadi Jerash.

Comme partout dans la zone de l'Ajlun, les implantations du Bronze et du Fer sont installées de manière préférentielle dans ces vallées hautes, et sur les crêtes. La zone de falaise et de gorge n'est, pour des raisons de topographie évidente, presque pas occupée. Le nombre des implantations diminue fortement dans la zone steppique à l'est de Jerash, moins riche en sources et en sols cultivables.

La fin du Bronze Moyen et le Bronze Récent. La période de transition du Bronze Moyen au Bronze Récent, facilement repérable sur le terrain par la présence régulière des productions céramiques blanches lustrées parfois peintes (''chocolate on white'') et certaines formes de cols et lèvres de jarres.

Pendant cette période, toute une série d'installations nouvelles ont vu le jour dans la région. Dans la vallée du Wadi Jerash, ce sont les sites de Ras el Medineh, Suf, Busat Zreiq et Jerash, et sur les crêtes nord, Sakhra et sans doute Qafqafa.

Ras el Medineh a fait l'objet d'une fouille par une équipe de l'université du Yarmuk[9]. Situé sur la pente d'un replat rocheux au-dessus du fond de la vallée, et couvrant une surface limitée, le site devait être un hameau ou un édifice isolé (ferme?). Busat Zreiq quelques kilomètres en aval doit être un site de même nature, hameau ou ferme, à flanc de coteau et à proximité d'une source.

Il est plus difficile d'estimer ce que pouvaient être les quatre autres sites qui sont entièrement recouverts par des constructions plus récentes. Ils semblent avoir occupé une surface plus grande que les deux sites précédents et peuvent avoir été des villages. Suf et Jerash sont installés sur des promontoires dominant le fond de la vallée dans des positions protégées mais non défensives.

Qafqafa est situé sur un éperon rocheux dominant la haute vallée d'un wadi qui coule vers le nord, il est pourvu d'une enceinte dont nous ne pouvons pas fixer la date de construction.

Sakhra est sur une crête sommitale du massif de

[9]Cf. Chronique archéologique *R.B.*, 1988, p. 226-228.

l'Ajlun. Le site occupait la pente nord du sommet contrôlant la haute vallée du Wadi Warran. Il pouvait aussi être une position fortifiée, mais aucune trace d'enceinte n'est visible au sol.

Ces installations sont apparemment toutes des créations du milieu du IIème millénaire. En effet, les fouilles de Jerash et Ras el Medineh ont montré que les niveaux de cette période reposent sur le rocher, et sur les autres sites, aucune céramique caractéristique des périodes antérieures n'est reconnaissable. Ces installations ont donc ignoré les sites abandonnés à la fin du Bronze Ancien IV/Bronze Moyen I. L'exemple de Jerash est particulièrement démonstratif. Le site de l'actuel hôpital[10], au nord-est de la ville romaine est occupé jusqu'au Bronze Moyen I, puis cette partie de la vallée semble totalement abandonnée jusqu'au moment où le site du musée est créé, sur l'autre côté de la rivière, à un kilomètre en aval.

Au moins trois de ces implantations nouvelles ont été également occupées pendant le Bronze Récent II: Ras el Medineh, Suf et Jerash. Sur les deux sites fouillés, on ne décèle ni changement dans l'importance ou la nature de l'occupation, ni rupture. Il s'agit d'une occupation de longue durée, avec les reconstructions d'édifices, et les recharges de sols habituelles.

Nous n'avons pour l'instant aucun témoignage d'occupation du BRII à Busat Zreiq, Sakhra et Qafqafa.

C'est à la fin du Bronze Récent II que la situation se modifie nettement.

Le Fer I.

Des sites occupés au Bronze Récent , seuls Jérash, Suf, Sakhra et Qafqafa sont encore habités. A Jérash la stratification semble continue, et aucun niveau de destruction massive ou d'abandon n'a été observé. Sur les trois autres sites on ne peut rien dire, sinon que l'absence de céramique du BR II à Sakhra et Qafqafa est peut être le signe d'une interruption dans l'occupation de l'habitat.

La nouveauté est, dans le courant du Fer I, l'apparition d'un grand nombre de site occupant des positions topographiques et des zones différentes de l'époque précédente.

On observe une multiplication des sites de sommet avec une forte concentration sur des crêtes de la ligne de partage des eaux est-ouest, dans la zone du col de la route Jerash-Irbid.

Trois tours en position topographique dominante devaient avoir un rôle de surveillance. Celle de Merkab 'Anz est totalement isolée, alors que à Rujm el Qarami et Ras Abou Iyad, la tour est liée à un bâtiment et à des citernes, signe de l'existence d'un habitat très limité. Merkab 'Anz domine la plaine d'Irbid et la vallée de Jerash, Ras Abou Iyad, plus à l'est, la plaine d'Irbid, la vallée de Qneyeh et les collines orientales, Rujm el Qarami est sur la crête entre les Wadi Qneyeh et Tannur.

Trois sites également fortifiés occupent des positions hautes. Deir Merwan, et Beheirah, petites forteresses quadrangulaires sont situées dans les hautes vallées du Wadi Warran. Khirbet el Kibdeh domine la vallée de Jerash. Kibdeh est la plus vaste de ces implantations: autour d'un bâtiment occupant le sommet du promontoire, on peut voir une enceinte qui devait entourer un village associé.

Deir Merwan possède la même structure, terrasse enceinte (?) avec bâtiment central, alors qu'à Beheirah un bâtiment de sommet est associé à une longue terrasse enclose au nord-est.

Tous ces sites dépendent de systèmes de citernes, car ils sont fort éloignés des sources, et tous sont associés à des systèmes de terrasses, déjà notés par Glueck qui témoignent sans doute d'aménagements agricoles importants.

Bien que l'on ne puisse y repérer d'enceinte, Rujm el Qôm devait être un site de même type. Un bâtiment central dont seul subsiste un amas de pierres occupait le sommet de l'éminence qui contrôle le col entre la vallée de Jerash et celle du Wadi Warran. Il est installé sur une grande terrasse artificielle qui a pu reprendre le tracé d'une ancienne enceinte. A cet ensemble de sites est associée une nécropole, tombes taillées dans le rocher, à Mazyuda.

Il est possible que Sakhra ait été à cette époque un site du même genre, ainsi que Qafqafa où l'on a encore la trace d'un édifice quadrangulaire en surface et d'une enceinte le débordant largement. La structure de tell de Qafqafa peut être le signe d'une occupation plus longue et plus dense.

Tous ces sites sont donc des implantations nouvelles du Fer I. Elles sont toutes fortifiées, alors qu' on ne trouve pas trace d'habitat villageois étendu dans cette zone de montagne. La céramique recueillie en surface montre que ces sites n'ont pas tous été occupés en même temps, ou que certains l'ont été plus longtemps que d'autres. Il est remarquable de constater qu'aucun fragment n'est formellement attribuable au Fer I A. Au contraire la grosse majorité d'entre eux doit dater de la dernière phase du Fer I. La céramique récoltée à Deir Merwan et Beheirah semble plus récente que celle de Khirbet el Kibdeh et Rujm el Qôm. L'occupation des sommets est donc vraisemblablement un phénomène tardif, datant du

[10]Cf. Glueck, 1939f.

Fer I B ou C.

A côté de ces sites de sommets, trois sites de fond de vallée semblent avoir eu une pure fonction d'habitat sans doute agricole: Hute, Khirbet el Asafir et Hattin. Hute se signale par un large épandage de tessons sur le flanc nord-ouest d'une petite éminence dans la vallée du Wadi Tannur; Hattin associe à un large épandage de même type, un édifice quadrangulaire au plus haut point de la vallée, à proximité de la source; Khirbet el Asafir comprend une large terrasse à flanc de coteau sur laquelle à l'est on remarque les restes d'un gros mur. En contrebas de ce dernier site, nous avons l'extrémité d'un réseau d'irrigation par canaux venant d'une source située dans le lit du Wadi Jerash. Peut être le premier aménagement remonte-t-il à l'installation de l'âge du Fer?

A cause des constructions modernes, on ne peut identifier la nature du site de Suf à cette époque: village ou simple ferme à flanc de coteau du même genre que Khirbet el Asafir?

Un épandage de tessons à proximité d'une structure du Bronze Ancien à Jaur el Hilyan, sur un replat en contrebas de Khirbet el Kibdeh pourrait dater également de cette période. A cet endroit pas de sol pour l'agriculture, pas d'eau: peut être s'agit-il d'une sorte d'abris de berger? Peut être en est-il de même de la colline de Tell Bereirith sur les crêtes à l'est du Wadi Tannur sur laquelle Glueck avait ramassé quelques tessons de cette période.

Enfin Jerash tranche nettement sur l'ensemble de ces sites. L'installation qui, au Bronze Récent était, semble-t-il, toujours limitée à la colline du musée, s'étend désormais à l'ensemble du vallon ouest, doublant sa surface primitive. Il s'agit alors d'un large établissement, sans doute non fortifié qui, comme Khirbet el Asafir, est situé au-dessus de l'extrémité d'un réseau d'irrigation venant de 'Ain Karawan, la grande source de Jerash, et qui pouvait irriguer toute la zone au sud du site. Nous ne connaissons évidemment rien de la structure du site, mais tout laisse envisager une large installation d'habitations. Nous ne pouvons pas non plus déterminer la manière dont s'est effectuée cette extension, augmentation régulière à partir d'un noyau primitif, ou multiplication des maisons dans un bref laps de temps, ni à quelle période du Fer I le phénomène s'est produit.

Sur la rive est du Wadi Jerash, à la hauteur de la colline du musée, nous avons un autre site signalé uniquement par un épandage de tessons sur une terrasse: il est difficile de dire s'il s'agit d'une installation construite ou bien seulement d'une zone de fréquentation régulière, par exemple des champs dépendants du village de la rive ouest.

Le Fer II.

La situation de la région change très nettement encore à cette période. En effet nous n'avons, jusqu'à présent, retrouvé de céramique caractéristique du Fer II qu'à Duqmussa, à l'extrémité est de notre zone d'étude, et, en faible quantité, à Jerash même.

A Duqmussa, large promontoire, au-dessus des sources de 'Ain Metwi, cette céramique est présente en quantité, surtout à l'extrémité sud du tell dans un large cône de déblais; le village peut avoir été installé sur le sommet de la terrasse.

A Jerash, les niveaux de cette période n'ont été identifiés que sur la colline du musée, ce qui semble signifier une réduction de la surface occupée par l'habitat.

Partout ailleurs, les sites paraissent abandonnés. Si cette observation est juste, nous avons là le signe d'une transformation profonde du mode d'occupation du sol dans la région: abandon des sites de sommet, et forte réduction du nombre de sites occupés, diminution de l'importance de Jerash et apparition d'un site nouveau à l'est qui n'est en fait que l'un des nombreux sites de cette époque, connus dans les collines orientales.

L'évolution de l'occupation du sol dans la région de Jerash illustre donc fort bien les tendances décelées à l'échelle de la région dans la première partie de notre étude. Une occupation diffuse du fond de vallée apparaît à la fin du Bronze Moyen et s'interrompt sur plusieurs sites dans le cours du Bronze Récent I, alors qu'elle continue sur les deux sites majeurs, Jerash et Suf, sans rupture jusqu'à l'âge du Fer. A ce moment, tout un groupe de sites fortifiés est installé sur les hauteurs qui sont mises en exploitation. La vie continue dans la vallée oú un centre, Jerash, s'accroît notablement, à côté de petits hameaux dispersés. Enfin, au Fer II, la région se vide.

Reste cependant à déterminer sur tous les sites, le moment précis de chaque changement, à saisir les événements et leur conséquences, pour que l'on puisse utiliser ces données dans la reconstitution de l'Histoire de la Jordanie.

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L'occupation de l'espace à l'âge du Fer en Jordanie

Tenter la synthèse de l'organisation de l'espace en Jordanie à l'Age du Fer, est prématuré. On ne prétendra qu'amorcer une perspective. Malgré le nombre des sites, peu ont été fouillés, encore moins sont publiés. Ne sont disponibles que quelques éléments épars de stratigraphie et des lambeaux de séquences céramiques[1]. L'étude de cette période qui s'étale sur plus de 600 ans, doit tenir compte de la chronologie qui renvoie à l'histoire. Après une maturation sociale longue de deux siècles, les royaumes transjordaniens émergeront vers l'an mille, sur fond de nouveaux modes dans l'organisation de l'espace. La mainmise néo-assyrienne à partir de la fin du IXe s., n'interrompra pas les processus d'évolution.

L'essentiel de la Transjordanie est un massif de montagnes cerné par une vaste steppe semi-désertique, articulé avec la Palestine par la vallée du Jourdain. Il faut rappeler qu'au nord, la région limitrophe d'Irbid appartenait au plateau syrien. La montagne voit s'estomper les traits climatiques et culturels spécifiques de l'effet méditerranéen. Là où la steppe commence, finit aussi l'Arabie. La rencontre de ces deux mondes est une clé de l'évolution de la Transjordanie antique. Dans le pays, pris entre Canaan et le Hedjaz, traversé par la route de Damas à Dedan, l'Amorrhéen a été modelé autant par la Syrie que par l'Arabie. Le flux et le reflux de la ligne nomades/sédentaires est une seconde clé pour comprendre l'organisation de l'espace. Le rythme de ce mouvement, tout comme les cultures nomades, ne laisse guère de traces: quand l'archéologue a traité les cultures sédentaires, la question nomade reste entière; il revient à l'historien de prendre le relais. D'une part, il est raisonnable de postuler en Transjordanie, jusqu'à maintenant, un nomadisme de groupes non immigrés. D'autre part, l'histoire suggère que vint là se dissoudre la plus méridionale des vagues araméennes, il est vrai difficile à estimer. Après la redéfinition des groupes aux XII-XIes., les X/IXes. seront ceux de la mutation ethnique vers des sociétés plus homogènes.

L'implantation des sites est commandée par les ressources disponibles et les aspects de l'économie qui en découlent. La lecture de la carte de la Transjordanie ottomane du XVe s. révèle en filigranne l'identité des modes de survivance[2]. La carte recouvre en partie celle que nous ébauchons aujourd'hui pour la période du Fer: ressources agricoles, densité et nomades par rapport aux sédentaires. Dans les deux occurrences, le nombre et l'extension des sites demeurent modestes dans les montagnes; la densité humaine se concentre dans tout le secteur au nord de 'Amman, tandis qu'au sud, le nomadisme a dominé ainsi que tout au long de la steppe. La Transjordanie fut un pays de nomades à petit bétail et de semi-nomades. Les nomades de la steppe n'avaient que des contacts occasionnels avec les sédentaires tandis que les semi-nomades fréquentaient les agriculteurs où ils avaient des attaches. Aucune des trois sociétés n'était en fait étrangère l'une à l'autre, profitant chacune de l'équilibre de l'ensemble: les pasteurs et les agriculteurs troquaient surtout bêtes et grains. Il faut faire une place à part aux citadins toujours minoritaires, et exclure les grands nomades, toujours étrangers. Cet équilibre s'est maintenu grosso modo, jusqu'au début de ce siècle. Quand on mesure la faiblesse de l'implantation urbaine au cours de Fer I, on touche le démantèlement de l'organisation traditionnelle de l'espace. L'organisation urbaine fut marginale à cette époque et n'a dû se maintenir que grâce à son pouvoir spécifique. La mutation sociale du Fer I, implique un phénomène de sédentarisation[3].

[1] En revanche de nombreuses explorations de surface ont été menées, couvrant le territoire de façon convenable. Certaines, récentes, viennent corriger les anciennes, comme celles de N.Glueck, méritoires, mais aux résultats rendus souvent caducs par l'imprécision des critères de la céramique. Les fouilles sont trop récentes et les résultats trop peu fournis pour utiliser des séquences céramiques confirmées. La chronologie a trop souffert d'une dépendance du texte biblique dont on reconnaît aujourd'hui que les dates ne sont pas assurées. L'appréciation de la céramique a été trop souvent faite par comparaison avec celle de la Palestine et quelques pièges n'ont pas été évités.

[2] W-D. Hütteroth et K. Abdulfattah, *Historical Geography of Palestine Transjordan and Southern Syria in the Late 16th century*, Erlanger Geographische Arbeiten, 5, Erlangen, 1977. Nous aurons sous peu accès au W. von Zwickel, Eisenzeitliche Ortslagen im Osjordanland (Tübingen Atlas des Vorderen Orients).

[3] Un tel constat a conduit aux théories de la Conquête de G.E. Mendenhall.

Une chronologie plus assurée pour la période du Fer fournira à l'envi, l'évidence du développement tardif de la Jordanie. Jouxtant la Palestine, elle avait dû subir comme elle, à la fin du Bronze, une dépression économique et un effondrement des modes de survivance sédentaires. L'enchaînement des causes reste du domaine des hypothèses. La Transjordanie du Bronze récent n'était déjà que faiblement urbanisée: malgré quelques grands tells où l'extension de l'habitat reste limité, la rareté et la dispersion des villes ne font qu'accuser la modestie du profil urbain avant l'an 900 av. J.-C. En revanche, la fixation de pasteurs et d'agriculteurs demeure la caractéristique majeure de Fer I. Ou bien le pays est presque vide ou bien la population nomadise. La longue phase de sédentarisation plus ou moins échelonnée témoigne de la fixation des pasteurs nomades locaux et suggère en même temps, l'arrivée de nouveaux venus. Une théorie[4] propose de comprendre en partie la fixation de nomades locaux: les deux modes de vie sédentaire et nomade étant complémentaires, les nomades tenaient leur grain des sédentaires; lors des ruptures de marché, les nomades auraient été contraints à devenir agriculteurs pour se pourvoir en grain.

Un apport extérieur peut expliquer certains aspects de l'essor technologique. Des groupes ont pénétré en Transjordanie et parmi eux, les Araméens, qui apparaissent pour la première fois lorsque Tiglat-Phalazar I croit les briser en 1107/5. Ils n'en fonderont pas moins les principautés araméennes de Damas, Geshur, Ma'akah et franchiront le Yarmuk. On peut situer l'Aram de Ṭôb dans le Ḥauran méridional ou en Gala'ad. Selon P. Lapp, le répertoire céramique de T. Rumeith comporte des phases "syriennes" alternées[5] et H.J Franken a noté à T. Deir 'Allâ, une influence araméenne dans la poterie de la phase qui succède à celle des semi-nomades[6]. Les poussées araméennes n'étaient plus constituées de ces bandes errantes qui avaient dévasté l'Orient puisque leur organisation venait d'aboutir à la fondation des principautés. Certains nomades attirés par les monts de l'Ajlûn sont sûrement Araméens. L'histoire de Jacob *l'Araméen* évoque leur circulation entre le Yarmuk et Amman et leurs avancées jusqu'en Samarie[7].

Quelques éléments culturels araméens surgissent çà et là. Pourtant, la façon dont les techniques ont été introduites demeure insaisissable. On suppose que la métallurgie du fer a une origine égéenne, peut-être européenne[8]; les Philistins[9], qui pouvaient avoir accès aux minerais du Delta, ont pu la transmettre aux Edomites à l'occasion de contacts dans la région de Gaza. Quoi qu'il en soit, le fer est attesté au Fer IA dans la Beqᶜah[10]. L'origine des applications d'enduit étanche reste inconnue, celle aussi de la partition des maisons en trois compartiments avec ou sans piliers[11], qu'il est abusif d'interpréter comme la création *sui* generis d'une ethnie particulière, et dont on ne sait pas encore si l'origine est nordique. La construction de silos à grains creusés dans le sol et tapissés de pierres ne peut non plus être l'objet d'une attribution trop précise cette coutume est attestée en Syrie du nord d'où elle a pu venir[12]. L'archéologie ne saisit rien des groupes en migration et presque rien du moment de leur installation. Elle est toujours handicapée car le fouilleur ne saisit les faits culturels d'un groupe que lorsque son intégration est achevée dans son milieu d'accueil: il est alors installé et dans la plupart des cas, métissé. Le succès d'une telle intégration est à chercher dans la coïncidence de plusieurs facteurs favorables.

I- RÉFLEXIONS SUR LES CAUSES DE L'ÉVOLUTION

A- La maîtrise de l'eau et les citernes – On ne s'étonnera pas de constater que la densité du peuplement reproduit les secteurs pluviométriques de la carte des précipitations. Les établissements permanents décroissent régulièrement entre 500 et 200mm. Au-dessous de 200mm, l'espace est dévolu aux petits nomades ou aux pasteurs proches des sédentaires et les implantations sont rares. Au-dessous de 100mm, il n'y normalement pas d'implantation. La Jordanie ne manque pas d'eaux vives: bon nombre de sources jaillissent dans

[4]D.G. Bates et S.H. Lees. "The role of exchange in Productive Specialization", *American Anthropologist, 1977, pp. 824-841.*

[5]P. Lapp, *"Tell Rumeith 1962", RB, 72, (1963), pp. 406-411 : et "Tell Rumeith 1967", RB, 72, (1968), pp. 98-105.*

[6]H.J. Franken, *"Deir 'Allâ", EAEHL* I, Londres et Jérusalem, 1975, p. 322.

[7]Il convient de mettre en relation la geste de Jacob avec les vagues araméennes. La datation des patriarches est une vaste question. Personnellement, je préfère assigner l'histoire de Jacob à l'époque où le mouvement araméen touche Gala'ad, c'est-à-dire entre le XIe et le VIIIe.

[8]A.M. Snodgrass, "Iron and Early Metallurgy in the Mediterranean", *The Coming of the Age of Iron,* T.A.Wertime 1 J.G. Muhly Ed., Londres, 1980, pp. 335-374, et surtout pp. 336-340.

[9]Il est vrai que cette technologie philistine ne nous est connue que par la Bible. Le contexte "philistin" peut être tardif, entre le VIIe et le Ve s. Une "ethnie" philistine a certainement duré pendant tout le millénaire, pour être repris pars les Romains pour nommer la Palestine .

[10]Dans une tombe, P.E McGovern, *The Late Bronze and Early Iron Ages of Central Transjordan: The Baq'ah Valley Project,* 1977-1981 Philadelphia, 1986, chap. VIII. Nous devons savoir que toute datation de céramiques de la fin XIIIe s. et du XIIe s. dans la région n'est crédible qu'en association avec des importations.

[11]Pour plus de facilité, on citera Fr. Braemer, *L'Architecture domestique du Levant à l'Age du Fer. ERC.* Paris 1982, Kh. Medeineh, p. 249, FT. es-Sa'idiyeh, p. 280, Umm el-Biyara, p. 289.

[12]Au moins un exemple à Ras el-Bassit, P.Courbin, "Bassit", *Syria,* (1986), p. 1786.

les montagnes et des cours permanents se jettent dans le Jourdain. Le pays fut agricole à cause d'un potentiel de terres arables loin d'être négligeable. Les domaines de Husn/Irbid ou de la plaine de Mâdabâ ont dû faire l'objet, dans l'Antiquité, de bien des convoitises. Par ailleurs, les berges alluvionnaires plus ou moins larges des wadi fournissaient des terres étroites mais irrigables. les cultures en terrasses sur pentes fortes étaient tributaires des pluies. Il semble cependant que les montagnes se soient encore mieux prêtées au pastoralisme.

L'extension du domaine agricole avait entraîné la mise en culture des bassins argileux et même des plateaux dépourvus d'eaux pérennes; s'est alors répandue l'habitude de creuser des citernes dans le roc afin de garder l'eau à l'abri de la lumière et de la chaleur. Par exemple, à proximité de presque chaque "tour ammonite", s'ouvrent une plusieurs cavités rupestres[13]. Les techniques de l'enduit étanche étaient connues depuis le Bronze sans être appliquées aux citernes qui garantissaient une autonomie quant aux besoins domestiques. Les sources restaient évidemment indispensables pour le maintien des grands troupeaux. Un des facteurs décisifs de la nouvelle répartition des installations reste la maîtrise de l'eau.

B- L'avènement du métal fer – Le fer ne s'est pas répandu à partir de 1200 av. J.-C.: la manufacture des outils de bronze dominait encore au XI^{e}s.[14]. La sédentarisation massive a correspondu au moment de la diffusion du fer et il sera peut-être un jour possible d'en déduire une relation de cause à effet. Sans privilégier celle-ci, on fera remarquer que la manufacture du fer est plus simple que celle du bronze dans la mesure où elle ne nécessite pas l'apport de l'étain. Le fer fond à 1537°C mais des agglomérats ferreux peuvent être obtenus à une température inférieure, dès 1100°C. Ce procédé n'exigeait qu'une bonne maîtrise des techniques de chauffe: rendement des tuyères et utilisation du charbon de bois comme fondant permettant d'abord d'abaisser sensiblement le point de fusion[15] puis, par l'action du carbone, de fabriquer un acier plus résistant.

Les gisements de minerai de fer sont faibles et disséminés à la base des couches sédimentaires, mais d'extraction aisée: sur les pentes de l'Ajlûn où elles étaient encore exploitées pendant la période ayyubide, proches de Foḥeis, Feinan et du Wadi Sabrah[16], enfin sur le versant occidental de la 'Arabah. On a des raisons de croire que la récolte du minerai s'est longtemps faite comme ailleurs, de façon artisanale, dand les graviers des wadis. On a signalé des gisements sur les plages du Delta du Nil (Abu Kir).

La nouvelle métallurgie a provoqué la promotion d'un outillage de fer plus économique. La courbe de la démographie tend à accompagner celle des progrès techniques dans la mesure où ils influent sur les moyens de subsistance. La société, surtout au X^{e}s., en a profité: burins et marteaux pour extraire et tailler la pierre[17], haches our défricher les bois; la diffusion des instruments aratoires a augmenté la mise en culture des terres; tout cela ne peut que faciliter la sédentarisation. Le nombre des sites agricoles atteste de la diversité et de l'extension du domaine cultivé. L'Âge du Fer dut alors résoudre les différents aspects de la propriété. Successivement: apparition, répartition des terres, gérance cadastrale, réserve du domaine public, etc. Avec la conception du domaine royal, ce processus devait conrétiser la formation des pouvoirs[18].

C- La métallurgie du bronze.

La métallurgie du bronze a joué un rôle essentiel en Édom. L'abandon égyptien[19] des mines de el-Mene-'iyeh (Timna) au XII^{e}s. et l'interruption des exportations de Chypre, ont conduit les habitants de la région à vivre de leurs ressources.

Édom fut la province la moins peuplée et la plus

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[13]L'est de Amman, ravagé par d'immenses carrières, recèle un magnifique ensemble de "tours". Lors de visites répétées, nous avons remarqué la présence de ces systèmes hydrauliques.

[14]J.C. Waldbaum, *From Bronze to Iron, Studies in Mediterranean Archaeology*, LIV, Göteborg, 1978. Les tableaux comparatifs p. 41 montrent que la manufacture des objets en fer fait un bond entre le XIe et Xe s., au détriment de ceux en bronze.

[15]Chiffres théoriques: pour un aperçu, A. Hauptmann & G. Weisgerber, "Archaeometallurgical and Mining-Archaeological Investigations in the Area of Feinan, Wadi 'Arabah", *ADAJ* 31, (1989), p. 432.

[16]Il reste à prouver que les scories de fer recueillies sur les sites de fonte du cuivre ne sont pas dues à des accidents minéralogiques: Waldbaum le suggère op. cit., p. 59. Est-il possible de tirer du fer des scories de cuivre? Cf. R. Maddin, "Early Iron Technology in Cyprus", in *Early Metallurgy in Cyprus*, Nicosia, 1982, Discussion p. 313-314. Sur la production du fer tant en Palestine qu'en Transjordanie: Waldbaum mentionne p. 88, note 3, M.S. Krisnan, *Iron Ore Deposits of the Middle East*. New-York, 1965, impossible à trouver.

[17]L'érosion en Jordanie a produit un débitage naturel en parallélépipèdes des calcaires tabulaires mis à nu; il suffisait de faire rouler les blocs et de les empiler pour édifier les constructions cyclopéennes qui sont une des caractéristiques de cette région, toutes époques confondues, y compris l'abondance des ensembles chalcolithiques et des dolmens...

[18]On retouvera plus tard comme un écho lointain dans Ovide (Met. I, 140-144) où le poète rapporte les transformations dues à la race de fer: apparition de la propriété, arpentage des champs, extraction des minerais de fer, etc. L'essor agricole a affecté le bassin méditerranéen.

[19]L'abandon des mines de Timna dont l'exploitation était déjà réduite pourrait se situer au milieu du XIe: A. Lupu & B.Rothenberg, "The Extractive Metallurgy of the Early Iron Age Copper Industry in the 'Arabah, Israel", *Archaeologia Austriaca*, 47, (1970), p. 105.

lente à se dédentariser, peu avant le VIII^es.[20], et le sud, pas avant le milieu du VII^es.[21]. La fortune des Edomites venait de la position du territoire au débouché commercial de la route de l'encens. Leur essor tardif pouvait être lié à l'extraction, à la fonte et au transport du cuivre. La quantité de combustible requise par les fournaises put contribuer au déboisement de la montagne de Se'ir[22]. Le domaine édomite déborde alors vers l'ouest, jouxtant le royaume de Juda au sud, pour ouvrir une route vers Gaza et l'Égypte. L'exploitation minière se poursuivra au moins jusqu'à la fin de la période Perse[23].

Les Édomites tiennent le marché dans le triangle tracé par le sud de la mer Morte, le golfe d'Aqaba et Gaza. Les lingots de cuivre transitaient par la ᶜArabah vers l'ouest, et vraisemblablement part *la route des Rois*, vers le nord. La route romaine qui surplombe la mer Morte, empruntant un tracé de l'Âge du Fer, gagnait la vallée du Jourdain où elle débouchait sur un réseau commercial ramifié jusqu'en Phénicie, mais les transporteurs devaient se concilier Moab. Les fondeurs de Deir 'Allâ, étaient selon H.J. Franken, des semi-nomades aux XII/XI^es.[24]; ce site s'élève au point de rencontre du marché de l'étain (de l'Anatolie?) et de celui de cuivre. Le nombre des bronzes dans les nécropoles de Tell el-Mazar[25] et de Tell es-Sa'idiyeh témoigne amplement de cette activité.

Rien d'étonnant alors qu'Édom ait été une région convoitée par ses voisins. La question du cuivre put jouer un rôle dans les différends entre Juda et Édom, Israël et Moab.

II-LE FONCTIONNEMENT RÉGIONAL

A- Gala'ad – Le nom de Gala'ad n'apparaît que dans des textes tardifs, et pas avant que la région n'ait été intégrée dans les provinces néo-assyriennes. Elle constitue pourtant une entité géographique cohérente, un massif de montagnes, bordé au sud par la cassure nette du Wadi Zarqa et ouverte vers la Syrie méridionale. Gala'ad est traversé par le prolongement de la route des Rois, que jalonnent trois sites majeurs: Jérash, T.Ḥuṣn, Irbid.

Plusieurs explorations ont tenté de recenser les sites des affluents permanents du Jourdain[27] et de la montagne[28]. La considération de l'élément densité/répartition des installations, confronté au facteur temps, permet à F. Braemer de proposer en Gala'ad une arrivée massive d'immigrants au Fer I, qui multiplie par quatre les sites de montagnes par opposition à ceux des vallées principales. La densité des sites à l'Âge du Fer dans ce massif montagneux, est parmi les plus fortes de toute la Palestine/Transjordanie. Les labours n'y sont pas très étendus mais la contrée est bien arrosée; l'Ailûn était encore couvert de forêts avec des ressources pastorales appréciables. Rien de plus normal que Gala'ad ait attiré des groupes araméens qui cherchaient à se fixer; Gala'ad, le Jaulan et le Jebel Druze, peu peuplés à l'époque, apparaissaient en comparaison avec le désert syrien, comme des contrées attrayantes. Le Gala'ad aurait arrêté sa frontière méridionale sur le Jabboq. La poussée araméenne avait débordé Gala'ad vers le sud (le nom du village moderne de Jile'ad en aurait gardé la trace), vers l'ouest, au moins dans la région de Béthel[29] et en Samarie. Des groupes des deux côtés du Ghor avaient des affinités en raison d'origines communes qui transparaissent dand les récits centrés sur Jabesh, la capitale[30].

La région bordant le plateau syrien possède les collines de T. Qweilbeh (pointe de *Bashan*) qui font face au Jaulan et le riche bassin d'Irbid, *Argob* ou les "douars de Yaïr", avec T. Irbid et T. el-Ḥuṣn. La bordure du plateau est une marche fertile devant les principautés syriennes, dont Gala'ad. L'établissement d'une chaîne de places fortes protégeant les terres aura laissé une série de sites de premier plan: Sâl, T. Fukhkhar, T. Rumeith, Khanasiri, Eidun/Mafraq, el-Fedein, et peut-être Khaladiyeh (près de Wadi ed-Ḍuleil).

B- Ammon – Ammon possède un ensemble de vestiges qu'on on appelle communément les "tours ammonites". La construction cyclopéenne lui confère une unité qui n'exclut pas la diversité des modèles

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[20]M. Weippert, "Remarks on the History of Settlement in Southern Jordan during the Early Iron Age". *SHAJ* I, 1982, p. 156.

[21]S. Hart, "Some Preliminary Thoughts on Settement in Southern Edom", *Levant* 18 (1986), pp. 51-54.

[22]Pour un aperçu technique, T.A. Wertime, "Mediterranean Pyrotechnology", *Early Metallurgy... op. cit.*. note 20, p. 357 ss.

[23]E.A. Knauf & C.J. Lenzen, "Edomite Copper Industry", *SHAJ* III, 1987, pp. 83-88.

[24]H.J. Franken, *Excavations at Tell Deir 'Alla I.* Leyde, 1969, pp. 43-454.

[25]K. Yassine, "Tell el-Mazar I, Cemetery A, Amman 1984", *Archaeology of Jordan, Essays and Reports*, Amman, 1988, pp. 73-135.

[26]On rappelle habituellement que la vallée était le lieu de la fonte du mobilier de bronze du Temple de Jérusalem, *II Chron.* 4, 17.

[27]K. Yassine & Alii, "An Archaeological Survey of the Reservoir Areas in Northern Jordan, 1978", p. 209-236, in: *Archaeology in Jordan, op. cit.:* R.L. Gordon & L.E. Villiers. "Telul edh-Dhahab and its Environs Surveys of 1980 et 1982", *ADAJ* 27,(1983), p. 275-289. E.B. Banning & C. Fawcett, "Main-Land Relationship in the Ancient Wadi Ziqlab", ibid. pp. 291-310.

[28]Fr. Braemer, étude dans le présent volume.

[29]D'une part, l'aspect araméen du cycle de Jacob illustrerait exactement le temps du passage à l'ouest du Jourdain et d'autre part, l'archéologie devrait montrer la permanence de traits "syriens" dans les cultures matérielles de la Samarie pendant la période du Fer. Cf. J. Balensi, discussion après A. Mazar, "The Israelite Settement in Canaan in the Light of Archaeological Excavations" *Biblical Archaeology Today*, Jérusalem, 1985, p. 94.

[30]Jug. 21, 8-14, 1 *Sam.* 11, 1,59 et 31, 11-13.

architecturaux et leur évolution sur plusieurs siècles[31]. On renonce aujourd'hui à les interpréter comme des éléments de la défense de Rabbat ᶜAmmon[32]: que leur construction se soit étalée sur plus de 600 ans suffit à en écarter l'idée. Il est envisagé que les plus anciennes installations remontent à la fin du XIIIᵉs.[33]; les fouilles à venir préciseront quels sont les rares sites attestant une continuité d'occupation avec le Bronze récent. Le temple de l'aéroport de Marka, Umm ed-Dananir sont pour le monent deux sites de référence pour vérifier cette hypothèse[34]. En ce qui concerne la nature du groupe humain dans la Baq'ah à cette haute époque, l'étude du mobilier des tombes accrédite plutôt la thèse du *métissage,* aux dépens de celle d'une immigration *ex abrupto.* Le groupe sédentaire issu du Bronze récent aura été un élément de cette société en formation. Pourtant le moment du meilleur développement de ces établissements est la fin de la période, qui manifeste avec dynamisme une culture spécifique.

Les "tours ammonites", éparpillées sans autre raison que de profiter des meilleures terres, sont en fait des complexes à vocation rurale. Kh. Umm Sweiwineh, dans la banlieue sud d'Amman, est le plus étendu[35]. Deux exemples dans la Baq'ah, Kh. Mudhmar et Rujm el-Ḥenû en attestent, sur les photographies aériennes, l'originalité architecturale en rectangles emboîtés[36]. El-Mabrak (18x24m) est représentatif du petit modèle presque carré[37], tandis que le Khirbet Malfuf en illustre le type circulaire, moins courant[38]. Par l'originalité de leurs plans, l'ampleur de leur conception et la puissance des moyens mis en oeuvre dans leur construction, ils trahissent un équilibre socio-économique efficace. La distribution intérieure révèle une fonction plus communautaire que domestique, avec des cours/enclos pour les animaux et des magasins de stockage. Leur aspect défensif devait dissuader les pillards[39]. El-Mabrak avec son entrée en boyau souterrain pourrait être comme le centre communautaire d'un groupe de 'fermes' rapprochées; une organisation sociale est probable. On peut même proposer qu'une société terrienne prospère soit à l'origine puis le soutien de la royauté ammonite.

Autour d'Amman, deux systèmes contemporains d'occupation de l'espace se superposent. Le premier, hérité du Bronze, est un tissu lâche de petites villes, Tell Safût, Tell Jawa, Tell 'Umeiri, Kh. el-Hajjar, Saḥab autour de la capitale d'Ammon, au Jebel Qala'a. Le second, apparu au Fer, est une implantation de complexes agricoles en habital dispersé, mais dense.

C- Moab – Moab pourrait aussi posséder un système moins spectaculaire de fermes fortifiées, si une étude prouve un jour que les grands *Rujum* carrés de la région au sud-est de Mâdabâ sont bien de l'époque du Fer. Les centres urbains sont 'Ataruz, Dhîbân, Mâdabâ, Umm er-Raṣaṣ (?); le tissu de l'habitat rural est constitué par les "tours" entre ez-Za'faran et er-Rumeil près de Kh. el-Kaum, puis entre Libb et Mukawer. Les modes d'implantation sont peut-être moins variés qu'en Ammon mais on y retrouvera le même dynamisme organisateur.

La nomadisation pourrait s'être maintenue en Moab plus intense, puisque les installations agricoles y sont moins denses. Si les terres s'y étendent pourtant excellentes, les sources y sont moins abondantes (la richesse de 'Amman lui venait de son eau). Moab avait concentré ses forces dans quelques villes qui ont laissé de beaux tells: Mâdabâ, Ḥesbân, peut-être 'Ataruz, surtout Dhîbân, la capitale. La région au nord de l'Arnon avait constitué le royaume de Siḥôn, oublié parce qui'il dut être partagé entre Ammon au nord, et le Moab méridional de Karak-Moba dont les prétentions territoriales étaient connues. Le sud, entre deux torrents, le Zered et l'Arnon, plateau haut perché au-dessus de la mer Morte, ne possède en fait de bonnes terres que le bassin de Rabba. Ce domaine sans réelles ressources, n'a produit que deux grands sites, Balu'ah et

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[31]R.H. Dornemann, *The Archaeology of the Transjordan,* Milwaukee, 1983, p. 124, suggère avec sens critique, que certains sites peuvent même être byzantins.

[32]Les deux mentions dans la Bible, *Nomb,* 21, 24, et *Deut.* 2, 19-37, d'un Ammon fortifié, peuvent provenir de l'effet produit sur les voyageurs, par les ensembles cyclopéens.

[33]Pour les plus importants Rujm el-Malfuf: H.O. Thompson, 'Rujm el-Malfuf South', *ADAJ* 18, (1973), pp. 47-50: et 'The Ammonite Remains at Khirbet Al-Hajjar', *BASOR* (1977), 227. pp. 27-34. Il demeure difficile d'affirmer d'après la poterie qu'il ne s'agit pas du XIe s.

[34]P.E. McGovern, op. cit.: pour un rapide aperçu, voir la synthèse pp. 335 ss.

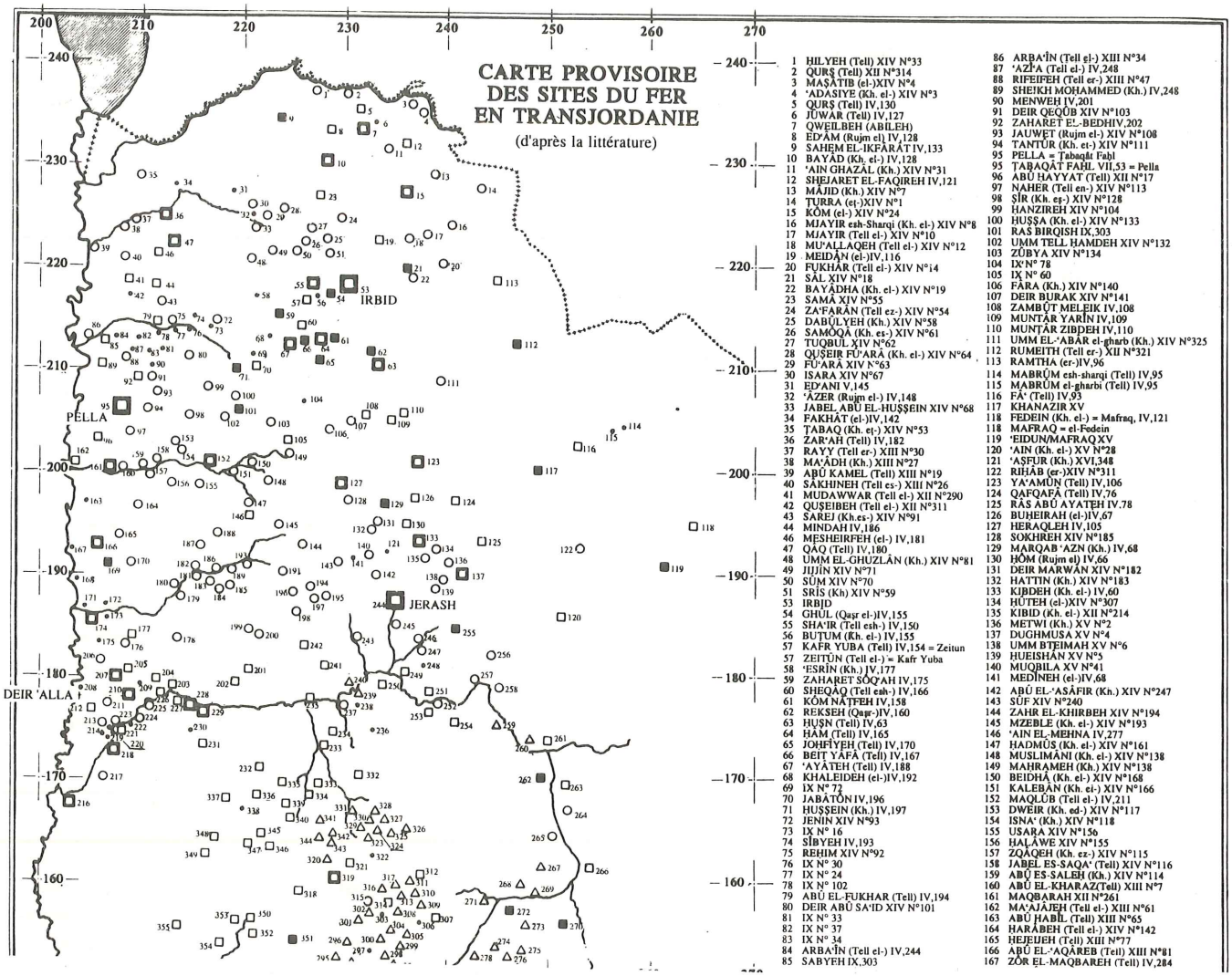
[35]Le site a été entamé au bulldozer pour la construction d'une mosquée: les caractéristiques sont celles des sites déjà fouillés: la coupe sontre schématiquement une évolution qui se termine par un niveau byzantin encastré dans l'appareil cyclopéen: les tessons du Fer sont rares. Au sud-est, dans un affleurement rocheux, une vaste citerne a été creusée, aux abords de ce qui a pu être des aires à battre.

[36]Sur R. el-Ḥenû: P.E. McGovern, 'Enviromental Constraints for Human Settement in the Baq'ah Valley', *SHAJ* II, Amman 1985, pp 141-148: photo. p. 147: du même auteur, 'Test Soundings of Archaeological and Resistivity Survey Results at Rujm el-Ḥenu', *ADAJ,* 27, (1983), pp. 105-141; photo de Kh. Mudhmar, Pl. XIX.

[37]KH. Yassine, *Archaeology of Jordan Essays and Reports,* Amman 1988, pp. 61-64.

[38]H.O. Thompson, "Rujm al-Malfuf", *RB.* 82 (1975), pp. 97-100.

[39]Rien n'empêche que les Romains en aient restauré certaines pour surveiller Philadephia, et que les Byzantine les aient réoccupées comme des fermes. Il apparaît, au moins dans le nord du pays, que souvent les réinstallations byzantines des V/VIe s. ont été précédées de l'évacuation des couches anciennes. Il est possible que ce soit le cas dans le secteur de 'Amman et de la Beq'ah.



1.

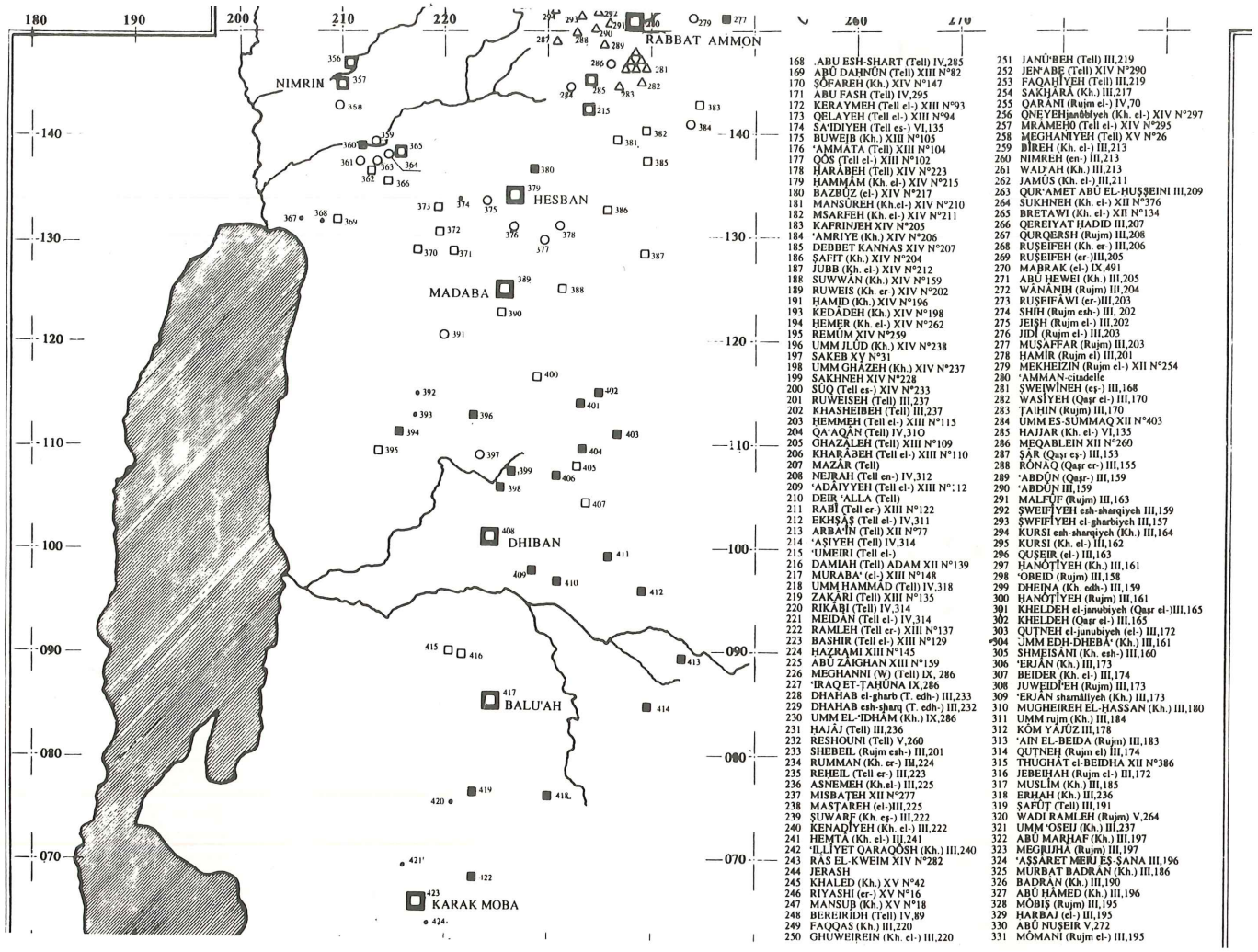
Kérak qui de chaque côté du plateau, contrôlent l'amont des grands wadi. Avec Rabba, et Qaṣr qui livreront peut-être une fondation du Fer plus marquante qu'on ne le croit, ce sont quatre étapes sur ''la route des Rois''. Dans le Moab du sud, l'installation est presque réduite aux abords de la route dont elle a profité. Moab était en outre fort soucieux de ses défenses avec des places fortes qui, non par hasard, dominaient les wadi encaissés: les trois Medeiyineh, el-Leḥun et 'Aroer. Umm er-Raṣaṣ (Mepha'a[40]), éventuellement enfouie sous le site byzantin, put protéger l'accès de Dhîbân par l'est. Toute cette région, somme toute peu peuplée, ne semble cependant pas avoir été atteinte par l'ampleur de la sédentarisation qui a affecté le nord du pays.

D- Édom et Madian – Édom est naturellement bien défendu; les dispositifs de retraite ou de refuge y sont les installations les plus caractéristiques, et la plupart d'entre euxs dans les sites plus inaccesibles que stratégiques[41]. Comme en Moab, une chaîne de fortins protège du résert de l'est, parfois restaurés par les Nabatéens ou les Romains[42]. Les vallées d'accès à la montagne de Se'ir par la 'Arabah, ne sont que des gorges. Si aux VIIIe/VIe s., Édom possède le passage de Pétra vers Gaza, alors les ''forteresses''

[40]M. Piccirillo, ''Le Iscrizioni di Um er-Rassas-Castron Mefaa in Giordania I (1986-7)'', *LA* 37, (1987). pp. 1877-239, et plus spécialement, p. 196.

[41]S. Hart, op. cit. p. 51; un exemple avec la carte de la Fig. 2, p. 53.

[42]T. Parker, ''Le limes arabicus'', dans Chronique archéologique, *RB* 95, (1988), p. 266.



2.

du Négueb peuvent constituer un troisième ensemble agricole en habitat dispersé et plus ou moins fortifié, en marge des terres judéennes cultivables. Elles seraient la trace d'une poussée de la sédentarisation dans la steppe au contact de l'agriculture traditionnelle, comme en Ammon et Moab et en même temps[43].

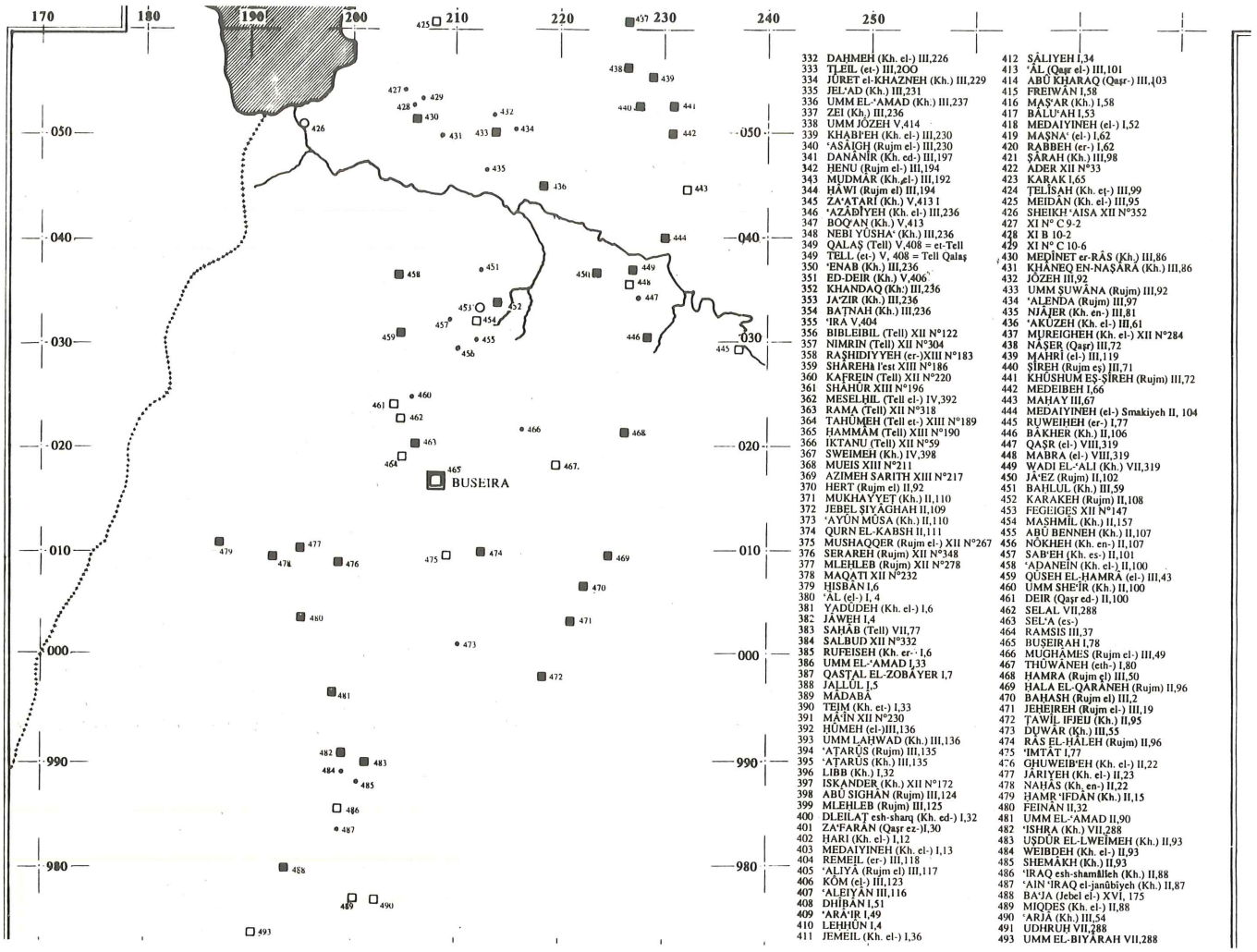
Dans les régions désertiques les ethnies n'ont pas de frontières marquées: le territoire édomite se confondait au nord-est avec celui de Juda. Le site cultuel de Kh. Qaṭâmât (Qiṭmit), manifeste la présence d'Édom dans ce secteur[44]. Des menaces imprécises avaient conduit les Édomites à se retrancher au VII^e s., dans des nids d'aigle inexpugnables: Sela', Umm el-Biyarra[45], Jebel Ba'ja[46]. Il se pourrait que la région ait été bouleversée à la suite de la campagne de Nabuchodonosor comme le suggère 2 Rois 24, 2. Au sud, s'ouvre Madiân, sur lequel les textes se taisent en dehors des rares mentions de l'Ancien Testament. Il semblerait que Madiân ait été proche d'Édom. Les deux peuples ne nouent-ils pas des liens commerciaux avec l'Égypte à travers un Négueb

[43]Après avoir proposé parfois avec enthousiasme, ces installations comme une espèce de glacis défensif, il a fallu admettre que leurs qualités militaires étaient nulles. Les "forteresses", ont surtout une vocation agricole.

[44]Si l'on admet que les temples frontaliers marquent politiquement en certaines circonslances les limiles territoriales d'un pays, Qutâmât porte d'Édom fait face au temple d'Arad, porte de Juda, au moins au VIIe s. I. Beit-Arieh. "New Light on the Edomites", *BAR* 14-2, 1988, pp. 28-41.

[45]C. Bennett, "Umm el-Biyara", *RB* 73 (1966), pp. 372-403.

[46]M. Lindner, I.S. Farajat, "An Edomite Mountain Stronghold North of Petra (Ba'ja III)", *ADAJ*, 31, (1987), p. 175-185.



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335 JEL'AD (Kh.) III,231
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479 ḤAMR 'IFDÂN (Kh.) II,15
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488 BAJA (Jebel el-) XVI, 175
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490 'ARJA (Kh.) III,54
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3.

édomite[47]? Les Madianites ont pourtant déjà un long passé et il ne faudrait pas mésestimer leur influence sur la Trasnjordananie[48]. Ils étaient les artisans de la route de l'encens[49], et maîtres des oasis de l'Arabie du nord, Tabouk, Teima, al-'Ela (Dedân) et il se pourrait que Medâin Ṣâleḥ ait été plus tard, leur "capitale"[50]. La céramique peinte des oasis prouve des contacts avec le Levant et dans les deux sens[51]. Les décors peints en trois couleurs de Qurayyaḥ, qu'il faut probablement faire remonter au début du Fer I[52], trahissent une influence levantine du Bronze récent final[53]; en revanche, la céramique dite *madianite*,

[47]La région désertique du sud fut le domaine de plusieurs tribus: les textes égyptiens en particulier mentionnent dans cette région les Shasu puis Se'ir, toponyme et nom d'une peuplade que la Bible confond avec les Édomites et situe dans le Négueb. Madiân qui a domestiqué le chameau, circule dans toute la frange désertique, exerçant sa pression sur les sédentaires mais aussi sur les semi-nomades. A. Musil rapporte qu'encore au début de ce siècle, des Howeitat du Golfe d'Aqaba razzièrent jusqu'à Hama de Syrie. Sur toute cette question, voir la courte synthèse de E.A. Knauf, 'Midianites and Ishmaelites', *Midian, Moab and Edom, JSOT, Supp. Series,* 24, 1983, pp. 147-162. Les Shasu, Se'ir et Madianites sont tous des nomades du Négueb et des confins de l'Arabie: quelques tribus ont pu se fondre dans le sud, peut-être à cause du commerce, et devenir Édom peu avant la fin du VIIIe s.

[48]On ne rappellera jamais assez que les Nabatéens seront dans la parfaite lignée des Édomites avec caravanes, commerce, agriculture, et dans le même territoire.

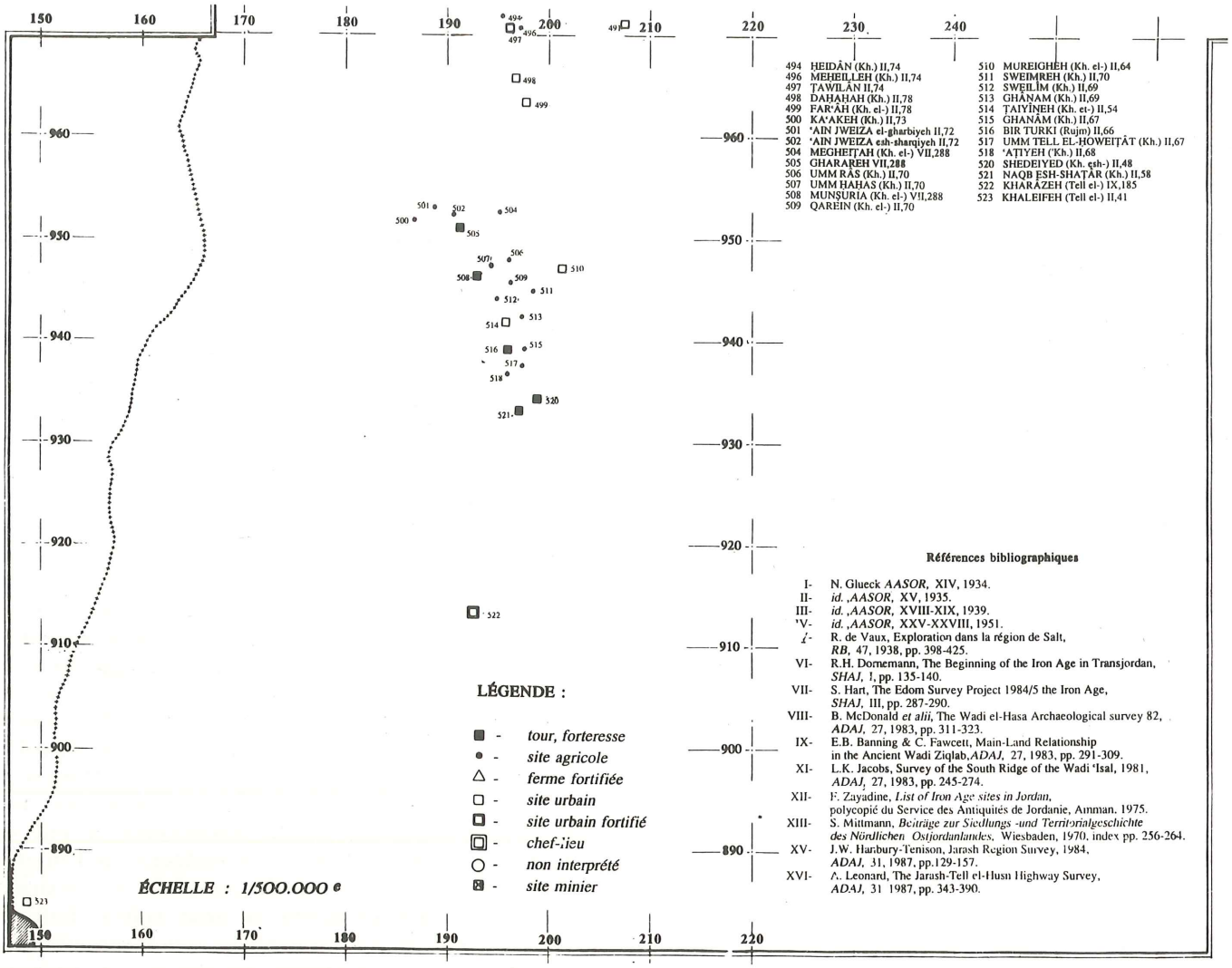
[49]A.E. Knauf, *op. cit.*, pp. 150-151, insiste sur le fait que ce commerce se redéveloppe avant le VIIIe s. avec les Madianites qui ont adopté le chameau et acquis la "selle-coussin" qui permet les longs trajets.

[50]On a cru pouvoir rapprocher le toponyme Medain du nom de Madiân.

[51]Pour une meilleure approche: G.Bawden, Painted Pottery of Tayma and Problems of Cultural Chronology in Northern Arabia' in: *Midian, Moab and Edom,* op. cit., *supra* note 47, pp. 37-52.

[52]Les inscriptions minéennes témoigneraient de principautés arabes à partir de l'an mille av. J.-C. Cf. H.S.B. Philby, 'South Arabian Chronology'. *Le Muséon* 62, 3, 1949, pp. 229-246, et surtout p. 236. Les plus récentes fouilles dans les deux Yémen tendraient à abaisser cette date vers 800 av. J.-C.

[53]P.J. Parr, G.L. Harding, J.E.Dayton, 'Preliminary Survey in N.W. Arabia, 1968', *BIA,* 8-9, 1968-9, pp. 193-242, plus précisément p. 238. Et encore: R. McC Adams, P. Parr, M. Ibrahim, A. S. al-Mughannum, "Saudi Arabian Archaeological Reconnaissance 1976", *Atlal* I, pp. 21-40.



4.

proche de celle de Qurayyah, possède une aire de diffusion qui recouvre la 'Araba et le Négueb. Elle offre des parentés avec la céramique édomite peinte des VIII/VII^es., par exemple, à Buṣeira[54]. Les liens n'ont pu se réduire à la seule poterie: plusieurs auteurs ont noté l'application en Madiân de méthodes d'irrigation[55] que P. Parr[56] n'hésite pas à rapprocher de celles connues en Arabie heureuse. Les liens avec le Ḥedjaz sont patents et c'est ce qui aura fait d'Édom et de toute la région méridionale, pendant plus d'un millénaire, une extension de l'Arabie.

E- La vallée du Jourdain

Le corridor du Jourdain est original à plus titre. Long fossé de 100 km au-dessous du niveau de la mer, il est balayé l'été par des vents brûlants mais jouit de précipitations annuelles de l'ordre de 380 mm au nord à 150mm au sud. La berge palestinienne, étroite, pauvre en eau et en terres, compte peu de sites, l'oasis de Jéricho y tenant une place à part. La berge transjordanienne, large de 12km en moyenne, au contraire, reçoit les cours d'eau permanents, descendus de l'Ajlûn. Les terrasses qui dominent le Jourdain sont fertiles, sauf aux abords immédiats de la mer Morte et propices, au printemps, à une culture sèche, céréalière; le lit même du fleuve, le *zor*, dans les méandres limoneux et les rives des wadi affluents, permettent de belles productions

[54]C.M. Bennett, "Excavations at Buseirah, 1972', *Levant* 6 (1974), pp. 1-24, et fig. 15-16: 'Excavations at Buseirah, 1973', *Levant* 7 (1975), pp. 1 à et figs. 5 à 8.

[55]A. Musil, *The Northern Hegaz*, New-York, 1926, Knauf, op. cit, p. 151.

[56]H.S.B. Philby, *The Land of Midian*, pp. 127-129, 177, 184-187, cf. P. Parr & alii, op. cit, p. 225: P. Parr. p. 241, mentionne la parenté de procédés agricoles entre Édom et le Yémen. On hésite cependant à les dater avec l'auteur aussi lôt que le Xe s av. J.-C.

maraîchères. Force nous est d'y constater, depuis le quatrième millénaire, une assez forte occupation. Les sites sont plus nombreux dans le nord et leur densité est plus forte au débouché des affluents pérennes. La plupart des sites ont été occupés du Bronze ancien à la période Perse incluse. La vallée dut sa prospérité à la combinaison heureuse de l'agriculture, de l'industrie et du commerce.

D'éventuels systèmes d'irrigation ont disparu. Sans aménagement hydraulique, la productivité des terres, reste faible; le débit régulier d'une vingtaine de wadis permanents dont les plus abondants sont les Yarmuk, el-'Arab, el-Yabis, le Zarqa, le wadi Shuᶜeib et bien sûr le Jourdain, a certainement favorisé le développement d'une irrigation plus ou moins rudimentaire; les techniques en étaient connues alentour, depuis des millénaires. Le surplus de production devait être destiné à l'arrière pays.

Le nombre et, dans certains cas, l'importance (Deir ᶜAllâ, T. el-Mazar, T. es-Saᶜidiyeh) des sites qui s'échelonnent tout au long de la basse vallée du Zarqa (Jabboq) ne manquent pas de frapper. Nous avons rappelé plus haut que la manufacture du bronze s'attachait à cette région. La préparation du minerai, attestée au moins au Fer final, par lessivage à l'eau courante, pouvait être pratiquée dans les cours du Jabboq, entre autres. Le cuivre venait d'Édom, l'étain du nord[57] et le combustible de l'Ajlun. Le débouché du Jabboq se trouve à la jonction de ces différents commerces.

Le réseau commercial conduisait en Syrie méridionale par le Yarmuk, en Phénicie par la Beqaᶜh, vers la méditerranée par la trouée de Beisan. Il faut affirmer que l'articulation entre la Palestine et la Transjordanie était traditionnelle: des passages fréquentés s'étaient établis aux gués du Jourdain, à la hauteur des wadis de chaque côté du fleuve. Ces axes avaient suscité sur les deux rives, des postes stratégiques et des relais commerciaux de premier plan, au débouché des routes descendant le long des cours d'eau permanents: 1) le Nahr Jâlûd et Beisan couplé avec Pella et les wadis el-ᶜArab et el-Yâbis; 2) le wadi Farᶜah et T. el-Mazâr (Zaretan?[58]) couplé avec T. es-Saᶜidiyeh et le Jabboq; 3) le Wadi Qelṭ et Jéricho couplé avec T. Nimrim et le Wadi Shuᶜeib. Ajoutons le passage aisé au sud du lac de Galilée. Ces quatre voies matérialisent la charnière entre la Palestine et la Transjordanie dont l'histoire biblique garde témoignage.

Enfin, il semble qu'il ne faille pas chercner une trop grande unité dans l'ensemble de la vallée. Chaque entité politique du plateau devait se ménager au moins un des passages dont nous avons parlé et y consolider sa position. Les sites de la Vallée avaient leur correspondance dans les villes qui tenaient les routes à la limite haute du piémont; ces places, véritables nids d'aigle, faisaient fonction de portes occidentales des royaumes transjordaniens, et ont dû leur prospérité en partie, aux octrois. Ce n'est pas par hasard qu'elles ont conservé des traces historiques décisives pour le récit biblique; ainsi T. el-Maqlûb, la Jabesh de Galaᶜad et Deir ᶜAlla-Tulul edh-Dhahab/Penuel[59]. Même Moab s'était frayé un accès jusqu'au Jourdain aux abords de la mer Morte: la région avait été l'enjeu de sévères rivalités entre les riverains et l'ambition moabite s'était conservée dans son nom, les *Plaines de Moab*. T. Iktanu s'y sera retranché, tel un poste avancé au service de Moab. Ainsi la rive du Jourdain était galaadite au nord, ammonite au centre, moabite enfin dans le sud.

Conclusion - Au demeurant, frappants sont les liens, du point de vue de la géographie historique et humaine, entre les deux rives du Jourdain[60]. C'est un massif de montagnes coupé par le rift du Jourdain dont les affinités sont plus perceptibles d'ouest en est que du nord au sud. Les affinités se sont constituées dans les zones climatiques et ont été commandées par les modes d'adaptation de l'homme à la terre. La dépression du Jourdain a fonctionné comme l'articulation active de deux volets. Enfin de compte, l'Age du Fer pourrait se concevoir comme le moment de la résolution pacifique du puissant ébranlement des nomades turbulents, commencé au plus tard dans le IIe millénaire. Cette lente et profonde mutation qui a affecté presque toute la période du Fer, par vagues successives, jusque dans le VIIe s., mais de plus en plus faibles, a déterminé de façon radicale les modes d'occupation de l'espace dans ces régions. On aurait tort de penser que le mouvement a pu s'arrêter au Jourdain: du sud-syrien il s'est achevé en Galilée, de Galaad en Samarie, d'Ammon en Judée, d'Edom au Négueb. L'archéologie à faire, rendra compte de l'origine et de la mobilité des traits culturels transjordaniens.

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[57]La question de l'origine de l'étain n'est pas résolue. C.f. exemple de controverse J.D. Muhly, T.A. Wertime, "Evidence for the sources and use of tin...", *World Archaeology*, 5, N°I, 1973, pp. 111-122 et réponse de J.E. Dayton "The problem of tin in the Ancient World...', même volume, pp. 123-127.

[58]B.Reicke & L.Rost, *Biblish-historisches Handwörtebuch*, 4, Register und Historisch-archäologische Karte Palästinas, Göttinen, 1979, carte sud et index.

[59]Au cas où l'identification de Tulul edh-Dhahab avec Penuel pourrait être retenue.

[60]Il en ressort la situation à part du pays côtier qui par tradition et de par sa position, est resté cananéen.

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Les territoires d'Ammon, Moab et Edom dans la deuxième moitié du IXe S. avant notre ère

L'existence des royaumes ammonite, moabite, et édomite dans la Transjordanie de l'époque du Fer nous est bien connue par l'intermédiaire de la tradition littéraire biblique; elle nous a été confirmée, dès le XIXe s., par les découvertes de l'épigraphie moabite et des textes assyriens. L'histoire détaillée et la géographie historique de chacun de ces royaumes ne nous sont que très imparfaitement connues[1]. Cependant, en utilisant critiquement les sources dont nous disposons: textes (épigraphie transjordanienne, tradition biblique, textes assyriens) et archéologie, il devient possible de saisir quelques aspects du profond changement de l'organisation territoriale survenu en Transjordanie dans la deuxième moitié du IXe s. avant notre ère.

I- Contexte régional: les relations israélito-araméennes.

Il nous est pratiquement impossible de comprendre quelque chose de l'histoire des royaumes transjordaniens dans la seconde moitié du IXe s., si nous ne la resituons pas dans un cadre politique régional dominé par les guerres "araméennes"[2]. De fait, l'alliance ou l'affrontement des deux puissances régionales de cette époque, Damas et Samarie, a eu des conséquences immédiates sur la situation politique de la Transjordanie.

Sous les règnes d'Omri et d'Achab, le royaume d'Israël est à son zénith. Il a noué des alliances, scellées par des mariages princiers, avec les royaumes de Tyr et de Juda, et une alliance, au moins défensive, avec Hadadidri, roi de Damas, leader de la coalition anti-assyrienne. Accompagnée d'autres participants, cette alliance des deux puissances régionales se révéla suffisamment efficace pour arrêter la progression des armées assyriennes en 853, 849, 848 et 845[3].

La puissance du royaume israélite s'expliquait, en partie, par son contrôle d'une partie de la Transjordanie. Ainsi le royaume d'Omri et d'Achab comportait-il très probablement le pays de Galaad (capitale Ramot-Galaad), la moyenne vallée du Jourdain (capitale Mahanayim sur le Zarqâ/Yabboq?), le pays de Yaazer, la région de Heshbôn et la partie septentrionale de l'Est de la Mer Morte (Gad et Ruben) jusqu'au Wadi Mujib/Arnon et son affluent septentrional le Wadi el-Heidân[4].

L'alliance israélito-araméenne va rapidement céder la place à une confrontation armée à la suite du coup d'état de Ḥazaël à Damas vers 843 (cf. 2 Rois 8.15), coup d'état qui, suivant la coutume des traités de cette époque, entraînait immédiatement une rupture de l'alliance. Une première confrontation eut lieu autour de Ramot-Galaad[5], vraisembablement conquise par Hazaël. Joram d'Israël, appuyé par Achazyahu, roi de Juda, organisa une expédition militaire conjointe pour reprendre la ville (2 Rois 8,28-29; cf. 1 Rois 22 où les rois d'Israël et de Juda sont devenus postérieurement Achab et Josaphat). Cette tentative échoua et les deux rois, d'Israël et de Juda, périrent bientôt lors du coup d'état de Jéhu en 841 (2 Rois 9-10,28).

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[1] Cf. notre essai: "Ammon, Moab, Edom: l'époque du Fer en Jordanie", dans *La Jordanie de l'âge de la pierre à l'époque byzantine*, Rencontres de l'Ecole du Louvre, Paris, 1987, p. 47-74.

[2] Cf. A. Jepsen, 'Israel und Damaskus', *Afo* 14 (1941-44), p. 153-172; E. Lipinski 'Aram et Israël', *Acta Antiqua* 27 (1979), p. 49-102; J.M. Miller - J.H. Hayes, *A History of Ancient Israel und Judah*, London, 1986, p. 259-264, 297-302; W.T. Pitard, *Ancient Damascus*, Winona Lake, p. 115-125.

[3] Cf. M. Elat, 'The Campaigns of Shalmaneser III Against Aram and Israel', *IEJ* 25 (1975), p. 25-35; H. Sader, *Les Etats Araméens de Syrie depuis leur Fondation jusqu'à leur Transformation en Provinces Assyriennes*, Tübingen, 1984, p. 246-306; M. Weippert, 'The Relations of the States East of the Jordan with the Mesopotamian Powers during the First Millenium B.C.', dans A. Hadidi éd., *Studies in the History and Archaeology of Jordan III*, London/New York, 1987, p. 97-105, spéc. 97-98.

[4] La perte israélite du pays de Dibôn est antérieure à Omri: cf. S. Timm, 'Die territoriale Ausdehnung des Staates Israel zur Zeit der Omriden', *ZDPV* 96 (1980), p. 20-40, spéc. 24.

[5] Tell er-Rumeith ou, plutôt, Tell el-Ḥusn: cf. A. Lemaire, 'Galaad et Makir', *VT* 31 (1981), p. 39-61, spéc. 45; A. Leonard, 'The Jarash - Tell el-Ḥusn Highway Survey', *ADAJ* 31 (1988), p. 343-390, spéc. 359.

Ce coup d'état accompagné d'un bain de sang affaiblit le royaume israélite. La même année 841, Araméens et Israélites durent affronter séparément l'armée assyrienne de Salmanazar III. Hazaël refusa de se soumettre et son camp fut pris par les Assyriens, probablement en rase campagne; cependant Salmanazar III ne semble pas avoir réussi à prendre les villes fortifiées araméennes et encore moins Damas. Jéhu, lui, accepta de se soumettre et de payer le tribut (inscription et bas-relief de l'obélisque noir); cette attitude se comprend d'autant plus facilement que l'armée assyrienne semble avoir traversé le Nord d'Israël pour rejoindre la Mer Méditerranée près de Baalirashi, face à Tyr. En 838 (ou 838/837), dans une nouvelle et probablement dernière campagne contre Hazaël, Salmanazar III réussit à s'emparer de quatre de ses villes et reçut les dons de Tyr, Sidon et Byblos.

L'éloignement du danger assyrien pendant près de 35 ans permit au royaume de Damas, qui s'était fait le champion de la résistance à l'envahisseur, d'atteindre son zénith sous le règne de Hazaël[6]. Un des premiers objectifs de ce dernier fut de se venger du roi d'Israël qui, en particulier, l'avait laissé seul face aux armées assyriennes. Dans un premier temps, sous le règne de Jéhu (c. 841-814), il priva Israël de tout son territoire transjordanien: "Hazaël les mit en déroute dans tout le territoire d'Israël à l'est du Jourdain, tout le territoire de Galaad, de Gad, de Ruben et de Manassé depuis Aroër sur le torrent Arnon..." (2 Rois 10, 32-33). En fait, Hazaël n'a probablement occupé directement que le Bashân et, surtout, le Galaad et la moyenne vallée du Jourdain, les parties méridionales du territoire israélite transjordanien étant occupées par les Ammonites et les Moabites (infra) que la Bible oublie de mentionner.

Sous Joachaz, fils de Jéhu (c. 819-814-803), Hazaël, puis son fils Bar-Hadad contrôlèrent presque totalement le royaume de Samarie (2 Rois 13,3) réduit au rôle d'un état vassal croupion: Samarie dut accepter l'établissement de comptoirs araméens dans sa capitale (cf. 2 Rois 20,34) et ne disposa plus que d'une force armée symbolique: "cinquante cavaliers, dix chars et dix-mille fantassins" (2 Rois 13,7). Bien plus, le royaume israélite dut accepter le passage de l'armée araméenne sur son territoire lorsque Hazaël alla assiéger Gat, à la limite de la Philistie et du royaume de Juda, avant de recevoir finalement la soumission de Joas, roi de Juda (ch. 2 Rois 12,18-19). Sous Bar-Hadad, l'armée araméenne assiégea même Samarie (cf. 1 Rois 20,10-21; 2 Rois 6,24-33), siège qui ne semble avoir été levé que sur la rumeur de l'arrivée d'une grosse armée étrangère (2 Rois 7,6-7).

Cette rumeur pourrait bien correspondre à la reprise des expéditions assyriennes vers l'Ouest sous Adadnirari III, à partir de 805[7]. Probablement en 803, à moins que ce ne soit en 802 ou en 796, les rois d'Aram et d'Israël (Joas) durent payer tribut aux Assyriens et ceux-ci encouragèrent probablement un certain affaiblissement de la puissance de Damas. Joas en profita pour se libérer du joug araméen et battit l'armée de Bar-Hadad à Apheq (1 Rois 20,26-30; 2 Rois 13,17), probablement dans la plaine de Yizréel[8]. A la suite de cette bataille, Joas et bar-Hadad signèrent un traité dans lequel ils se reconnaissaient comme égaux (cf. "frère": r Rois 20,32) avec réciprocité des droits commerciaux (comptoirs israélites à Damas comme ceux qui avaient été installés à Samarie par les Araméens). Surtout, Bar-Hadad s'engagea à restituer les villes que son père avait prises au père de Joas (1 Rois 20, 34); cette clause est confirmée par 2 Rois 13,25: "Joas fils de Joachaz reprit à Ben-Hadad les villes qu'il avait prises par la guerre à son père Joachaz". Elle doit être bien comprise: il s'agit d'un retour au statu quo ante, mais seulement à celui du début du règne de Jéhu. Concrètement cela voulait dire que le royaume israélite de Joas reconnaissait le Jourdain comme sa frontière orientale[9].

De fait, le pays de Galaad, annexé par Hazaël, semble être resté araméen jusque vers la fin du règne de Jéroboam II (c. 750). Après avoir été quelque temps à nouveau contrôlé par Israël, il fut finalement transformé en province assyrienne (c. 733).

II- Moab.

Grâce la stèle de Mésha, aux autres petites inscriptions moabites de cette époque et aux données bibliques, Moab est le royaume transjordanien pour lequel nous avons le plus d'informations en ce qui concerne la deuxième moitié du IXe s. avant notre ère.

Si l'on en croit la stèle de Mésha (ligne 4-5), Omri (C. 885-881-874) soumit Moab qui avait alors à sa tête le père de Mésha: Kemoshyt (El-Kérak, ligne 1), qui régna une trentaine d'années (c. 885-855). A sa montée sur le trône vers 855, comme son père, Mésha commença par se reconnaître vassal du roi d'Israël, alors Achab (c. 874-853), en lui payant un

[6]Cf. W.T. Pitard, op. cit., p. 145-160.
[7]Cf. H. Tadmor, 'The Historical Inscriptions of Adad-nirari III', *Iraq* 35 (1973), p. 141-150.
[8]Cf. déjà M. Haran, 'The Rise and Decline of the Empire of Jeroboam ben Joash', *VT* 17 (1967), p. 266-297, spéc. 270.
[9]*Ibidem*..

tribut annuel de petit bétail (laine et viande)[10]. Sa famille ou sa dynastie était apparemment originaire de Dibôn (''le Dibonite'': Mésha ligne 1-2; El-Kérak ligne 1?); il contrôlait un territoire qui représentait traditionnellement le coeur du pays moabite ayant pour limite septentrionale l'Arnon et son affluent de droite le Wadi el-Heidân, englobant ainsi le pays de Dibôn (Dhibân); à l'Est, la frontière devait être le désert; la frontière Sud et Ouest est plus difficile à préciser: traditionnellement c'était le Wadi el-Ḥâsâ (Zéred biblique) et la Mer Morte, cependant la mention à la fin de la stèle de Mésha (lignes 31-33) de la reconquête de Ḥoronên (Ḥoronayim biblique), ville probablement à situer entre Kérak et Zoar, près de l'extrémité méridionale de la Mer Morte, laisse entendre qu'une partie du territoire moabite, au Sud-Ouest, échappait alors au contrôle de Mésha; selon toute vraisemblance, comme le pays d'Édom, il devait être contrôlé par le roi de Juda, Josaphat (c. 871-846), allié d'Achab.

A la mort d'Achab (853), Mésha cessa de payer le tribut au roi d'Israël (2 Rois 1,1; 3,5), manifestant ainsi son indépendance. Cette ''révolte'' au moment du décès d'un roi suzerain était un phénomène classique dans le Proche-Orient de cette époque. Le succès de celle-ci et l'absence de réaction immédiate du roi d'Israël s'expliquent par le fait que ce dernier, Achazyahu, fut très vite victime d'un accident qui entraîna sa mort, apparemment sans enfant, après un règne d'une année environ (c. 853-852) (2 Rois 1,1-17). Il est vraisemblable que Mésha profita de ce répit pour fortifier sa frontière septentrionale le long du Wadi el-Heidân et de l'Arnon dans l'attente d'une éventuelle riposte israélite.

Cette riposte ne s'organisa que sous Joram d'Israël (852-841) avec l'appui de son allié et beau-père de sa soeur Athalie (2 Rois 8,18.26), le roi Josaphat de Jérusalem. Cette expédition, difficile à dater avec précision, est très probablement antérieure à la menace araméenne consécutive au coup d'état de Hazaël à Damas (c. 843), et à la mort de Josaphat (c. 846). D'autre part, il est vraisemblable que Joram eut besoin d'un certain temps pour asseoir son autorité à Samarie et décider son allié, ainsi que pour organiser l'expédition elle-même: une date entre 850 et 846 parait donc vraisemblable. De façon plus conjecturale, si l'on écarte les années où les campagnes assyriennes de Salmanazar III menaçaient, directement ou indirectement, la frontière Nord d'Israël, on serait alors amené à proposer les dates de 850, 847 ou 846.

Les alliés, dont l'armée comportait probablement un contingent édomite mais non un roi édomite (infra), décidèrent d'attaquer par le Sud en contournant la Mer Morte. Cette tactique permettait d'éviter les éventuelles fortifications de la frontière septentrionale de Moab, de bénéficier d'un effet de surprise, le chemin étant en partie désertique, et d'utiliser les territoires contrôlés par Juda au Sud-Ouest de Moab (supra), en attaquant là où la frontière moabite ne présentait pas de défense naturelle. Malgré le manque d'eau lors de la traversée du désert d'Edom, cette tactique semble avoir d'abord réussi. Dans une bataille en rase campagne, les Moabites furent défaits. Les envahisseurs pratiquèrent la tactique de la terre brûlée, détruisant les villes, bouchant les sources, abattant les arbres fruitiers, Mésha se retrancha dans ''Qir–Hareshet'' (ou ''Qir-Hadashat''?), probablement El-Kérak sa capitale. Assiégé, il essaya d'effectuer une sortie pour briser le blocus mais ce fut un échec. C'est alors qu'il sacrifia son premier-né, celui qui devait lui succéder sur le trône, au sommet du rempart (2 Rois 3,6-27)[11]. Le détail de la fin de cette campagne nous échappe, même s'il apparaît clairement que les Israélites et les Judéens durent se retirer sans avoir pris la capitale. Il est possible que, à la suite de l'application de la tactique de la terre brûlée, les assiégeants aient fini par manquer d'eau et de vivres, comme cela leur était déjà arrivé dans la traversée du désert d'Edom? il est aussi possible que les coalisés apprirent l'arrivée d'une armée assyrienne dans l'Ouest (849 ou 848?).

Mésha ne s'était pas rendu et son royaume restait indépendant; cependant son pays, spécialement sa partie méridionale, sortait considérablement affaibli de cet affrontement et eut probablement besoin d'un certain temps pour panser ses blessures et relever son économie. Il est peu probable que Mésha se soit, tout de suite après cette campagne, lancé contre les villes fortifiées israélites de sa frontière Nord, qui devaient être sur le qui-vive.

Vers 843, la prise de pouvoir de Hazaël à Damas changea profondément les données de la politique régionale. Israélites et Judéens furent absorbés par leur affrontement avec les Araméens et essayèrent de récupérer Ramot-Galaad (supra). Dans le long affrontement israélito-araméen qui commençait, les sympathies et l'intérêt politique de Mésha ne pouvaient être que du côté de Damas suivant le principe que ''les ennemis de mes ennemis sont mes amis''. La présence, un peu plus tard, de bandes moabites en Cisjordanie (2 Rois 13,20), aux côtés de bandes

[10] *2 Rois* 3,4 mais les chiffres donnés (100 000) sont extravagants: cf. J. Gray, *I and II Kings*, London, ²1970, p. 485. On notera que, dans cette reconstitution historique, il faut tenir compte d'une datation de la stèle de Mésha vers 810, cf. A. Lemaire, 'Notes d'épigraphie nord-ouest sémitique. 19. La stèle de Mésha: épigraphie et histoire', *Syria* 64 (1987), p. 205-214.

[11] La datation de cette campagne et, parfois, son historicité ont été mises en doute par K. Bernhardt, dans *Studies... I*, 1982, p. 163-167; J.R. Bartlett, dans J.F.A. Sawyer - D.J.A. Clines éd., *Midian, Moab and Edom*, Sheffield, 1983, p. 135-146, spéc. 145; E.A. Knauf, *ZDPV* 104 (1988), p. 175, mais sans raison suffisante, nous semble-t-il.

araméennes, semble indiquer l'existence d'une alliance entre Hazaël et Mésha afin de se partager les dépouilles de l'ennemi commun, Israël.

D'après la présentation de la stèle de Mésha, lors de la conquête des pays de Madaba et d'Atarot, les Moabites ne semblent pas avoir rencontré de sérieuse résistance militaire et ceci s'explique probablement par le fait que les troupes israélites étaient mobilisées dans le Nord pour défendre le pays contre Hazaël. Les conquêtes de Mésha se situent donc probablement après 841, pendant le règne de Jéhu (841-814) durant lequel Israël perdit ses possessions de Transjordanie (supra).

Même si des bandes moabites sont intervenues plus tard, sous Joachaz, jusque dans la moyenne vallée du Jourdain (2 Rois 13,20), d'après la stèle de Mésha, l'annexion du territoire reconnu comme moabite s'est probablement arrêtée au Nord du Mont Nébo, lieu le plus septentrional mentionné dans l'inscription. La nouvelle frontière Nord de Moab a donc probablement été fixée à peu près à la latitude de l'extrémité septentrionale de la Mer Morte et devait passer légèrement au sud de Hisbân.

Vers la même époque, Mésha s'empara de Ḥoronên et repoussa les frontières occidentale et méridionale de son royaume jusqu'à la Mer Morte et au Wadi el-Ḥâsâ. On notera qu'il est difficile de préciser si cette conquête se fit aux dépens du royaume de Juda ou de celui d'Édom nouvellement indépendant (infra). Amos 2,1 reproche à Moab d'avoir brûlé les os du roi d'Édom et ce reproche semble une allusion à un conflit moabito-édomite, soit dans la première moitié du VIIIe s., soit dans la seconde moitié du IXe s., cette dernière date pouvant correspondre à cette reconquête de Ḥoronên par Mésha.

Quoi qu'il en soit de l'incertitude de certains détails, ces conquêtes permirent à Mésha de doubler pratiquement l'étendue de son royaume. Pour bien marquer qu'il s'agissait d'annexions durables, ces conquêtes furent parfois accompagnées du massacre (ḥrm) de la population israélite: ainsi 7 000 personnes à Nébo (lignes 14-17; cf. aussi Atarot, lignes 11-12), tandis que la population d'autres villes, telles que Yahaz (lignes 18-19), pourrait avoir fui. Mésha transféra aussitôt, dans ces villes, une partie de la population moabite; il installa des colons moabites à Atarot (lignes 13-14) et probablement à Yahaz (lignes 20-21).

Le caractère définitif de l'annexion de ces territoires, de leur appartenance "à Kamosh et à Moab" (lignes 12, 17, 21, 29), est assez bien marqué par la décision d'y supprimer les objets du culte yahviste (lignes 12-13; 17-18) et d'y reconstruire de nouvelles villes ou de nouveaux bâtiments publics, en particulier, semble-t-il, des temples du dieu national Kamosh (lignes 29-31). Mésha ne se contenta pas d'annexer; il développa aussi les moyens de communication en (re)faisant la route qui traversait l'Arnon, route gardée par la forteresse d'Aroër (ligne 26). De plus, il bâtit (ou re-bâtit?) complètement la ville de Qeriḥoh, la capitale du pays dibonite, vraisemblablement le site actuel de Dhibân. Avec ses deux murailles, son acropole, ses portes, ses tours (lignes 21-22), son haut-lieu (bmt, ligne 3), son réservoir public ('swḥ, ligne 23) et, surtout, son palais royal (bt.mlk, ligne 23), cette nouvelle ville paraît avoir été construite pour jouer le rôle de capitale[12]. De fait, un coup d'oeil sur la carte montre que, avec l'annexion des territoires au nord de l'Arnon et du Wadi el-Ḥeidân, l'ancienne capitale, El-Kérak, devenait, en quelque sorte, excentrée, alors que la nouvelle ville de Qeriḥoh/Dhibân paraît située presque au centre géographique du royaume agrandi. Mésha entreprit aussi de grands travaux publics en dehors de sa nouvelle capitale: ainsi, il (re)construisit Baalme'ôn (Ma'in) avec son réservoir public (ligne 9), ainsi que Qiryatên (ligne 10), Aroër (ligne 26), Bet Bamot et Bozor (ligne 27). La plupart de ces villes semblent appartenir au territoire moabite situé au nord de l'Arnon; il est possible que les travaux concernant les autres villes aient été gravés sur la partie manquante de la stèle, ou sur une autre stèle, éventuellement dressée à El-Kérak. L'archéologie paraît avoir mis au jour des restes des constructions de Mésha à Dhibân, à Aroër et, peut-être, à 'Ayin Sâra /El-Kérak et à Mudeibi[13], si les chapiteaux proto-éoliques[14] de ces derniers sites sont à dater de la fin du IXe s.

Par son affirmation de l'indépendance moabite, son expansion territoriale, comportant pratiquement le doublement de la superficie du territoire de Moab et l'annexion de plusieurs centaines de villes (ligne 29), ainsi que par la construction d'une nouvelle capitale, au moins occasionnelle, le règne long et, finalement, prospère de Mésha marqua profondément l'histoire ultérieure du royaume moabite. De fait, jusqu'à sa disparition en 582, le territoire du royaume moabite ne semble plus avoir été discuté, même si son roi dut se reconnaître vassal des Assyriens puis des Néo-Babyloniens. Les textes bibliques postérieurs, en particulier les oracles des prophètes Isaie (15 et

[12]Cf. déjà G. Rendsburg, 'A Reconstruction of Moabite-Israelite History', *JANES* 13 (1981), p. 67-73, spéc. 69.

[13]Cf. H. Donner - E.A. Knauf, 'Ǧor aṣ-Ṣâfî-Wâdî l-Karak, 1983', *AfO* 33 (1986), p. 266-267: I. Negueruela, 'The Proto-Aeolic Capitals from Mudeibi'a in Moab', *ADAJ* 26 (1982), p. 395-401.

[14]Cf. Y. Shiloh, *The Proto-Aeolic Capital and Israelite Ashlar Masonry*, Qedem 11 (1979); K. Prag, 'Decorative Architecture in Ammon, Moab and Judah', *Levant* 19 (1987), p 121-127.

16) et Jérémie (48) reconnaissent comme moabites toutes les villes annexées par Mésha, aussi bien au nord de l'Arnon que dans la région de Ḥoronayim, sans même faire de distinction entre les anciennes et les nouvelles villes moabites. En l'absence d'indication précise sur le sort du royaume moabite immédiatement après Mésha, cette tradition biblique semble révéler que l'expansion du territoire moabite sous Mésha ne fut plus remis en cause ensuite.

III- Ammon.

Les sources dont nous disposons sont pratiquement silencieuses sur l'histoire ammonite dans la deuxième moitié du IXe s. Il est possible, mais discuté, qu'un contingent ammonite, sous la direction du roi Baasha, ait pris part à la bataille de Qarqar contre Salmanazar III en 853[15]. Par ailleurs, l'inscription de la citadelle d'Amman, qui semble dater, au plus tôt, de vers 800, mais vraisemblablement plus tardive[16], pourrait faire référence à un renforcement des fortifications de la capitale en cas de siège. Finalement c'est l'oracle d'Amos 1,13-15 qui pourrait être le plus intéressant car il est reproché aux Ammonites "d'avoir éventré les femmes enceintes en vue d'étendre leur territoire" ('al-big'am harot haggil 'ad lema'an harḥib 'et-g'bulam 1,13). Or nous savons, par la stèle de Mésha (lignes 16-17) que cette pratique de la guerre d'annexion a été utilisée par Moa?b pour accroître son territoire, et 2 Rois, 8,12 nous révèle cette même pratique pour Hazaël. De plus, l'oracle contre Damas d'*Amos* 1,3 semble révéler que, dans la guerre contre Galaad, Araméens et Ammonites ont agi de concert. Ainsi, selon boute vraisemblance, comme les Moabites, les Ammonites ont probablement été les alliés des Araméens de Hazaël dans sa guerre contre Israël. Comme les Moabites, ils ont dû tirer partie des victoires de la coalition provoquant la perte du contrôle israélite en Transjordanie (2 Rois 10,32-33) en agrandissant leur territoire vers l'Ouest. D'un petit royaume d'une dizaine de kilomètres autour d'Amman, le royaume ammonite s'est probablement étendu jusqu'à Hisbân, au Sud, car des ostraca du VII-VIe s. semblent y attester une population ammonite[17]. A l'Ouest, le contrôle ammonite s'étendit probablement jusqu'au Jourdain et, au Nord, jusqu'au Zerqâ/Yabboq, englobant, en particulier, l'ancien pays de Yaazer. A ce renouveau, pourrait être liée l'apparition des premières statues ammonites[18].

IV- Edom.

L'histoire du pays édomite reste mal connue. La tradition biblique la plus fiable semble révéler que l'instauration de la royauté édomite est un évènement historique relativement récent: à l'époque de Josaphat, roi de Juda (c. 871-846), "il n'y avait pas de roi en Edom" (1 Rois 22,48), et c'est seulement sous son fils Joram (c. 848-846-841) que les Edomites se proclamèrent indépendants du royaume de Juda et se donnèrent un roi (2 Rois 8,20)[19]. Cette interprétation historique concorde avec les données archéologiques qui attestent quelques installations du Fer I tout à fait au Nord du pays édomite, tandis que le coeur du pays, le site de Buseirah par exemple, ne semble vraiment occupé qu'à partir de la fin du IXe s.

De façon plus précise, il apparaît que l'expédition israélito-judéenne contre Mésha (c. 850-846) comportait un contingent édomite et traversa, apparemment sans rencontrer d'opposition, une partie du territoire édomite (2 Rois 3,8.9.20), cependant la mention d'un "roi d'Edom" (2 Rois 3,9.26) est probablement un anachronisme qui pourrait s'expliquer par le fait que, peu après, le chef du contingent édomite fut proclamé roi d'Edom. En effet, il est assez vraisemblable que la proclamation de l'indépendance d'Edom (c. 846-841) fut une des conséquences de l'échec israélito-judéen à mater la révolte de Mésha.

La proclamation de l'indépendance édomite entraîna peut-être une tension avec son voisin moabite, beaucoup plus fort. La reconquête de Ḥoronên (Mésha, lignes 31-33) et de la région située au Sud-Ouest du pays moabite, entre la Mer Morte et le Wadi el-Ḥâsâ, pourrait s'être faite aux dépens du nouveau roi édomite que Mésha a, peut-être, traité très durement. En fait, l'importance relative du nouveau royaume édomite lui venait probablement de ce qu'il contrôla, un certain temps, le commerce vers la Mer Rouge, spécialement à partir de la Méditerranée. La mention de la soumission d'Edom, associée à celle de Tyr, Sidon, Israël et la Philistie, dans une inscription d'Adadnirari III, qui pourrait renvoyer à une campagne en 803 ou en 802, s'explique probablement dans ce contexte, de même que l'allusion au fait que Gaza ait pu livrer aux Edomites des masses de réfugiés (ch. Amos 1,6).

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[15] *ANET*, p. 279-280; *TUAT I, 4.1*, p. 361; M. Weippert, *Studies...III*, 1987, p. 98.

[16] Cf. S.H. Horn, 'The Amman Citadel Inscription', *ADAJ* 12-13 (1967-1968), p. 81-83; K.P. Jackson, *The Ammonite Language of the Iron Age*, HSM 27 (1983), p. 9-33; G. Van der Kooij, *Studies...III*, 1987, p. 111.

[17] Malgré U. Hübner, 'Die ersten moabitischen Ostraka', *ZDPV* 104 (1988), p. 68-73; en fait, Hisbân n'est probablement pas la Heshbôn biblique, qui pourrait être à localiser à Jalul: cf. déjà R.G. Boling, *The Early Biblical community in Transjordan*, Sheffield, 1988, p. 47.

[18] Cf. A. Abu-Assaf, 'Untersuchungen zur ammonitischen Rundbildkunst', *UF* 12 (1980), pp. 7-102, spéc. 76.

[19] Cf. A. Lemaire, 'Hadad l'Edomite ou Hadad l'Araméen?', *BN* 43 (1988), p. 14-18; E.A. Knauf, 'Supplementa Ismaelitica', *BN* 45 (1988), p. 62-81.

Vers 800, à la suite du retrait araméen de Cisjordanie (Supra), le roi Amazias de juda (c. 804-802-776) résolut de reprendre le contrôle de cette zone stratégique pour le commerce international: il mena une campagne victorieuse contre Edom dans la Vallée du Sel et conquit Séla[20] en lui donnant le nom de Yoqtéel (2 Rois 14, 7.10). La 'Araba repassa sous contrôle judéen et, vers 776, le roi de Juda Ouzias/Azarias rebâtissait Elat (2Rois 14,22) afin de faciliter le commerce phénico-israélite entre la Mer Méditerranée et la Mer Rouge[21].

Ainsi la Transjordanie connut un profond bouleversement de son paysage politique dans la deuxième moitié du IXe s. av. n. è.: alors que, sous Achab, Israël contrôlait, directement ou indirectement (par ses alliés et vassaux) la plus grande partie de cette région, quelques dizaines d'années plus tard, cette puissance a disparu de Transjordanie. Le Nord, le pays de Galaad et la moyenne vallée du Jourdain, est passé sous le contrôle des Araméens de Damas; le royaumes d'Ammon et de Moab se sont considérablement accrus, le premier vers l'Ouest, le second vers le Nord et le Sud-Ouest, tandis qu'un nouveau royaume indépendant, Edom, s'est organisé au Sud du Wadi el-Ḥâsâ. Ce profond changement de paysage politique semble avoir durablement marqué l'histoire de la Transjordanie dans les siècles qui suivirent.

[20] L'identification précise de Séla reste incertaine: cf. S. Hart, 'Sela', The Rock of Edom?', *PEQ* 118 (1986), p. 91-95.

[21] Cf. A. lemaire, 'Date et origine des inscriptions paléo-hébraïques et phéniciennes de Kuntillet 'Ajrud', *Studi epigrafici e linguistici* 1 (1984), p. 131-143.

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Modes d'installations agricoles nabatéennes dans la région de Pétra et dans le Wadi 'Arabah

Dans sa description de Pétra Strabon affirmait que la métropole des Nabatéens était pourvue "de nombreuses sources assurant l'alimentation en eau, en particulier des jardins[1]". Plus loin il soulignait la fertilité du pays tout en notant l'absence de production d'olives.[2] Les recherches que nous avons entreprises à Pétra et sur d'autres sites nabatéens en vue de définir leur mode d'approvisionnement en eau ont permis de mettre en évidence de vastes terroirs agricoles cultivés de façon intensive.[3]

A la périphérie de la capitale on distingue quatre secteurs principaux dont le plus important est celui septentrional de Beiḍa. L'étude de cette région nous a conduit à identifier plusieurs modes distincts d'implantation ne s'excluant pas nécessairement. Dans le premier cas, il s'agit d'un mode d'habitat temporaire dont l'existence est étroitement liée à la pratique d'activités agricoles de type saisonnier. Ainsi dans le secteur d'Eṭnub Ouest (Beiḍa Sud) nous avons reconnu un espace s'étendant sur une centaine de mètres au pied de parois rocheuses. Aucun vestige d'habitat construit n'a pu être relevé. Cependant on y trouve en abondance de la céramique peinte et non peinte ainsi que des traces de trous de poteaux dans le sol. En outre un triclinium hypèthre a été identifié à proximité.

Nous avons reconnu à cet endroit la présence de plusieurs pressoirs à vin aménagés selon un modèle attesté à de nombreux exemplaires dans l'ensemble de la région de Beiḍa. Le plus grand d'entre eux comprend cinq dispositifs (FIG. 2). Le pressoir proprement dit se présente comme un espace carré de 1,70m de côté et profond de 0,60m. Une canalisation circulaire creusée dand le rocher faisait communiquer l'espace réservé au foulage avec un bassin de filtrage mesurant 0,70m de côté. Ce dernier était lui-même relié à une cuve de forme ovale mesurant 1,25mx 0,90m pour une profondeur de 0,90m. Au Nord-Est du pressoir en liaison avec celui-ci se trouve un bassin mesurant 1m x 0,60m et profond de 1m. Ce bassin était alimenté en eau pluviale grâce à un petit canal rupestre visible au sud du pressoir. Un peu plus loin on reconnaît un bassin circulaire de 1,35m de diamètre.

Outre ces pressoirs il faut mentionner l'existence d'aménagements en forme de cuvettes, creusés dans le rocher et destinés au broyage des grains.

Il semble donc évident que divers groupes d'agriculteurs nabatéens choisissaient de s'établir pour une période variable à proximité des lieux de production, ce qui permettait non seulement d'effectuer plus facilement les récoltes mais aussi de pallier les difficultés de transport. Ainsi le raisin, denrée relativement fragile, était vendangé puis foulé sur place selon le rythme de la cueillette.

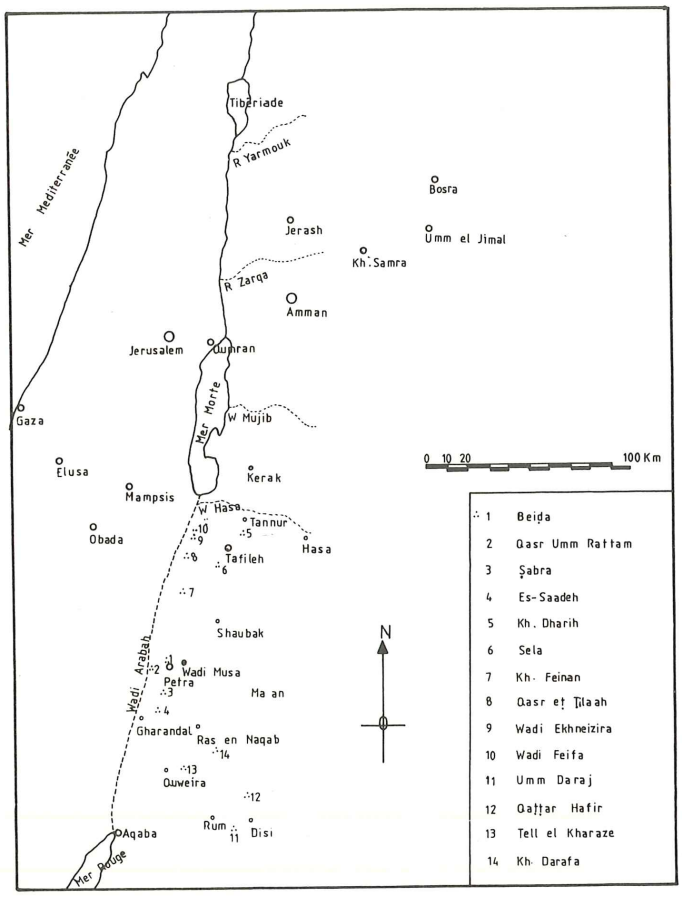
Ces installations non permanentes ne devaient pas être, du moins en partie, le fait d'équipes de travailleurs mais plutôt de groupes familiaux. Nous avons relevé au voisinage des aménagements d'Eṭnub Ouest, diverses surfaces rocheuses recouvertes de graffiti et d'empreintes de pied (ou plus exactement de semelle) appartenant aussi bien à des adultes qu'à des enfants dont certains très jeunes. Il faut d'ailleurs souligner ici que le déplacement de la famille pour quelques jours à proximité des champs au moment des récoltes est encore pratiqué de nos jours. Ajoutons également un détail qui permet de mieux cerner dans quel état d'esprit se déroulaient ces travaux assez fastidieux. A côté de divers pressoirs nous avons retrouvé plusieurs séries de

[1] Strabon *Géographie*, XVI, 4, 26.

[2] Strabon *Géographie*, XVI, 4, 26.

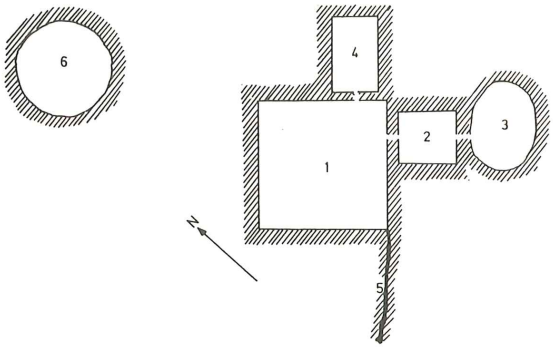
[3] Zeidoun al-Muheisen "L'eau à Pétra" *Le Monde de la Bible*, 14, (1980), p. 41-42. *Techniques hydrauliques dans le sud de la Jordanie, en particulier à l'époque nabatéenne.* Thèse de Doctorat-Paris, 1986.

CARTE GENERALE DES SITES



1: Carte des sites

PRESSOIR A VIN - SECTEUR DE ETNUB OUEST



1 Pressoir
2 Filtre
3 Cave
4 Bassin
5 Canal
6 Bassin

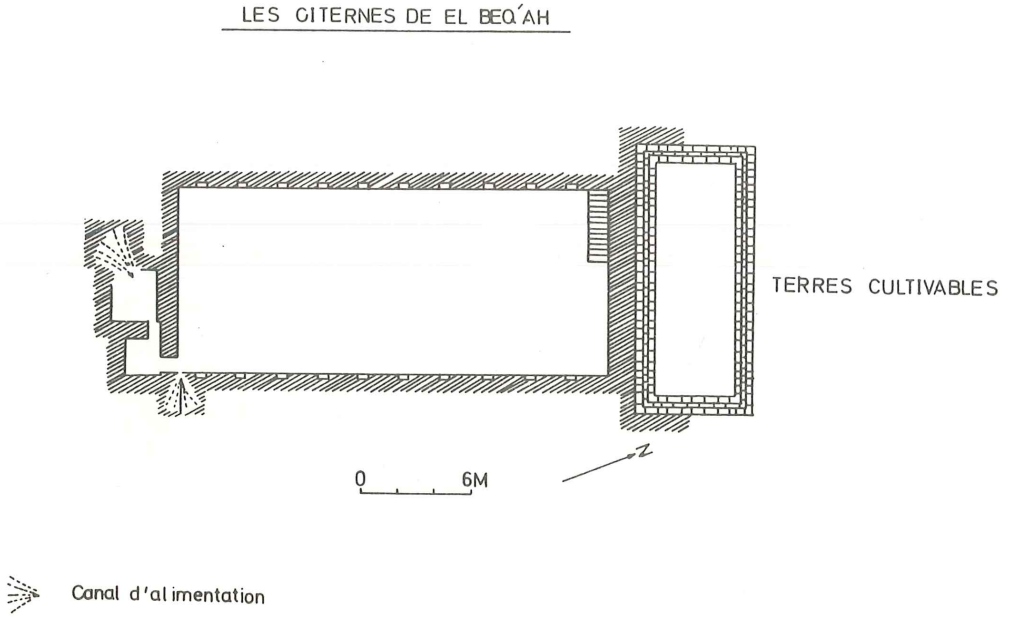
2: Plan d'un pressoir à vin ,I Etnub Ouest (Beida).

petites cavités creusées dans le rocher et disposées en colonnes, ce qui correspond au jeu connu actuellement sous le nom de "sidjeh".

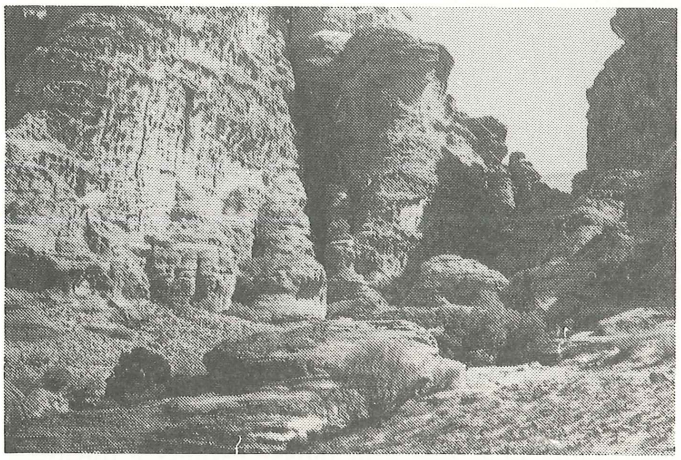
Dans la région d'el Beq'ah au sud de Beida sont disséminés différents bâtiments dont dépendaient un ensemble d'aménagements à caractère agricole. L'un de ces bâtiments a été reconnu au centre d'une vaste étendue cultivée aujourd'hui par des paysans du village de Wadi Musa. Il s'agit d'une ferme située au voisinage de deux citernes dont l'une, de type rupestre, mesure 23m x 10m pour une profondeur actuelle de 5m. La citerne était surmontée à l'origine par des arcs supportant les dalles de couverture, selon une technique utilisée dans l'architecture domestique nabatéenne. (FIG. 3) La remise en valeur récente de ce secteur a endommagé les vestiges de la ferme. Cependant nous avons pu relever des blocs d'architecture ainsi que de nombreux fragments de céramique peinte, de lampes, de jarres ainsi que des objets de métal. Ce bâtiment apparaît donc comme une structure habitée de façon régulière, comme en témoignent les importantes réserves en eau potable, et régissant un grand secteur agricole partiellement terrassé, comprenant des aménagements auxiliaires tels que réseaux de canalisations, citernes et pressoirs.

L'exploration de la région située au Nord de Beida a permis de reconnaître l'existence d'un vaste terroir dans le secteur dit el Ba'jeh, à une distance de 5km au nord du Sîq el Bared (Beida) dans le prolongement du Wadi Umm el 'Alda. Cette région présente un grand intérêt du point de vue agricole puisqu' elle comprend une série de vallonnements aux pentes relativement douces et bien exposées. Aussi est-elle réexploitée actuellement par divers groupes de cultivateurs appartenant à la tribu voisine des 'Amarin ainsi qu'au village éloigné de Wadi Musa qui peuvent y accéder facilement au moyen d'engins motorisés. Ā l'époque nabatéenne il en allait différemment et la mise en valeur de ce secteur exigeait la présence en permanence d'un groupe relativement important et donc l'aménagement d'un village, et cela en l'absence de toute ressource en eau. Pour pallier cette difficulté, les Nabatéens avaient amenagé une faille, le Siq el Ba'jeh, afin de recueillir l'eau qui leur était indispensable.[4] (FIG. 4). Une première canalisation creusée à mi-hauteur dans la paroi ouest du wadi se dirigeait vers le village où elle alimentait un groupe de

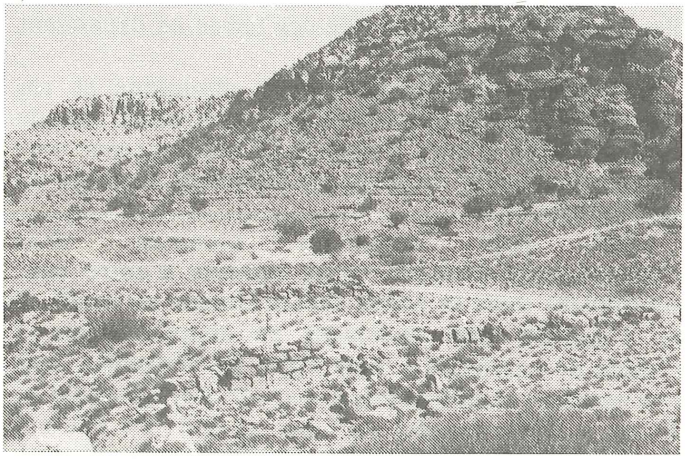
[4]Pour une description plus complète de cet aménagement, voir Z. al-Muheisen "Exemples d'installations hydrauliques et de techniques d'irrigation dans le domaine nabatéen" *in Techniques et pratiques hydro-agricoles traditionnelles en domaine irrigué*, Actes du Colloque de Damas 27 juin-1er juillet 1987, *BAH*, 136, Paris, 1990, II, p. 507-511.



3: Les citernes de el Beq'ah.



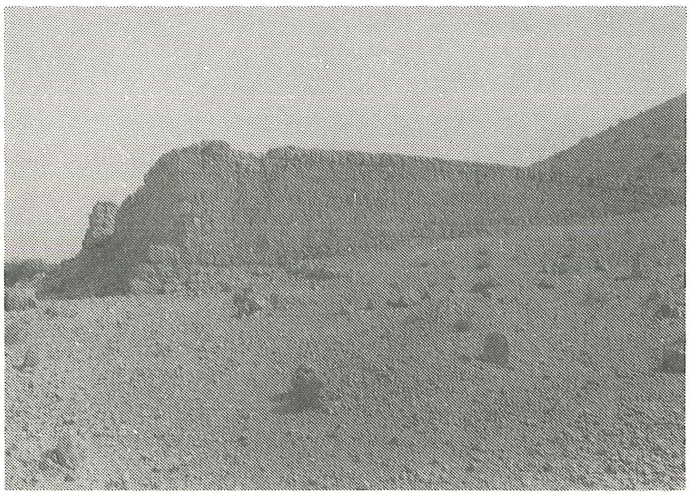
4: Vue extérieure du Siq el Ba'jeh.



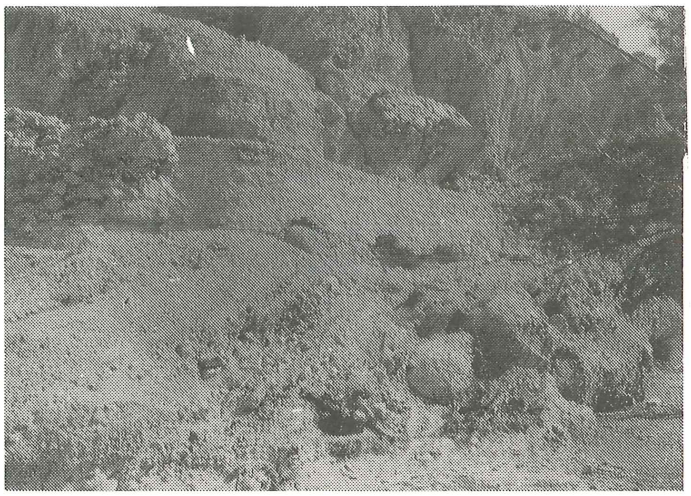
5: Terrasses et murs dans le secteure de Ba'jeh.

citernes à usage domestique, le surplus s'écoulant en direction des champs. Un relevé effectué à l'intérieur du village et sur son pourtour a permis de reconnaître la présence d'un matériel abondant dont de nombreux fragments de céramique nabatéenne. De la paroi est du wadi, partait une seconde canalisation destinée à l'irrigation des champs et terrasses aménagés à un niveau inférieur. (FIG. 5).

Les techniques utilisées ici étaient relativement simples quoique nécessitant une grande vigilance pendant l'hiver et le printemps car le barrage qui fermait le débouché du Siq Ba'jeh ne faisait pas réservoir; aussi les eaux pluviales qui s'écoulaient à l'intérieur du Siq se déversaient-elles directement dans les canalisations latérales, ce qui rendait le flux plus difficile à contrôler. Bien qu'il n'en subsiste aucune trace ajuourd'hui, il est facile cependant de déduire de ces dispositifs qu'un ensemble de canaux devaient être périodiquement aménagés afin de diriger l'eau des crues vers les champs et terrasses qui étaient alors inondés jusqu'à saturation, procédé identique à celui utilisé dans le Negeb par les mêmes Nabatéens. Les dernières pluies ayant lieu le plus souvent en Avril et les récoltes se faisant en Juin, la période de sécheresse pour les cultures ne devait pas excéder deux mois. Bien entendu de grandes variations dans le régime des pluies pouvaient survenir selon les années. Précisons à ce propos que de



6: La citerne d'eṭ-Ṭilah.



7: L'aqueduc d'eṭ-Ṭilah.

nombreux sites comme Ba'jeh, autrefois exploités au moyen de l'irrigation, sont actuellement cultivés en ''dry farming'', les champs étant alors dits ''ba'al''. Ce qualificatif que l'on peut rapprocher du nom du dieu Baalshamin signifie que ces terres ne dependent que des seules pluies.

Situé dans un environnement climatique et topographique assez défavorisé le Wadi Arabah, voie de passage entre la mer Rouge et la Mediterranée permettait également de relier les différents secteurs du monde nabatéen.

Cette zone comprend plusieurs sites d'importances diverses. Pour certains d'entre eux, notamment dans la partie septentrionale du Wadi, il ne s'agissait pas seulement de simples relais à l'usage des caravanes mais aussi de véritables centres agricoles comme dans le secteur d'eṭ-Ṭilâḥ qui se trouve a 25km au sud du Ghor al Ṣafi. Ce site est constitué pour l'essentiel par un bâtiment de 40m de côté aménagé à une cinquantaine de mètres en contrebas d'une citerne carrée mesurant environ 30m (FIG. 6). Le mur ouest présente encore douze assises ce qui, étant donné la hauteur des blocs, indique une hauteur minimum à l'origine de 4,50m. Ce réservoir était alimenté par une canalisation acheminant les eaux de 'Ain eṭ Ṭilâḥ sur une distance d'un km (FIG. 7). De la citerne partait probablement plusieurs conduites permettant d'approvisionner le Khan et d'irriguer les terrains aménagés dans l'espace relativement plan qui occupe le fond du Wadi.

La remise en valeur d'et-Ṭilâḥ, un fait qui est loin d'être unique dans le Wadi 'Arabah (FIG. 8) a modifié l'aspect du site mais les vestiges sont suffisamment



8: L'aqueduc d'Ekhneizira

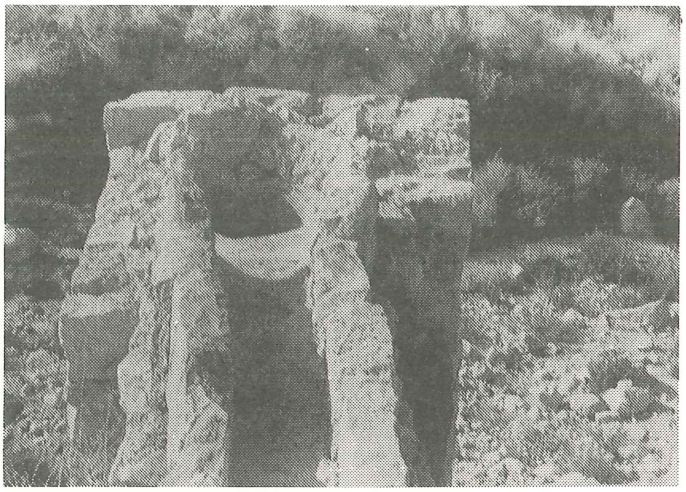
importants pour que l'on puisse estimer à quelques dizaines d'hectares la surface cultivée a l'époque nabatéene, surface donc supérieure à celle exploitée actuellement. Cependant, d'après les dimensions des murettes qui enserraient les champs antiques, ces derniers ne mesuraient guère plus de trente mètres de côté. Le terroir était donc très morcelé.

Contrastant à tous égards avec les sites mentionnés plus haut, Khirbet edh Dhariḥ, qui surplombe le Wadi el La'ban, un affluent du Wadi el Ḥasa, se présente comme un ensemble bien structuré dépendant probablement d'une autorité centrale.[5] Le curateur de la source el La'aban dont parle une inscription retrouvée à Tannour devait jouer ici un rôle prépondérant, notamment pour l'approvisionnement

[5]Sur Dhariḥ voir en particulier F. Villeneuve ''Fouilles à Khirbet edh-Dhariḥ (Jordanie) 1984-1987''. *CRAI*, (1988), p. 458-479.



9: Un moulin à Kh. edh-Dhariḥ



10: Vue rapprochée de la conduite forcée et de l'orifice supérieur du puits.

en eau du site et de ses environs[6]. Cette question, déjà évoquée, se posait avec acuité dans l'ensemble des sites occupés par les Nabatéens mais ceux-ci, grâce à leur exceptionnelle maîtrise des techniques hydrauliques, avaient su y apporter des solutions adaptées à chaque secteur, qu'il s'agisse d'adduction de source ou de collecte pluviale.

Le même curateur de la source était également chargé du contrôle de l'irrigation, selon un modèle encore en vigueur dans certains villages ou un responsable établit les tours de rôle, chaque jardin ou champ n'étant irrigué qu'un nombre fixe d'heures par semaine, à des périodes déterminées. Dans ce cas l'eau provient d'un poste central surveillé en permanence.

Le site de Dhariḥ qui s'étend sur la rive est du Wadi el La'ban était entièrement terrassé et cela d'une facon très élaborée. Ainsi les terrasses étaient bien plus élevées que dans les secteurs presentés ci-dessus puisqu'elles pouvaient atteindre deux mètres de haut. Surtout, les murettes perpendiculaires au wadi étaient munies de marches permettant d'accéder aisément à chaque terrasse. L'aménagement et l'entretien de tels dispositifs exigeaient un grand travail qui ne pouvait être accompli efficacement que dans le cadre d'une communauté organisée.

Dans la même perspective nous avons relevé l'existence d'installations à caractère technique dont un pressoir à vin et plusieurs moulins. Le premier, de type rupestre, est muni d'une cuve centrale de 0,90m de diamètre autour de laquelle sont disposées dix cuves secondaires de capacités différentes. Un tel aménagement suggère une utilisation collective à moins que la présence de cuves de dimensions diverses ne réponde à une finalité de type commercial.

Au bord du Wadi el La'aban s'échelonnent sept moulins hydrauliques semblables à ceux que nous avons relevé à Wadi Musa, près de Pétra, et à Feinan dans le Wadi 'Arabah. (FIG. 9). Des canalisations de fort diamètre alimentées par les sources voisines et aussi occasionnellement par les eaux pluviales acheminaient l'eau jusqu'à un puits profond de plusieurs mètres, ce qui permettait d'obtenir une pression suffisante pour actionner la roue horizontale du moulin. (FIG. 10). Nous ne possédons pas encore d'éléments suffisants pour dater avec précision ces installations mais on peut assumer que de tels dispositifs étaient connus en Grèce et en Orient dès avant notre ère[7].

Remarquons surtout le nombre de ces installations qui souligne l'importance du niveau de production atteint concernant les cultures pratiquées sur l'ensemble des sites évoqués, c'est-à-dire la vigne et les céréales.

De telles constatations suffiraient à démontrer, si cela etait encore nécessaire, le rôle primordial de l'agriculture dans la civilisation nabatéene.

[6]J. Starcky "Le temple nabatéen de Khirbet Tannur", *RB*. 75, (1968), p. 211.

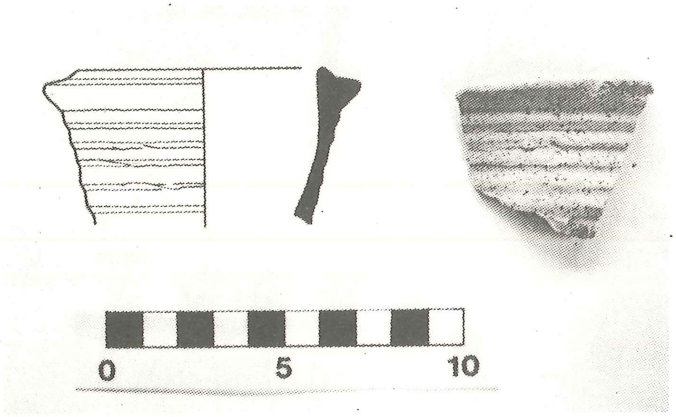
[7]Voir le plan de ce type de moulin dans S. Avitsur "On the History of the Exploitation of Water Power in Palestine", *IEJ*, 10, (1960) p. 42.

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Islamic or Nabataean? The Case of a First to Early Second Century AD Cream Ware

Many of the ideas and theories concerning settlement patterns in the past are based on the results of archaeological surveys, whose results are, in turn, based on the study of non-stratified surface material. FIG. 1 shows a sherd

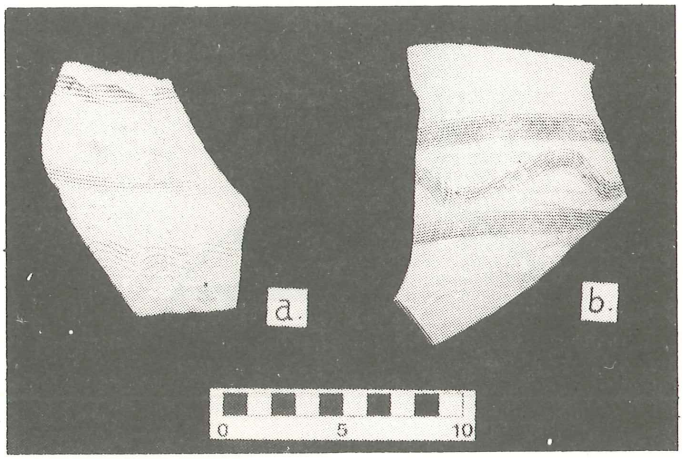


1. A sherd of the "Nabataean" cream ware found at Site 229 of the "Southern Ghors and Northeast 'Araba Archaeological Survey" during the 1986 season.

collected during the 1986 season of the "Southern Ghors and Northeast 'Araba Archaeological Survey" (SGNAS), directed by Burton MacDonald. It is described as:

> *Ware*: 2.5Y 7.5/4 pale yellow. Few small white, grey and rare medium angular light grey grits. Rare mica flecks. Few large (up to 0.4 cm) semiangular voids, some small-medium round-oval voids showing surfaces.
>
> *Exterior and interior*: 3.2Y 8/2 white. ['Amr in MacDonald (ed), forthcoming].

This sherd should be dated to the first/beginning of the second century AD. It belongs to a class of pottery which is very similar to some early Islamic pottery (opinions have varied between late Umayyad via Abbasid to Fatimid). FIG. 2 shows two sherds from the 1988 season at Khirbet



2. Two sherds excavated during the 1988 season at Khirbet Faris: a. from a "Nabataean" context; b. from an "early Abbasid" context.

Faris (excavations directed by Jeremy Johns and Alison McQuitty). 2a came from a "Nabataean" context while 2b came from an "early Abbasid" context, from the same excavation area. Both sherds are of 'cream' colour, fine fabric and similar decoration. It is the aim of this paper to draw attention to this much neglected "Nabataean" ware that has often been confused with better known "early Islamic" analogues.

Examples of this pottery have been found at several sites in southern Jordan, Palestine and Saudi Arabia (see below, **Distribution**), in first to early second century AD contexts, a period during which South Jordan and the Negeb were "Nabataean", i.e. their material culture belonged to what is generally accepted as the Nabataean tradition. In all the sites known to the author, fine wares in the Classical Nabataean tradition have been found in the same contexts as the cream ware (except maybe for 'Ain az-Zara, where only one painted "Nabataean" sherd was found. However, study of the unpainted wares at the site may provide further evidence). Therefore, for the purpose of this paper, this first-early second century AD southern Jordanian cream

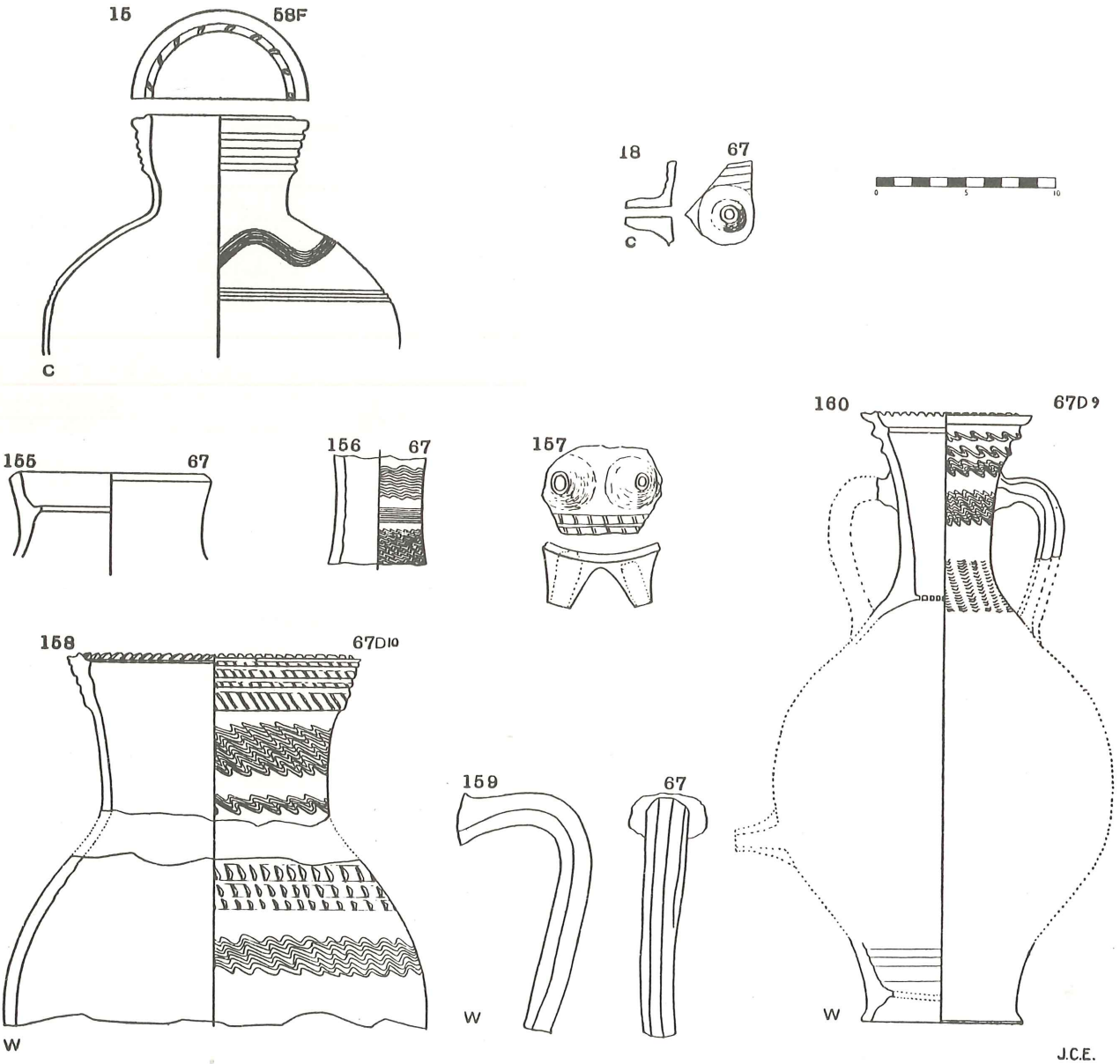
ware will be referred to as "Nabataean".

Description and Manufacture of the Nabataean Cream Ware

Murray and Ellis published several examples of Nabataean cream ware from Petra in their "*A Street in Petra*" back in 1940 (FIG. 3). Of the ware they said:

> "..(It) seems to have been made expressly for the storage and supply of cooled drinks. For this reason the material of which they are made is a soft porous clay, which, when lightly fired, produces a pale green exterior to the vessel, while the inside of the body is a pale greenish buff. The contents are cooled by the evaporation of liquid sweating through the porous body to the outside, a principle which is commonly used throughout the East to-day in the manufacture of similar wares..." (p. 20).

This reference to the similarity between the "ancient" and modern wares underlines a probable similarity in manufacture. In the modern (Hebron tradition) pottery, the main temper is fine sand, the white surface colour is obtained by the addition of commercial table salt to the clay mixture prior to throwing the vessels (see 'Amr 1987: 43, 95-96 and references cited). In the Nabataean cream ware, the major inclusions are fine sand particles. A common effect of salt addition on the colour of an otherwise red firing clay, as observed in sections of modern Hebron tradition pottery sherds, is that most of the ware would be of a cream colour. Areas of red can sometimes be



3. Examples of Nabataean cream ware from Petra. *(From Murray and Ellis 1940: PLATES XXV, XXXIII).*

Table 1 Colours represented by Nabataean cream ware sherds from Khirbet adh-Dharih and 'Ain az-Zara.

Spl.	Thickness	Exterior	Interior	Ware
DH1	0.55-0.92cm	2.5Y 8/2 white fading 0.09cm	10YR 8/2 white	10YR 8/3.5 v. pale brown
DH2	0.44-0.63cm	10YR 8/2.5 white/v. pale brown fading 0.08cm	10YR 7/5 v. pale brown/yellow	7.5YR 7/5 pink/ reddish yellow
DH3	0.56-0.70cm	2.5Y 8/2 white fading 0.18cm	5YR 7/4 pink fading 0.15cm	2.5YR 7/6 lt red
DH4	0.45-0.70cm	5Y 8/2 white fading 0.12-0.40cm	2.5Y 8/4 pale yellow fading 0.08cm	10YR 8/3 v. pale brown
DH5	0.38-0.65cm	5Y 8/3 pale yellow fading 0.10cm	5Y 8/2 white fading 0.05cm	2.5Y 8/4 pale yellow
AZ2	0.74-0.88cm	5Y 8/2 white	5Y 8/2.5 white/ pale yellow	5Y 7.5/3 pale yellow to ~0.3cm ext. - 5Y 7.5/2 white/pale gray int.
AZ4	0.35-0.37cm	2.5Y 8/2 white fading 0.05cm	5YR 7/4 pink fading 0.08cm	2.5YR 6/6 lt red
AZ5	0.38-0.42cm	2.5Y 8/3 white/pale yellow fading 0.03cm	10YR 8/3 v. pale brown fading 0.03cm	5YR 7/5 pink/ reddish yellow
AZ6	0.50-0.69cm	10YR 8/3 v. pale brown fading 0.07cm	10YR 8/3.5 v. pale brown	10YR 8/3.5 v. pale brown
AZ7	0.54-0.62cm	2.5Y 8/2 white fading 0.09cm	10YR 8/2 white	10YR 8/4 v. pale brown

seen with the cream towards the surfaces, more so towards the exterior. The clay is originally red firing. The cream colour is due to the salt, which when in solution within the fabric may migrate to the surfaces while the pot is drying, leaving a red "core" which has a smaller concentration of salt. Extreme cases may have interior red exterior cream colours. This phenomenon has been noticed on some Nabataean cream sherds (see TABLE 1: DH2, 3; AZ2, 4, 5).

More typically, the ware would be a slightly darker cream colour than the surfaces. TABLE 1 shows examples of the colours represented by some Nabataean cream ware sherds. The technique of using salt to obtain light-coloured pottery was employed during the early Islamic periods as well (Franken 1986: 241). Physical tests will be carried out on samples of the Nabataean cream in order to determine their method of manufacture and provenance.

The Forms

This section will not attempt to give a detailed account of the forms encountered in the Nabataean cream ware. Detailed studies are underway of the pottery from 'Ain az-Zara and Khirbet adh-Dharih, two sites which have produced large amounts of the ware (Christa Clamer and François Villeneuve, pers. comm.). Therefore the following will only be a general description of some of the forms, which seem to be limited in variation.

The most commonly encountered form is of a slender necked jar or "amphora", characterised by wavy line combing on the neck and shoulder and short triangular-section spouts, both characteristic of the early Islamic periods as well and the source of much of the confusion in dating (FIG. 3 no.'s 18,156-160, the reconstruction of the position of the spout in no. 160 is incorrect; see also Negev 1986: 71 no. 538; 72 no. 539-545 and Parker 1987: FIGS. 90:6; 91:15). This form tends to have a strainer at the bottom of the neck.

Another form is the small jar with ribbed neck, to which the survey example on FIG. 1 belongs (FIG. 3 no. 15 is a more complete form). The sherd of FIG. 2a belongs to the body of such a jar.

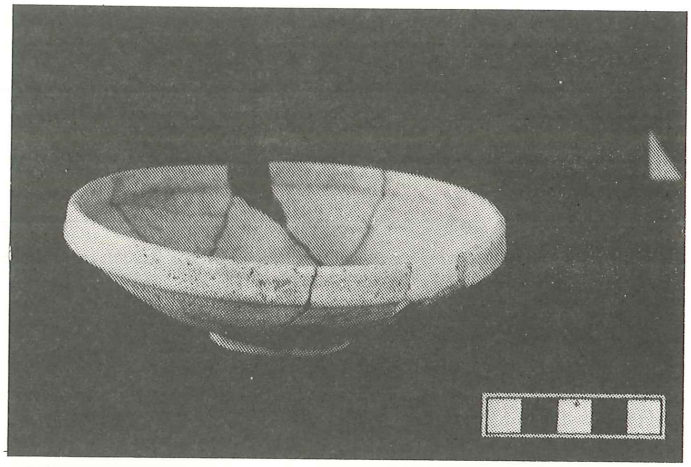
Many of the sherds found of this ware are ribbed. These usually belong to small jars, similar in shape to cooking pots of the period (see Negev 1986: 72 no. 552-553). A related ribbed bodied form is that of a small delicate jar (FIG. 4). Another form with thick sharply ribbed body is of a small, plain rimmed juglet (Negev 1986: 72 no. 546-547).

Other reported closed forms of the ware include a narrow mouthed jar with everted rim (Negev 1986: 72 no. 550-551) and a simple immed jar with interior ledge (FIG. 3 155).

The only open forms seem to be of shallow bowls. FIG. 5 shows a rare example of a cream ware bowl having a typical "Classical Nabataean" form (see also Parker 1987: FIG. 92:23).



4. A small Nabataean cream ware jar from the 1987 season at Khirbet adh-Dhariḥ.



5. A small Nabataean cream ware bowl from the 1985 season at Khirbet adh-Dhariḥ.

Distribution

Petra and Vicinity

As mentioned above, Murray and Ellis (1940) distinguished and reported the ware from Petra. The Horsfields published a combed white coloured jar neck from Petra (Horsfield and Horsfield 1942: PLATE 27:222), however it was described as Byzantine, of the sixth century. "'Marl' combed ware" sherds from the theatre in Petra have been reported (Garcia in Hammond 1965: 79; PLATE LII,2). The sherds are from a sealed context, of Hammond's Theater Period Ic, dated to "after AD 106 and probably by c. AD 150" (Hammond 1965, especially: 65). However the parallel cited (for the combing) belongs to the late Byzantine red wares.

Khairy (1975) in a study of unpainted pottery from Petra concentrated on forms rather than wares. At least one of his examples, a "miscellaneous cooking pot" from Parr's excavations III.103.32 (analysed as PCP85 in 'Amr 1987), belongs to the Nabataean cream ware.

Lindner (1986: 172-173), has reported finding sherds of the ware while exploring the area from Ṣabra to Wadi 'Arabah. Fawzi Zayadine (pers. comm.), has mentioned an abundance of the ware at Ra's Naqab ar-Ruba'i on the route to Wadi 'Arabah.

The Southern Jordanian Plateau

Examples were found from soundings done at Rujm Bani Yaser (*c.* 1km east of al-Lajjun) dated to the first century BC and AD with a possible extension into early second century AD (Parker 1987: FIGS. 90:6; 91:15). Khirbet adh-Dhariḥ, on Wadi al-La'ban north of aṭ-Ṭafilah, produced substantial amounts of this ware from strata dated by coins to the late first/early second century AD (François Villeneuve, pers. comm.). A few sherds were unearthed at Khirbet Faris, near al-Qaṣr, in strata containing fine Nabataean ware of the Classical tradition (Robin Falkner, pers. comm.).

The South Ghor/Wadi 'Arabah

The sherd in FIG. 1 comes from the SGNAS Site 229, Khirbet al-Ḥassiya (North), "probably a Nabataean caravanserai" (MacDonald 1986: 104; forthcoming).

A large amount of the pottery was excavated at 'Ain az-Zara, on the eastern Dead Sea coast, in first century AD contexts (Christa Clamer, pers. comm.; see also Clamer 1989: 221). The ware was also found at Qumran on the western coast of the Dead Sea (Jean-Baptiste Humbert, pers. comm.).

The Negeb

The only site reported to have produced the ware in the Negeb is 'Abda, where Negev (1986: 71-72) calls it "Green Ware".

The Arabian Peninsula

The ware has been found in a variety of forms and fabrics

at Qaryat al-Fau, in southwestern Saudi Arabia, during excavations carried out by a team from King Saud University. The excavator recognized its variance from local wares and postulated a "Nabataean" origin (Asem Barghouti, pers. comm.). Qaryat al-Fau has already produced large amounts of pottery generally accepted as belonging to the Classical Nabataean tradition (al-Ansary 1982: 22, 63).

Conclusions

Our present knowledge of the Nabataean pottery tradition is somewhat limited. This fact is only one aspect of the limitation of our knowledge of the pottery, and settlement patterns, in the south of Jordan during all periods. The past few years have seen increasing archaeological work in that geographical area. The evidence collected through this work points to material cultural differences between North and South Jordan through long periods of time. These differences require that we approach the data from the South with an open mind, free of preconceptions based on established material cultural sequences from other regions. This concluding statement may seem too obvious to be mentioned, however practical experience has shown it should be stressed whenever possible. The case of the "Islamic/Nabataean" cream ware is only one small example. Since it was reported from Petra by Murray and Ellis in 1940, there was a long silent period during which the pottery "disappeared" from the literature, with only rare sporadic references to sherds from a few excavated sites. I suspect that it was misinterpreted during surveys, most of which tended to report only minimal data concerning their dating evidence (if at all), and ignored when found in stratified deposits during excavations.

A major importance as an index fossil of the Nabataean cream ware comes from close inspection of unpublished material from excavated sites, dated to overlapping but not identical time periods. The ware shows variations in both forms and fabrics, therefore I feel that further study of the evidence will make it a strong dating tool for the first two centuries AD in South Jordan, Arabia and the Negeb.

Acknowledgements

I would like to thank François Villeneuve, Christa Clamer, Alison McQuitty, Robin Falkner, Asem Barghouti, Burton MacDonald, Jean-Baptiste Humbert and Fawzi Zayadine for information and access to unpublished material. Thanks also go to Boghos Darkejian and Khalil Abdel Hadi for producing the photographic plates.

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Le décor architectural en Transjordanie de la période hellénistique à la création de la Province d'Arabie en 106

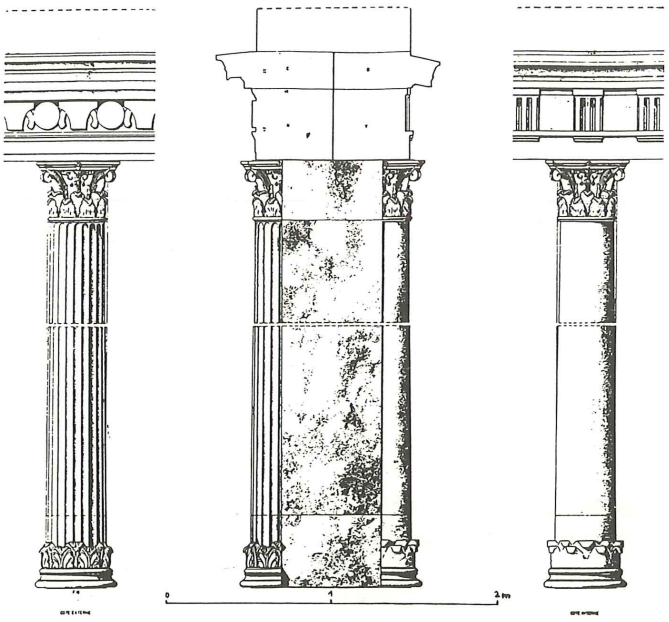
Si l'on excepte la zone côtière et la vallée de l'Euphrate, les témoins architecturaux datant de l'époque hellénistique sont si rares dans l'ensemble de la région syro-palestinienne qu'il est difficile de restituer l'envergure et l'aspect même des agglomérations dont on connaît l'existence à cette époque. A partir du tournant de l'ère chrétienne, les vestiges que nous connaissons sont plus nombreux et répartis sur différents sites, ce qui permet de restituer partiellement une image du développement architectural et des cultures auxquelles se rattache le décor sculpté. Le développement des études sur *Pétra* et la Nabatène ainsi que des explorations archéologiques récentes sur les principaux sites urbains antiques de la région ont apporté des éléments neufs. Les études achevées ou en cours de trois ensembles monumentaux de cette période, le Qasr el-Abd d'Iraq el-Amir, le sanctuaire de Zeus à Jérash et le sanctuaire de Dharîh donnent ici l'occasion d'envisager quel fut le développement du décor architectural dans cette région de la fin de la période hellénistique jusqu'à la création de la Province d'Arabie en 106.

1- Le Qasr el-Abd d'Iraq el-Amir, témoin du rayonnement alexandrin au-delà du Jourdain.

Le palais d'Hyrcan le Tobiade à Iraq el-Amir est actuellement le plus ancien monument daté[1] que nous connaissions à l'époque hellénistique en Transjordanie. Si le plan et l'élévation du qasr restent déconcertants, en l'absence d'éléments de comparaison assez bien conservés[2], l'étude détaillée du décor architectural[3] (FIG.1) a au contraire mis en relief des origines culturelles qui coïncident avec la vie mouvementée de son propriétaire[4]:

- Malgré des interprétations anciennes et erronées, les différents auteurs qui se sont intéressés aux formes architecturales de cette région ont reconnu à juste titre que les chapiteaux d'Iraq el-Amir appartiennent à la famille des chapiteaux corinthiens de type alexandrin[5]. Un examen des autres parties des ordres et de leur emploi dans le bâtiment montre que les modèles sont de même origine: ainsi les consoles de portes nettement rétrécies vers le bas, les acrotères au-dessus des corniches de portes, les bases de colonnes à feuilles d'acanthe dressées, les ordres composites à colonnes corinthiennes, les demi-colonnes appliquées dans l'embrasure d'un porche à colonnes ou sur la tranche de meneaux de fenêtres, les demi-colonnes appliquées contre un mur et alternant avec des fenêtres, les ordres imbriqués ou placés les uns devant les autres. Parmi tous ces éléments, la plupart ne sont pas exclusivement alexandrins, mais empruntés à l'hellénisme de Grèce ou d'Asie Mineure; cependant la façon de les utiliser et surtout leur agencement peu orthodoxe dans bien

[1] La construction en cours d'achèvement fut certainement abandonnée après le suicide d'Hyrcan que l'on peut situer entre 175 et 168 av. n.è. (voir note 3).
[2] Cf.E.Will, Sources et modèles, dans E.Will, F.Larché, J.Dentzer-Feydy, *Le Qasr el-Abd d'Iraq el-Amir* (sous presse).
[3] Cf.J.Dentzer-Feydy, *Ibidem* (ouvrage cité note précédente), pour le développement des indications données ci-dessous; sur le décor figuré du qasr, cf.F.Queyrel, *Ibidem*.
[4] D'après le récit de Flavius Josèphe (*Ant. Juives*, XII, 186-237), Hyrcan, fils d'un fermier d'impôts de Ptolémée V, fit lui-même fastueusement sa cour auprès des Lagides. S'attirant par ses libéralités excessives et les faveurs royales ainsi obtenues la jalousie et la colère de ses frères et de son père, il dut fuir en Transjordanie où il entreprit de faire construire une résidence dans son domaine. La mort de son protecteur Ptolémée V (180), et les campagnes militaires d'Antiochos IV (175-164) le mettant dans une situation critique dans cette région déjà soumise au pouvoir des Séleucides, il mit fin à ses jours, cf.F.Zayadine, dans E.Will, F.Larché, J.Dentzer-Feydy, *Le Qasr el-Abd d'Iraq el-Amir* (sous presse); F.Villeneuve, dans colloque *Le monde du roman grec*, ENS Paris, Décembre 1987, édit. M.F.Baslez et Ph.Hoffmann (sous presse).
[5] D.Schlumberger, *Syria*, (1933), p.287-288; K.Ronczewski, *Acta Univ. Latviensis* XVI, 1927, p.6-7; M.Lyttelton, *Baroque Architecture in classical Antiquity*, Londres, 1974, p. 47.



1. Qasr el-Abd à Iraq el-Amir. restitution de l'ordre des fenêtres du premier étage sur le long côté est (dessin J.P. Lange).

des cas se rencontre à Alexandrie et dans les régions qui ont subi son influence politique et culturelle, notamment l'Asie Mineure méridionale, Chypre ou la Cyrénaïque.

- Certains éléments du qasr d'Iraq el-Amir trahissent une création d'origine syro-palestinienne: l'ordonnance des porches barlongs du rez-de-chaussée, soutenus en façade par deux colonnes et flanqués de deux larges massifs aveugles qui renferment des cages d'escaliers, est une structure familière du Proche-Orient ancien et gréco-romain; les proportions lourdes des colonnes corinthiennes sont une caractéristique que l'on connaît dans cette région à la fin de l'époque hellénistique; l'application de grands reliefs animaliers superposés aux ordres est contraire à toute logique décorative hellénistique; de plus, même si leur traitement est hellénisé, l'iconographie adoptée ainsi que le symbolisme qui l'accompagne, aigles et lions aux angles comme signes du pouvoir et de protection du bâtiment, se réfèrent à une large et ancienne tradition des domaines hittite et sémitique.

- Certains détails dans le traitement du décor sont propres à la région et indiquent que la main d'oeuvre fut également syro-palestinienne: ainsi le traitement des denticules, des perles et pirouettes, des oves, des listels intermédiaires entre deux moulures.

Même si le qasr d'Iraq el-Amir est une pièce unique, comme cela est possible, il est un exemple caractéristique de l'introduction de la culture hellénistique dans la région: Hyrcan, qui en a fait la commande, a souhaité orner ce bâtiment d'un décor architectural raffiné et à la mode chez les Lagides en s'adressant à de bons spécialistes de sculpture architecturale, mais il a en même temps voulu conserver un type d'appareil, certaines structures architecturales, une iconographie propres au domaine syro-palestinien. Par l'intermédiaire d'un notable juif inféodé aux Lagides et séduit par l'hellénisme, le décor architectural du qasr est le témoin, un peu attardé, il est vrai, de l'emprise de ceux-ci sur la Transjordanie jusqu'à la bataille de Panion en 200.

2. Le sanctuaire de Zeus à Jérash, ou la culture séleucide tardive de Syrie intérieure.

Dans la partie nord de la Transjordanie, on ne connaissait jusqu'à une date toute récente aucun élément de décor architectural bien daté depuis la construction du qasr d'Iraq el-Amir jusqu'à la création de la Décapole en 64 avant J.C... Comme les vestiges de cette époque sont également rares dans les régions voisines, on ne peut restituer que très partiellement ce qu'il a pu être:

- Certains grands complexes d'habitation ou monuments funéraires, commandés par des familles riches et puissantes ont dû porter l'empreinte d'un hellénisme régional, mais relativement classique et dépouillé conforme à ce que l'on peut voir dans d'autres régions du Proche-Orient méditerranéen: parmi d'autres exemples plus fragmentaires trouvés en Palestine, on peut citer le pavillon d'ordre dorique du palais hasmonéen de Jéricho[6] ou la façade du tombeau rupestre des Béni-Hézir à Jerusalem[7]; par ailleurs, les fragments stuqués trouvés à Tel Anafa[8] en Haute Galilée et datés entre 125 et 95 avant J.C. nous donnent la preuve que l'on appliquait dans certaines grandes demeures de la région des décors hellénisés en stuc comme en Asie Mineure, en Grèce et en Italie[9]. Selon R.L. Gordon, les quelques chapiteaux retrouvés sur ce site se rattachent par tous les détails de leur structure et de leur traitement au

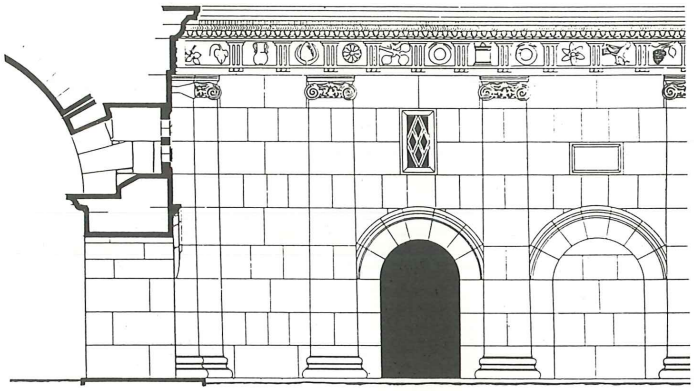
[6] E.Netzer, *Qadmoniot* XV, 1, 1982, p.22-29.
[7] N.Avigad, *Ancient Monuments in the Kidron Valley*, Jerusalem, 1954, résumé en anglais, p.1, deuxième moitié du IIème siècle av. J.C.; N.Avigad, dans *Jerusalem Revealed*, Jerusalem, 1976, p.18, date ce même tombeau du début du Ier siècle av. J.C,
[8] R.L.Gordon, *Late Hellenistic Wall Decoration of Tel Anafa*, Univ. of Missouri-Columbia, Ph.D., 1977, Ann Arbor, 1979, fig.23.
[9] Si l'on se réfère à la classification en styles des peintures murales, la structure architecturale de ce décor correspond à la dernière phase du Ier style et à sa transition avec le 2ème, qui se situe précisément vers le tournant du IIème au Ier siècle avant n.è.; pour une synthèse récente sur ces questions, cf.A.Barbet, *La peinture murale romaine*, Paris, 1985.

domaine architectural des Séleucides[10]. Dans cette région qui fut âprement disputée à l'époque hellénistique par les Lagides et les Séleucides, on constate donc que certains des rares témoins conservés provenant d'édifices de grande envergure portent la trace dans leur décoration du rattachement politique de la région, et de leurs propriétaires, à l'un ou l'autre royaume.

Il semble en être de même au sanctuaire de Zeus à Jérash. Si les mentions d'une fondation de Gérasa par Alexandre ou Perdiccas sont toutes tardives[11], les travaux récents effectués dans ce secteur ont en tout cas mis en évidence une occupation hellénistique remontant au début du IIème siècle avant notre ère[12], soit à la période qui suivit la conquête de cette région par les Séleucides. Les blocs sculptés les plus anciens que l'on connaisse à Jérash sont en remploi dans les fondations du *naos* de la cour inférieure[13]. En attendant un dégagement plus complet, on note que certains d'entre eux ont une parenté évidente avec le décor architectural du bâtiment entourant la cour inférieure du sanctuaire (FIG. 2); le dernier état de cet ensemble monumental a été construit entre la deuxième moitié du Ier siècle avant J.C. et 27/28 après J.C.[14]; ses caractéristiques décoratives sont les suivantes:

- Il est nettement marqué par l'architecture de la fin de la période hellénistique, comme en témoigne l'utilisation d'un ordre appliqué composite à demi-colonnes ioniques et entablement dorique, dans lequel l'architrave a presque entièrement disparu; l'entablement lui-même est composite puisqu'il comporte une corniche à denticules. L'ordre composite ionique/dorique est présent dans l'architecture hellénistique de la partie occidentale de l'Asie Mineure (Pergame et Labraunda en particulier), en Palestine, en Cyrénaïque et en Tripolitaine, ainsi qu'en Grande Grèce.

- Ce décor hellénistique tardif porte de nombreuses caractéristiques régionales et hétérodoxes: les proportions particulièrement lourdes des colonnes; les chapiteaux ioniques à palmette centrale, dont la diffusion connue forme un grand arc du **Kurdistan à la Maurétanie, en passant par la Syrie et** la côte d'Afrique du Nord[15]; les chapiteaux corinthiens du propylée est (FIG. 3,a), que leur structure massive, leurs puissants caulicoles cannelés



2. Cour inférieure du sanctuaire de Zeus à Jérash (dessin J. Seigne).

placés en oblique et leurs hélices quasi inexistantes permettent de rattacher à la production contemporaine de Syrie méridionale; de même, au-dessus de ces colonnes corinthiennes, les blocs d'architrave ornés comme une frise d'un grand rinceau de vigne[16] (FIG. 3,b).

- La réalisation de ce travail trahit une connaissance approximative du système décoratif auquel il appartient: l'architrave est par endroits (côté extérieur sud) au même niveau que le chapiteau qu'elle est censée couronner, les gouttes sous les triglyphes sont réduites au nombre de trois, il arrive enfin que les triglyphes soient taillés en oblique...

Le décor de la cour inférieure du sanctuaire de Zeus à Jérash est donc apparenté à la production de la Syrie intérieure du tournant de l'ère chrétienne: un art décoratif, qui est encore constitué d'éléments de la fin de l'époque hellénistique, mais déformés et traités avec lourdeur et maladresse. Il est également apparenté aux décors contemporains que l'on voit à Jérusalem sur les tombeaux de la vallée du Cédron: on retrouve aux tombeaux de Zacharie, d'Absalon et d'Umm el-'Amed[17] le même usage d'un ordre composite ionique/dorique, quoique traité avec plus de soin, mais la différence majeure est le souvenir de l'influence égyptienne, représentée par les couronnements en gorge égyptienne (tombeaux de Zacharie et d'Absalon). Le décor du sanctuaire de Zeus se distingue en revanche nettement de celui des palais d'Hérode, qui présente certains emprunts, aussi bien

[10] R.L.Gordon, *Ibidem*, p. 344-345.
[11] C.H.Kraeling, *Gerasa, City of the Decapolis*, New-Haven, 1938, p.28 et s.; H.Seyrig, *Syria*, 36, 1959, p. 67-68 et *Syria*, 42, 1965, p.25-28; A.Spijkerman, *The Coins of the Decapolis and Provincia Arabia*, Jerusalem, (1978), p. 165, 167.
[12] F.Braemer et J.Seigne, *Dossiers Histoire et Archéologie* (suppl. Archaeologia), n°118, Juillet-Août 87, p. 54.
[13] J.Seigne, *Ibidem*, p.57. Ces blocs ont appartenu à un état plus ancien de cet édifice de culte, dont la construction remonte, selon l'auteur, à la première moitié du Ier siècle av. n.è.
[14] J.Seigne, *Syria*, 62, (1985), 3-4, p.287-295; J.Seigne, *Revue Biblique*, 93, 1, (1986), p.242, 245.
[15] Sur ce type de chapiteau, Cf.J.Dentzer-Feydy, *Syria*, 67 (1990), 1, p. 633-663.
[16] Cf. temple de Baalshamîn à Sî', M. de Vogüé, *Syrie Centrale*, Paris, 1865-1877, pl.3; *Syria, Publications of the Princeton Univ. Archaeol. Expedition to Syria in 1904-1905 and 1909*, Division 11, Section A, H.C.Butler, *Architecture and other Arts, Southern Syria* , Leyde, 1916, pl.XXVIII.
[17] N.Avigad, *Ancient Monuments in the Kidron Valley*, Jerusalem, 1954; N.Avigad, dans *Jerusalem Revealed*, Jerusalem, 1976, p.17-20.



3a. Propylée est du sanctuaire de Zeus à Jérash, chapiteau corinthien.



3b. Propylée est du sanctuaire de Zeus à Jérash, entablement.

techniques que décoratifs à l'architecture romaine. Ce dernier point mérite d'être mis en relief: on sait en effet depuis les fouilles et la publication de C.H.Kraeling[18] que des inscriptions encastrées dans les murs entourant la cour du sanctuaire de Zeus commémoraient la participation de certains citoyens, à des dates échelonnées dans le courant du ler siècle après J.C., aux frais de construction; la découverte d'inscriptions analogues, l'étude archéologique du bâtiment et la trouvaille récente d'une inscription de Diodore, architecte gérasénien, "signant" sa construction en 27/28 ap. J.C.[19] apporte la preuve que ce sanctuaire fut un programme de construction non seulement organisé et remboursé progressivement par les habitants de Gérasa, mais de plus confié par eux à l'un des leurs. Or on peut s'étonner à juste titre qu'une ville qui s'est enorgueillie, assez tardivement, il est vrai[20], d'être une fondation hellénistique, ait pu construire un sanctuaire aussi maladroitement hellénisé. On peut s'étonner aussi que plus d'un demi-siècle après la création de la Décapole par Pompée, aucune influence romaine ne soit encore décelable, au moins dans ce programme de construction. Quelques blocs isolés et d'origine inconnue que l'on peut attribuer à la même période (FIG. 3,c)se rattachent également avec des variantes à la culture hellénistique tardive de Syrie intérieure. Bien que nous ne connaissions presque rien de la production architecturale de cette même période dans d'autres villes de la Décapole situées en Transjordanie, comme Pella, Abila, Gadara, il est probable que les trouvailles éventuelles seront apparentées à celles de Jérash[21].

On peut voir par ailleurs à Jérash près de l'ancien musée et dans les environs immédiats divers blocs isolés de leur contexte architectural, d'une belle facture gréco-romaine parfaitement maîtrisée. Ces blocs de frise à rinceaux d'acanthe de tradition pergaménienne (FIG. 3,d) et ces dalles de plafonds à caissons géométriques marquent une rupture culturelle radicale avec le décor de la cour inférieure du sanctuaire de Zeus. Ils représentent un art décoratif importé de toutes pièces à Jérash, mais qui s'est imposé complètement dans le courant du ler siècle de notre ère, suivant un processus que l'on connaît sur d'autres sites de la Syrie intérieure, comme Baalbek, Palmyre, et même certaines petites villes de Syrie méridionale.

On peut faire à ce sujet deux remarques:

- Ce que nous percevons de la culture artistique au tournant de notre ère, par le biais du décor architectural conservé, ne permet pas réellement de distinguer Gérasa, ville de la Décapole, peut-être fondation hellénistique, d'une autre ville de la même région à la même période: on remarque que s'il y a eu une "hellénisation", elle a été quelque peu transformée sur place par le génie local. On perçoit les mêmes coexistences entre des styles locaux et

[18] C.H.Kraeling, *Gerasa, City of the Decapolis*, NEW-Haven, 1937, p.373 ets...
[19] J.Seigne, *Syria* 62, (1985), 3-4, p.287 et s.
[20] C.H.Kraeling, *Gerasa*, p.28 et s.
[21] Tombeau de Um Qeis, cf.Th.Weber, *Umm Qais, Gadara of the Decapolis*, Amman, 1989, p.13.



3c. Chapiteau corinthien à bustes déposé prés de l'ancien musée de Jérash.



3d. Bloc de frise déposé près de l'ancien musée de Jérash.

des styles importés. La différence significative réside plutôt à Jérash dans le projet même d'un grand sanctuaire de Zeus olympien, dont on sait qu'Antiochos IV entreprit de répandre le culte dans la région[22]. Les travaux à venir sur ce site nous apprendront peut-être si l'hellénisation décorative de Jérash a toujours eu le caractère régional que nous voyons à la cour inférieure du sanctuaire de Zeus, ou s'il y a eu abâtardissement des formes vers le tournant de l'ère.

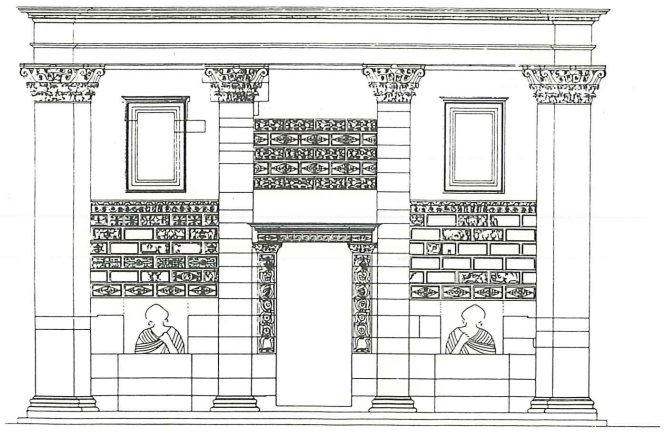
- D'après les exemples d'Iraq el-Amir, de Tel Anafa et des palais hasmonéens ou hérodiens, et par contraste avec le sanctuaire de Zeus à Jérash, il semble qu'à l'époque hellénistique les programmes de construction commandés par un seul individu "éclairé", dans le domaine architectural du moins, étaient de meilleure facture, et peut-être plus volontiers confiés à des architectes formés ailleurs. A supposer que l'on puisse se faire une idée juste de ce problème à partir de quelques témoins, on a l'impression que l'hellénisation décorative en Transjordanie a été ponctuelle et importée, puis maladroitement copiée sur place. L'introduction des formes impériales, progressive dans le courant du Ier siècle de notre ère, puis massive à partir de l'époque de Trajan, a renversé cette tendance et nivelé les disparités locales: le décor de l'architecture publique et cultuelle est devenu homogène et conforme à l'évolution du décor impérial dans les régions voisines. Le clivage s'est fait désormais entre cette "grande" architecture de programme et l'architecture privée, domestique ou funéraire, qui reflète avec des moyens plus modestes l'environnement décoratif contemporain[23].

3- Le temple de Dharîh, oeuvre d'un atelier nabatéen régional.

Sur le décor du temple de Dharîh (FIG. 4)[24], on ne fera ici que quelques remarques préliminaires à son étude détaillée[25].

- Cet édifice se situe dans le domaine du royaume nabatéen, dont l'évolution culturelle, aussi bien que politique, a été tout à fait différente de celle de la Décapole aux premiers siècles avant et après J.C.: à un fonds de culture régionale, lui-même constitué d'apports divers et successifs, se sont mêlées à Pétra des importations hellénisées, en particulier en provenance d'Alexandrie[26]. L'évolution de l'art décoratif ainsi créé a été continue jusqu'à la fin du royaume nabatéen en 106, et s'est poursuivie localement un peu plus tard. Une étude récente sur le décor architectural nabatéen à partir des modénatures[27] confirme le fait que les formes ont évolué suivant certaines tendances reconnues ailleurs

[22]H.Seyrig, *Syria*, 20, (1939), p.297-300.
[23]Linteaux sculptés en remploi à Beit Ras-Capitolias; peintures à décor architectural des tombeaux d'Abila-Qweilbeh, cf.A.Barbet et Cl.Vibert-Guigue, *Les peintures des nécropoles romaines d'Abila et du nord de la Jordanie*, II, Album, Paris, 1988.
[24]Cf.F.Villeneuve, *CRAI* (1988), Avril-Juin, p.458 et s.
[25]Un rapport sur les fouilles à Khirbet edh-Dharîh (1984-1990) paraîtra dans une prochaine livraison de *Syria* (1991).
[26]Cf.F.Zayadine, dans *Petra und das Königreich der Nabaťaer*, Nuremberg, 1983, p.212 et s.; idem, dans *Der Königsweg*, Cologne, (1987), p. 193 et s...
[27]J.McKenzie, *Levant* 19, 1987, p. 145-165.



4. Façade du temple de Dharîh (restitution et dessin de F. Larché).

(simplification, aplatissement, alourdissement), et qu'au lieu de se succéder, les deux composantes principales, le style dépouillé et le style chargé de décor végétal et figuré, ont évolué parallèlement jusqu'à leur disparition ou leur remplacement par les formes impériales.

- Le décor architectural du temple de Dharîh est nabatéen notamment par le profil de ses moulurations, par l'utilisation d'un ordre appliqué en façade avec des quarts-de-colonne accolés aux pilastres d'angle, par son chambranle de porte orné de pilastres, par les pilastres "nains" de l'entablement de l'adyton.

- Il est directement apparenté au décor architectural développé à Pétra par ses chapiteaux corinthiens à rinceaux (cf.Khazneh, Qasr el-Bint, Temple "aux lions ailés", etc...), par le décor des pilastres en panneaux rectangulaires ornés de motifs végétaux (porte monumentale du téménos), par les fausses assises de la façade dont les cadres en relief entourent des scènes figurées et des motifs végétaux (Qasr el-Bint). Le traitement sculpté du temple de Dharîh est cependant fort différent de la facture beaucoup plus habile de la plupart des monuments de Pétra qui portent les mêmes types d'ornements[28], à l'exception de la porte monumentale du téménos qui en est proche également par le traitement du décor[29].

- Il est clair qu'un même atelier a travaillé au sanctuaire de Khirbet Tannur[30] et au temple de Dharîh, distants seulement de quelques kilomètres: mêmes moulures, mêmes motifs, même richesse de figures et de végétation couvrante, même facture.

Dans la mesure où Pétra semble avoir été le centre de fusion et de diffusion du décor nabatéen chargé de figures et de rinceaux, moins courant que le décor nabatéen dépouillé dans les autres régions du royaume, on peut faire l'hypothèse que le décor du temple de Dharîh (comme du sanctuaire de Khirbet Tannur) s'est inspiré des monuments de la capitale. Comment interpréter la facture plus pittoresque, mais moins savante de l'atelier de Dharîh? Est-ce l'oeuvre d'un atelier régional qui a transporté le rayonnement de la culture de Pétra à la limite de la région de Moab et de la région d'Edom? Ou bien la différence de facture peut-elle correspondre à une évolution des formes?

Conclusion

- Qu'il s'agisse de l'influence alexandrine à Iraq el-Amir, puis à Pétra, ou de l'influence séleucide dans la zone de la Décapole, on a pu noter que l'hellénisation qui a touché la Transjordanie a été essentiellement indirecte, ce qui a favorisé la conservation de caractères décoratifs hétérodoxes.

- Ce que l'on perçoit à Gérasa, ville de la Décapole, du développement décoratif au tournant de notre ère et du remplacement des formes hellénistiques tardives par les formes impériales correspond au processus que l'on observe sur différents sites de la Province de Syrie à la même période.

- D'après les rares vestiges connus, l'importation véritable de formes hellénisées dans la région nord de la Jordanie semble avoir été un phénomène limité, consacré par exemple à de luxueuses demeures. L'imitation libre sur place de formes empruntées au domaine séleucide ou héritées des Lagides a ensuite permis de créer une *koinè* de facture régionale et culturellement hybride, comme en Syrie méridionale, avec des caractéristiques un peu différentes suivant les sites. La situation politique de cette région, morcelée en communautés urbaines relativement autonomes, a pu contribuer à créer ce phénomène. Les tendances que l'on observe dans la capitale nabatéenne pendant la même période sont différentes car la centralisation du pouvoir a favorisé les importations de grande qualité, la continuité des styles et le rayonnement de la culture développée à Pétra dans les régions situées sous son influence.

[28] J.McKenzie, *Ibidem*, soit les monuments que l'auteur rassemble dans son groupe A (avant le début du ler s. de n.è.).

[29] Edifice que J.McKenzie, *Ibidem*, situe dans son groupe B (ler s. de n.è.).

[30] Cf.N.Glueck, *Deities and Dolphins*, New-York, 1965.

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L'espace urbain de Pétra

à la mémoire de Jean Starcky

Introduction[1]

Depuis la redécouverte de Pétra par J. L. Burckhardt, un nombre considérable de vestiges variés (temples, façades rupestres monumentales, bétyles et inscriptions) ont été inventoriés[2], quelques uns d'entre eux ont fait l'objet d'une étude plus approfondie. Cependant l'organisation globale de l'espace urbain et son insertion dans l'environnement naturel restent mal connus. Les fouilles n'ont encore touché qu'un nombre limité de points susceptibles de faire comprendre la structure urbaine dans son ensemble. Par ailleurs, jusqu'à présent, l'archéologie a manqué de cartes à une échelle suffisante pour y porter non seulement tous les vestiges monumentaux mais encore, plus spécifiquement, les voies de communication (des routes aux escaliers taillés dans le roc), les canalisations d'eau, les zones cultivables et les aménagements agricoles; or seule une carte fidèle et détaillée peut faire apparaître la répartition de ces différents éléments, leur organisation et leur développement chronologique.

L'Institut Géographique National Français (IGN) a réalisé, en 1974, une couverture aérienne du parc national de Pétra, au 1/10.000, [de la zone de Pétra]. L'opération était prise en charge par la DGCRST (Ministère des Affaires Etrangères), dans la perspective d'une nouvelle étude archéologique du secteur[3]. Sur la base de cette prise de vues et d'une préparation au sol auxquelles ont pris part, avec F. Zayadine, M.Gory, J.Starcky, J.Milik, il a été possible de réaliser en 1977 un photoplan dont des exemplaires peuvent être consultés à 'Amman, à Pétra et à Paris, mais il manquait toujours un véritable fond de carte. Or depuis 1988 est disponible pour la zone centrale du site une nouvelle carte au 1/5000, réalisée au JNGC[4]. D'autre part, parallèlement aux travaux techniques de cartographie, a été engagé, en collaboration avec le *Department of Antiquities of Jordan,* un programme archéologique sur le développement urbain de Pétra dans son environnement naturel[5].

La couverture aérienne de 1974, qui s'étend à une zone de 256 km^2 entourant Pétra, donne la possibilité de saisir les relations de Pétra avec la région environnante, ses ressources en terres et en eau, les voies de communications, en particulier les voies caravanières qui ont fait sa fortune, en même temps que l'organisation de l'espace urbain dont on tentera de fixer plus clairement les limites en identifiant aussi les agglomérations secondaires. Pour tirer parti du fond de carte dès à présent disponible, l'attention sera concentrée, dans un premier temps, sur la zone centrale autour du site urbain.

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[1]Nous remercions L. Nehmé qui a relu cet article et qui a vérifié et complété les références.

[2]Les références seront limitées à un minimun grâce à des publications de synthèse récentes qui comportent des bibliographies qui complètent les ouvrages de base classiques: R.E. Brünnow, A.v. Domaszewski, Die *Provincia Arabia: 1904. (abr. Provincia Arabia).*
G. Dalman, *Petra und seine Felsheiligtümer,* Leipzig, 1908 (abr. Petra).
G. Dalman. *Neue Petra-Forschungen,* Leipzig, 1912.
W. Bachmann, C.Watzinger, Th. Wiegand, *Petra,* Wiss. Veröffentlich. des Deutsch-Türk. Denkmalschutzkommandos, 3, 1921, (abr. *Pétra*).
J. Starcky, "Pétra et la Nabatène", *Supplément du Dictionnaire de la Bible,* VII, Paris, 1966, c.886-1017. (abr. *SDBVII,*)
I.Browning, *Petra,* Londres, 1982
M. Lindner (éd.), *Petra Neue Ausgrabungen und Entdeckungen,* München, 1986 (abr. Pétra Neue Ausgr.,)
R. Wenning, *Die Nabatäer-Denkmäler und Geschichte,* Fribourg-Göttingen 1987 = Novum Testamentum et orbis Antiquus 3 (abr *Die Nabatäer*)
M. Lindner (éd.), *Petra und das Königsreich der Nabatäer:* München, 5^e édition, 1989 (abr. Lindner *Petra*5).

[3]M. Gory, "Travaux effectués par l'Institut Géographique National de France", *ADJA,* 21 (1976) p. 79-85 et Etablissement d'un photoplan, *ibid.* p. 87-91; F. Zayadine, Ph. Hottier, "Relevé photogrammétrique à Pétra", *ADJA,* 21 (1976) p. 93-104, PL. XXXIII-LIII.

[4]La restitution de ces photographies aériennes complétée par une deuxième prise de vues au 1/10.000 (JNGC 1981) a permis à M. Saupin, expert de l'IGN détaché en Jordanie de réaliser pour le compte du JNGC cette nouvelle carte en une seule coupure au 1/5.000, pouvant servir de base aussi bien pour une carte touristique que pour une carte archéologique de la zone couverte.

[5]L'ERA n°20 du Centre de Recherches Archéologiques a entrepris des missions sur le terrain en 1983 avec la participation de F. Zayadine et de Z. Al Muheisen du côté jordanien, de J. Starcky, J. Milik, P. Gentelle, J-M. Dentzer, M. Gory, D. Tarrier, M-J. Roche. Les premiers résultats ont été présentés à la *II Conference of History and Archaeology of Jordan,* Amman, en avril 1983. Le programme a été repris en 1989 avec la collaboration de J. Besançon qui a entrepris en particulier une étude géomorphologique du site. (voir une première mise au point sur ce travail dans ce volume).

L'objectif est de collecter tous les vestiges signalés dans les publications, de les vérifier et de compléter l'enquête sur le terrain. Les points topographiques ainsi réunis sont portés sur un fichier informatisé pour préparer une cartographie thématique des vestiges de Pétra. Ce travail de collecte est actuellement en cours. Dès à présent on peut présenter, sinon des conclusions, du moins un certain nombre de remarques provisoires et surtout les questions auxquelles il faudra tenter de répondre une fois la documentation complétée. Cette démarche a déjà été amorcée par une série de monographies réalisées au cours des dernières années sur l'économie de l'eau[6], les *triclinia*[7], les bétyles et niches rupestres[8], à côté d'entreprises de longue haleine portant en particulier sur les tombeaux et l'architecture nabatéenne[9], les inscriptions nabatéennes[10] ou les inscriptions grecques et latines[11].

Distribution des vestiges (FIG. 1)

La distribution des vestiges déjà mis en place sur la carte[12], soulève une question préliminaire sur la validité de l'échantillonnage actuellement accessible pour l'interprétation globale du site. En effet, au premier examen, elle semble dessiner d'abord l'extension des falaises voisines du centre urbain. C'est là que se trouve concentré l'essentiel des monuments rupestres du site. Or ce sont les vestiges de cette catégorie, qui, non recouverts par des sédiments, ont d'abord frappé les yeux des premiers visiteurs, avant tout attirés part des monuments architecturaux ou épigraphiques. Les bâtiments construits ont été, presque partout, nivelés par l'érosion. De nombreux hypogées ou tombes à fosses sont visibles mais difficiles à explorer. L'observation des seuls vestiges actuellement visibles devra donc être complétée par des fouilles ou des prospections spécifiques sur les zones non rupestres pour obtenir une image fidèle de l'occupation antique d'un secteur. Il faut cependant garder à l'esprit que le rocher occupe un espace exceptionnel à Pétra, et qu'il a par ailleurs été délibérément choisi comme support pour donner à des monuments cultuels ou funéraires une large visibilité en même temps qu'un caractèred'éternité.

L'environnement naturel, inventaire des ressources: les terres cultivables

Situé dans un secteur particulièrement difficile pour une occupation humaine, le site de Pétra n'est soumis que plus rigoureusement aux conditions imposées par le paysage. Pour assurer la survie et, plus encore, le développement d'un centre urbain, les maigres ressources disponibles devaient être exploitées de la manière la plus complète et la plus efficace possible. L'environnement naturel antique que l'on peut restituer, avec certaines précautions, à partir de l'environnement actuel, fournit donc des paramètres assez précis pour déterminer certains aspects de l'espace urbain antique et faciliter son interprétation.

Une campagne de prospection rapide de P. Gentelle en 1983 a permis d'identifier différents modes d'exploitation du sol dans plusieurs secteurs tests de Pétra, par ailleurs J.Besançon a engagé en 1989 une étude géomorphologique du secteur[13]. Des essais de photointerprétation entrepris à l'IGN par M.A. Meyer puis par R. Saupin sur les prises de vues aériennes élargissent l'enquête à l'ensemble de la zone couverte.

Le minimum de cultures nécessaires à une implantation urbaine suppose d'une part des sols suffisamment épais et riches, d'autre part un apport d'eau suffisant. Ces deux ressources sont distribuées d'une façon très irrégulière et décroissent globalement d'est vers l'ouest. P. Gentelle[14] a distingué cinq grandes zones.

1. A l'est le plateau calcaire transjordanien (dominé par le Jebel ash-Sharah) porte de nombreuses traces d'un parcellaire d'épierrage ancien. Les précipitations semblent relativement plus abondantes en raison de l'altitude et l'on peut supposer des cultures sèches sur une partie de la surface (vraisemblablement à dominante de céréales). Cette zone a été largement remise en culture sur son flanc ouest.

2. Au pied de ce plateau se situe un niveau de sources (en particulier celles du wadi Musa) exploitées localement et dans la zone contigüe faite de petits glacis d'accumulation pénétrant largement vers l'ouest entre les massifs de grès. Leurs sols, plus riches, portent l'essentiel des cultures actuelles et sans doute antiques. Les pentes sont aménagées

[6] Z. al-Muḥeisen, *Techniques hydrauliques dans le Sud de la Jordanie, en particulier à l'époque nabatéenne*, Thèse de doctorat de l'Université, de Paris I, 1986.

[7] D. Tarrier, *Les triclinia nabatéens dans la perspective des installations de banquet du Proche-Orient*, Thèse Univ. de Paris I, 1988.

[8] M.-J. Roche, *Niches à bétyles et monuments apparentés à Pétra*, Thèse Univ. de Paris X, Nanterre, 1985.

[9] F. Zayadiene, *Les monuments funéraires d'origine orientale à Pétra*, Thèse Univ. de Paris I, 1971.

[10] *Corpus des Inscriptions sémitiques*, Pétra, commencé par J. Starcky et poursuivi par J. Milik (en cours).

[11] *IGL Jordanie*, par M. Sartre.

[12] et issus pour l'essentiel de publications, les recueils de Brünnow et Domaszewski et de Dalman fournissant le plus grand nombre de sites.

[13] Cf. aussi sur le paysage de Pétra: I, Künne et M. Wanke, "Petra Landschaft und Pflanzenwelt", dans Lindner *Petra 5*, p. 233-256.

[14] Voir note 3.



1. Le site urbain de Pétra, vu de Umm el-Biyarah. Au premier plan la citadelle d'el-Ḥabis.

par des terrasses et les ravins coupés par des murs transversaux. Ce type de terrain s'étend en une bande d'environ un kilomètre de large le long du plateau au sud de wadi Musa [jusqu'au wadi al-Deir]. Il prend plus d'ampleur au nord dans la zone de Beiḍa jusqu'au Jebel aṭ-Ṭuwayyil;

3. Dans la zone centrale des massifs de grès, les moindres creux et espaces plans pouvant retenir des dépôts meubles et de l'eau sont mis en culture. L'espace cultivé est ici fractionné à l'extrême[15]. Des cultures pouvaient également occuper, sur des surfaces limitées, comme aujourd'hui, des fonds de wadi, en profitant d'un drainage s'écoulant en surface ou continuant à une faible profondeur sous le niveau de wadi. Enfin, dans certaines zones de hautes vallées à la pente plus faible, des sols plus épais sont conservés et ont permis un aménagement plus efficace, encore en exploitation[16].

4. Plus à l'ouest, la zone la plus désolée est celle où les roches précambriennes ont été mises à nu et ravinées par une érosion violente. On n'y a reconnu jusqu'à présent aucune trace de mise en valeur agricole.

5. Une zone aride bordant la 'Arabah est constituée de contreforts rocheux et d'éventails et cônes de débris transportés par les wadis. Même ce dernier type de paysage n'est pas très favorable aux cultures, les éléments fins étant transportés plus bas dans la vallée de la 'Arabah. Cependant des traces de mise en culture ont été relevés au débouché des wadis Musa ou Abu Khusheibeh. Les "jardins romains" au voisinage du Qaṣr Umm Rattæm représentent un programme ambitieux qu'il faudra expliquer[17].

Pour l'ensemble du secteur, si les zones cultivables représentent une surface limitée, les efforts de mise en valeur ne sont que plus frappants[18]. C'est d'abord la création de terrasses suivant en gros les courbes de niveaux et que l'on observe surtout, semble-t-il, sur le rebord du plateau calcaire et dans la partie est des glacis d'accumulation. Ce procédé correspond à une pratique largement répandue, en particulier dans le monde méditerranéen. Plus caractéristique est un deuxième type d'aménagement: il consiste dans des séries de murs perpendiculaires barrant l'axe du wadi et ayant pour fonction, non seulement d'empêcher l'érosion comme dans le cas des terrasses méditerranéennes classiques, mais surtout de freiner le ruissellement sur les pentes et de retenir une partie de l'eau (en facilitant l'infiltration) et des limons apportés de l'amont (FIG. 2)[19]. Un des meilleurs exemples de ce système de terrasses et de vallées barrées peut être observé dans la région de Sleisel où il s'étend à un ensemble de cinq vallons tributaires du wadi Sleisel. Le plus impressionnant est installé sur le wadi appelé as-Sîq près du site d'al-Muqarraf où une inscription grecque semble fournir des indications topographiques sur la région[20]. Ce système très simple, attesté sur une vaste surface, qu'il restera d'ailleurs à préciser, du Proche-Orient, a été étudié en particulier dans le Negeb, dans une zone occupée et mise en valeur par les Nabatéens[21]. Il s'agit d'un dispositif d'extension limitée, à l'échelle locale, et pouvant être mis en oeuvre avec des moyens réduits et par un groupe restreint. D'une toute autre ampleur est une opération comme la création des jardins dits romains occupant environ une vingtaine d'hectares irrigués par une canalisation avec une dérivation en amont qui demande des investissements d'un tout autre ordre et qui suppose l'intervention d'une autorité supérieure, en l'occurence le pouvoir royal nabatéen lui-même.

Pour conclure, il faut souligner combien la surface des terres effectivement mises en culture est limitée, par rapport à la surface totale disponible. Cette situation s'explique par les besoins des cultures en eau: des surfaces incomparablement plus étendues sont nécessaires et sont en fait utilisées comme bassins de collecte pour alimenter en eau les surfaces cultivables. La pauvreté des ressources en terre et surtout en eau a donc imposé la dispersion des installations agricoles sur de vastes surfaces. Ces installations apparaissent nettement plus denses dans des zones comme Beida où ont été identifiés plusieurs pressoirs ainsi que des installations que l'on a interprétées comme des fermes[22].

Il faut noter que les espaces cultivables peuvent être identifiés jusqu'au centre de Pétra et que Strabon évoque une ville qui frappe par ses sources abondantes (il s'agit plutôt de citernes et de réservoirs) qui servent aux usages domestiques et aux jardins (πηγὰς ἀφθόνους ἔχοντος εἴς τε ὑδρείαν καὶ κηπείαν).

Inventaire des ressources: l'eau

En dehors de l'agriculture, l'eau est également indispensable pour les besoins de toute agglomération humaine. Le site de Pétra bénéficie de la proximité

[15]Par exemple sur le flanc sud du massif du Deir (Lindner, *Petra Neue Ausgr.*, p. 98.

[16]Par ex. au plateau près de an-Numeir entre Pétra et Ṣabra (Lindner, *Petra Neue Ausgr., p. 137), près du Jebel Harun (Ibid.* p. 138) à l'extrémité (*ibid.* p. 157) et à l'ouest du Wadi Ṣabra (*ibid.* p. 173).

[17]P. Gentelle, dans *Contribution française à l'archéologie jordanienne*, p. 89-92.

[18]Cf. une note de M. Lindner, *Petra, Neue Ausgr.*, p. 138.

[19]Petits barrages sur le wadi-Mirwan: M. Lindner, *Petra: Neue Ausgr.*, p. 103.

[20]Étudiée par F. Zayadine, sous presse. *ADAJ*, 36 (1992).

[21]M. Evenari, L. Shenan, N. Tadmor, *The Negev: The Challenge of the Desert*, Cambridge, Mass & London, 2e ed. 1982 et dans Lindner, *Petra 5*, p. 162-182.

[22]Z. al-Muḥeisen, dans sa thèse citée plus haut.



2. W. Abu Saq'a: murs-barrages en escaliers.

des sources, relativement abondantes pour la zone, du wadi Musa, qui traverse la zone urbaine et qui explique, pour une part, l'implantation d'un site urbain de cette importance. Il faut cependant noter que si ce seul critère avait été déterminant, il aurait été plus simple d'installer la ville au voisinage immédiat des sources, où se trouvait d'ailleurs la Gaia (al-Dji) antique.

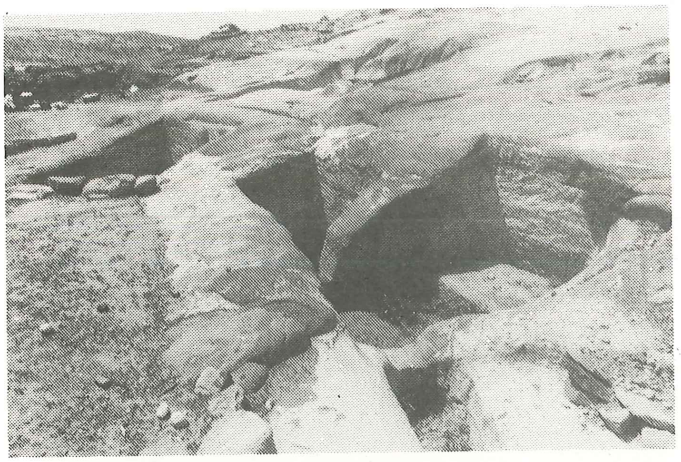
L'alimentation en eau de Pétra, récemment étudiée par Zeidoun al-Muḥeisen[23] dont les observations servent de base à ce chapitre, repose sur un double système: le premier se fonde sur l'utilisation des sources, malgré tout limitées, situées à l'est, au bord du plateau et à une altitude de 1300-1400m (ce qui assure leur écoulement vers le cirque urbain dont l'altitude moyenne se situe vers 800m) et canalisées vers la ville, l'autre sur la collecte et le stockage des eaux de pluie.

Les canalisations d'eau de sources concentraient sans doute vers le centre urbain l'essentiel du débit des sources de wadi Musa à l'est (au moins trois canalisations[24]), Brāq au sud-est et sans doute Dibdibah au nord. Ces travaux (tracé, nivellement, étanchéité, curages et entretien) supposaient des investissements techniques et financiers considérables derrière lesquels on devine une autorité à l'échelle de la ville, voire du pouvoir royal nabatéen lui-même.

Il faut noter cependant que le cubage total de l'eau ainsi recueillie reste modeste, comme l'indique déjà

[23]Z. al-Muḥeisen, "Exemples d'installations hydrauliques et de techniques d'irrigation dans le domaine nabatéen (Pétra - Jordanie méridionale)" dans *Techniques et pratiques hydro-agricoles traditionnelles en domaine irrigué*, Actes du Colloque de Damas, 27 juin-1er juillet 1987, Paris, 1990. voir aussi "Modes d'installations agricoles nabatéennes dans la région de Pétra et le Wadi 'Araba", dans ce volume.

[24]Sur la canalisation d'al-Khubtha, voir E. Gunsam, dans Lindner, *Petra* 5, p. 319-329.



3. Citerne et canalisations de W. Maqtal ed-Dikh, sur la route de W. Ṣabra.

le diamètre des canalisations comparées à des aqueducs d'autres régions de la Méditerranée ou du Proche-Orient bénéficiant de conditions climatiques moins dures.

L'apport de ces sources est en tout cas modeste par rapport aux eaux de pluie qui s'abattent sur la région, d'une façon certes irrégulière d'une année à l'autre, avec des variations passant de 50 à 150mm par an. Un très grand nombre de citernes de divers types ont été identifiées et des techniques variées ont cherché les solutions empiriques les plus efficaces et les moins coûteuses dans un secteur donné, pour assurer la collecte (barrage sur un wadi, ramassage du ruissellement sur une vaste surface) l'acheminement (canaux généralement taillés dans le rocher (FIG. 3) ou construits en pierres), la décantation et le stockage (réservoirs à ciel ouvert derrière barrage, citernes construites et/ou taillées dans le rocher (FIG. 4), de formes quadrangulaires ou circulaires [citernes-bouteilles], découvertes ou protégées par une couverture d'arcs et dalles). Une proportion sans doute considérable de citernes, en particulier, celles qui sont entièrement enterrées, nous échappera sans doute toujours. Ces installations prennent une importance particulière dans les agglomérations secondaires comme à Ṣabra[25] ou à Ba'ja. La cartographie des citernes devra cependant être la plus complète possible pour permettre une évaluation des stocks d'eau et de leur répartition. Celle-ci apporte, en effet, un élément important pour évaluer la densité du peuplement des différentes zones et l'interprétation de leurs fonctions. Les ressources en eau représentent un guide précieux pour l'interprétation d'un modèle urbain[26].

L'inventaire actuel suffit déjà à montrer une distribution des citernes sur un territoire très étendu, bien au-delà du centre urbain et de la zone immédiatement proche. Ici encore les installations apparaissent très dispersées. Comme pour l'utilisation agricole, une concentration sur un espace restreint de ressources collectées sur une grande surface paraît la base de la survie. On peut d'ailleurs se demander si la position paradoxale de Pétra dans une cuvette entourée de sommets – alors qu'une majorité de sites antiques recherche des positions dominantes – n'a pas été choisie, entre autres raisons, pour réunir et concentrer ainsi toutes ces ressources en eau malgré le danger qu'elles pouvaient représenter au moment des crues d'orage. Pour s'en défendre toute une série de dispositifs ont été mis en place, de la déviation du wadi Musa vers le wadi Mataḥa par un tunnel à l'entrée du Siq, aux murs de soutènement destinés à l'endiguer aux abords et dans la partie centrale de la ville.

Il peut être question d'évoquer ici d'autres ressources naturelles comme le minerai de cuivre[27] déjà étudié et présent dans plusieurs points de la région et aussi plus près de Pétra dans la zone située au sud-ouest de Ṣabra[28]. Il ne semble pas avoir joué de rôle particulier dans l'établissement de la ville mais peut-être, en revanche, dans l'agglomération satellite de Ṣabra[29].

Extension urbaine

Les ressources en eau et en terres cultivables ne sont que des conditions nécessaires pour l'installation d'un site urbain. Elles conditionnent dans une certaine mesure son organisation mais ne suffisent pas à l'expliquer. L'extension même du site urbain de Pétra reste à discuter et l'on ne dispose d'aucun élément décisif pour fixer le chiffre de sa population[30].

Sur un site classique, le critère le plus simple pour

[25] M. Lindner, *Petra: Neue Ausgr.*, p. 146-155.

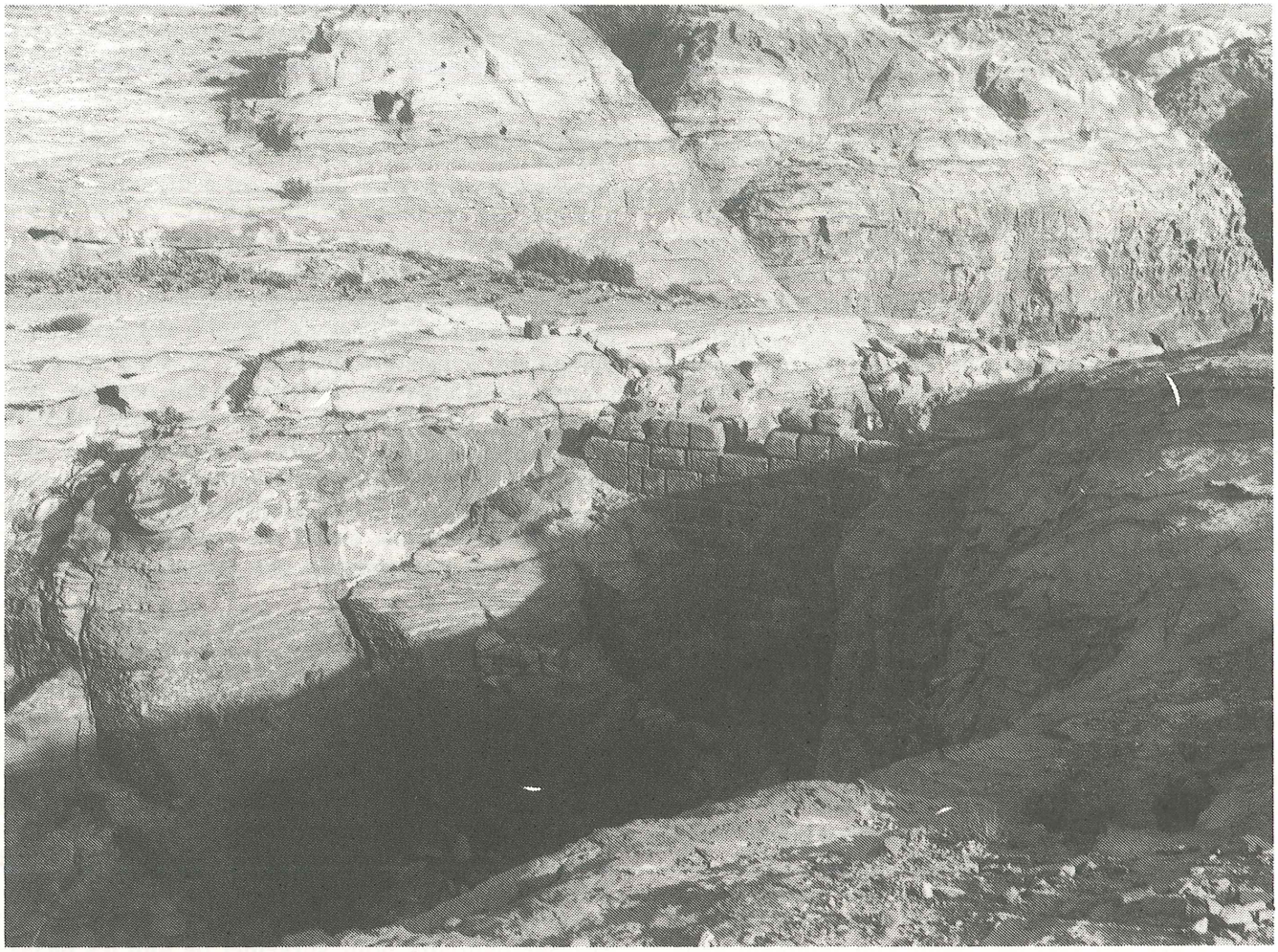
[26] On commence à étudier des exemples comparables d'approvisionnement en eau dans la région. Outre le Negeb (voir note 21) voir par exemple, J.-W. Eadie et J.P. Oleson, "The Water-Supply Systems of Nabataean and Roman Ḥumayma", *BASOR.*, 262 (1986), p. 49-86.

[27] G horsfield, "Historical and Topogrphical Notes on Edom: With and account of the first excavations at Petra", *Geographical Journal*, 76, 5, 1930, p. 369-290, particulièrement p. 276 et pl. 24.

[28] A. Hauptmann, dans Lindner, *Petra Neue Ausgr.*, p. 31-43.

[29] M. Lindner, *Petra Neue Ausgr.*, p. 141, 157, 187-188.

[30] Le nombre d'habitants de Pétra ne peut être que l'objet de conjectures. Dalman (Petra, p. 65) estimait la population de Pétra à environ 30.000 habitants. On a utilisé le chiffre donné par Diodore pour l'ensemble du peuple nabatéen et plus tard l'importance de détachements militaires nabatéens intervenus dans des conflits de la région. On peut supposer d'ailleurs qu'une partie de la population de Pétra était d'origine non nabatéenne et qu'il restait sur place des éléments d'un peuplement édomite dont la présence est attestée à l'Age du Fer au sommet de Umm al-Biyarah. Strabon rappelle par ailleurs la présence d'étrangers et plus particulièrement de Romains. Un élément d'évaluation pourrait être apporté par le théâtre (nombre de places calculé entre 7.000 et 8.500 cité par Wenning, *Die Nabatäer*, p. 216) mais il est vraisemblable que les théâtres étaient destinés à des fêtes où des habitants de cités prochs ou d'un territoire plus vaste agricole ou pastoral pouvaient prendre part à côté de la population locale.



4. Barrage-réservoir du sommet d'al-Khubtha.

délimiter l'espace urbain est l'enceinte qui a généralement laissé des traces identifiables sur le terrain. Cependant, à Pétra, le système de défense de la ville suscite des discussions complexes. L'image, qui remonte à Horsfield[31], d'un double tracé de rempart, à la fois au nord et au sud du site, doit être révisée après les recherches de P. Parr[32]. A un système de fortification continu on ne peut attribuer qu'un seul mur au nord et un autre au sud; les autres tronçons pouvaient soit appartenir à des bâtiments particulicy soit faire fonction de murs de soutènement, en particulier pour des terrasses agricoles.

Au nord, le tracé vérifié du rempart continu part du "Tombeau à étages" au pied de Khubthah, se dirige vers l'ouest et rejoint une tour carrée qui domine le wadi Maṭaḥa, qu'il traverse avec un tracé anguleux en tenaille, et remonte la pente opposée vers une proéminence rocheuse située au nord de la tour de Qabr Jumei'an. A l'emplacement du rentrant pouvait se trouver une des portes d'accès à la ville. Sur le côté ouest le mur descend vers le wadi Abu 'Olleiqah. Son point d'aboutissement au sud est incertain. Il semble remonter vers Mu'eisrah ash-Sharqiyyeh.

Au sud le mur part d'une structure massive (tour?) à la pointe de al-Ḥabis, descend vers la colline de al-Katuteh et devait sans doute remonter vers Ras az-Zanṭur, proéminence rocheuse couronnée d'une tour carrée. Une poterne s'ouvrait au point de passage du chemin actuel vers Sabra, et sans doute une autre à celui du chemin vers Umm al-Biyarah et le Nebi Harun.

[31] *QDAP*, VII, (1938), p. 6-7; VIII, 1939, p.87 sq. sur le centre urbain voir aussi la mise au point avec bibliographie de J. Starcky, c. 943 sq., P. Parr dans Lindner, *Petra* 5, p. 183-196 et de Wenning, *Die Nabatäer*, p. 197-204, 220-223.

[32] *ADAJ*, 20 (1975), p. 40-45, carte pl. 36; et dans *Petra* 5 p. 190-191. cf. F. Zayadine, dans *Fortifications dans l'Histoire du monde grec.*, Actes du colloque international de Valbonne déc. 1982, Paris, 1988, p. 153-154, carte fig 263.

Nous sommes ici devant un rempart de conception classique sur la date duquel il faut s'interroger. Sur le tracé nord-ouest du rempart nord un tronçon de 19m dégagé par P. Parr passait sur des maisons nabatéennes[33]. Des tambours de colonnes et des bases remployés dans le segment qui part du Tombeau à étages[34] suggèrent que ce mur est tardif, probablement d'époque romaine tardive (Dioclétien?). Par ailleurs on a reconnu des traces d'habitat situées au nord de ce rempart en recherchant le tracé dit extérieur, plus au nord sur la crête de 'Arqub al-Hisheh (au sud de ce point[35]). Comme nous le verrons plus loin, d'autres traces d'habitat ont été identifiées à l'extérieur de ce tracé du rempart. On est donc tenté de penser que ce tracé de rempart continu correspond à une phase tardive de l'histoire du site dont l'occupation se serait alors rétrécie, comme c'est souvent le cas, soit à la suite d'une diminution de la population et de l'activité de la ville, soit pour assurer plus efficacement la défense d'une ligne de rempart raccourcie.

On est ainsi amené à s'interroger sur le système de défenses qui pouvait protéger la ville dans les phases plus anciennes. Du tracé externe au nord subsiste essentiellement un puissant dispositif dont le centre est la "tour Conway"[36]. A cette tour aboutissait un premier mur provenant du sud-ouest, dont le tracé à indentations est rapproché par P. Parr de certains ouvrages de défense hellénistiques, mais ce mur ne semble pas continuer au-delà d'une distance d'environ 60m. Un deuxième mur provenant du sud-est semble aboutir à une sorte de redoute complétée par des bastions, mais apparemment sans lien avec une ligne de défense continue. Nous sommes donc ici devant un dispositif défensif très élaboré. Dans l'état actuel de l'exploration et des fouilles il se présente comme un fort placé à un emplacement stratégique d'où l'on domine toutes les voies d'accès nord au cirque urbain par les deux wadis Abu 'Olleiqa et Maṭaḥa. Le rocher d'al-Ḥabis occupe une position analogue à l'ouest et il est possible que la forteresse médiévale ait été précédée par une installation défensive plus ancienne mais, de cette direction, l'accès à Pétra est difficile, sinon impossible, le wadi es-Siyyagh pénétrant dans des gorges très étroites. Il faut noter que le rempart continu vraisemblablement tardif semble s'accrocher à l'angle sud-est de al-Ḥabis. On peut supposer une fonction analogue à la pointe de Ras az-Zanṭur, autre position dominante où aboutit l'extrémité est du même rempart. Elle domine les accès au site par le sud-est. D'autres forteresses ont été identifiées à une distance un peu plus grande du centre urbain sur le sommet du Madhbaḥ (Zibb 'Aṭṭuf)[37], près du haut-lieu[38]. On a supposé qu'à al-Wu'eira existait une installation défensive dès avant la forteresse des Croisés[39]. D'autres postes fortifiés ont été observés dans différents secteurs de Pétra[40]. On peut donc se demander, à la suite de P.Parr, si dans un premier temps, la défense du site n'était pas assurée, plutôt que par un rempart continu, par des forts placés aux points stratégiques du site. P.Parr rattache ce dispositif, comme le tracé à indentations des tronçons de murs retrouvés, à une tradition hellénistique. Mais on peut noter aussi qu'un tel système entrerait bien dans ce que l'on connaît des techniques de défense nabatéennes.

Dans le passage de Diodore (XIX, 94) relatant l'attaque d'Athénaios contre les Nabatéens, le site de Pétra qualifié de χωρίον est explicitement présenté comme dépourvu de rempart (ἀτείχιστον), le rôle de refuge pour les biens, les vieillards, les enfants et les femmes est assumé par "la Roche" (ἀπολιπόντες ἐπί τινης πέτρας) identifiée généralement avec Umm al-Biyarah. Le même texte évoque, dans un épisode ultérieur, l'attaque menée par Démétrios (XIX, 96, 3-97, 1), une technique de défense originale, souple et efficace où des guetteurs sont placés sur des hauteurs pour surveiller de loin les passages donnant accès à l'Arabie[41]. Les guetteurs annoncent aux Nabatéens l'arrivée de la troupe ennemie par des signaux de feu convenus à l'avance (ἐσήμηναν τοῖς Ναβαταίοις διὰ τῶν συγκειμένων πυρσῶν). De nouveau la population va se réfugier sur la roche. Or nous connaissons tout autour de Pétra des tours qui devaient avoir pour fonction autant de surveiller le paysage, en particulier du côté de la 'Arabah, que de transmettre par signaux des messages d'intérêt vital, dont la signification était ensuite précisée par des messagers (qui apparaissent dans le premier épisode). Leur caractéristique essentielle est qu'elles dominent un vaste paysage et plus précisément un

[33] *ADAJ*, 20 (1975), p. 44 note 24.

[34] en N et 0 10 de la carte de P.Parr, *ADAJ*, 20 (1975) p. 36. Fig.1.

[35] Tranchée V (= L6) de P.Parr *ADAJ*, 20 (1975). p. 41 et dans Lindner (cit. plus haut) p. 147.

[36] P. Parr, *RB*, 69 (1962) p. 64-79.

[37] Dalman, *Petra*. p. 34.

[38] Dalman, *Petra*. p. 35.

[39] Dalman, *Petra*. p. 35.

[40] Dalman, *Petra*. p. 36 indique une trace de forteresse sur la montagne entre wadi al-Hayy et wadi Jilwakh et un château probable plus haut sur le wadi al-Hayy.

[41] σκοποὺς μὲν κατέστησαν ἐπὶ τῶν λοφῶν, ἀφ' ὧν ἦν ῥᾴδιον συνορᾶν πόρρωθεν τὰς εἰς τὴν Ἀραβίαν ἐμβολάς.

voie d'accès au site. On en a identifié en particulier une série sur l'arête du Naqb ar-Ruba'i[42] (FIG. 5). Dans les très nombreux itinéraires de communication qui parcourent le site de Pétra et ses environs, on a noté des sentiers très escarpés, inutilisables non seulement pour des bêtes de somme mais même pour des troupeaux. Outre l'exemple de Naqb Abu Khuseibeh et de Naqb al-Musta'jleh[43], un des exemples les plus spectaculaires est celui de Sleisel. Un autre part du secteur du Deir vers le nord[44]. Or ces sentiers présentent tous des aménagements, avec des parties taillées dans le rocher, des escaliers, des soutènements construits. De tels investissements s'expliquent mieux si leur fonction principale, vitale pour la ville dans certaines circonstances, était de servir de raccourcis pour des messagers ou des petites troupes armées envoyées en renfort.

Les passages de Diodore fondent explicitement le système de défense Nabatéen sur une connaissance et une exploitation parfaites de l'environnement naturel. Le désert apparaît comme la protection la plus efficace où l'on peut, tout simplement, se disperser (φεύγουσιν εἰς τήν ἔρημον, ταύτῃ χρώμενοι ὀχυρώματι). Il est entendu que ces textes évoquent une période (fin du IV^{e} siècle avant J.-C.) dans laquelle Pétra n'est pas présentée encore comme une véritable ville, le peuple nabatéen revendiquant au contraire hautement un idéal de nomadisme garantissant sa liberté et son indépendance politique. Néanmoins la tactique mise en œuvre dès cette date est parfaitement adaptée à la défense d'un site tel que Pétra. Se fondant sur des renseignements transmis rapidement, elle intercepte la troupe ennemie en postant des défenseurs dans les passages les plus faciles à défendre parce que bien connus des Nabatéens. On peut imaginer, par exemple, que certains barrages de wadis, puissamment construits, ont pu jouer également un rôle défensif. C'est donc le paysage entier qui est utilisé et empiriquement équipé, aux moindres frais d'ailleurs. Ainsi un escalier de l'accès nord-ouest à al-Khubthah était barré par une porte[45]. Une puissante porte ferme aussi l'accès à Umm al-Biyarah.

Ce sont donc des dispositifs sensiblement différents des remparts construits classiques qui défendent le site de Pétra. Leur avantage est tactique: des troupes réduites de défenseurs qui, éparpillées sur un long rempart continu correspondant aux dimensions du site ne représenteraient qu'une force dérisoire, auront, concentrées sur des points où ils disposent de tous les avantages du terrain, une efficacité redoutable.

La Pétra évoquée par Strabon (*Geog.* 16, 21), vers le tournant de l'ère, est une vraie ville qui a, en particulier, frappé son ami Athénodore par ses habitations en pierres. Cependant le passage ne fait pas allusion à des remparts, et attribue la défense de la ville, située dans un espace relativement plan, à la barrière rocheuse qui l'entoure (κύκλῳ δὲ πέτρᾳ φρουρουμένου). Dans un deuxième passage *(Geogr.* 16, 4, 26). Strabon affirme pour l'ensemble des villes nabatéennes qu'elles sont sans remparts en raison de la paix (αἱ δὲ πόλεις ἀτείχιστοι δι' εἰρήνην). Il n'est pas absurde de supposer que, dans cette phase encore, la défense de Pétra pouvait être assurée, sans rempart continu, par des forteresses économiquement placées aux points clefs du site et fournissant, avec des ouvrages secondaires dont la fonction première n'était pas militaire, des points d'appui efficaces à des petites troupes de défenseurs très mobiles, parfaitement informés des déplacements de l'ennemi.

Enfin des postes de défense avancés comme Qasr Umm-Rattam (FIG. 6) ou Abu Khusheibeh étaient placés sur des itinéraires stratégiques aboutissant à pétra.

L'autonomie dans l'alimentation en eau était une condition nécessaire à la défense de la ville. Elle ne donnait que plus d'importance à la collecte des eaux de ruissellement à l'intérieur du site et à son stockage dans des citernes qui pouvaient remédier à la coupure éventuelle des canalisations, dans la phase où ces derniers étaient en usage. Ainsi est posés la question de leur datation[46].

Voies de communications

Elles jouent le rôle clef de liens dans une ville réseau qui est aussi une capitale caravanière. La position de refuge naturel qui a fait choisir Pétra est un obstacle pour la circulation. Les grands itinéraires naturels passent d'ailleurs à quelque distance du site urbain, surtout à l'est, sur le bord du plateau. Des efforts paticuliers ont été nécessaires pour assurer un passage à travers les obstacles naturels et donner accès au site urbain. Les différents itinéraires sont rappelés dans l'étude consacrée aux pistes et aux agglomérations satellites de Pétra[47]. Différents types

[42]Prospection 1983 et 1989 et l'ERA n°20 avec F. Zayadine, et F. Zayadine, *SHAJ*, II, p. 159-173.

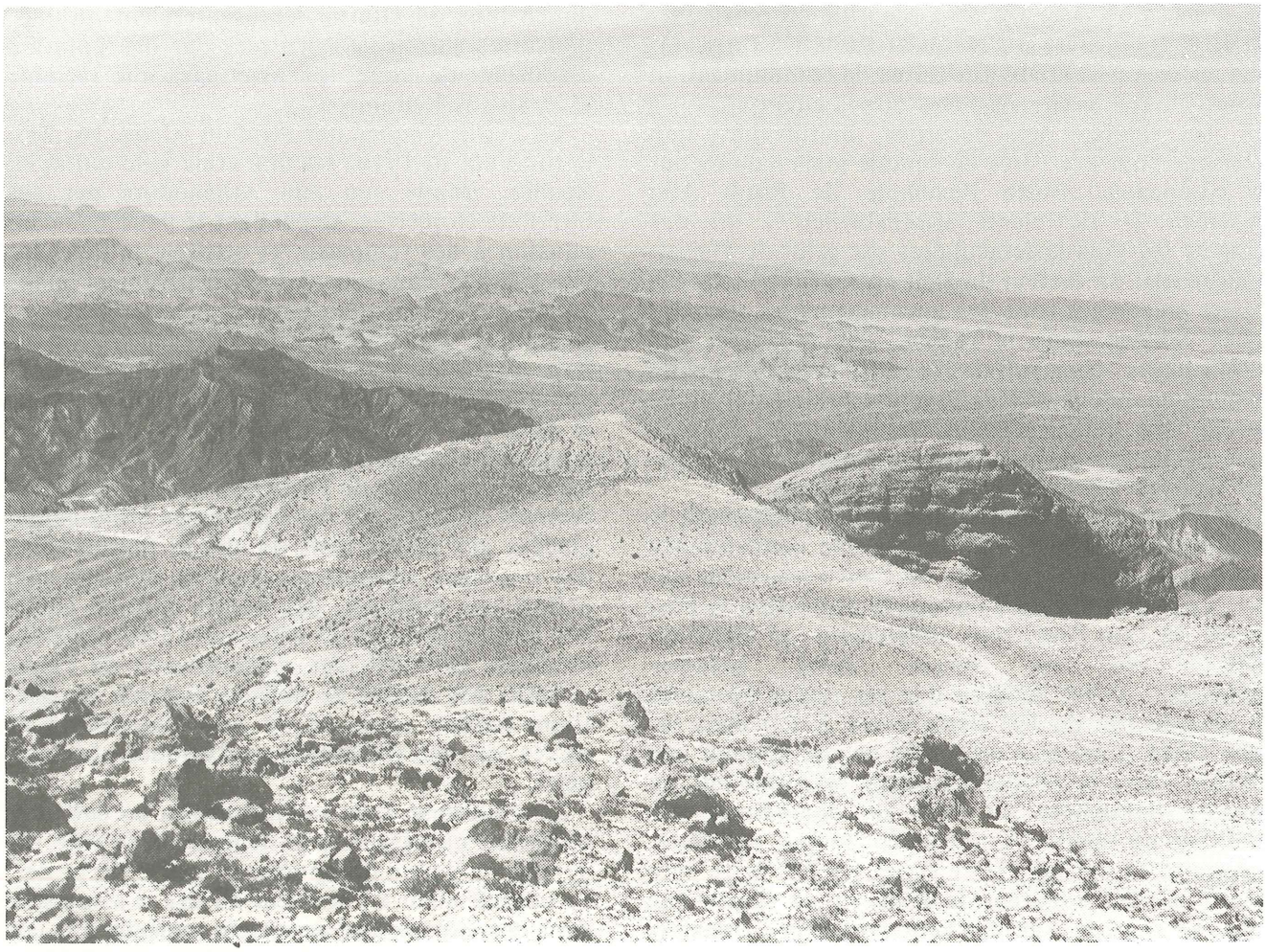
[43]Ce toponyme arabe fait d'ailleurs allusion au voyageur pressé.

[44]M. Lindner, *Petra Neue Ausgr.*, p. 87-97.

[45]R. Wenning, *Die Nabatäer*, p. 286, n°38.

[46]Une canalisation passant au-dessus du tombeau aux Obélisques (1er siècle ap. J.-C.) est postérieure à ce dernier. Une canalisation passe à travers la façade du tombeau 824 et une autre dans la tombe 70, à la sortie du Siq. Une autre est intégrée dans l'entablement du tombeau à étages (Palace Tomb) daté de la 2e moitié du Ier siècle.

[47]F. Zayadine. "L'espace urbain du grand Pétra, les routes et les stations caravanières", *ADAJ*, 36 (1992) sous presse.



5. Ruines de tours sur la crête de Naqb er-Ruba'i et vue vers le 'Arabah.

de voies peuvent être distingués selon leur degré d'aménagement et aussi leur destination (circulation locale et trafic à longue distance). Du point de vue technique on peut parler de véritables routes quand il s'agit de voies qui ont bénéficié d'importants travaux de soutènement ou de passages taillés dans le rocher non seulement pour être protégées de l'érosion, mais encore pour maintenir une pente et un tracé plus facile. Cet aménagement, visible aussi pour les sentiers de messagers[48] déjà évoqués plus haut est limité ou inexistant dans le cas des pistes ou des itinéraires de bergers. L'exemple les plus impressionnant de grande route aménagée est celui de l'itinéraire entre Pétra et Ṣabra par le Jebel an-Numeir et le W. al-Biṭaḥi[49] (FIG. 7) se poursuivait de Ṣabra jusqu'à la 'Arabah[50]. Un dallage routier est conservé dans le Siq et à Naqb ar-Ruba'i, non loin d'un passage par des gorges facilement défendables. Des mortaises d'encastrement taillées dans le rocher sont conservées sur tout le trajet de la route qui mène à la 'Arabah en passant par ath-Thughra et le pied du Jebel Harun[51]. Bien que des ornières de charrettes aient été reconnues dans le Siq[52], ces routes étaient sans doute surtout empruntées par des bêtes de somme.

Il faut souligner que les itinéraires des différentes

[48]M. Lindner, *Petra Neue Ausgr.*, p. 98. L'expression de Naqb al-Musta'jleh, qui désigne un de ces sentiers est significative. Elle signifie "le passage des gens pressés".

[49]M. Lindner, (*Petra Neue Ausgr.*, p. 138, 141 et 170-176) montre que la route est marquée par des pierres en bordure, protégée par des blocs de calcaire contre les crues d'hiver et en partie entaillée dans le rocher (entre al-Nuqei'ah et al-Ḫueirah).

[50]Pour les grandes voies de communication avec la 'Arabah: F. Zayadine, *SHAJ*, II, 1985, p. 167. 142; M. Lindner, *Petra Neue Ausgr.*, p. 170-188; "Abu Khusheiba-A Nabataean Settlement and Caravan Station between Wadi Araba and Petra", dans ce volume.

[51]Prospection ERA n°20 en 1989.

[52]Brünnow-Domaszewski, *Die Provincia Arabia* p. 216 citant Martineau et Dieterici II, 115 et Ehni, p. 217.



6. Qaṣr Umm Rattam avec canal couvert au premier plan.

catégories structurent, à différentes échelles, l'espace de la ville et de ses environs. Le réseau de circulation le plus "local", où l'on reconnaît le mieux des escaliers taillés dans le rocher, à l'intérieur de zones d'habitat, de nécropoles ou de zones cultuelles, reste presque entièrement à étudier.

L'habitat

L'extension exacte de l'habitat à Pétra reste encore conjecturale, même si des fouilles ont renouvelé et renouvelleront rapidement nos connaissances dans ce domaine, en particulier avec les nouvelles fouilles de l'équipe suisse[53]. Il serait important de suivre l'extension de l'habitat du néolithique[54] (p. ex. à Beiḍa[55] et dans une série d'autres sites[56]) à l'âge du bronze[57], du fer (Umm al-Biyarah[58]) et de l'époque nabatéenne à la période byzantine. A côté des sanctuaires et des monuments publics les maisons devaient occuper l'essentiel de l'espace disponible de la cuvette de Pétra. Une partie des constructions dégagées dans le secteur de Katuteh semble constituée par des maisons dont certaines, découvertes au cours de fouilles récentes,avaient des dimensions respectables[59]. Pour le moment il semble

[53]R.A. Stucky, *ADAJ*, 34 (1990) p. 247-272. Il reste en particulier à établir une typologie des maisons de Petra qui semblent assez variées. P. Parr cite par exemple une grande maison "à atrium" qu'il date du Ier siècle de notre ère, au voisinage de la tranchée A de Horsfield (dans Lindner, *Petra*. 5 p. 147).

[54]H.-G. Gebel, dans Lindner, *Petra Neue Ausgr.*, p. 273-308.

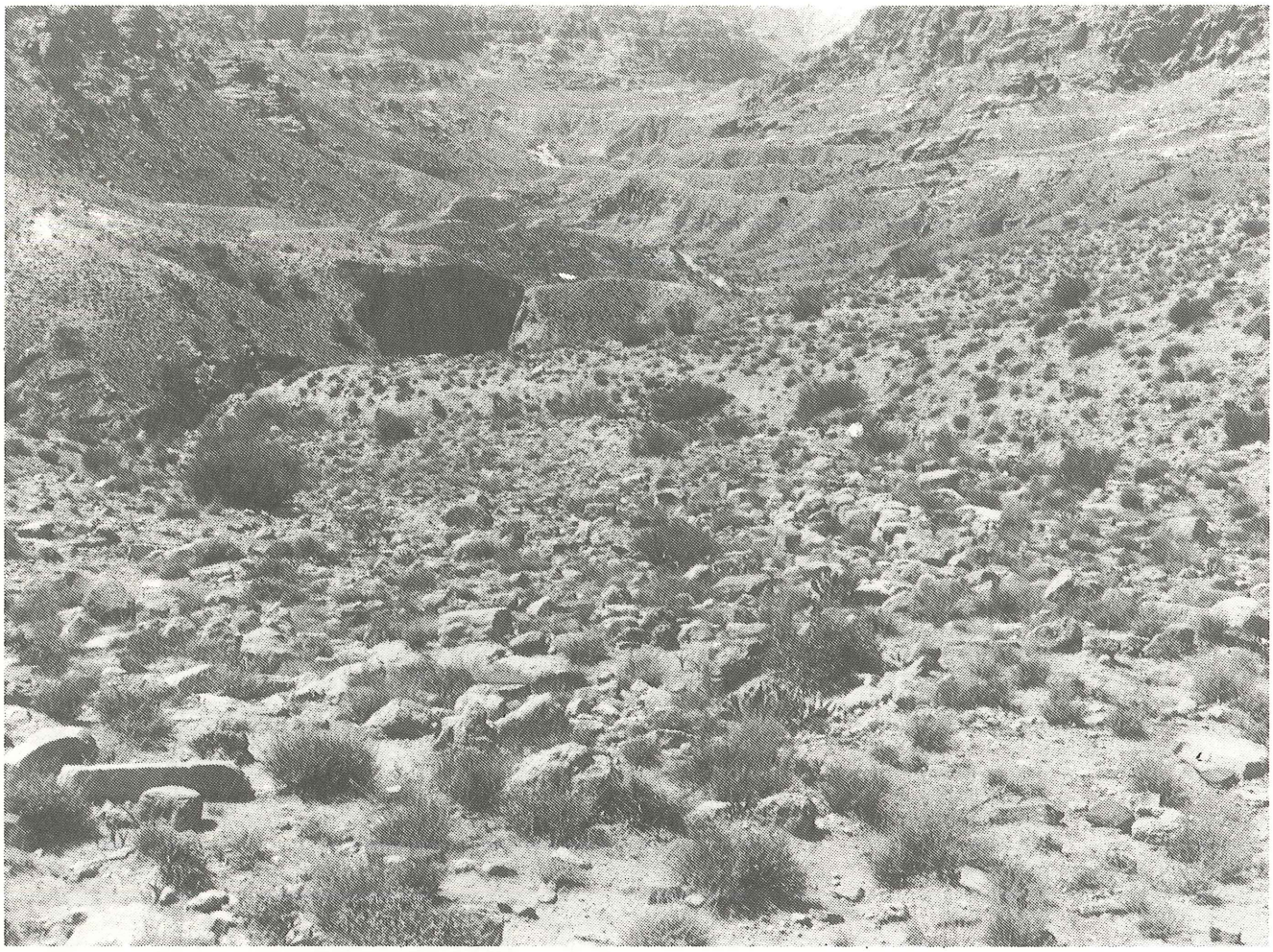
[55]D. Kirkbride, *PEQ* 92, (1960), p. 114 sq; *ADJA*, 6/7, (1962), p. 7 sq., *PEQ* 98, (1966), p. 8sq., *Archaeology*, 19, 1966, p. 199sq., *PEQ* 99, (1967), p5. sq., *PEQ*, 100, (1968), 90 sq., *Antiquity* 42, (1968), p.263 sq., *SHAJ* I, 1982, p.49 sq., *ADJA*, 28, (1984), p.9-12. P. Mortensen, *Acta Archaeol.*, 41, (1970), p.1 sq.

[56]Jebal al-Barra p. 145, à l'Ouest de Sabra (al-Ḍaman) ibid p. 173-175.

[57]Près de Ṣabra: Lindner, *Petra Neue Ausgr.*, p. 157.

[58]C.-M. Bennett, *PEQ*, 99, p. 123-126, *RB*, (1966), p. 372 sq., *The Archeological Heritage of Jordan I*, 1973, p. 21; Lindner, *Petra*.5 p. 195.

[59]N. Khairy dans Lindner, *Petra Neue Ausgr.*, p. 58-73; Wenning, *Die Nabatäer* p. 246-249, 1, P. Parr, dans Lindner, *Petra*. 5, p. 189-191.



7. Ruines au sommet de Ras el-Biṭaḥi et route construite.

impossible de déterminer s'il existait un schéma organisateur de ces quartiers ou si les maisons se sont développées au hasard en se pliant aux contraintes du terrain.

D'autres traces d'habitat sont apparues dans les fouilles de P.Parr qui avaient pour objectif la recherche du rempart nord[60] et sud[61] et aussi au voisinage du temple aux Lions ailés[62]. La ville semble avoir atteint une extension considérable dès l'époque nabatéenne, des états nabatéens ayant été identifiés sous les états plus tardifs. Sous la rue à portiques qui constitue l'axe monumental de Pétra les fouilles de la tranchée III ont révélé des restes d'un habitat qui se développe du troisième quart du IIIe s. au ler s. avant J.-C[63]. Ces repères chronologiques restent exceptionnels[64] et nous sommes loin de pouvoir simplement esquisser l'extension de l'habitat dans les phases chronologiques successives.

Ces maisons sont des maisons construites, comme celles qu'évoque Strabon (*Geog.* 16, 4, 26) qui remarque qu'elles sont coûteuses, parce qu'elles sont en pierres (οἰκήσεις διὰ λίθου πολυτεῖς). Une grande maison "à atrium", du ler s. d'apres P.Parr, a été trouvée au voisinage de la tranchée A de Horsfield[65]. Le développement des constructions semble se poursuivre au moins jusqu'au IVe siècle[66] En 363 le tremblement de terre a certainement marqué une rupture dans le développement urbain de

[60]Voir références citées plus haut note 32, 33.

[61]P. Parr, *PEQ*, 92, p. 127-130.

[62]Ph.C. Hammond dans Lindner, *Petra Neue Ausgr.*, p. 22-30.

[63]P. Parr, dans *Near Eastern Archaeology in the Twentieth Century: Essays in Hanor of Nelson Glueck*, p. 348-376.

[64]La connaissance du matériel, en particulier céramique, a considérablement evolué et des datations anciennes, comme celles proposées par M.A. Murray, J.C. Ellis, *A Street in Petra*, B.S.A. Cairo, 1940, seraient à contrôler.

[65]P. Parr, dans Lindner, *Petra.* 5, p. 147.

[66]Le dernier état de la maison récemment fouillée par R. Stucky a été détruit par le tremblement de terre de 363 de notre ère (voir *ADJA*, 34, (1990), p. 247-272).

Pétra. Les installations taillées dans le roc ou mixtes[67], avec des parties construites qui les complètent sont souvent plus difficiles à interpréter. La fonction de bien des aménagements rupestres n'est pas encore clairement établie[68]. Il semble bien s'agir de maisons dont l'une avec un décor peint à al-Ḥabis et au-dessus du wadi Siyyagh[69]. Elles sont parfois plus ou moins alignées le long de terrasses taillées dans le rocher au-dessus du wadi Abu 'Olleiqah (dès le ler s. selon P.Parr[70]) et groupées en véritables quartiers (dans le wadi Maṭaḥa au pied d' al-Khubthah, au-dessus du wadi Abu 'Olleiqah[71] ou encore à Qanṭarah). Elles peuvent constituer, à une distance plus grande du centre urbain de véritables agglomérations satellites[72]. Il est plus difficile d'évaluer, en l'absence de fouilles, des formes d'un habitat qui semble plus isolé, au voisinage d'itinéraires ou encore de postes de guet, par exemple dans le secteur de ad-Deir et la zone située plus au nord qu'a récemment explorée M.Lindner[73]. Des constructions isolées, dans le secteur de Beiḍa, semblent avoir été des fermes.

Enfin il est particultièrement difficile d'évaluer l'importance et la répartition d'un habitat nomade, sous la tente, qui devait occuper des surfaces non négligeables de la zone de Pétra.

En étudiant l'habitat de Pétra il ne faut pas perdre de vue les agglomérations satellites dotées de ressources propres et sans doute d'une certaine autonomie, qui font l'objet d'une étude particulière dans *ADAJ*, 36 (1992) par F. Zayadine.

L'espace cultuel ou sacré

Dans l'espace de Pétra un très grand nombre de points répartis sur une très vaste surface se réfèrent à des cultes[74]. Sanctuaires monumentaux et temples, et plus encore installations archaïques en plein air, chapelles ou niches, édicules ou bétyles, inscriptions enfin ont une importance inégale. Derrière les variations de dimensions, de qualité de construction et de coût, on devine des différences d'audience qu'ils trouvent dans la population et de pouvoir des commanditaires qui sont à l'origine de leur création.

On reconnaît d'abord au coeur de l'agglomération le type du sanctuaire urbain dans plusieurs ensembles monumentaux dont le plus important est le Qaṣr al-Bint[75], auquel on peut ajouter le temple aux Lions ailés[76], le temple dit périptère[77] et le temple prostyle[78]. Par leurs dimensions et leur insertion dans le tissu urbain ces monuments sont comparables aux sanctuaires "classiques" que l'on connaît tant dans la Méditerranée gréco-romaine que dans les villes du Proche-Orient ancien. Derrière leur création on est tenté de supposer une autorité de type municipal, à moins qu'il ne s'agisse de l'autorité royale. Il faut noter l'emplacement privilégié du Qaṣr al-Bint situé au point de rencontre des voies de circulation principales du site qui ont leur prolongement dans sept grandes pistes aboutissant à Pétra. On peut supposer que ce culte réunissait l'ensemble de la population du site et exerçait, de plus, comme d'ailleurs certains des monuments plus modestes (Qaṭṭar ad-Deir, sanctuaire d'Isis), un rayonnement international sur les populations touchées par le trafic caravanier. Les représentations figurées et fragments d'inscriptions retrouvés évoquent Dusarès-Zeus et al-'Uzza-Aphrodite[79] et font supposer que ce sanctuaire avait pour fonction de rassembler autant des dieux que des fidèles, selon une formule qui est bien attestée dans le Proche-Orient. De grands programmes monumentaux comme le sanctuaire de Zeus héliopolitain ou le sanctuaire de Bêl à Palmyre semblent avoir servi à unifier dans un culte commun des groupes attachés à des cultes familiaux ou tribaux dispersés, tout en exprimant la richesse et la puissance de l'autorité commanditaire[80]. La découverte d'éléments d'architecture (colonnes, entablements) dans des endroits isolés pourrait faire penser à l'existence de temples en dehors du centre urbain[81]. A un emplacement comme le Deir on reconnaît un

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[67]P. Parr, (dans Lindner, *Petra*. 5, p. 147) cite des maisons à demi-rupestres du .rempart Nord.

[68]Habitats rupestres en amont du Wadi as-Siyyagh: G.&A. Horsfield, *QDAP*, VII, p. 18-19. II faudrait chercher à établir des critères permettant d'identifier un habitat rupestre.

[69]G.&A. Horsfield, *QDAP*, VII, p. 16-19; F. Zayadine, dans Lindner, *Petra*. 4, p. 247, fig. 48; id. *SHAJ*, III, 1987, p. 133-135.

[70]Dans Lindner, *Petra*. 5, p. 142.

[71]M.A. Murray, J.C. Ellis, *A Street in Petra*, Londres, 1940 (Brit. School of Archaeogy Egypt, Publ. 61).

[72]Voir F. Zayadine, *ADAJ*, 36 (1992) sous presse.

[73]*Petra Neue Ausgr.*, p. ex. p. 98; près de Mukheifer (ibid p. 183). La fonction de constructions rectangulaires simplement repérées en surface et dont il reste des orthostates enfoncés dans le sol n'est pas évidente.

[74]J. Starcky, *SDB*, VII, c.985-1017.

[75]F. Zayadine, *ADJA*, 29 (1985) p. 239-250; dans Lindner, *Pertra Neue Ausgr.*, p. 237-247; Wenning, *Die Nabatäer*, p. 234-245, j.

[76]Ph.C. Hammond, dans Lindner *Petra Neue Ausgr.*, p. 16-30; Wenning, *Die Nabatäer*, p. 228, h; 77 W.Bachmann, C.Watzinger, Th. Wiegand, *Petra*. p. 41-45, n°11; Wenning, *Die Nabatäer*, p. 225-226, d.

[78]P. Parr, *ADJA*, 12/13 (1967/68) p.8 sq., Wenning, *Die Nabatäer*, p. 277, f.

[79]F. Zayadine, *ADJA*, 26, (1982) p. 374-380; *ADJA*, 29 (1985) p. 239-249 (en particulier p. 245). Une dédicace fragmentaire à Aphrodite a été trouvée au cours de la campagne de fouilles de 1989, *ADAJ*, 35 (1991), p. 293-95.

[80]Cf. pour Palmyre J. Teixidor, "Cultes tribaux et religion civique à Palmyre", *Rev. Hist. Relig.*, 197 (1980) p. 277-287.

[81]Secteur de Jebel al-Barra (murs, tambours de colonnes, céramique nabatéenne indiquant une occupation entre 50av. J.-C. et 100 ap. J.-C.): M. Lindner, *Petra Neue Ausgr.*, p. 145; au-dessus de Ras al-Biṭaḥi à la limite du plateau de Shakayir: ibid. p. 141; à 1 Km au sud-ouest de Ṣabra *ibid.* p. 157;. Un monument qui était sans doute un temple à l'ouest du centre urbain de Ṣabra (avec un fragment de statue d'Aphrodite): ibid. p. 151-152.

véritable groupe de sanctuaires dont font partie, outre la façade du Deir lui-même. une salle rupestre précédée d'un péristyle qui lui fait face[82], un temple de plan rectangulaire[83], deux *tholoi*[84]. (FIG. 8).

A ces sanctuaires de type "classique" s'opposent des installations de petites dimensions qui n'exigeaient que des investissements limités[85]. Dans cette catégorie, les aménagements rupestres occupent en général une place plus importante que les parties construites (FIG. 9-10). On y reconnaît un certain nombre de dispositifs liés à des rites dont certains sont évidents, d'autres laissant ouverte la discussion. Ainsi on reconnaît des bases ou des piédestaux, parfois munis de mortaises d'encastrement, pouvant recevoir des images de culte, des tables basses (à offrandes?), des bassins d'eau destinés à des libations ou encore à des purifications avec, dans ce cas, des réservoirs plus importants. Un emplacement est parfois indiqué pour des banqueteurs disposés en triclinium. Quelquefois de véritables salles rupestres ont été aménagées à cette fin.

La création de ce genre de petit sanctuaire semble liée étroitement à certains types d'emplacements dans le paysage naturel[86]. Le premier est en position dominante sur un sommet[87]. On y reconnaît la formule bien connue du haut-lieu, largement répandue dans le Proche-Orient ancien. Un deuxième type de sanctuaire semble lié à l'eau, suintant du rocher (Qaṭṭar de Farasah Ouest (D. 269, 260), Qaṭṭar ad-Deir[88]), ou passant en torrent au moment des crues d'hiver (Sidd al-Ma'jin[89]). Des gorges représentent un troisième paysage favorable à l'installation de petits sanctuaires (Gorge à l'aigle près du Siq[90], al-Ḥreimiyyeh, wadi al-Qantarah, vallée des jardins, cirque de an-Numeir, as-Siyyagh[91], Siq al-Bared[92]). Dans ces variantes de sanctuaires relativement complexes on retrouve généralement des niches cultuelles soit vides (dans ce cas on devait y placer un objet du culte rapporté), soit occupées par une représentation - en relief, en creux ou simplement gravée - d'un bétyle ou d'un autel. Souvent une pierre ou un rocher sacré semblent à l'origine d'un lieu de culte, à Pétra comme dans une région beaucoup plus vaste du Proche-Orient[93]. Des inscriptions donnent l'identité des fidèles et parfois des divinités vénérées. Ce type de sanctuaire, de dimensions limitées sauf exceptions (comme l'ensemble des installations sacrées du Deir, ou à une moindre échelle, celles de al-Madras ou le sanctuaire double sur le plateau sud d' al-Khubthah) ne peut réunir qu'un groupe restreint de fidèles. Depuis longtemps[94] l'hypothèse a été proposée que ces installations étaient les lieux de culte propres à des groupes sociaux restreints, familles ou tribus. Dans leurs cérémonies devait s'affirmer et se renforcer la cohésion de ces groupes. Leur dispersion dans l'espace de Pétra pourrait indiquer la répartition de ces groupes sur le site.

Niches, bétyles et inscriptions, groupés ou isolés, se retrouvent dans des installations plus simples distribuées sur une surface très vaste du site[95]. Il s'agit de petits oratoires manifestant dans une image la présence d'un dieu auquel s'adressent des rites de vénération. On serait tenté d'attribuer ce dernier type de lieu de culte à des groupes encore plus restreints que les précédents, voire même à des individus. Certains de ces monuments pourraient s'expliquer comme des offrandes (*ex-voto*) réalisées dans des circonstances particulières. Il restera aussi à réexaminer des dessins gravés (ibex, chameaux[96], plantes de pieds et personnages[97]) dont les derniers au moins pourraient avoir une fonction religieuse.

Le classement des sanctuaires de Pétra en trois catégories d'après leur audience et l'importance du groupe de fidèles qui est à l'origine du culte recoupe sans doute une évolution chronologique: les sanctuaires rupestres correspondent à un type plus archaïque qui doit avoir précédé le sanctuaire urbain lié à un processus plus évolué d'urbanisation[98].

Il semble qu'une bonne partie des sanctuaires soit

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[82] J. Starcky, *SDB*, VII, c. 972; M. Lindner, *Arch. Anz.*, (1984) c. 597-625; *ADJA*, 28 (1984) p. 163-181. *Petra Neue Ausgr.*, p. 87; Wenning, *Die Nabatäer*, p. 263-267, n°26.

[83] M. Lindner, *Petra Neue Ausgr.*, p 93.

[84] *Ibid.* p. 88.

[85] Dalman, *Petra*, J. Starcky, *SDB*, VII, c. 1006-1016; Wenning, *Die Nabatäer*, p. 287-288

[86] Dalman, *Petra*. p. 64-69.

[87] Al-Madhabah (Wenning, *Die Nabatäer*, p. 216-220, 13), sommet de an-Numeir (Wenning, *Die Nabatäer*, , p.253-254, n°17), al-Khubthah (Wenning, *Die Nabatäer*, p. 274-275, n°36, cf. D. Nielsen, "Mountain Sanctuaries in Petra", *QDAP*, XI-XII, ou *JPOS*, XI, (1931), p. 222-237 et *JPOS*, XII, (1933), p. 185-208.

[88] J. Milik, *Syria*, 35, (1958) p. 227-251; Wenning, *Die Nabatäer*, p. 262.

[89] Wenning *Die Nabatäer*, p. 273-274, n°35; M.-J. Roche, *Syria*, 62, (1985) p. 313-317, *ADJA*, 33, (1989), p. 327-334.

[90] Wenning, *Die Nabatäer*, p. 108, n°6.

[91] Wenning, *Die Nabatäer*, p. 259-261, n°24.

[92] F. Zayadine, *ADJA*, 21, (1976) p. 139-142 dans Lindner, *Petra Neue Ausgr.*, p. 267-272.

[93] A Si' le roc naturel pointait au centre de la cella du temple de Baalshamîn: J.-M. Dentzer et coll. *DamM*, 2, 1985, p. 70-73.

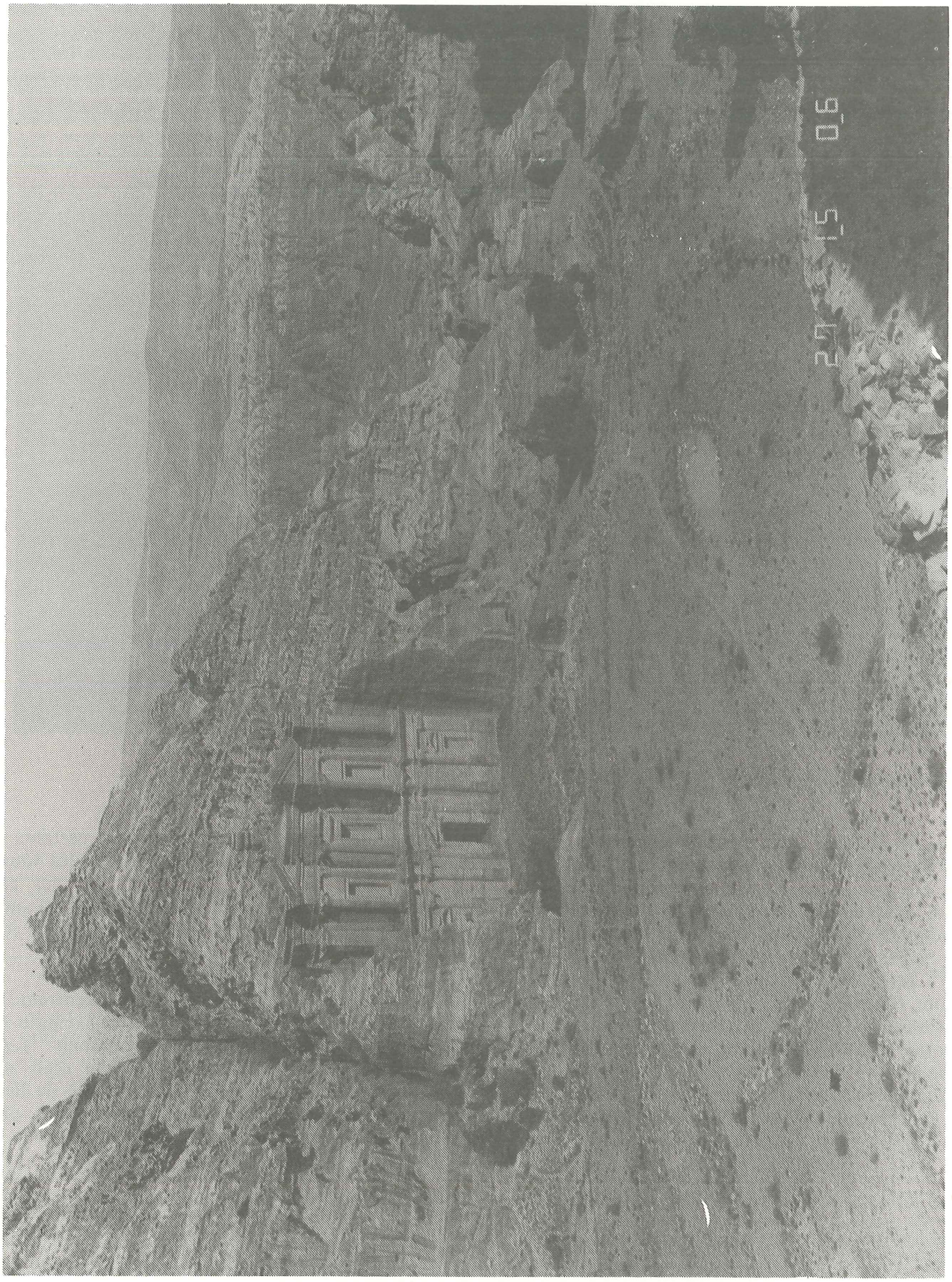
[94] Dalman, *Petra*. p. 65.

[95] Wenning, *Die Nabatäer*, p. 288-289; J. Starcky, *SDB*, VII, c. 1007-1014; M.-J. Roche, *Monde de la Bible*, 14 (1980) p. 33-35; *ADJA*, 33 (1989) p. 327-334.

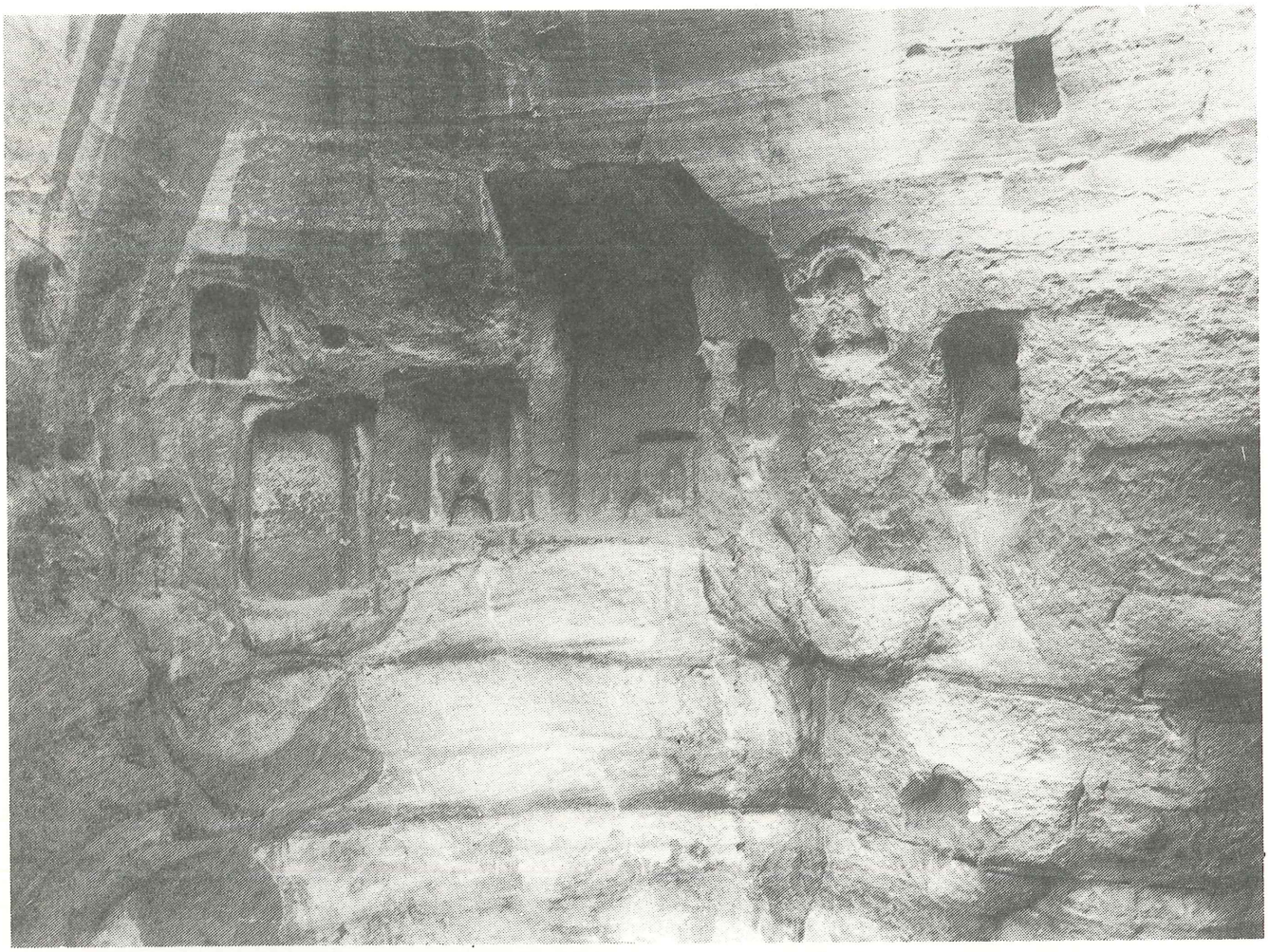
[96] Au Deir: Lindner, *Petra Neue Ausgr.*, p. 96.

[97] Secteur du Deir: Lindner, *Petra Neue Ausgr.*, p. 101-103.

[98] L. Nehmé (mémoire de maîtrise et DEA soutenus en 1989 et 1990 à l'Université de Paris I).



8. Vue aérienne de la montagne du Deir.



9. Sidd el-Ma'jen: sanctuaire rupestre.

liée à des itinéraires[99]. On peut d'ailleurs se demander si un certain nombre de sentiers et d'escaliers n'ont pas été aménagés précisément pour desservir des petits sanctuaires. Une première estimation semble indiquer qu'un grand nombre d'inscriptions, bétyles et niches étaient situés le long de routes ou de chemins[100] (FIG. 9). Certains de ces petits monuments ont été offerts par des fidèles venus de loin pour participer à des fêtes (Dusaria) comme le panégériarque d'Adraa, Sabinos Alexandrou[101]. Il semble par ailleurs que la dispersion dans le paysage des sanctuaires de caractère familial ou tribal ait entraîné la création d'une série d'itinéraires de desserte propres avec des sentiers et souvent des escaliers taillés dans le rocher, même si certains de ces chemins peuvent aboutir également à des tours, postes de guet ou forteresses placés sur des emplacements comparables et souvent proches. Il suffit de rappeler le voisinage du haut-lieu et de la forteresse de Zibb 'Aṭṭuf.

C'est sur ces itinéraires que se concentrent un certain nombre des petits oratoires (par exemple sur les chemins d'accès au Deir[102] et au Madhbaḥ[103]). On peut supposer que l'itinéraire lui-même était une forme du rite. La procession avec la visite de lieux sacrés correspond à un rituel attesté et plus particulièrement dans le milieu arabe ancien.

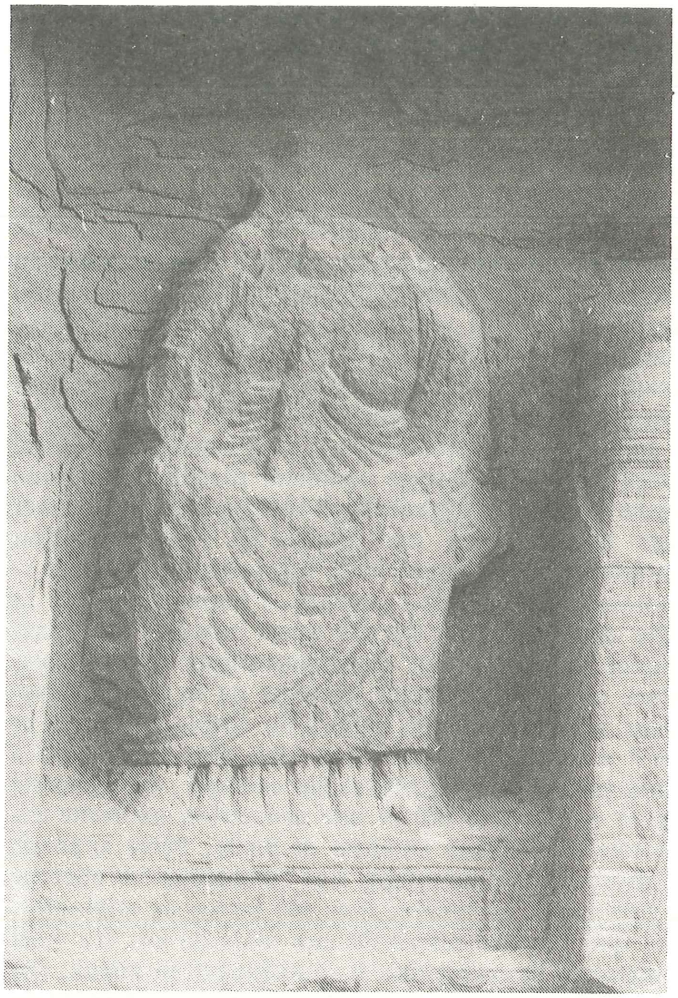
[99]Deux bétyles sont incisées près de la citerne de Bir Huweimel: Lindner, *Pertra Neue Ausgr.*, p. 145.

[100]Par exemple le petit sanctuaire dédié à Isis conservé sur un affluent du wadi al-Waqit n'est pas loin de la route qui mène au Jebel Harun et aussi vers la 'Arabah: Lindner, *Petra*. 5, p. 286-292; Wenning, *Die Nabatäer*, p. 255-256, n°20.

[101]J. Starcky, *SDB*, VII, c.990; F. Zayadine, *ADJA*, 26, (1982), p. 365-393; F. Zayadine, Z.-T. Fiema, *ADJA*, 30, (1986), p. 199-206; F.Zayadine, dans Lindner, *Neue Ausgr.*, p. 222-224; Wenning, *Die Nabatäer*, p. 209-210.

[102]Wenning, *Die Nabatäer*, p. 262.

[103]Wenning, *Die Nabatäer*, p. 217, 219, 220.



10. Le relief d'Isis au W. Daluw, sur la route de Jebel Harun.

L'espace funéraire

Les tombes à façade rupestre de Pétra sont dispersées sur une très vaste surface avec une concentration des formes les plus monumentales sur les grandes falaises proches du centre urbain[104]. Il est vraisemblale que les monuments les plus spectaculaires étaient des tombes royales, mais celles-ci n'ont pas été identifiées. Dans le cas du Deir le dégagement récent de l'intérieur a montré qu'il s'agit d'une salle de banquets sacrés[105]. L'existence d'un culte royal, attesté pour 'Obodas[106], pourrait expliquer ce dernier monument. Les tombes les plus simples, à fosse, plus difficiles à identifier, ont été moins étudiées. On ne connaît jusqu'à présent qu'un nombre infime d'inscriptions permettant d'identifier les propriétaires des tombes. La raison majeure semble avoir été que ces noms n'étaient pas gravés sur la façade mais à l'intérieur du tombeau, et parfois peintes sur l'enduit recouvrant les plaques, souvent en maçonnerie grossière, fermant les *loculi,* comme l'a montré la fouille de la tombe située en face de la Khazneh et de la tombe 813[107]. La grande inscription de Qabr at-Turkmān ne donne ni date ni nom du défunt[108]. En attendant que des fouilles systématiques réduisent cette lacune[109], il faut renoncer à déterminer si les nécropoles de Pétra correspondent, comme cela est vraisemblable pour les lieux de culte, à une répartition familiale ou tribale.

Distinction des différentes fonctions urbaines

L'analyse effectuée ici a tenté de distinguer différentes fonctions urbaines, en séparant l'espace de l'habitat de l'espace cultuel et de l'espace funéraire. Or, si la séparation de ces espaces semble un principe fondamental dans le domaine gréco-romain, elle paraît moins nette à Pétra, comme le signalait déjà Dalman.

On a trouvé un nombre relativement important d'objets de culte dans des maisons, par exemples dans les fouilles de M. Murray[110], ce qui pourrait s'expliquer, sans trop de difficulté, par la pratique de cultes domestiques. Strabon (XVI, 4, 26) fait mention d'un culte du soleil avec offrandes d'encens et libations sur un autel installé sur le toit des maisons. Dans la perspective "classique" le voisinage étroit entre des maisons et des tombes[111] pose des questions plus graves, qui engagent la conception de la pureté rituelle et plus largement celle de la relation entre les morts et les vivants[112]. Pour délimiter la zone urbaine d'habitat on ne peut donc partir, comme dans une ville de tradition gréco-romaine, et comme le font Brünnow et Domaszewski[113], de l'extension des nécropoles. Une zone indistincte apparaît par

[104]J. Starcky, *SDB,* VII, c. 951-973, Zayadine dans Lindner, *Petra.* 5, p. 124-161.

[105]Voir F. Zayadine, *ADJA,* 35 (1991) p. 282-84.

[106]à an-Numeir: Wenning, *Die Nabatäer,* p. 253-254, n°17.

[107]F. Zayadine dans *Petra: Petra Neue Ausgr.,* p. 224-233.

[108]J. Cantineau, *Le nabatéen,* II, Paris, 1932, p. 3-5, III; J. Starcky, *SDB,* VII, c. 931, 960, 989; J. Milik, "Inscription nabatéenne à Turkmaniyé à Pétra", *RB,* 66(1959) p. 555-560; Wenning, *Die Nabatäer,* p. 270.

[109]Ces inscriptions existaient, sur des matériaux plus fragiles, gravées dans le tombeau 64B (F. Zayadine dans Lindner, *Petra Neue Ausgr.,* p. 224-226) ou sans doute souvent peintes sur l'enduit posé sur les plaques fermant les loculi (Tombeau 813 *ibid.* 233-234).

[110]M.A. Murray, J.C.Ellis, *A Street in Petra,* p. 2, 5.

[111]Par ex M.A. Murray. J.C. Ellis, *A Street in Petra,* P. Parr, dans Lindner, *Petra.* 5, p. 187; Lindner, *Petra Neue Ausgr.,* p. 137. F. Zayadine *ibid.* p. 248-258.

[112]La curieuse note dans le texte de Strabon (XVI, 4, 26) concernant la proximité des tombeaux avec des dépotoirs traduit peut-être la réaction des étrangers de culture grecque.

[113]*Provincia Arabia,* p. 135.

ailleurs lorsque l'on cherche à distinguer les lieux de culte et les sépultures. Non seulement les deux types d'installations sont parfois voisines dans l'espace, (on voit en particulier côte à côte des bétyles et des néfesh) mais encore des inscriptions semblent dédier ou offrir à des dieux des tombeaux. C'est le cas dans la célèbre inscription du Qabr at-Turkmān dont tous les équipements sont sacrés et voués à Dusares, dieu de notre Seigneur, à son motab (siège) et à tous les dieux[114]. On peut supposer cependant que, dans ce cas, le tombeau était placé sous la protection des dieux pour le défendre des violateurs éventuels de sépultures.

Des salles de banquet ou "triclinia" paraissent liés d'une façon certaine à des tombeaux; d'autres semblent faire partie de lieux de culte, d'après le témoignage d'inscriptions, de niches cultuelles, de bétyles ou d'autels[115]. Ailleurs enfin, ils semblent appartenir simplement à des installations domestiques. On peut ainsi se demander si, pour comprendre ces installations, il ne faut pas regarder plutôt du côté du groupe de convives réunis au triclinium que du côté du destinataire du culte et de son statut. Le banquet des "thiases" semble être, selon le témoignage de Strabon (XVI, 4, 26), une institution, majeure à Pétra, de caractère social et peut-être politique[116]. Ces associations qui réunissent un nombre fixe de convives, jouent certainement un rôle dans l'organisation même de la société. Leurs banquets peuvent célébrer aussi bien un ancêtre qu'une divinité, l'un comme l'autre exprimant et garantissant l'unité du groupe. Il est significatif que dans le culte des morts on distingue particulièrement celui des souverains[117].

Conclusions

Aux questions évoquées nous n'avons à apporter ici que des réponses globales et provisoires en attendant de pouvoir, sur une partie du site au moins, raisonner sur la totalité des vestiges cartographiés et saisir, dans le détail, les relations qui les unissent.

La répartition des vestiges antiques actuellement identifiés à Pétra suggère l'hypothèse d'une organisation urbaine sensiblement différente du schéma de la ville classique du Proche-Orient hellénisé. Ce dernier a sans doute imposé sa marque à l'issue de l'évolution de la ville: Le rempart continu de la ville rétrécie, qui laisse supposer un regroupement de la population et qui date sans doute de l'époque romaine tardive, en est la marque la plus nette. L'hellénisation a commencé à marquer la ville beaucoup plus tôt puisque le théâtre date du début du Ier s. de notre ère[118]. D'autre part, l'organisation monumentale du centre de la ville autour de l'axe constitué par la rue à colonnades correspond à une évolution classique constatée dans la plupart des centres du Proche-Orient[119].

Les caractères particuliers de l'espace urbain de Pétra dont les vestiges semblent distribués sur une vaste étendue et organisés en réseau, doivent trouver leur origine dans une phase de l'agglomération antérieure à l'impact des formules hellénistico - romaines. En dernière analyse, l'implantation de la ville de Pétra dans un site aussi austère, aux ressources limitées, aux communications si difficiles, alors que les itinéraires naturels de la région passaient normalement en dehors du cirque de Pétra, et qu'il existait des conditions bien plus favorables à *Gaia* (al-Dji = Wadi Musa) par exemple, a été choisie parce que ce site offrait une protection naturelle exceptionnelle. Dans Diodore de Sicile, Pétra apparaît d'abord comme un refuge. Les Nabatéens ont cherché à tirer parti, au mieux, avec des tactiques originales, des qualités défensives du site mais ils ont été ainsi contraints de rechercher et d'aménager au mieux, sur une vaste surface, toutes les ressources en terre et en eau indispensables pour faire vivre une agglomération humaine.

Pour cette phase ancienne, on serait tenté de rattacher l'urbanisme de Pétra à un modèle urbain original déjà analysé[120]. Différent du schéma gréco-romain et en fait largement attesté dans le Proche-Orient préhellénistique[121], survivant également à l'époque hellénistique et romaine mais dans des villages ou des agglomération secondaires, il réapparaît dans des villes à partir de l'époque

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[114]Voir note 108.

[115]D. Tarrier, *Les triclinia nabatéens dans la perspective des installations de banquet du Proche-Orient*, Thèse Université de Paris I. 1988; *Le Monde de la Bible*, 1980 (14), p. 38-40.

[116]O. Eissfeldt, "Neue Belege für nabatäische Kultgenossenschaften", *Mitteilungen des Instituts für Orientforschung*. 1969 (15), p. 217-227; F. Zayadine, *ADJA*, 21(1976) p. 139-142; *Syria*, (1985), Chronique, pour les triclinia de Beiḍa.

[117]J. Starcky, *SDB*, VII, c. 1015-1016.

[118]Ph. C. Hammond, *The Excavation of the Main Theatre at Petra, 1961-1962, Final report*, London, 1965.

[119]Dans la tradition de l'urbanisme hellénistico-romain, la nouvelle formule a d'ailleurs été vraisemblaement développée dans la région, peut-être à Antioche? On peut comparer cette réorganisation du centre ville (que l'on peut dater entre 76 et 114 de notre ère: Lindner, *Petra* 5, p. 144; P.J. Parr: *Near Eastern Archaeology in the XX Centurey Essays N. Glueck*, 1970, p. 348-381) à celle dont témoigne à Bosra l'Arc nabatéen et qu'il faut sans doute attribuer à Rabbel II (*CRAI*. janv.-mars 1986 cf. R. Wenning, *Die Nabatäer*, p. 223). Inversement on assiste, à un affaiblissement des principes d'organisation de type gréco-romain. Il se manifeste, à Pétra comme dans d'autres centres hellénisés du Proche-Orient, par des empiétements sur l'espace "public", comme l'occupation par des boutiques des colonnades de la rue à portiques, sans doute à partir du IV^{e}s: P. Parr dans Lindner, *Petra*. 4, p. 144.

[120]J.-M. Dentzer, *Recueil J. Deshayes: de l'Indus aux Balkans*, Paris, 1985, p. 213-248, voir aussi E. Wirth, *Saeculum*. 26, 1975, p. 45. 94.

[121]J. Schmidt, *Baghdader Mitteilungen*, 3, 1964, p. 125-147. O. Aurenche, *La Maison orientale: l'architecture du Proche-Orient des origines au milieu du IV^{e} millénaire*, Paris 1981, p. 273-278.

byzatine tardive, pour constituer enfin à l'époque médiévale et moderne la trame de la ville "orientale" traditionnelle[122]. On peut proposer comme hypothèse que le principe de cet "urbanisme" est l'installation, à l'origine, de noyaux d'habitat séparés les uns des autres et répartis, sur un vaste espace, entre des familles et éventuellement des groupes plus importants, jusqu'à la tribu, de façon à réserver à chaque noyau de constructions la possibilité de s'accroître pour répondre à l'augmentation de la famille ou du groupe[123]. Ces accroissements se font aux dépens de l'espace libre à l'origine qui s'amenuise jusqu'à se réduire, au dernier stade, à des impasses desservant les groupes de maisons.

Les contraintes du paysage de Pétra imposant une exploitation extensive donnaient une raison supplémentaire pour étendre sur une large surface l'espace urbain. Les voies de communication entre les différents noyaux prenaient ainsi une importance particulière. La répartition des premiers habitants devait se faire naturellement par groupes familiaux et tribaux. L'identité du groupe s'exprime naturellement dans le culte d'un dieu ou d'un ancêtre. On a identifié à Pétra des cultes rendus non seulement à des dieux ou à des personnages appartenant à la dynastie royale comme 'Obodas mais encore à ce qui semble avoir été l'ancêtre d'un groupe (Petammon à an-Numeir[124]). La distribution de ces lieux de culte dans l'espace est sans doute en relation avec l'occupation et la propriété du terrain, au moins à ses origines. On ne peut guère vérifier, pour le moment, s'il en va de même pour les nécropoles. Il ne faut pas oublier que, lorsqu'elle apparaît pour la première fois dans l'épisode des attaques d'Antigone, Pétra n'est pas encore une ville avec un habitat en dur mais une roche servant de refuge à des nomades occupant l'espace voisin avec leurs tentes et prêts à se disperser dans le désert[125]. Or les règles qui commandent la répartition des campements n'est pas très éloignées des principes qui régissent la formation d'une agglomération du type défini plus haut. A l'arrière plan de ce modèle urbain se dessine le processus de sédentarisation et d'urbanisation des Nabatéens[126] que l'on devine dans un raccourci entre les témoignages de Diodore de Sicile et de Strabon. On s'est demandé d'ailleurs, en allant plus loin, si Pétra n'a pas gardé une fonction de ville sacrée et de sépulture privilégiée, non seulement pour la dynastie, mais encore pour l'ensemble du peuple nabatéen[127]. Enfin on est tenté de mettre l'organisation en réseau de la ville de Pétra en relation avec une forme d'emprise politique originale du royaume nabatéen. Dans la logique d'un espace où dominent les zones désertiques vides, l'autorité s'exerce d'abord, autour d'un noyau de dimensions variables tenu d'une façon continue, sur un réseau de pistes avec des sites d'étapes ou de points de rassemblement de tribus.

[122]Cf. T. Bianquis, *Bull. d'Etudes Orientales*, 37/38, (1985/6), p. 9-14.

[123]Cf. les observations ethnoarchéologiques de O. Aurenche et son équipe à Qdeir (près de el Kom en Syrie) et Smakieh, près de Kérak: O. Aurenche et P. Desfarges *Syria*, 60, 1983, p. 147-185 et *SHAJ* II, Amman, 1985, p. 331-345. Curieusement la même dispersion de l'habitat, avec des espaces vides réservés, a été observée dans la première phase d'un village récemment construit, en matériaux modernes, au nord du site pour reloger les bédouins de Pétra.

[124]J. Contineau, *Le nabatéen*, II, p. 5-6(IV).

[125]T. Bianquis dans *Recueil J. Deshayes; de l'Indus aux Balkans*, p. 238-239.

[126]Les discussions récentes sur l'identité des Nabatéens et leur fusion éventuelle avec des populations locales édomites donne un nouveau relief à cette question. Cf. E.A. Knauf, dans Lindner, *Petra Neue Ausgr.*, p. 74-86.

[127]Dalman (*Petra*. p. 62) qui cite le regroupement de tombes de bédouins dans des champs de dolmens, où les morts sont apportés de très loin.

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Nabataean Settlements and Roman Occupation in Arabia Petraea

Brünnow and Domaszewski's fundamental survey of Roman remains in Arabia terminates with the environs of Petra, the spectacular site of the old Nabatean capital nestled in the ash-Sharah mountains of southern Jordan. In an appendix, they provided reports by nineteenth century travelers of the region further south, but it is the subsequent pioneering exploration of this provincial sector by A. Musil, N. Glueck, A. Alt, F. Frank, Sir Aurel Stein, G. L. Harding and A. Kirkbride that has contributed most to our understanding of the region. Nevertheless, their efforts represented mere forays into this expansive desert wilderness. Even more recent archaeological enterprises in the region have focused almost entirely on the impressive royal seat of the Nabataean realm, neglecting the more dismal and seemingly desolate surrounding region. As a consequence, the environs of Petra and southern Jordan has remained virtually an archaeological *terra incognita*. The region is depicted on maps as a territory almost devoid of any major settlements, leaving the impression that it was a virtual No-Man's-Land, with at most a few scattered oases and caravan halts.

During the last decade, however, more systematic surveys and excavations have produced new evidence for evaluating the nature of the settlement pattern of this region during the Nabataean-Roman era. Although I have chosen to designate this desert hinterland as "Arabia Petraea," I am fully aware that this nomenclature needs clarification. As a region, it is not to be equated with the second century geographer Ptolemy's district of that name, which he distinguished from "Deserta" and "Felix," the other geographical sections of his tripartite division of Arabia. Later ancient geographers and cartographers ignored this part of his terminology, perhaps because "Petraea" was essentially synonymous with and certainly no more descriptive than the term "Nabataea."[1] What I have in mind by this designation is a more constricted territory of the Nabataean realm, embracing most of what was "southern Edom," but including the Ḥisma desert south of the Edomite plateau and ash-Sharah escarpment. For the present purposes, "Arabia Petraea" then can be defined as the region between Shobak in the north and Aqaba in the south, and Wadi 'Arabah to the west and Ma'an to the east.

It is widely assumed that Roman interest in this southern district of the Arabian province was negligible. Even during the last half century of Nabataean independence before the annexation, Petra has been characterized as already in decline. Rome's establishment of Egyptian ports in the Red Sea during the Augustan era and the rise of Palmyra presumably diverted far eastern trade away from the less efficient and more expensive overland trade routes through Arabia to Nabataea. Consequently, Petra's role as an entrepôt is thought to have virtually ceased by the mid-first century A.D. In the wake of its collapse, nomadic invaders from the Arabian peninsula supposedly penetrated the southern sector of the Nabataean realm, bringing about the fall of the important Nabataean center at Mada'in Ṣaliḥ (Ḥegra) in al-Ḥijaz and disrupting the caravan routes across Transjordan, including the main trade route between Petra and Gaza across the Negeb.[2] In response to this crisis, Rabbel II (A.D. 71-106), the last Nabataean king, presumably initiated fundamental political and economic changes in the Nabataean state, promoting the development of sedentarized agricultural communities and shifting the capital of his realm further north to Bostra in the Ḥawran, near the borders of Roman Syria.[3] After the annexation of the Nabataean kingdom in A.D. 106, Rome presumably maintained this administrative arrange-

[1]G.W. Bowersock, 'The Three Arabia's in Ptolemy's Geography,' *Geographie historique au Proche-Orient (Syrie, Phénicie, Arabie, grecques, romaines, byzantines*, Actes de la Table Ronde de Velbonne, 16-18 septembre 1985 (Paris: Centre National de la Recherche Scientifique, 1988), pp. 47-53.

[2]A. Negev, 'The Nabataeans and Provincia Arabia,' *Aufstieg und Niedergang der römischen Welt* II/8 (Berlin/New York, 1977), p. 635. For criticism of this hypothesis see my discussion 'Rome and the Saracens: Reassessing the Nomadic Menace,' in *L'Arabie préislamique et son environnement historique et culturel*, Travaux du Centre de Recherche sur le Proche-Orient et la Grèce Antiques 10 (Leiden, 1989), pp. 341-400.

[3]See Negev, *ANRW* II/8 (1977), pp. 635-640 and S. Sidebotham, *Roman Economic Policy in the Erythra Thalassa, 30 B.C.-A.D. 217* (Leiden, Brill 1986), pp. 148-155. For the shift to Bostra, see the comments of G.W. Bowersock, *Roman Arabia* (Harvard, 1983), p. 73 based on *C.I.S.* II, 218.

ment, with Petra retained only as a regional center for the southern confines of the province. With this subordinate status, Petra and its surrounding dependent settlements presumbably faded into insignificance.

But any assumption of the eclipse of Petra conflicts with the mounting evidence that it continued to flourish under Roman rule. By A.D. 114, it received the honorific title of *metropolis* and was later elevated to the status of a *colonia* under Elagabalus, prior to the bestowing of either of these honors on the capital city of Bostra; in the reign of Hadrian, it was a regular juridical stop for the governor, Julius Julianus, in executing his administrative duties in the province; his successor, L. Aninius Sextius Florentinus, governor *c.* A.D. 127, even chose the city for his burial. During the third century, Callinicus and Genethlius, natives of Petra, were noted philosophers and rhetoricians active at Athens, attesting to the continued intellectual and cultural vitality of the city.[4] None of this evidence suggests a sudden demise of Petra under Roman rule; in fact, the significance of the old Nabataean capital appears to have been maintained at least into the Byzantine era.[5] Archaeological results emerging from the exploration of Arabia Petraea during my survey of the region between 1978 and 1989 offer further support for this prospering picture of the old Nabataean capital and its environs under Roman rule. In particular, the settlement pattern in the early imperial era, the transportation lattice of the region, and the military activities in the southern frontier zone belie any suggestion that the area dwindled into insignificance.

1. The Settlement Pattern

Hundreds of sites in Transjordan illustrate the zenith of Nabataean political fortunes and economic prosperity during the reign of Aretas IV (9 B.C.-A.D. 40). Many of these settlements are strung along the caravan routes for the prosperous incense trade. They extend from Ḥegra (Mada'in Ṣaliḥ) in al-Ḥijaz, the southern frontier of Nabataea to Bostra in Syria. Between Petra and Gaza, across the Negeb of Palestine, the cities of Oboda, Mampsis, Nessana, Sobata, and Elusa were centers of similar expansive activities. These developments are amply documented by literary sources, epigraphic evidence and archaeological remains. What remains obscure and problematic are the preceding and subsequent periods, involving the rise of the Nabataean state to prominence and its fate after the Roman incorporation of the kingdom into the empire. As suddenly and mysteriously as the Nabataeans enter the purview of our historical sources, they pass from our vision and fade out of existence in an equally inscrutable fashion. Of major interest is the contribution of the recent survey to these two poorly known transitional eras.

The first literary reference to the Nabataeans is in the late fourth century B.C., when Hieronymous of Cardia locates them at Petra and identifies them as traders engaged in the profitable incense trade (*apud* Diodorus Siculus XIX.94). In the following centuries, they are found in the Ḥawran (P.S.I. 406) and northern Jordan (I Macc. 5.25-26), rather than Petra, where they appear to be a regular part of the landscape, not an intruding nomadic element. By the end of the second century B.C., they have established numerous villages further south along the coasts of the Gulf of Aqaba and the interior of North Arabia (Agatharchides of Cnidus apud Diodorus Siculus III.43). By the time of Pompey's eastern conquests, their striking rise to political and economic importance has already taken place. Archaeological evidence seems to confirm this picture of the sudden emergence of Nabataea into prominence during the first century B.C.

At this time, Nabataean settlements in southern Edom seemingly burst into existence overnight. Between the Augustan era to the annexation, Nabataean sites radiate out from Petra in all directions on the plateau. Even on the edges of the western ash-Sharah escarpment overlooking Wadi 'Arabah, Nabataean sites are dense.[6] The same is the case along the southern edge of the escarpment overlooking the Ḥisma desert. Still visible here are the remains of terraced fields and reservoirs, reflecting earlier efforts to cultivate the soil and irrigate crops in the region. Surface finds imply they suddenly sprung up in the early Roman imperial era. Little evidence appears for the interval between the Edomite settlements of the fifth century B.C. and those of the first century B.C. Some Hellenistic remains are encountered at Petra, but few such finds appear elsewhere on the plateau. This substantial gap in occupation between the late Iron Age period and the early Roman era frequently has been emphasized.[7] Of course, minimal excavations outside of the Petra basin render provisional any conclusions from this silence.

Moreover, earlier Nabataean settlements exist in the Ḥisma desert, where they are somewhat less expected. The average rainfall in this region is at most half of that received on the plateau. Such an arid environment appears to prohibit the development of any major settlements. One might suspect in this region only the existence of a few small roadstations and guardposts for caravans proceeding to Petra. But Glueck's pioneering survey of the area in the 1930s pointed in a strikingly different direction. Between Ras an-Naqab on the edge of the escarpment to Aqaba, his finds were substantial enough to propose an extensive Nabataean occupation for the ostensibly forbidding terrain.

[4]Bowersock, *Roman Arabia*, pp. 85-87, 134-135.

[5]P.J. Parr, 'The Last Days of Petra,' *The IV International Conference on Bilad al-Sham*, ed. M. A. Bakhit and M. Asfour (Amman, 1986), pp. 192-205.

[6]S. Hart, 'Some Preliminary Thoughts on Settlement in Southern Edom,' *Levant* 18 (1986), pp. 54-55.

[7]Most recently by Hart, *Levant* 18 (1986), p. 57.

Nestled in the crevices and bays of the mountains of the Ḥisma, he discovered enough dams, reservoirs and cisterns to postulate a sizeable Nabataean population for the region.[8] Several of these settlements even appear to have originated in the Hellenistic period, prior to the great expansion of Nabataea during the early Roman imperial period.

For example, at Ḥumeima, 15km south of the escarpment, there is an extensive Nabataean settlement that later became an important Roman-Byzantine center. The settlement was founded purportedly by Aretas III (*c.* 85-62 B.C.), in the reign of his father, Obodas II (93-85 B.C.), according to Uranios' *Arabika* (*apud* Steph. Byz. 144, 19-26 = Jacoby, *FGH* 675, F A1, p. 340). An enclosed aqueduct was perhaps constructed at this time from several springs on the edge of the escarpment at 'Ain al-Qanah, 'Ain aj-Jamam and 'Ain ash-Sharah led to a reservoir at Ḥumeima. It represents one of the most impressive hydraulic technological achievments found anywhere in the Nabataean realm.[9] In 1980, several Hellenistic sherds were found in my survey of the Nabataean quarter of the site of a possibly even earlier date: an Hellenistic bowl rim of the second century B.C. and an amphora handle of about the same era. The growth of the community in later periods is attested by an extensive quarry, numerous reservoirs and cisterns, a large cultic center, extensive remains of domestic buildings, a necropolis of several hundred rock-cut shaft-tombs, and large amounts of pottery sherds scattered over the immediate environs. The remains of several military constructions and a three-apse church offer the architectural vestiges of its importance in the Roman and Byzantine period, explaining its inclusion in such documents as the Peutinger Table, the Notitia Dignitatum, and the Beersheba Edict.

Another major Nabataean settlement in the Ḥisma is located at Wadi Ramm (ancient Iram), about 40km east of Aqaba. At the nearby mountain spring of 'Ain ash-Shellaleh, an aqueduct was constructed down to a reservoir in the valley about a kilometer from the settlement. A temple dedicated to the goddess 'Allat erected during the last years of the reign of Rabbel II (A.D. 71-106) is the most prominent structure at the site. After the Roman annexation, but before the third century A.D., it apparently underwent several architectural rennovations.[10] Nabataean graffiti of the first century A.D. located 7km to the east are the product of priests engaged in the worship of the "goddess who is at Iram."[11] Thousands of pre-Islamic Thamudic graffiti collected in the region also contain petitions to 'Allat, and sometime Dushara, indicating a population under the cultural sway of Nabataea before the Roman annexation.[12] That occupation of the area preceded these developments is clear from Neolithic remains, Iron Age sherds, and Minaean graffiti of the Hellenistic era found in the vicinity of the temple at Ramm.[13] The numerous springs in the valley obviously provided a basis for human settlement in various periods.

These two sites in the Ḥisma at least suggest the possibility of other Hellenistic settlements in Arabia Petraea, as existed at Petra and in the Negeb.[14] However, elsewhere, it seems it is only in the first century B.C. that Hellenistic influence is detectable within Nabataea.[15] This change has been connected with the reign of Aretas III (85-62 B.C.), whose Damascene Greek-inscribed coinage proclaims him as a "Philhellene."[16] The Hellenistic pottery and literary tradition for the foundation of Ḥumeima suggest the epithet may have general significance. Intimate relations with the Hellenistic world even earlier are indicated by the embassy led by Moschion of Priene to Alexandria and the Arabs at Petra in 129 B.C.; Nabataeans from Petra also were active at Tenos and Rhodes in the same period.[17] This evidence from the Aegean prior to Aretas III's reign suggests the second century B.C. Hellenistic finds at Ḥumeima may represent only the tip of the iceberg and provide some basis for projecting the discovery of other such evidence in Nabataea outside of Petra. The archaeological lacuna in Arabia Petraea may disappear with future excavations and intensified scrutiny of the region. Scattered finds of Hellenistic ceramics on the plataeau have already occurred in the recent surveys.[18] The substantial expansion of Nabatean sites that occurred in the

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[8]See my dicussion in 'The Nabataeans and the Ḥisma: In the Footsteps of Glueck and Beyond,' *The Word of the Lord Shall Go Forth Essays in Honor of David Noel Freedman in Celebration of His Sixtieth Birthday*, ed. C. Meyers and M. O'Connor (Philadelphia: ASOR), pp. 647-664.

[9]J.P. Oleson, 'Nabataean and Roman Water Use in Edom: The Ḥumayma Hydraulic Survey, 1987,' *Echos du Monde Classique/Classical Views* 32 n.s. 7 (1988), pp. 117-129, at 120.

[10]D. Kirkbride, 'Le temple nabatéene de Ramm: Son évolution architecturale,' *Revue Biblique* 67 (1960), pp. 65-92, esp. 86.

[11]R. Savignac, 'Le sanctuaire d'Allat à Iram,' *Revue Biblique* 41 (1932), pp. 585-594.

[12]See G.L. Harding, *Some Thamudic Inscriptions from the Hashemite Kingdom of the Jordan*, (Leiden: Brill, 1952) for the initial collection of the graffiti from the region. Recent additions are being published by W.J. Jobling, Geraldine King, David Jacobsen and myself. The present corpus now constitutes several thousand inscriptions.

[13][Neolithic]: D. Kirkbride, 'The Neolithic in Wadi Ramm: 'Ain Abu Nekheileh,' *Archaeology in the Levant: Essays for Kathleen Kenyon*, ed. R. Moorey and P. Parr (Warminster, 1978), pp. 1-10; [Early Iron Age-Midianite] W.J. Jobling, *Annual of the Department of Antiquities of Jordan* 25 (1981), p. 110; [Iron Age II sherds]: discovered in 1980 at several sites between Wadi Ramm and Jabal Kharaza 20km to the north; [Minaean graffiti] G. Ryckmans, *Revue Biblique* 43 (1934), pp. 590-591 and D. F. Graf, *Annual of the Department of Antiquities of Jordan* 27 (1983), pp. 555-569.

[14]Summarized by Negev, *ANRW* II/8 (1977), pp. 545-549. Note also a Minaean inscribed scarab found at Petra that must date to the same period: RES 3927 = G. Garbini, *Iscrizioni sudarabiche: Iscizioni Minee* Vol. I (Napoli, 1974), no. 376. In 1980, Dr. Gary D. Pratico and I found a Rhodian jar handle at Tell al-Kheleify, indicating activity at the Aqaba port during the Hellenistic era and suggesting the possibility of other such finds in the region.

[15]P.J. Parr, 'The Beginnings of Hellenisation at Petra,' *Le Rayonnement des Civilisations Grecque et Romaine sur les Cultures Périphériques, Huitième Congrès International d'Archéologie Classique* (Paris, 1965), p. 531.

[16]Y. Meshorer, *Nabataean Coins*, (Jerusalem, 1975), pp. 9-16.

[17]F. Hiller von Gaertringen, *Inschriften von Priene* (1906), no. 108.168, IG XII suppl. no. 307 [Tenos]; and SEG III, 674 with D. Morelli, *I Culti in Rodi* (Studi Classici e Oriental VIII; Pisa, 1959), pp. 127-128, for the cult of Dushares at Rhodes; cf. R. Wenning, *Die Nabatäer-Denkmäler und Geschichte* (Göttingen, 1987), p. 23.

[18]M. Lindner, 'Die zweite archäologishe Expedition der Naturhistorischen Gesellschaft nach Petra (1976),' *Jahresmitteilungen der Naturhistorischen Gesellschaft Nürnberg* (1976), p. 96 [Ṣabra]; M. Weippert, 'Remarks on the History of Settlement in Southern Jordan during the Early Iron Age,' *Studies in the History and Archaeology of Jordan* I, ed. A. Hadidi (Amman, 1982), p. 157 n. 29 [Baṣṭa]; and during our 1989 survey at Fardhakh, between Baṣṭa and Ṣadaqa.

time of Augustus may not be as sudden as it appears.

Other important results of the recent surveys pertain to the post-annexation period. Under Roman rule, a noticeable change can be observed in the extensive Nabataean settlement pattern that earlier existed in Arabia Petraea. Forward and outlying Nabataean settlements on the southern edge of the escarpment (FIG. 1) — Rujm Batra, Khirbet Naṣara, Khirbet Thalajeh, Shudayyid, and Fuweilah — virtually cease under Roman rule.[19] The same phenomenon appears to take place on the plateau and along the western edge of the escarpment.[20] In the Ḥisma desert, signs that Nabataean presence shriveled up in the region are even more apparent, perhaps signifing a withdrawal and retreat from Roman rule by the indigenous population. Of course, it could only reflect a shift or relocation of the population to elsewhere in the province, especially since Roman sites are concentrated and constricted along the major arteries of the region. Substantive expansion eastwards takes place again only in the Byzantine era. At certain locations on the plateau, such as between Ma'an and Udhruḥ — at al-Ḥammam, al-Mutrab and Jabal aṭ-Ṭaḥuna, large Byzantine complexes emerge with little if any evidence of prior occupation.[21] Since several independent investigations of the region have all concluded that there was a more limited occupation of the region during the Roman period, the impact of the Trajanic annexation on Nabataea begs for some historical explanation.

2. The Roman Road-System

For centuries prior to Roman rule, caravans had transported South Arabian aromatics to the various emporia and seaports of the Levant. The Nabataeans inherited and developed this *via odorifera* leading from southern Arabia to the various commercial centers of Syria-Palestine and the Mediterranean world. After the annexation of the Nabataean realm in A.D. 106, the Romans incorporated only the northern branches of this old incense route into their road-system. The major highway for the province of Arabia was constructed from Aela on the Gulf of Aqaba north to the capital at Bostra in southern Syria, the *Via Nova Traiana*. Inscribed milestones discovered along the route indicate that the project was completed under the governor Claudius Severus (A.D. 111-114) and help delineate its route between *a finibus Syriae usque ad mare rubrum*.[22] The northern sector is particularly well established as a result of these epigraphic remains, but the lack of such evidence for the southern sector has made the precise route through Arabia Petraea a matter of debate. Recent studies of the Trajanic road have even suggested that it bypassed Petra, running further east through Udhruḥ on its way to Ail and Ṣadaqa.[23] However, there are compelling reasons for maintaining that Petra was a central point on the Trajanic road.

Firstly, the distances inscribed on the early milestones of the route found between Bostra and Amman are calculated from Petra, which evidently was the initial *caput viae* for the Trajanic road. Not until the Severan era were the distances recomputed from Bostra, indicating the primary status of Petra in the initial construction of the road.[24] Secondly, the *Tabula Peutingeriana,* the famous Medieval copy of a map of the Roman imperial road-system, lists Petra on the only north-south route it provides for Arabia (FIG. 2). Since the manuscript appears to be based on a prototype constructed prior to the third century A.D., this route must represent the Trajanic road.[25] Finally, at the turn of the century Brunnow and Domaszewski reported traces of a paved route with milestones between Shobak and Petra.[26] Stretches of this road can still be tracked for considerable distances east of the village of Ḥai to just several kilometers north of Wadi Musa (FIG. 3). On the basis of this evidence, the inclusion of Petra as an integral and important roadstation on the Trajanic road is placed beyond doubt; the route running past Udhruḥ must be considered a secondary route that emerged later, but never replaced it. The extent that this southern sector of the Trajanic road in Arabia Petraea was developed reveals just how vital the route remained for Roman interests in the region.

The problem of tracking the Trajanic road between Petra and Aela was one of the objectives of our recent survey. In the far southern sector, milestones in the Ḥisma desert found between Quweira and Khirbet al-Khadeh and at Aqaba indicate the *Via Nova* passed through Wadi al-Yutum on the way south from Ḥumeima to Aela. Tracing the path of the Trajanic route north of Quweira through Ḥumeima to Petra is still problematic, but has been clarified greatly by our recent efforts. During the Ḥumeima regional survey of 1983, Professor John W. Eadie and I discovered some traces of the *Via Nova* just

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[19]Although A. Musil, *The Northern Hegâz*, (New York, 1926), p. 45, described the 'watchtower' at Batra as 'Roman,' the pottery at the site is purely Nabataean.

[20]A. Killick, *Udhruh: Caravan City and Desert Oasis*, (Hampshire, 1987), p. 34, and Hart, *Levant* 18 (1986), p. 54.

[21]S.T. Parker, *Romans and Saracens: A History of the Arabian Frontier*, (Philadelphia: ASOR, 1986), pp. 100-102 [el-Hammam and el-Muṭrab] and A. Killick, *Udhruh: Caravan City and Desert Oasis*, p. 32 [Jabal al-Tahuna].

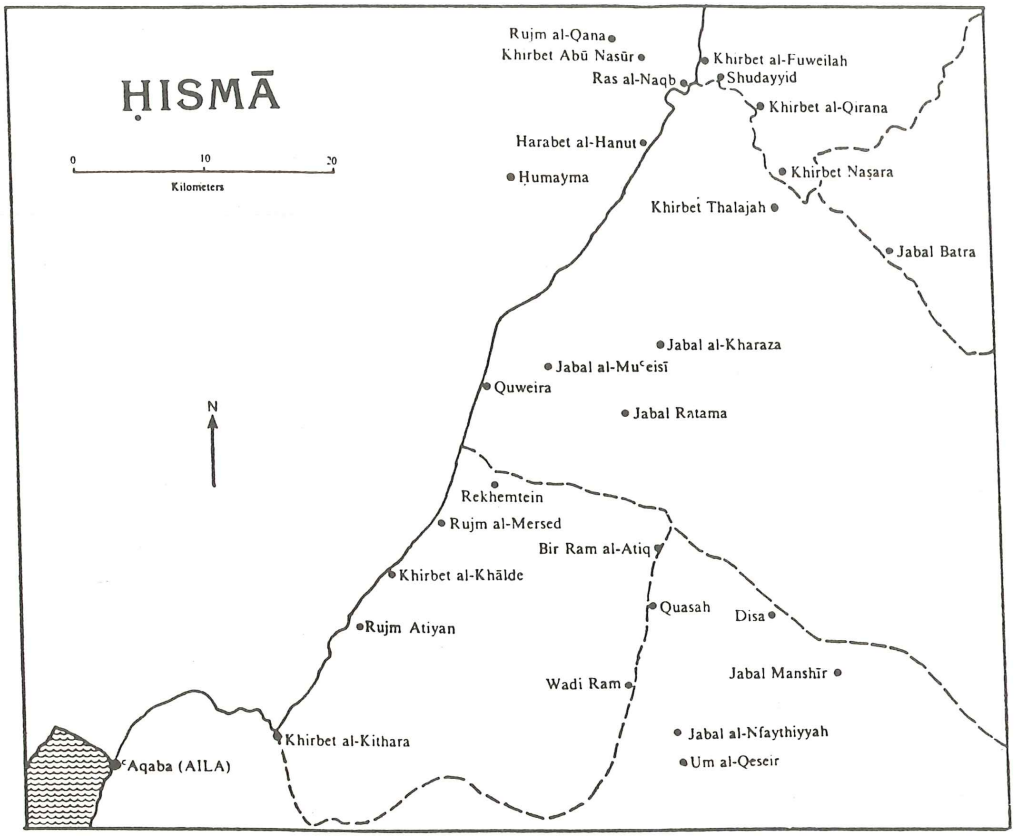
[22]P. Thomsen, 'Die romischen Meilensteine der Provinzen Syria, Arabia und Palestina,' *Zeitschrift des Deutschen Palästina Vereins* 40 (1917), pp. 1-103 is still fundamental, but T. Bauzou is preparing a much needed new list.

[23]A. Killick, *Levant* 15 (1983), p. 110 and Parker, *Romans and Saracens*, p. 87, who followed Nelson Glueck's earlier proposal.

[24]See the discussion of T. Bauzou, 'Les voies romaines entre Damas et Amman,' in *Géographie historique au Proche-Orient (Syrie, Phénicie, Arabie, grecques, romaines, byzantines)*, Notes et Monographies techniques no. 23 (Paris: Centre National de la Recherche Scientifique, 1988), pp. 293-300.

[25]Recently discussed by O.A.W. Dilke, *Greek and Roman Maps*, (Ithaca, N.Y., 1985), pp. 112-120.

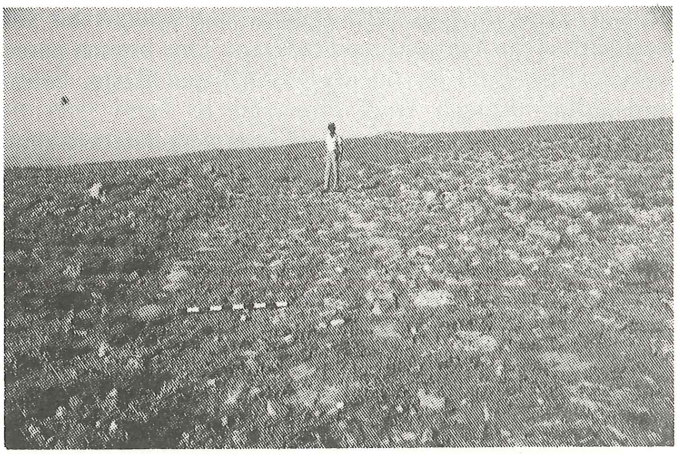
[26]Thomsen nos. 169-171.



1.



2.

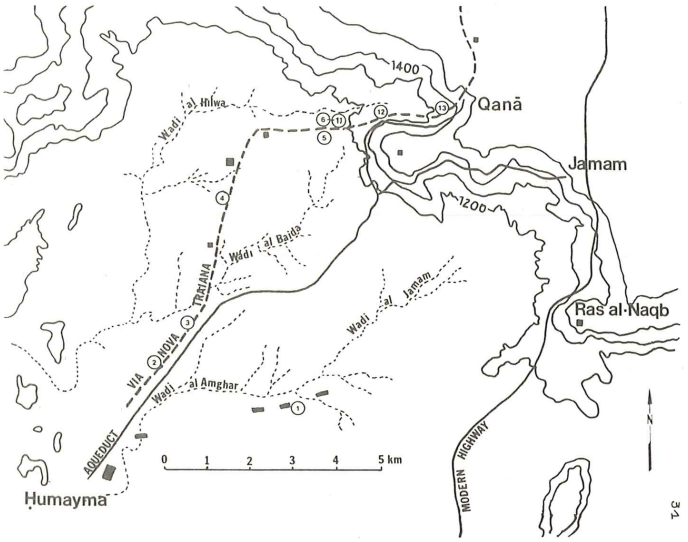


3. Paved stretch of the Trajanic road near Ḥai.

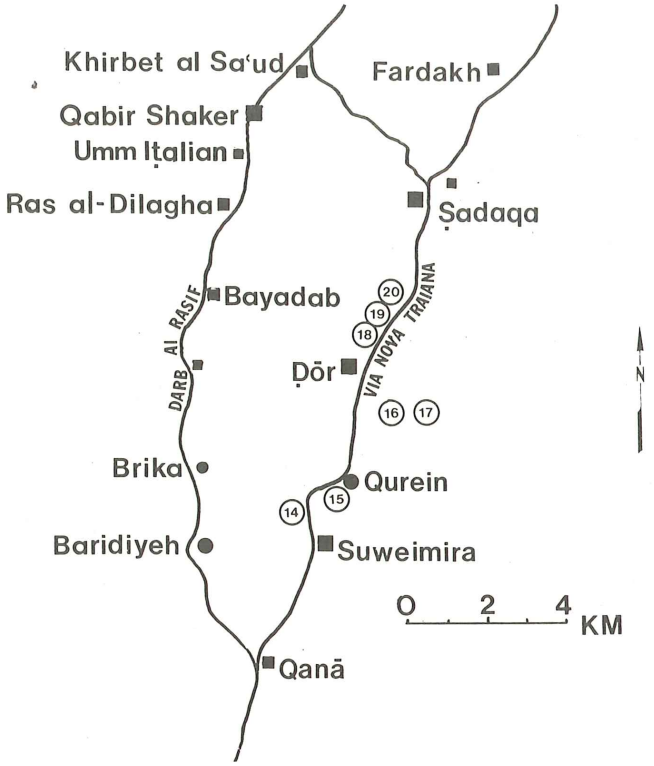
north of the settlement and tracked its path north some 15km to the point where it proceeded up the Sharah escarpment below 'Ain al-Qanah on the edge of the plateau.[27] Numerous milestones, stretches of pavement and several roadstations were recorded in the process (FIG. 4). All of the milestones are anepigraphic except for one of the Severan period found later in the 1989 season. What still needed to be determined was the path of the *Via Nova* between al-Qanah on the edge of the escarpment and Petra. Between 1986-1989, I extended the survey to this region of the plataeu in an effort to establish this enigmatic segment of the Trajanic road.[28] As a result, the road has been traced from the edge of the escarpment north through Suweimira, Qurein, Khirbet Ḍor and Ṣadaqa. Seven

[27]J. Eadie, 'Humayma 1983: The Regional Survey,' *Annual of the Department of Antiquities of Jordan* 28 (1984), pp. 214-216.

[28]See my discussion of 'Les routes romaines d'Arabie Pétrée,' in *Le Monde de la Bible* 59 (1989), pp. 54-56 and 'The VIA NOVA TRAIANA between Petra and 'Aqaba,' *Zeitschrift des Deutschen Palästina Vereins* (forthcoming).



4.



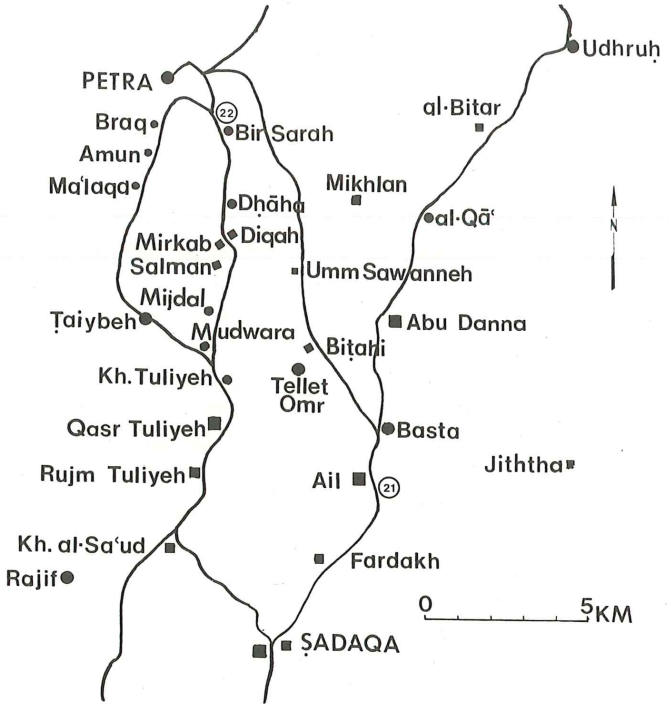
5.

milestones, several long stretches of pavement and a number of fortified points along this 10km segment ensure that this was the path of the Trajanic road across the plateau to Petra (FIG. 5).

Only the sector of the Trajanic road between Ṣadaqa and Petra remains undetermined. It has proven to be the most difficult link to establish, as several viable alternatives exist. Just north of Ṣadaqa, the road appears to have forked, presenting us with at least two options for this segment of the Trajanic road to Petra. One branch passes east by Fardhakh on the way to Ail and Basṭa, before proceeding through Wadi Jammaleh to Petra (FIG. 6). Several adjacent roadstations and forts were detected along the route, but it is marked only by a single milestone at Ail. Although uninscribed, it bears the remains of a painted Latin text that I have tentatively assigned to the era of Maximinus Thrax (A.D. 235-238). Perhaps this discovery explains why so many uninscribed milestones appear in this region. The other branch leading from Ṣadaqa to Petra heads west to Khirbet as-Sa'ud and then passes north by the Roman ruins at Ṭuliyaḥ, Diqa, Dḥaḥa and Bir Ṣaraḥ, on its way to Wadi Musa. An uninscribed milestone near Bir Ṣaraḥ is the only milestone discovered along this route. Since both branches are accompanied by milestones, and the distances of each to Petra are approximately that given by the Peutinger Table, either could constitute the path of the *Via Nova* between Ṣadaqa and Petra. It remains for future research to clarify this section of the Trajanic route.

In addition to the *Via Nova Traiana,* several other routes and spurs appear to have developed during the Roman era. One of these runs along the western edge of the Sharah escarpment between Petra and al-Qanah. It lacks any milestones or signs of pavement, but it is clearly marked by two parallel low walls that served as its borders. It is known as *Darb ar-Raṣeef* by the local inhabitants of the region and popularly associated with the Ḥajj. However, numerous Nabataean-Roman sites strung along the route, suggest it represents an old Nabataean caravan route, later used during the Roman and Byzantine eras. Signs of activity during the Islamic period are absent. The clearest stretches are between Ras al-Qanah and Ras ad-Dilagha, about 3km west of Ṣadaqa. The segment between Dilagha and Petra is more difficult to trace, but it appears to have passed along the edge of the plateau overlooking ar-Rajif on the way to Khirbet as-Sa'ud and Ṭaybeh. This route along the edge of the escarpment continues by the settlements of Mu'alaqa, 'Ain Amun, and Khirbet Braq on the way to Wadi Musa and Petra. Further east, milestones discovered at Udhruḥ indicate that a major branch road diverted from the Trajanic road at Basṭa and passed through Abu Danna and by Udhruḥ on its way north, presumably of later construction.[29] Jaussen and others contended that this road

[29]Brünnow and Domaszewski, *Die Provincia Arabia* I, p. 465-468 = Thomsen nos. 172-173.



6.

passed south by Ras an-Naqab and down the escarpment, but we were unable to detect any sign of an ancient road headed in this direction.

In addition to these major north-south routes, a number of east-west routes intersected these major north-south routes. Most of these had Petra as the nexus, from which they passed west across Wadi 'Arabah on the way to the Mediterranean ports and perhaps Egypt.[30] A route west from Ṣadaqa also appears to have passed down the escarpment through Dilagha to Gharandal on the eastern side of Wadi 'Arabah.[31] There was also the important Petra-Gaza road that passed from Beiḍa to Bir Madhkur and across Wadi 'Arabah through the Negeb to the Mediterranean port. The suggestion this road was abandoned after the annexation and not revived until it became an integral part of Diocletian's defensive system of the Negeb must now be rejected. Exploration of the key Negeb sites of al-Khalsa, Oboda, Meṣad Sha'ar Ramon, Ḥorbat Qaṣra, and Mayet 'Awad have yielded evidence that the old Nabataean caravan route was maintained by the Romans in the second and third centuries A.D.[32] Our investigation of the important military stations of Bir Madhkur, Qaṣr as-Sa'idiyin and Gharandal also indicates occupation during the Nabataean-Roman period, but is silent for the Byzantine era, as is true for many of the Negeb sites on the route. This is strange since Gharandal is listed in Byzantine documents (the Aridella of the Notitia Dignitatum and the Beersheba Edict). Excavation of the sandswept ruins should reveal something from this epoch. The surface pottery from the site is sparse and badly eroded, and therefore hardly conclusive.

These numerous routes present a rather complex transportation lattice for the region of Arabia Petraea during the centuries of Nabataean and Roman occupation of the region. Focus on the Trajanic road has obscured these alternative routes, one of which at least obtained official status based on the presence of milestones. Lack of excavations of key sites and mainly anepigraphic milestones along the routes permit only a general assessment of the stages of its development, but it must have evolved slowly during the more than half a millennium that the region was under Roman administration. The substantial increase of settlements on the plateau during the Byzantine period must have contributed greatly to establishing this involved transportation network. Nevertheless, most of these later roads clearly followed the older Nabataean routes that existed long before the Roman annexation of the region. Their maintenence reveals that Petra continued to function as the central terminus and nucleus for the local population and traffic through Arabia Petraea. Their multiplicity serves to indicate just how important the former Nabataean capital remained during the Roman occupation of the region.

3. The Frontier Fortress System and Provincial Borders

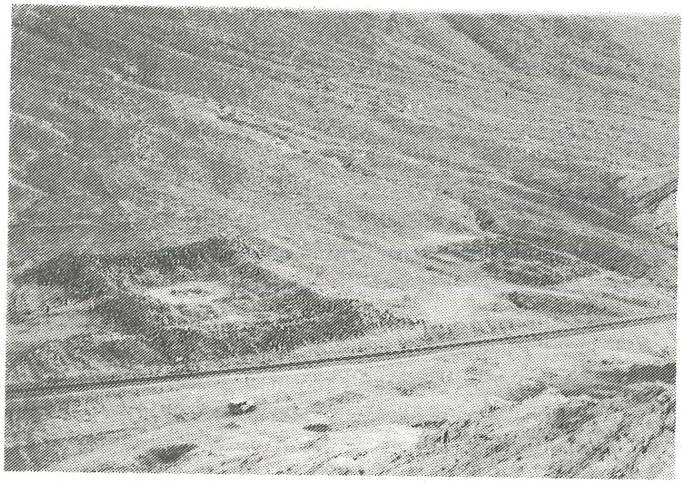
The nature and extent of Roman military presence in the south remains a vexed question. The only definite fortress system which has been located is a string of small *castella* along the Trajanic road between Petra and Aela on the Gulf of Aqaba. The *stationes* and *castella* at Ail, Ṣadaqa, Ḥumeima, Quweira, Khirbet al-Khaldeh (FIG. 7) and Khirbet al-Kithara constitute the essential framework of this defensive system. Numerous smaller fortified posts are interspersed between these larger forts to help monitor and protect any traffic along the route. The most important of these on the plataeau are the Roman forts at Fardhakh, Ḍor and Suweimira between Ṣadaqa and Ḥumeima. The garrisons of these smaller military installations were clearly too limited for warding off any major attack and stand in marked contrast to the larger fortified zone of the so-called *limes arabicus* that existed further north on the plateau between Petra and Bostra.[33] The only evidence of any

[30]F. Zayadine, 'Caravan Routes between Egypt and Nabataea and the Voyage of Sultan Baibars to Petra in 1276 AD,' *Studies in the History and Archaeology of Jordan* II, ed. A. Hadidi (Amman, 1985), pp. 159-174.

[31]See Thomsen no. 187 for a milestone at Gharandal.

[32]R. Cohen, 'New Light on the Date of the Petra-Gaza Road,' *Biblical Archaeologist* 45 (1982), pp. 240-247.

[33]See S. T. Parker, 'The Roman *Limes* in Jordan,' *Studies in the History and Archaeology of Jordan* III, ed. A. Hadidi (London, 1987), pp. 151-164.



7. Roman *castellum* (left) and caravanserai (right) at Khirbet al-Khaldeh.

major revisions in this limited fortification system are several new constructions during the Byzantine period, a large fort at Udhruḥ, the *castella* of al-Ḥammam and al-Mutrab several kilometers east of Ma'an, perhaps the fort at Qirana near the edge of the plateau, and a possible military encampment at Ḥumeima adjacent to an earlier small Roman *castellum*.[34] In spite of these additions to the fortification system, it still can hardly be designated a "defense in depth," despite the fact that numerous routes from the Arabian peninsula intersected this sector, which was in the path of the later Moslem conquests.

Roman activities in the Ḥisma, east of the *Via Nova,* seem limited to the environs of the Nabataean sanctuary and settlement at Wadi Ramm. A Nabataean graffito from the interior walls of the temple appears to be dated to the provincial era.[35] In addition, a Latin inscription on a small altar at the entrance to the sanctuary attests to a dedication made by a third century governor named Aurelianus.[36] Another dedication to the goddess at the nearby spring of 'Ain ash-Shellaleh was engraved in Greek by a *duplicarius* named 'Annianos, perhaps a native Arab recruit commanding a military detachment operating in the area.[37] A coin of Marcus Aurelius and Roman and Byzantine sherds emerging from the excavations at the sanctuary provide corroboration of this Roman presence.[38] Elsewhere, at strategic points intersecting the valley and various points along the *Via Nova,* additional signs of activity in the Roman era were discovered during my survey: Late Roman and Byzantine sherds appear at the watchpost located at Rekhemtein (East of Quweira and north of Ramm), the campsite at Jabal Manshir (northeast of Ramm), the sanctuary at Umm al-Qeṣeir (southeast of Ramm), and at Rujm Kara (south of Ramm on the route leading to Kithara), all previously occupied by the Nabataeans. The region further south in the Ḥijaz is more difficult to ascertain.[39] Nevertheless, the safety and security of traffic along the important Trajanic artery between Ḥumeima and Aqaba was obviously of high priority for Roman military administration of the region.

Summary

Arabia Petraea can no longer be regarded as a basic wasteland, devoid of any significance in the Roman era. Surveys of the region have yielded substantial evidence for a dense population by the first century B.C., with sufficient hints that the roots of some of these settlements emanate from the earlier Hellenistic era. In fact, agricultural communities appear to have existed simultaneously with nomadic pastoralist communities from the beginning of the Nabataean state. With the Roman annexation in A.D. 106, an observable change in this demographic pattern took place. Roman settlements are less extensive and confined mostly to the path of the *Via Nova Traiana.* Either many Nabataeans abandoned the region after the annexation or were absorbed deeper within the settled area of the province. For it is not until the Byzantine era that the area east of the *Via Nova Traiana* was extensively cultivated again, as reflected in the substantial signs of agricultural activity all over the plateau. Nevertheless, Roman settlements along the major arteries leading to Petra indicate a vitality even for the early imperial period. This evidence provides an important basis for revising the popular view of the decline of Arabia Petraea under Roman rule.

[34]Discussed by Parker in *Romans and Saracens,* pp. 94-108.

[35]Savignac, *Revue Biblique* 44 (1935), pp. 265-268 [year 41 or 45]. The palaeography suggests a date of the provincial era, rather than the reign of Aretas IV as proposed by Negev, *ANRW* II/8 (1977), p. 287.

[36]M. Sartre, *Trois études sur l'Arabie romaine et byzantine,* (Collection Latomus, Vol. 178; Bruxelles, 1982), p. 24, proposes Aurelius Aurelianus, known from a milestone at Bostra (*IGLS* XIII, 9101).

[37]Savignac, *Revue Biblique* 42 (1933), pp. 405-407, Greek no. 2; cf. M. Rostovtzeff, *Revue Biblique* 43 (1934), p. 402. The name is perhaps Semitic, Nabataean *ḥnynw* ('Ḥunaynu'), the equivalent of Pre-Islamic Arabic *ḥnn* (cf. Arabic *Ḥunain*), a name which appears in three Thamudic inscriptions from the region (see G. L. Harding, *Some Thamudic Inscriptions from the Hashemite Kingdom of the Jordan* [Leiden: Brill, 1952]: nos. 13, 100, 203) and occurs frequently in Safaitic.

[38]Savignac and Horsfield, *Revue Biblique* 44 (1935), p. 259 [coin]; Kirkbride, *Revue Biblique* 67 (1960), p. 71 [pottery].

[39]See my discussion of 'Qura ᶜArabiyya and Provincia Arabia,' in *Géographie historique au Proche-Orient (Syrie, Phénicie, Arabie, grecques, romaines, byzantines),* (Paris: CNRS, 1988), pp. 171-211; cf. P.-L. Gatier et J.-F. Salles, 'Aux frontières méridionales du domaine nabatéen,' in *L'Arabie et ses mers bordieres* I, Travaux de la Maison de l'Orient no. 16 (Lyon, 1988), pp. 173-190.

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Nabataean Settlement Patterns Inside Petra

This paper will consider the two issues involved in "settlement patterns" at Petra: namely, the original settlement of the Nabatu bedouin population and the subsequent geographical distribution / urban development within the Basin.

The first issue is obscured by Diodorus' use of the term "Nabataean" to describe the earliest record of settlement and by Strabo's picture of their urbanization (16.4.18, 21 ff.), as well as by a confusion in classical sources resulting from the use of the terms "Arab" / "Arabs" [Josephus *AJ* Ixii.4, V.iv.7, XIII.xiii. 3,5, XIV.e.4, vii.3, viii.1, xi.2, XV.iv.1, v.1-2, XVI.vii.5, ix.1; *JW* I.vi.2-4, ix.3, xix.1ff., xxii.3, xxvii.1, II.vii.18, III.iv.2, V.vii.5, xiii.4-5; Tacitus 5.1, 5.6; Dio Cassius LXVIII.5; Strabo 16.2.11; *II Macc.* V.8.: but cf. Josephus *AJ* VIII.viii.2, IX.1.2, x.3, XII.iv.11, XIII.i.4, iv.8, xiv.3, xv.1, XV.v.5, x.2, xi.3, XVI.ix.10-2, XVII.iii.2, *JW* I.iv.7ff., xxix.3ff., *I Macc.* V. 39 (cf. v.24-25), ix.66, xi.16-17, 39-40, xii.31; *II Macc.* XII.10-11; Diodorus II.54.3, XIX.69.1 (and Greer's footnote 3 to this passage); Strabo 16.2.20, 3.1-3, 4.1-2, 4.18, 4.22, 4.25; Pliny XII.xxv. 69, xxxii.62].

Diodorus' description of "Nabataeans" as traders, living a "wild and savage" life in isolation, followed by the description of "Arabs" (II.54.3) as pastoralists, provide the basis for viewing their subsequent rise to urbanism under a socio-evolutionary model (nomads › agriculturalists › "civilized" urbanites). It is here asserted, however, that a temporal distance must be posited between the term "Nabatu" and "Nabataean", and that Diodorus' account obscures that distinction.

Further, the title "tyrant", used in the earliest contemporarily reported Nabataean leadership (*II Macc.* V.9; Aretas I), rather than the title "king", a more commonly used title for such leadership, is seen to be directly related to the earliest settlement of the Nabatu at Petra. That the title "king" is also used of the same person (the Khalasa Inscription), indicates a knowledge of the difference connotated by the two terms.

Since the title "tyrant" was acknowledged, from earlier times, as a legitimate title for the leadership of a "tyranny", in distinction to, but contemporary with, the title "king", its use in regard to a "Nabataean" leader indicates recognition of the form of government involved, prior to a monarchial development. That the former title was still in use in the Hellenistic and Roman periods can be documented (Athenaeus III.90; V.206, 250, 257, 215; VI.246, 249, 251; IX.401; X.435, 437; VI.251, 261; XI.466; XII.522, 540, 541; XIII.609; Diodorus XX.44.1, 54.1; and Josephus *JW* I.xii.2; *AJ* XIII.viii. 1; XIV.ix.1; XVI2).

Since a "tyranny", historically, also involved two populations, a solution to two other aspects of Nabataean settlement at Petra may also be resolved by its recognition there: the obscure (but generally undocumented) "migration" of the previous, permanent, inhabitants of Petra, the Edomites, to the West (becoming "Idumeans"), and the amazing technological advances made by the "Nabataeans" themselves.

In the former case, Strabo noted that the "Idumeans" were "Nabataeans" who had been banished from Nabataene (16.2.34), suggesting a tradition otherwise ignored, but also suggesting that a relation had existed between the (traditionally) Edomite origin of the Idumeans and the Nabataeans.

If, therefore, Edomites were still occupying Petra at the time of the arrival of the Nabatu, the resulting Nabatu-Edomite synthesis under a tyranny, with a later loss of the Edomite identity (i.e. becoming "Nabataean" as a joint political group), explains both the confusion in Strabo's identification of Idumeans and the migration of some Edomites to the West, because of dissatisfaction with the Nabatu-Edomite synthesis.

In the second place, the remarkable technological achievements of the Nabatu-become-Nabataeans may therefore also be resolved. The Nabatu element could continue in its trading expertise, with the Edomite element continuing in agriculture, hence reconciling Diodorus' account of the early Arab cultures. With time erasing the original distinction between Nabatu and Edomites, population increases, expansion of the Nabataean trade network providing further technological knowledge, and similar social evolution, the combined peoples could produce the technological achievements to be seen in the later culture and in their urban stage.

The geographical question involved in settlement must

again balance the fourth century B.C. source of Diodorus against the urban picture painted by Strabo. On the basis of Diodorus' reference to the acropolis-use of Jabal Umm al-Biyara, the presence of the (early) cultic monument, known as the "Snake Monument", early tomb types, and the probable direction of original Nabatu advance into the Basin, original settlement by both Edomites and Nabatu in that area is to be postulated.

Subsequently, movement toward the currently recognized "city center" along Wadi Musa must be seen as a result of population expansion from the earlier settlement site in the South, as well as movement dictated by strategic considerations, water-supply, probable climatic betterment for residential use, and site-access improvement, among other factors. Thus, by the time of the informant of Strabo, urbanization in the northern area was achieved. On the basis of current archaeological data, it would seem that much, if not all, of the "monumental" development of the urban area was the work of Aretas IV, from the late first century B.C. to A.D. 40 (see Hammond 1965; 1973; 1978; McKensie and Phippen 1987; Parr 1967-68; Zayadine 1986).

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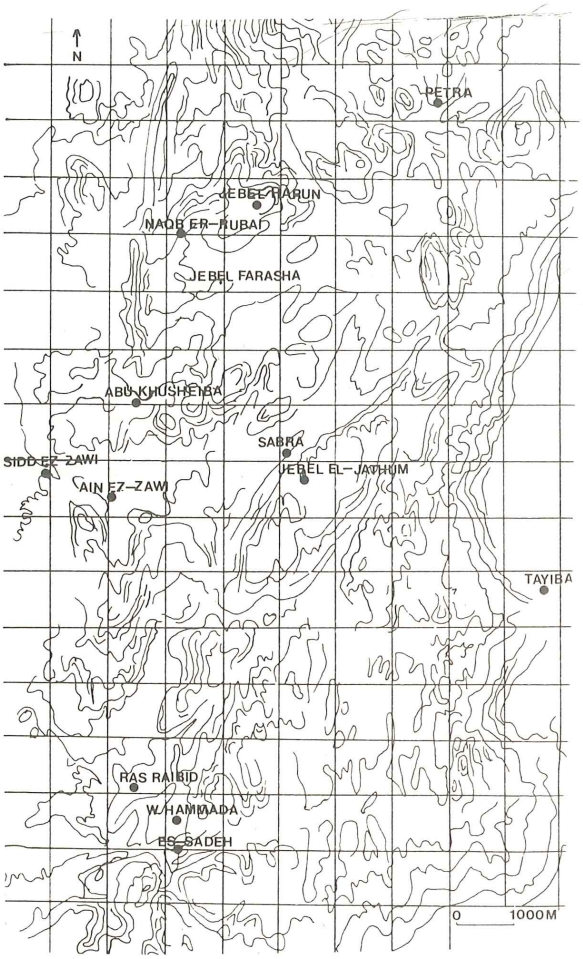
Abu Khusheiba — A Newly Described Nabataean Settlement and Caravan Station Between Wadi 'Arabah and Petra

Introduction

Abu Khusheiba is the traditional name of a relatively short (*c.* 1.5km) widening of the wadi of the same name, about 7.5km southwest of Petra as the crow flies (FIG. 1). The site was explored by small teams from the Naturhistorische Gesellschaft Nürnberg (NHG) under the author's direction in May 1986 and October 1987[1]. Early visitors and explorers of Petra in the 19th and 20th centuries, e.g. L. de Laborde, Lord Lindsay, J. Wilson, W.H. Bartlett, H.C. Hart, T.E. Lawrence and C.S. Jarvis[2], used an ancient route from Wadi 'Arabah passing through Abu Khusheiba "with ruins" to Naqab ar-Ruba'i, and from there around the foot of Jabal Harun to Petra. Following the itineracy of Sultan Baibars of 1276, F. Zayadine[3] reached Abu Khusheiba on foot from Petra in four hours. He chose the route across Naqab ar-Ruba'i which was also taken by the NHG team in October 1987. The descent from Naqab ar-Ruba'i to Abu Khusheiba is rather steep, but faciliated by a series of zig-zag bends usable for horses and camels. Another route taken in 1986 by the NHG team leads via Ṣabrah, aḍ-Ḍaman and Ain aḍ-Ḍaman to the site. The whole region shows evidence of agricultural use at different periods and traces of an ancient track with substructions in several sections[4].

Description (FIG. 2)

The top of Abu Khusheiba is a spectacular cleft between igneous rocks, Cretaceous limestone and Cambrian sandstone. The valley runs roughly from east to west with a natural centre marked by an old *Acacia raddiana* at *c.* 720m asl. It narrows again at its lower end, and turns in an S-curve toward Wadi 'Arabah. The northern bank consists mostly of yellowish limestone, while the southern bank is



1. Sketch map showing the location of Abu Khusheiba.

[1]The exploration of Abu Khusheiba was part of an archaeological programme of the Naturhistorische Gesellschaft Nürnberg, which under the author's direction has been going on since 1973. Beside excavations in Petra, it comprises explorations and surveys, e.g. of the ad-Deir plateau (Petra), the water supply system of Ṣabra, the Edomite mountain stronghold of Ba'ja and the Lithic-Early Bronze-Iron II (Edomite) site of as-Sadeh, all of them published in the *Annual of the Department of Antiquities of Jordan*.

[2]L. de Laborde, *Voyage de l'Arabie Petrée* (1830), p. 54; Lord Lindsay, *Lettres On Egypt, Edom and the Holy Land II* (1838), p. 31; J. Wilson, *The Lands of the Bible Visited and Described II* (1847), p. 139; W.H. Bartlett, *Forty Days in the Desert: On the Track of the Israelites* (1862), p. 109; H.C. Hart, *Some Account of the Fauna and Flora of Sinai, Petra and Wady Arabah* (1891); C.L. Wooley and T.E. Lawrence, *The Wilderness of Zin*. (1914), p. 14; C.S. Jarvis, *Antiquity* 14 (1940), p. 138-147. Jarvis' report is typical of most of the other travellers'. The journey was for him "something of a nightmare", and he has only "a very vague recollection" of what he saw on the road.

[3]F. Zayadine, 'Caravan Routes between Egypt and Nabataea and the Voyage of Sultan Baibars to Petra in 1276', *Studies in the History and Archaeology of Jordan II*. A. Hadidi (ed), (Amman, 1985), pp. 159-174.

[4]See also M. Lindner *et al.*, 'Abu Khusheiba - A Nabataean Caravan Station Between Wadi Araba and Petra', ms on deposit at the Department of Antiquities Registration Centre; *idem*, 'Abu Khusheiba', ***The Archaeology of Jordan II: Field Reports***, D. Homés-Fredericq and J.B. Hennesy (eds), (Leuven, 1989), pp. 114-117.

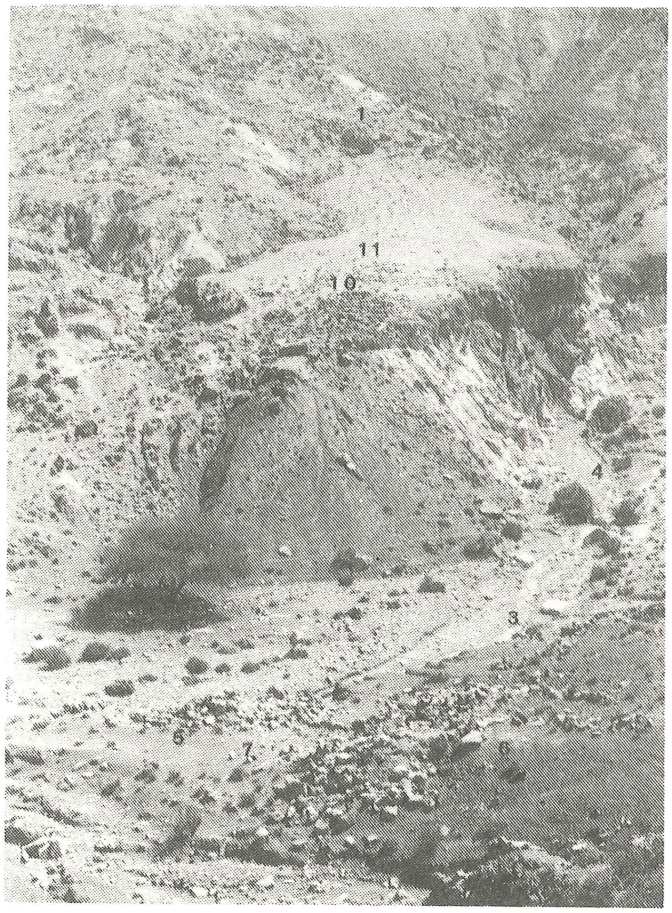
mostly of sandstone debris from the mountain range above. Igneous or eruptive material is best seen at the valley head, in the cliffs of the lower wadi section towards Wadi 'Arabah and in the divide leading to 'Ain aḍ-Ḍaman. Abu Khusheiba was dry in October 1987, but in May 1986 a little water had trickled out of the described cleft.

Buildings

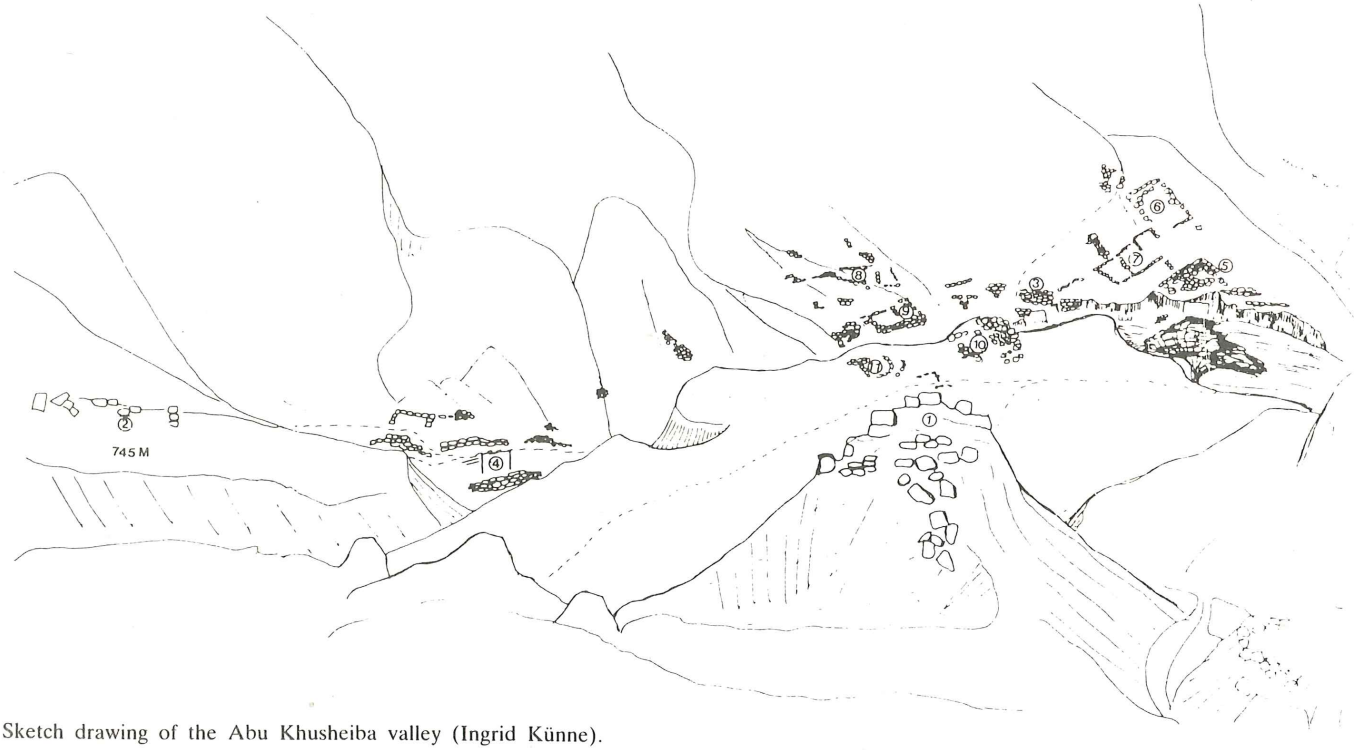
Among the built structures at Abu Khusheiba (FIG. 3), Building 1 measures 6 × 6m and has stuccoed inner walls. It is situated near the zig-zag track (FIG. 4), overlooking almost the entire valley and may have been a watchtower. In my opinion, however, far too many buildings of the region are uncritically described as watch-towers.

Building 2 at 745m asl consists of the remains of two structures with tumbled drums of plain columns, cornice (?) fragments and ashlars bearing diagonal tool marks. The pottery washed downslope from the ruin is fine Nabataean pottery of the first to second centuries A.D. Finds and locality indicate a cultic structure, perhaps a temple.

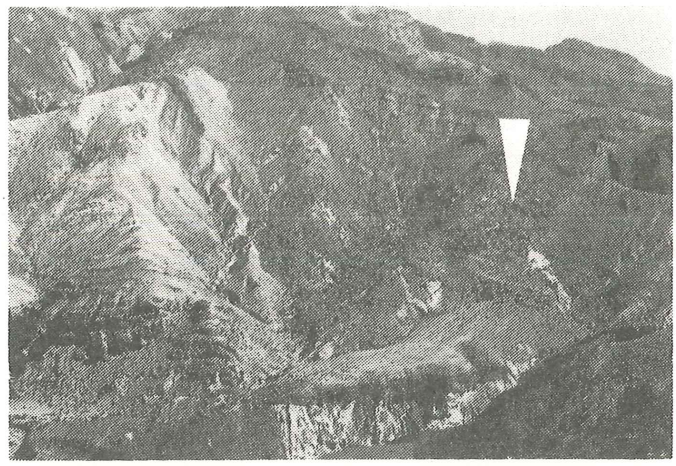
A partly destroyed built channel was discovered on the south bank. It conducted water from the valley head into a vaulted cistern (Building 4) measuring *c.* 7 × 7m. Of the other ruined structures on the southern bank, Building 5 is most conspicuous (FIG. 5). Its wall of large limestone boulders above the wadi bed, now 7m long, originally measured at least 10m. Ash and charcoal layers laid bare by winter torrents were seen under the massive foundations (FIG. 6). Building 7 has a side entrance (FIG. 7), and Building 9, higher up the southern slope has a well built



2. Abu Khusheiba, looking N. The numbers correspond to those in FIG. 3.



3. Sketch drawing of the Abu Khusheiba valley (Ingrid Künne).



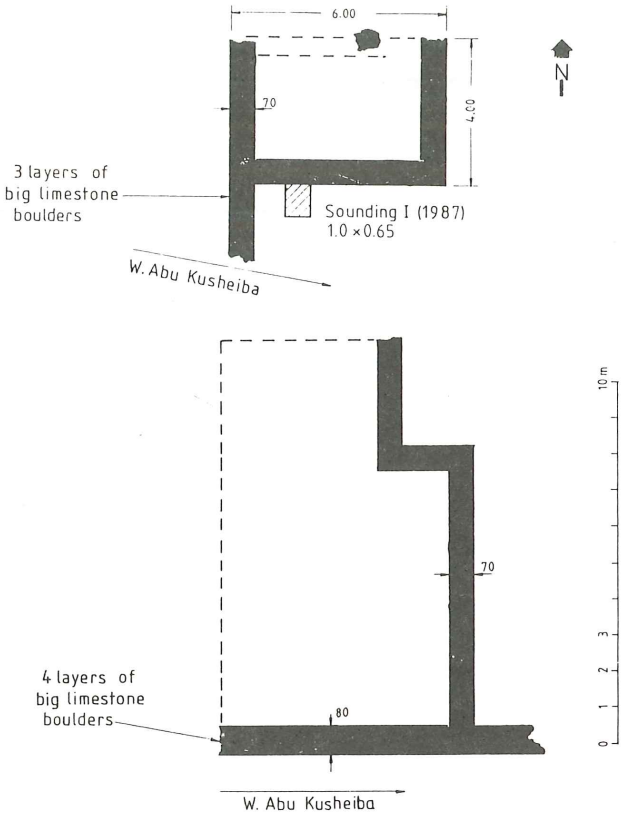
4. Zig-zag track from Naqab ar-Ruba'i down to the valley. Just above the horizon the summit of Jabal Harun can be seen.

wall of ashlars with diagonal tool marks. More houses are buried in the debris of the slope above.

The ruins of two noteworthy buildings are situated at the lower end of a ramp of alluvian deposits along the zig-zag track from Naqab ar-Ruba'i (FIG. 8). Building 10, of the impressive dimensions of 9 × 8m, crowns a knoll on the bank not far from the valley centre. A column base that could not have come from the supposed temple was found below. Building 11 further north and higher up measures 10 × 8m and contains a quadrangle of 2 × 2m of finely cut stones. There is no indication of its original purpose.

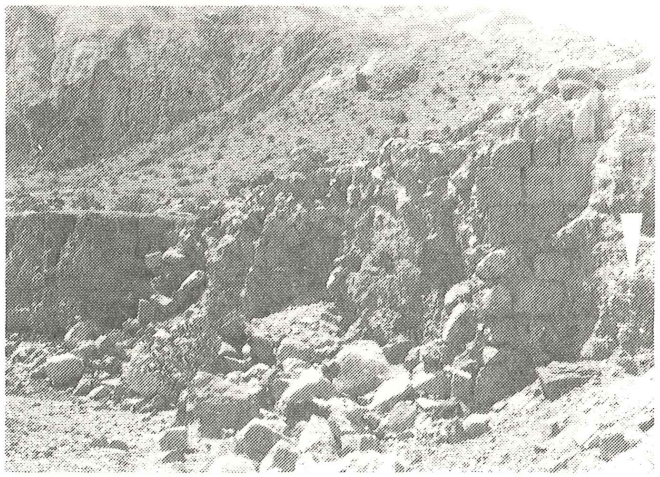
The Pottery and Other Finds[5] (FIG. 9)

The pottery at Abu Khusheiba was collected according to four different methods: a) unsystematically; b) all sherds from 1 × 1m; c) topographically from Buildings 1, 2 and 4;

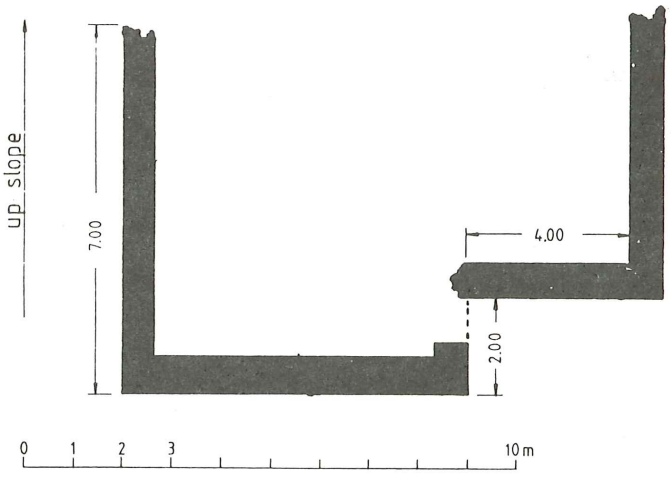


5. Buildings 3 and 5 at Abu Khusheiba.

and d) from excavations in four soundings. The results of the analysis provisionally indicate an occupation of Abu Khusheiba as a Nabataean settlement since the beginning of the Christian era till the third century A.D. There are no traces so far of earlier or later use. Significantly, no Iron II



6. Ash layers under Building 5 at Abu Khusheiba.



7. Building 7 at Abu Khusheiba.

[5]For analysing and dating the pottery. I am indebted to Drs. Zeidan Kafafi. Moawiyah Ibrahim. Nabil Khairy. M. Mackensen, Mr. Suleiman Farajat and J.P. Zeitler. In this paper, only a small sample of the pottery of Abu Khusheiba is shown. A publication of the whole pottery is in preparation by the author and J.P. Zeitler.

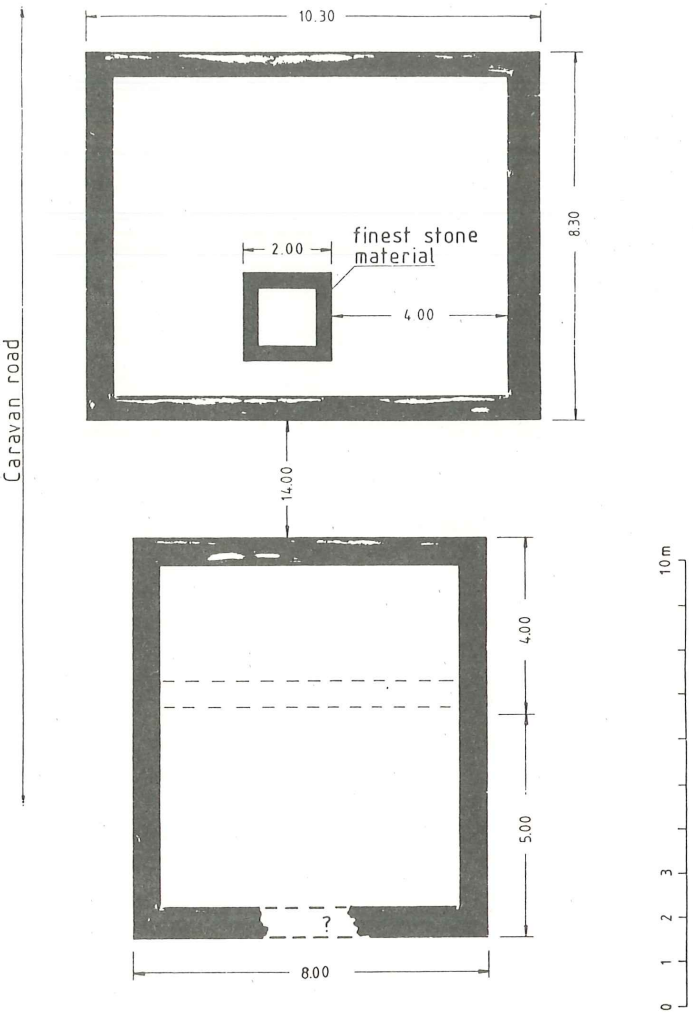
(Edomite) sherds were found in the settlement area. Among other surface finds, there were the fragment of a stone lattice, fragments of polished white marble, the torso of a terracotta figurine and a coin of Rabel II.

In a Spiderweb of Tracks

Abu Khusheiba is located within a spiderweb of caravan tracks. As explicitly as can be discussed here, it seems to have been a sort of junction between Wadi 'Arabah, Naqab ar-Ruba'i, Bir Madhkur, Qaṣr Umm ar-Ratam, Ṣabra and 'Ain adh-Dhawi. The routes were most probably chosen according to weather, beasts of burden and necessity of speed. Where it was not possible to build a single road for all purposes, a multitude of tracks for different purposes at different times had to be devised and kept usable between Petra and Egypt. Some of them are used to the present day.

A Part of Greater Petra

Abu Khusheiba was definitely not "in the desert" as travellers are wont to say when they are in the region. Ancient fields and the ruins of dwellings — not all of them "watchtowers" — between Petra and Abu Khusheiba[6] demonstrate that the site was an important part of a "Greater Petra", stretching in a radius of at least 20 km, e.g. to Ṣabra, 'Ain Braq, Beiḍa, 'Ain aḍ-Ḍaman, 'Ain adh-Dhawi, as-Sadeh[7], Wadi 'Adlaya, Naqab ar-Ruba'i and Ba'ja[8] in the north. When the Nabataean kings enlarged their realm, Abu Khusheiba was founded according to plan and order of the "court" as a more or less permanent settlement and as a caravan station. With the decline of caravan traffic in the two centuries after the annexation of Nabataea by the Romans, the settlement lost its importance. Later, severe earthquakes destroyed the buildings and the water-supply installations. Further destruction was and is due to winter torrents, solifluction and consecutive earthquakes.



8. Buildings 10 and 11 at Abu Khusheiba.

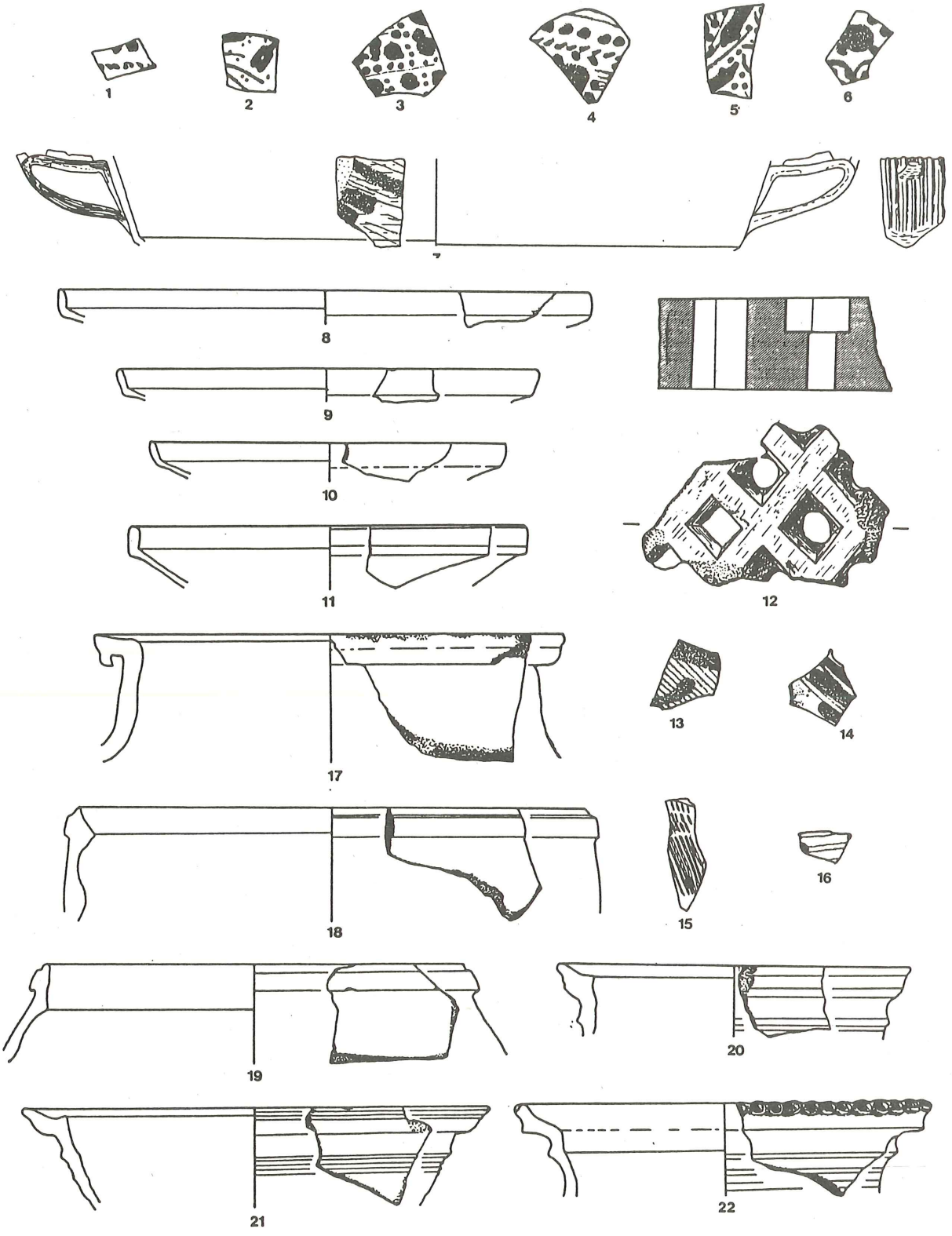
Acknowledgements

The author wishes to thank Dr. Adnan Hadidi, former Director-General of the Department of Antiquities of Jordan, for granting the permission to explore and survey the region, Dr. Fawzi Zayadine for friendly support, his companions E. Gunsam, I. Just, I. Künne, H. Hübl, A. Schmid, E. Schreyer and others for excellent cooperation and H.G. Gebel who suggested the visit to Abu Khusheiba in the first place. Without the guidance of my friend Dakhilallah Qublan some discoveries would not have been made. Ms. Edna Ehrhardt made sure that the English text became readable.

[6]See M. Lindner *et al.*, 'An Edom Survey 1987', ms on deposit at the Department of Antiquities Registration Centre; *idem*, 'Southern Jordan Survey'. *The Archaeology of Jordan II: Field Reports*, D. Homès-Fredericq and J.B. Hennessy (eds), (Leuven, 1989), pp. 84-90.

[7]M. Lindner, S. Farajat and J.P. Zeitler, 'Es-Sadeh - An Important Edomite-Nabataean Site in Southern Jordan. Preliminary Report', *Annual of the Department of Antiquities of Jordan* 32 (1988), pp. 75-99; M. Lindner, S. Farajat, E.A. Knauf and J.P. Zeitler, 'Es-Sadeh — A Lithic - Early - Bronze - Iron II (Edomite) - Nabataean Site in Southern Jordan. Report on the Second Exploratory Campaign, 1988', *Annual of the Department of Antiquities of Jordan* 34 (1990), pp. 193-237.

[8]M. Lindner and S. Farajat, 'An Edomite Mountain Stronghold North of Petra (Ba'ja III)', *Annual of the Department of Antiquities of Jordan* 31 (1987), pp. 175-185.



9. Finds from Abu Khusheiba: 1-7: Nabataean pottery, first century A.D.; 8-11, 13-16: Nabataean pottery, late first and second centuries A.D.; 12, small architectural fragment (stone lattice); 17-22: Late Roman (?) pottery.

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The Water-Supply System of Ancient Auara: Preliminary Results of the Ḥumeima Hydraulic Survey

Introduction

After three seasons of field work (1986-87, 1989), the Ḥumeima Hydraulic Survey has now entered the stage of study and analysis. This paper will provide a brief summary of the research problems the project was designed to solve, the model proposed as a possible solution, and the significance of the results of the field work. The analysis presented is provisional, since study of the finds and of cultural parallels is still not complete. Furthermore, there is no space in the present context for complete citation of documentation.

The site of ancient Auara, now called Ḥumeima, was the major Nabataean centre in the Ḥisma, Jordan's southern desert. According to Ouranios's *Arabika* (*FGrH* 675 frag. A.1.b) Auara was founded by Aretas III (87-62 B.C.) in response to an oracle.

> Auara: town in Arabia, so named by Aretas, son of Obodas, as a result of an oracle given to his father. For Aretas set out to investigate the oracle, which was "to seek a place *auara*" — that is "white" in Arabic or Syrian. When Aretas had arrived and was keeping watch, there appeared to him an apparition, a man clothed in white riding a white camel, and when the apparition disappeared, there appeared spontaneously a craggy hill, firmly rooted in the earth. There he founded a town.

The account seems to imply that Aretas founded the settlement during his father's reign, but the vagueness of expression does not make such a deduction inevitable (*pace* Eadie 1986: 247; Graf 1983: 658-659). Trajan's *Via Nova*, built along the course of a pre-existing Nabataean north/south road, passed through or very close to the settlement, and archaeological and literary evidence reveal that Auara flourished in the Late Roman, Byzantine and Umayyad periods (see Eadie and Oleson 1986: 50-53). At present, the site is 15km west of the modern Desert Highway, approximately equidistant between Aqaba on the south and Ma'an on the north. The relatively good preservation of the settlement, which contains domestic, military and ecclesiastical structures, and the concentration of the visible remains around several dramatic structures obviously connected with an extensive water-supply system excited the comment of numerous travellers in the late nineteenth and first half of the twentieth centuries (Oleson *et al.* 1989: 270). Graf once again focused the attention of scholars on the site by his survey of the road system in the region in the late 1970's (Graf 1979), but a programme of complete excavation has not yet been undertaken.

In 1983, Eadie, Graf and Oleson executed a preliminary survey of the site and carried out some soundings in selected structures (Eadie and Oleson 1986). Eadie and Graf concentrated on the military and ecclesiastical structures and the road system, Oleson on the water-supply system (Oleson 1984). In 1985 Oleson organized the Ḥumeima Hydraulic Survey, with the goal of assembling all evidence for the water-supply system of Auara extant in the settlement centre and surrounding region. The rationale for the project is the preparation of a case study of the interrelationship between water-supply and settlement design at a Nabataean desert site. Much has been written about Nabataean skills in intercepting and storing water in the arid region they inhabited, but no integrated analysis of their capabilities has yet been prepared. In addition, the origins of this skill in indigenous Iron Age and foreign Hellenistic or Roman hydraulic technology must still be traced. Finally, the character of the later reworking of this technological inheritance by the Roman, Byzantine and Umayyad inhabitants has never been properly documented. The survival of an obvious settlement centre at Auara, the clear definition of the regional hydraulic catchment and hydraulic resources, and the survival of literary information concerning the foundation and development of the settlement, make it an excellent candidate for such a case study of technological history.

Preliminary research in 1983 revealed that the water-supply system of Auara was regional in scope and based on a strategy making careful use of a variety of water sources.

There were small (private?) cisterns in the settlement centre and the surrounding hills, and the houses of the settlement seemed to have been laid out around two larger (public?) cisterns/reservoirs that were identical in size and design and built at right angles to each other. All these cisterns were designed to be filled by run-off water. A larger reservoir 350m northeast of the settlement centre was filled by an aqueduct system fed by springs on the ash-Sharah escarpment. Assuming that Ouranios was correct in attributing the foundation of Auara to Aretas III, it seemed a reasonable research model to propose that this king built the two large cisterns, the aqueduct, and its reservoir at the time of the foundation, and that the smaller cisterns were constructed over several decades or centuries as population in the region increased. The cisterns with their dependable water supply would have attracted some permanent inhabitants, while the fresher but also more vulnerable supply of aqueduct water might have been intended to service both caravans using the Nabataean north/south road and nomadic or semi-sedentarized bedouins drawn to the site for occasional trade or seasonal agriculture. Aretas (or his father Obodas) may have had in mind the related goals of fostering convenient and safe movement along this road and of increasing livestock and grain production through incentives to sedentarization.

Results of the Field Work

The three field seasons of the Ḥumeima Hydraulic Survey have been funded by the Social Sciences and Humanities Research Council of Canada and the University of Victoria.[1] The first — completed in 1986 — involved the careful survey of the natural catchment area of Auara, 240 square kilometres surrounding the actual habitation centre, to locate and catalogue all water resources and the structures associated with their exploitation (Oleson 1986; 1987b) (FIG. 1). During the second season, in 1987, all structures related to water-supply within the settlement centre were searched out and catalogued, particularly cisterns and reservoirs (FIG. 2). Where necessary, excavation was carried out to determine the nature of the internal distribution system and its chronology. During the third season, in 1989, a small bath building in the settlement was excavated, and further soundings were made to determine the chronology and design of some of the major public and private cisterns (Oleson 1990).

Sixty-one sites were recorded during the 1986 survey of the region outside the settlement centre. Some of these contained several different types of structures or several examples of a single type. The results can be tabulated as follows:

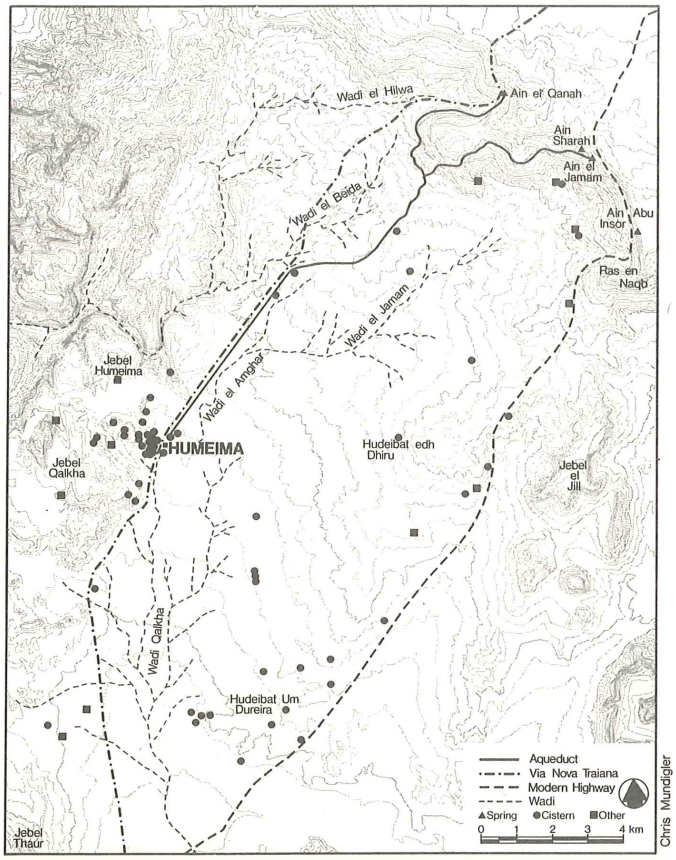
51 cisterns
4 springs and associated conduits
1 aqueduct
1 dam
2 sets of wadi barriers
6 sets of terraces or stone piles

Obviously, since the region was occupied intensively from the first century B.C. to the Umayyad period, and re-occupation has gradually taken place over the last century, not all of these structures may be attributed to the early Nabataean period. Unfortunately, determination of the precise chronology is often very difficult. Even around the cisterns, the type of structure most numerous and most likely to have been the focus of constant activity, the survey recorded very little pottery. Where ceramics did occur, the chronology usually extended from the first century B.C. or A.D. through the Byzantine or Late Byzantine period. The design or present condition of 32 of the cisterns mark them out clearly as ancient in origin. Of these, all but two were cut in bed-rock, and 14 were roofed by means of stone slabs carried on arches springing from the side walls of the cistern basin. Although this method of roofing continued in use through the Islamic period, it was first used in this region by the Nabataeans, and some of the cisterns probably belong to the first century of Auara's existence.

A dam found in a small canyon just south of Ḥumeima was built of sandstone set in mortar in a head-and-stretcher arrangement, while the spillway was cut into the bed-rock at one end. The design, the coursing of the blocks, the large Dushara block carved into the rock face adjacent to the barrier and access stairs, and the presence nearby of Nabataean inscriptions cut into the canyon wall all strongly suggest a Nabataean date. The wadi barriers, terraces, and field of stone piles identified in the Auara catchment area cannot be dated, but they make the most sense in the historical and cultural context of Nabataean and Byzantine Auara. In addition, these types of structures occur most frequently in the vicinity of the settlement centre, along the course of the aqueduct, and near the three springs that fed it.

This supply of spring water must have been very important to Ḥumeima, because it was brought to the settlement at enormous effort through 27km of conduit (FIG. 1). Continued human activity around the springs up to the present has destroyed or scrambled the ancient strata in their immediate vicinity, but the 1987 field work revealed that the aqueduct they fed dates to the first century B.C. This structure is one of the most remarkable surviving examples of Nabataean hydraulic technology so far reported anywhere. The main line extends from 'Ain al-Qanah at an elevation of 1425m for 18.901km to the Nabataean reservoir at the north end of the habitation centre, at 955m. A branch line 7.625km long connected 'Ain aj-Jamam and 'Ain ash-Sharah, also at an elevation of

[1]I am grateful to both these funding institutions. I received invaluable assistance from Dr. Adnan Hadidi and Dr. Ghazi Bisheh, Directors of the Department of Antiquities during this period of time, and from Dr. David McCreery and Dr. Bert de Vries, directors of the American Center for Oriental Research. I would also like to thank for their assistance Mr. Suleiman Farajat and Dr. Wael Rushdan, representatives of the Department of Antiquities, and my staff: Andrew Sherwood, Erik de Bruijn, Daniel Ritsema, Essam el-Hadi and Dr. Robert Schick.

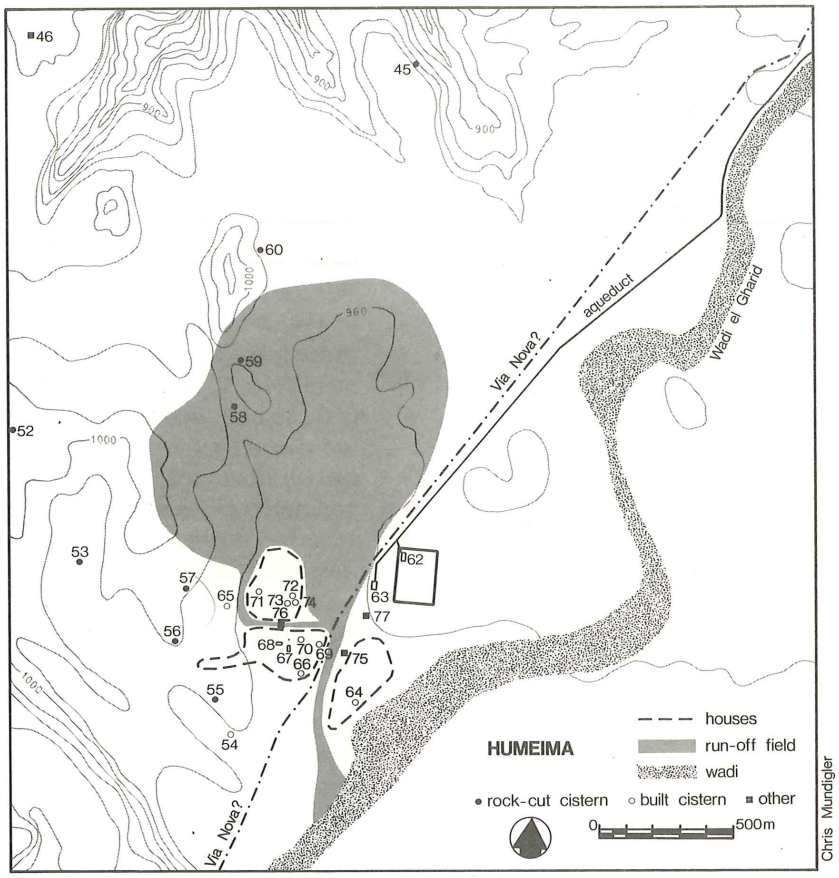


1. Humeima Hydraulic Survey: map of survey area (Chris Mundigler).

1425m, to the main line, joining it 6.557km downstream from 'Ain al-Qanah at an elevation of 1180m. The structure consists of a heavy rubble foundation wall 0.80m across, carrying long stone conduit blocks framed by rubble packing set in mortar. A water channel 0.12m wide and 0.14m deep has been carved lengthwise along each of the monolithic conduit blocks. These are made of yellow marl or white sandstone, depending on the geology of the region the aqueduct traverses, since the material was quarried locally. Fist-sized pieces of rubble were set in a hard mortar on the upper edges of the conduit blocks alongside the trough and smoothed over with stucco on the interior. Untrimmed but for the most part flat slabs of limestone were laid over the top, covering the water course. This roofing was designed to protect the water from evaporation, contamination, obstruction by falling debris, and possibly from unauthorized diversion. The technique can be paralleled at almost all Nabataean sites, although the length of the system serving Auara was exceptional: it is approximately five times longer than the aqueduct that carried water from 'Ain Musa to Petra — itself an exceptional accomplishment. The average slope from the springs to the city is 2.45%. The actual slope varies constantly, however, from slightly less than 1% at either end to 10%, 20% and even 45% for precipitous sections along the ash-Sharah escarpment. At other points along the descent of the ash-Sharah escarpment there were bridges and viaducts.

The 1987 field season concentrated on the investigation of the water-supply system within the ancient settlement centre (Oleson 1988a; b). Special emphasis was placed on defining the structure, chronology, and function of two large reservoirs, one Nabataean (FIG. 2.63) and one Roman (FIG. 2.62), and of the two main Nabataean cisterns in the centre of the settlement (FIG. 2.67,68). As work proceeded, ten cisterns were identified within the settlement (FIG. 2, empty circles), along with a drain (FIG. 2.76), and the bath building (FIG. 2.77). As a result of this work, the overall scheme of the water-supply system of Auara and the chronology of its development are much better understood. Excavation at several points along the aqueduct during this season yielded ceramics that suggest it was constructed early in the Nabataean period and was kept in use through at least the Byzantine period. The aqueduct was built to feed water to a reservoir (FIG. 2.63) located on a ridge 6.0m above and 350m northeast of the settlement centre (L 27.6m; W 17.0m; depth 1.75m). Excavation of the foundation deposits showed that this reservoir too belongs to the earliest phase of Auara's existence. Later, a second reservoir was built nearby, inside a contemporary military camp of the typical Roman *castrum* design (FIG. 2.62). Measurement showed this reservoir to be 50 × 100 × 10 Roman feet in size (W 14.2m; L 29.4m; depth 3.05m). Water from the Nabataean aqueduct was diverted through a conduit branch to fill it. Probably at the same time, the simple overflow discharge of the nearby Nabataean reservoir, which originally fed another aqueduct, was replaced with a pressurized lead pipe system laid directly in the aqueduct channel. The flow into this pipe was regulated by a massive bronze stopcock, which was found in its original position in a niche outside the reservoir. The design of the valve, and the fact that it measures precisely one Roman foot in length (L 0.296 m; 3.350kg), reveal its Roman character. Still later, the lead piping was torn up, the valve plugged with mortar, and the reservoir by-passed by a terracotta pipeline.

Both these pipelines may have been intended to supply water to a small bath building of typical Roman type 100m south of the Nabataean reservoir (FIG. 2.77), excavated in 1989. This structure was probably constructed in the second century A.D. on the walls of a Nabataean house and remodelled in the fifth or sixth century. In the final stage of development it included a large reception room with seven stone beds for undressing and for relaxing after the bath, along with an adjacent reception room with three similar beds, a cold bath chamber with a basin at which the bathers could splash themselves with water, a sweat room with heated floor where the visitors could sit in a hot moist atmosphere, and a hot bath room with heated floor and walls where they could wash themselves at a basin of hot



2. Ḥumeima Hydraulic Survey: map of settlement centre (Chris Mundigler).

water. A vaulted furnace room built of bricks was well preserved.

A probe behind the walls of the better preserved public cistern in the settlement centre yielded a significant amount of Nabataean ceramic material. The chronology of the types of pottery recovered is still the subject of scholarly discussion, but the Nabataean character of the cistern has been established, and it is at least possible that the structure was built in the first century B.C. Excavation also demonstrated that the two public cisterns were filled by separate intake channels, providing a demonstration of the strategy of Nabataean skill in obtaining water from run-off. Excavation in the two private cisterns revealed that they were located in the courtyards of large houses, carefully roofed and paved over, and surrounded by a curb wall. Even on the outskirts of the habitation area this type of circular cistern can date as early as the first century A.D., suggesting that occupation of the habitation area to the south occurred quite rapidly.

Analysis of the Survey and Excavation Results

Three seasons of field work have more or less confirmed the model of royal enterprise at Auara proposed above. Around the periphery of the catchment area, where the bed-rock is at the surface and the topography fosters rapid, directed run-off of rain water, there were rock-cut cisterns and wadi barriers (see FIG. 1). Rainfall is too meager and evaporation too extensive to allow dependence on irrigation for major crops. The wadi barriers and terraces were designed to counteract these factors and enhance the moisture content of the soil. Few cisterns were built in the lowland area around the settlement centre, in the land most suited for agricultural use. Construction was more difficult here, since the bed-rock is inaccessible and local run-off is more scanty in the absorbent, sandy soil. Only in the habitation centre itself, where the concentration of population required it, where the aqueduct and house roofs supplied artificial catchments, and where a properly positioned run-off field was available, were cisterns and reservoirs routinely built entirely of blocks (FIG. 2, empty circles). The location of cisterns around the periphery of the Ḥumeima catchment, close to the border between bed-rock and arable land, made their water available both to farmers in the nearby fields and to herdsmen leading their flocks from field stubble to wild brushland and back again. This is still the pattern of use today.

All the small cisterns and subsidiary water-harvesting structures were most likely planned and built by individuals and were consequently privately owned. The aqueduct, by contrast, must have been a public structure. The concentra-

tion of resources needed for its construction and the fact that it was built at the foundation of Auara or soon after reveal that it was somehow crucial to the function or survival of the settlement. King Aretas III is the party most likely to have had both the means and the interest to build it. Since the Nabataean reservoir fed by the aqueduct was outside the apparent habitation centre itself, King Aretas III clearly had two foci in mind for his new regional centre. In fact, the focus of the structural remains visible at present may not represent the sole ancient centre of population. The character of Nabataean urbanism is still imperfectly known, but it is now clear that many Nabataean so-called "cities" had only a relatively small number of permanent inhabitants (see Negev 1986: 29-67). The populations of settlements such as Mampsis, Ṣubeiṭa and Auara seem to have fluctuated markedly from one season to another, as groups set up tents on the outskirts to take part in caravan trade, livestock markets, or agricultural work. At present, the remains of approximately 42 structures are visible around the settlement centre, of which approximately 35 seem to be domestic in character. The chronology of these structures cannot be determined without excavation, but it is unlikely that they all date as early as the first decade of Auara's existence. The original settlement may have consisted of as few as five or ten households. Ethnographic research by Köhler-Rollefson (1987: 538) near Ḥumeima has shown that permanent habitations can be associated with a largely mobile nomadic population. It is difficult to document the location of these seasonal encampments archaeologically (Negev 1986: 18-22, 36-44; cf. Banning *et al.* 1987: 323-326), but the open ground north and east of the Nabataean reservoir would have served such a purpose very well, particularly after the provision of a flowing supply of spring water through the aqueduct. Aretas may have built the aqueduct primarily to supply water to periodic encampments of nomadic or partially sedentarized Bedouins, to foster the development of Auara as a centre for agriculture and trade. It would have been more difficult to arrange for the necessary maintenance of a run-off cistern intended for the use of a large, changing and at least partially nomadic population that may have spent most of its time elsewhere in the Ḥisma. Later on, the Roman *castrum* may have occupied part of the same campground because of its physical suitability and because of the proximity of a supply of running water and of the Via Nova Traiana. From this vantage point the Roman garrison could also have conveniently kept watch over the settlement, the nomadic camp and the approaches to Auara from north and south.

The residents of the permanent houses down in the settlement centre (FIG. 2, outlined area) could have used this water too, but they were also served by the two nearby public cisterns and by private cisterns within the houses. These cisterns were filled by water funneled from a 100ha run-off field immediately north of the settlement that was kept clear of building in antiquity (FIG. 2, shaded area). The area of the field was not so great or its slope so steep that the run-off would pose a threat to the settlement it sustained. This combination of large, protected run-off field and central set of large, interrelated cisterns also suggests royal planning and patronage. Given that Auara might have been located anywhere in this part of the Ḥisma along the north/south caravan road, it may be that its actual location was influenced as much by the presence of the perfectly positioned and adequately proportioned run-off field just to the north of the settlement as by the availability of excellent grain-growing land to the east, and the proximity of the route down into Wadi 'Arabah through the wadis behind Jabal Ḥumeima.

King Aretas' ability to locate this settlement at a position suitable all at once for agriculture, trade and water-harvesting was due in large part to the use of block-built cisterns roofed with slabs carried on transverse arches. The typical early Nabataean cistern (as described by Diodorus 19.94.6-9) was the bottle-cistern cut in bed-rock and lined with plaster, fed by run-off from an adjacent rock slope. Obviously, such cisterns had to be located where bed-rock was accessible. Sometime in the late Hellenistic period, however, the new design of built cisterns roofed with slabs carried on transverse arches was imported from the Greek world and quickly became typical of virtually every Nabataean site. The design continued in use through the Islamic period. The precise chronology of its spread is still not known, but this type of roof had appeared in exactly comparable form in the Greek world by at least the third century B.C. Cisterns of this type can be seen at the waterless, treeless site of Delos (Chamonard 1922-24: 323-356), and the roof design also occurs in early Hellenistic architecture where rooms must be placed beneath a heavy paving, as in the Temple of Apollo at Claros (Bean 1967: 190-196). The question of the means by which the design was brought to Nabataea is tantalizing. Nabataean merchants probably played an important role, since they seem to have roamed the whole Mediterranean world. Inscriptions in Aramaic or in Aramaic and Greek set up by Nabataeans, or in Greek relating to Nabataeans, have been found in Egypt, at Sidon, Cos, Rhodes, Delos, Puteoli, Ostia and Rome.[2] At sites such as Delos, Nabataean merchants would have seen this type of cistern in operation. The principle of the design in simple, and its appropriateness to conditions in the Nabataean lands obvious.

However the design for the arch-supported roof arrived, it must immediately have helped foster the growth of

[2]The handiest list of Nabataean cultural artifacts outside the Nabataean homeland is now Wenning 1987. See pp. 22-24, 125-128.

Nabataean settlements and the sedentarization of their culture. Once cisterns with stable roofs could be constructed wherever they were needed, the Nabataeans were freed from their previous dependence on rocky outcroppings and the hazardous run-off fields associated with them. They could then settle sites such as Auara, arranging for run-off water supplies close to routes of travel and agricultural land. The built, arched roof was also applied to rock-cut cisterns, since it facilitated excavation and maintenance of the tanks, and concealment was no longer a major concern.

With its aqueduct, Auara reached out farther into the countryside for its water than any other Nabataean settlement and at the same time made use of the full array of typical Nabataean water-harvesting techniques. Bowersock (1983: 64), Hart (1986: 57-58; cf. Finkelstein 1988), and others have suggested that King Aretas IV (9/8 B.C.-A.D. 40) intentionally fostered sedentarization here and elsewhere in his kingdom to compensate for the decreasing importance of the caravan trade. The new data from Ḥumeima suggest that this development may have begun with Aretas III, or even with his father Obodas, at a time when the trade routes were still active. The cistern with arch-supported roof probably had already been in use in the region for several decades, but the scale of the aqueduct may reflect Aretas' personal familiarity with Hellenistic water systems in the eastern Mediterranean. After all, Aretas was given the epithet "Philhellene". The extent of his effort to supply Auara with water implies as well the existence of highly developed social mechanisms within the settlement for governing its distribution and use. The excavations have also shown that interaction took place between the Nabataeans and Romans as one culture succeeded the other and new techniques of managing water and new ideas of its proper use became current. The Romans diverted at least some of the aqueduct supply for the reservoir located within their camp, and they controlled the previously unregulated overflow from the Nabataean reservoir with a stopcock locked behind a grating. In this way they appropriated the water for their own physical needs within the camp, and for the important Roman social and hygenic ritual of public bathing. The bronze stopcock symbolizes the way Roman law, which had evolved to serve the needs of a cosmopolitan, urbanized empire, replaced the stern, but unwritten, informal tribal law of the local Nabataeans.

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Le peuplement nabatéen de la Gobolitide (al-Jibal). Etat critique de la question

But de l'étude et définition de la région étudiée.

Le peuplement nabatéen est relativement bien documenté, mais de façon disparate: sources littéraires externes, inscriptions nabatéennes (en nabatéen ou en grec), objets, informations archéologiques provenant soit de fouilles soit de prospections, celles-ci réalisées et publiées à des dates et de façon extrêmement variables.

Si l'on veut commencer à approcher ce peuplement de façon scientifique (géographique, chronologique, typologique) hors des zones où il est relativement connu (Pétra et ses environs immédiats; le Négeb) on peut le faire à trois niveaux:

a) Celui de l ensemble de la Nabatène, voire de toute l'aire de diffusion de la civilisation nabatéenne: Starcky 1966, Hammond 1973, Wenning 1987, ce dernier ouvrage donnant un répertoire des sites et des vestiges tout à fait satisfaisant. Il me semble, toutes les sources et documents ayant été largement scrutés et discutés, qu'il n'y ait plus guère à espérer dans l'immédiat, en attendant de nouvelles et substantielles avancées ou de la recherche archéologique et épigraphique; la publication toute récente des ''archives Babbatha'' (Lewis 1989) ne révolutionne pas les données. On connaît les résultats et surtout les problèmes posés par cette approche globale: problème de la continuité, ou non, du peuplement entre les Edomites et les Nabatéens; manque de données pour les IIIème-IIème siècles av.J.-C.; hypothèse d'une sédentarisation massive, en villages, des Nabatéens: au Ier siècle av.J.-C.? à l'époque d'Auguste et d'Arétas IV? plus tard dans le Ier siècle ap.J.-C. (sous Rabbel II?)? déclin vraisemblable du grand commerce caravanier nabatéen via Pétra dès la fin du Ier siècle av.J.-C., sous l'effet d'un détournement par Rome de ce commerce vers le sud et l'Egypte; hypothèse (A.Negev, pour le Négev) d'un dépeuplement corrélatif des sites nabatéens à la fin du Ier siècle av. et au début du Ier siècle ap.J.-C. et d'un repeuplement rural, agricole, à partir du second tiers du Ier siècle ap.J.-C.; problème de la continuité de la civilisation nabatéenne après l'annexion romaine de 106 ap.J.-C. et d'un dépeuplement éventuel de la Nabatène (Hauran mis à part) à partir de cette annexion ou à partir du milieu du Ier siècle ap.J.-C. Ces problèmes sont plus ouverts que résolus.

b) Celui de très petites zones de quelques kilomètres carrés, prospectées de façon très intensive. Cette approche n'a guère été pratiquée, sauf autour de Pétra et de Humayma. Nous l'avons tentée en 1987 sur 10,5km^2 autour de Dharih (Fig. 1) et je tiens compte de ces résultats de façon simplifiée, dans les cartes et ci-dessous. Cette approche n'a de sens qu'associée à la fouille d'un site central, et ces fouilles sont encore rares.

c) Celui de régions assez homogènes et de taille moyenne. Cela n'a guère été fait jusqu'ici, sauf dans le cadre de l'analyse des résultats de prospections aux limites un peu arbitraires (Macdonald 1988; s.d.). Les prospections d'échelle moyenne ayant été extrêmement nombreuses depuis le début du siècle, c'est cette approche qui me semble actuellement permettre le plus de résultats (tant que les fouilles ne se développent pas), et la meilleure critique des données.

C'est cette troisième approche que je propose ici. Je l'applique à la région suivante (FIG. 1), d'une superficie totale de 2680km^2:

- limite nord: le Wadi el Ḥasa, profondément encaissé sur presque tout son parcours, et de franchissement malaisé.
- limite est: la voie ferrée du Hedjaz, limite commode, qui se trouve être en gros celle des sites nabatéens actuellement connus (Bayer mis à part). Intégrer les zones plus à l'est aurait été satisfaisant pour l'esprit (extension vers le monde des nomades) mais sans

effet dans la pratique.
- limite sud: route moderne 'Uneiza - Shaubak, Wadi Ghuweir, Wadi Feinan, Wadi Fidan.
- limite ouest: Wadi 'Arabah.

Les limites nord et sud ont une signification historique. Elles définissent, dans la zone centrale, celle du plateau et des hautes collines, un pays connu sous le nom d'al-Jibal. La frontière sud séparant traditionnellement cette région de celle du Shera' passe sensiblement par Khirbet el-Ḥamaṭah (FIG. 4, site 4), à l'arbre isolé dit Shajarat eṭ-Ṭayar (Lagrange 1898, qui signale à proximité une borne portant en grec " ὅρος"), donc peu au nord de la limite que nous avons choisie. Cette région est, selon toute vraisemblance, la même que celle qui était désignée à la fin de l'époque hellénistique sous le nom de Gobolitide (Josèphe, A.J., II, 1,2, dans le cadre de l'Idumée, à l'époque où celle-ci couvre un vaste territoire; cf. A.J., IX, 9,1, mention des Gabalitôn, à côté des Iduméens; et cf. à l'époque byzantine la Gebalènè, chez Eusèbe). Les relations avec le rift et les communications vers l'ouest étant - sur le plan de la problématique - importantes, il m'a paru utile d'étendre l'étude à la portion de la 'Arabah (que l'appellation Gobolitide ne concerne sans doute pas) située à l'ouest de la région ci-dessous, étant entendu que le Wadi 'Arabah lui-même, pris ici comme limite, n'a aucun sens comme frontière dans l'Antiquité.

Ma contribution consiste essentiellement dans les neuf cartes thématiques ci-jointes, où j'ai tenté de présenter de façon homogène les données, et dans le bref commentaire critique ci-dessous, qui vise à dégager les quelques acquis et à mettre en garde contre les conclusions précipitées.

Qu'appelle-t-on "nabatéen"?

Les auteurs utilisés ici ne sont pas toujours clairs dans la définition de ce qu'ils appellent "nabatéen". Le terme peut être entendu de trois façons:

a) Sens politico-chronologique: est nabatéen tout ce qui se trouve dans le territoire de l'état nabatéen, donc à partir du moment où cet état existe (fin du IVème siècle av.J-C., si l'on considère que le récit de Diodore de Sicile, XIX, 94-100 témoigne d'une organisation indépendante, ce qui paraît le cas), ou à partir du moment où le royaume nabatéen a une activité, notamment conquérante, bien attestée (début du Ier siècle av.J.-C.), et jusqu'à l'annexion romaine de 106 ap.J.-C. Les seuls indicateurs sûrs, pour ce sens, sont les quelques textes, les monnaies nabatéennes, les inscriptions datées ou datables avant 106.

b) Sens ethnique: les Nabatéens en tant que tribu ou groupe tribal ne sont évidemment pas les seuls à occuper l'espace de la Nabatène à l'époque définie ci-dessus et après cette époque. On ne sait rien à cet égard pour la zone qui nous intéresse, la collecte des inscriptions thamoudéennes, par exemple, étant encore bien trop embryonnaire; mais pour le Sud de la Nabatène, au Ier siècle ap.J.-C., Pline (H.N., VI, 32) nous indique fort opportunément les noms de onze groupes tribaux non nabatéens entre Pétra et l'Arabia felix, montrant que certains de ces groupes sont en territoire nabatéen (ainsi les Aualitae à Douma et Hegra). Comme nous ne savons rien de plus, nous devons nous garder, à ce stade, d'utiliser "nabatéen" dans un sens ethnique.

c) Sens de la "civilisation matérielle", ou des "indicateurs". Ces indicateurs sont en fait à la base de l'identification de sites ou vestiges comme "nabatéens". Ce sont: le décor monumental nabatéen, plus ou moins spécifique; les façades de tombe, type Pétra ou Hégra; les plans de temples; les monnaies nabatéennes, qui seules se rattachent à coup sûr au sens a); les inscription nabatéennes, ou les inscriptions grecques rattachables à coup sûr au contexte nabatéen (onomastique, etc..); la céramique. Il est suffisamment établi que ces indicateurs définissent une civilisation, ou du moins que cela n'est pas problématique dans une zone aussi centrale de la Nabatène que celle qui nous occupe (le cas du Hauran serait plus obscur), car ils y existent, à une époque qui reste à cerner, de façon quasi exclusive. Les vestiges architecturaux ne sont datables de façon sûre que par référence aux autres indicateurs: inscriptions en place, indicateurs trouvés en stratification. Les inscriptions nabatéennes n'apparaissent en quantité qu'au Ier siècle av.J.-C., mais on sait qu'elles restent en usage, de façon non négligeable, jusqu'au milieu du IIème siècle ap.J.-C. (Hauran, p.ex.). La céramique, outil essentiel, outil quasi-unique en prospection (FIG. 2 et 3) pose, si l'on veut être précis, des problèmes chronologiques actuellement insurmontables.

Il faut donc laisser de côté le sens b) et, distinguant clairement les sens a) et c), ne pas attribuer aux indicateurs de civilisation une signification politico-chronologique qui est prématurée.

La documentation

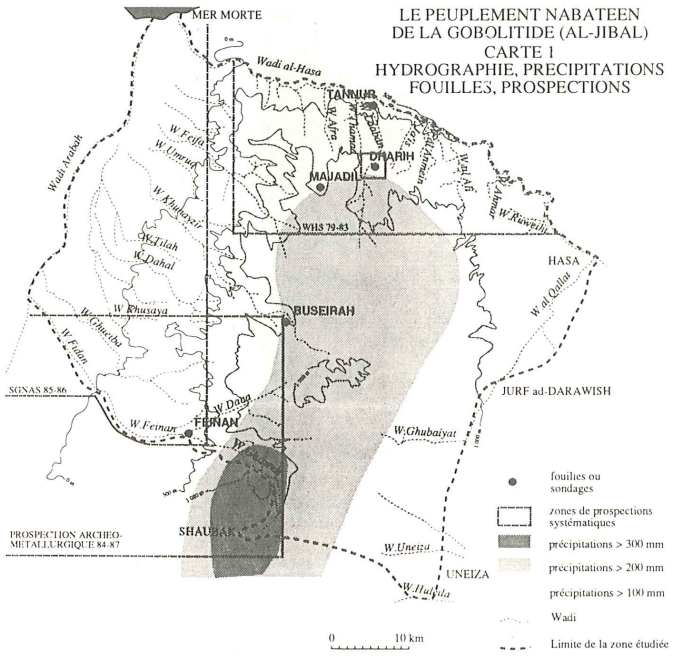
La FIG.1 indique les principales sources de documentation sur la région; l'ensemble des rapports utilisables sont mentionnés ci-dessous en bibliographie.

Seuls cinq sites ont été ou sont fouillés ou sondés. Les sondages de Feinan (Hauptmann 1986; Hauptmann et Weisgerber 1987) ont montré l'absence d'occupation entre la fin de l'âge du Fer et le Ier siècle ap.J.-C. et le caractère limité de l'occupation durant ce siècle. Les fouilles de **Buseirah** (Bennett 1975; 1977; Bienkowski 1989) ont fourni un autel nabatéen inscrit et l'attestation de

niveaux romains, mais négligeables. Les sondages de **Majadil** (Ibrahim 1974) n'ont rien fourni pour cette période. La fouille commençante à **Khirbet edh-Ḏariḥ** (1984-1987: Villeneuve et Moheisen 1989), concernant sanctuaire, village, nécropole et installations diverses, fournit déjà la preuve de l'absence sur ce site d'une occupation antérieure à la fin du Ier siècle av.J.-C. et celle d'une occupation peut-être continue du Ier siècle ap.J.-C. jusqu'à l'époque omeyyade. La fouille du sanctuaire de **Tannūr** (Glueck 1965) a dégagé les grandes lignes de ce sanctuaire et proposé des datations, mais les conditions de la fouille et de la publication rendent celles-ci douteuses: la critique de Starcky 1968 est, à ce stade, définitive.

Les prospections sont de deux types. Explorations non systématiques d'abord, le plus souvent le long d'itinéraires connus, de la seconde moitié du XIXème siècle aux années 1930; de loin la plus ample moisson a été celle de Glueck (1933-34; 1934-35; 1937-39), grâce au recours à la céramique de surface, mais les prospections antérieures sont parfois utiles, pour des plans de site ou des itinéraires. La comparaison des données de Glueck avec celles des prospections récentes montre qu'il avait repéré l'essentiel des sites importants, villages et temples notamment. Ces données sont critiquables cependant sur plusieurs points: localisation imprécise des sites; descriptions non systématisées; rareté des plans; rareté des planches de céramique vérifiables; enfin, tendance bien montrée par Macdonald (1988:7-9), à attribuer une attention excessive à la céramique "nabatéenne" au détriment de celle des autres périodes, donc à gonfler l'importance de la phase "nabatéenne". Les prospections menées depuis la fin des années 1970, d'autre part, sont beaucoup plus précises. Celle des environs immédiats de Ḏariḥ a été mentionnée plus haut. MacDonald (1988 et s.d.) a effectué des prospections "totales" (en principe) et visant toutes les périodes. Elles couvrent respectivement 492 et 685km^2, donc au total les 2/5 (ouest et nord) de notre zone, qui se trouvent ainsi surdocumentés. Dans ces deux prospections, la tendance à recenser comme site toute trace archéologique crée un "bruit" qui peut nuire en définitive à l'analyse du peuplement. D'autre part les catégories de céramique "nabatéenne", "nabatéenne/romaine" (= nabatéenne ou romaine) et "nabatéenne-romaine" (nabatéenne d'époque romaine? nabatéenne d'époques nabatéenne puis romaine?) ne sont pas explicitées, et les planches de céramique sont très rares. Les prospections Bachmann et Hauptmann (1984), Hauptmann (1986), Hauptmann et Weisgerber (1987), concentrées sur les questions minières, ainsi que celles de Hart et Falkner (1985), Graf (1979), Parker (1986) apportent quelques compléments.

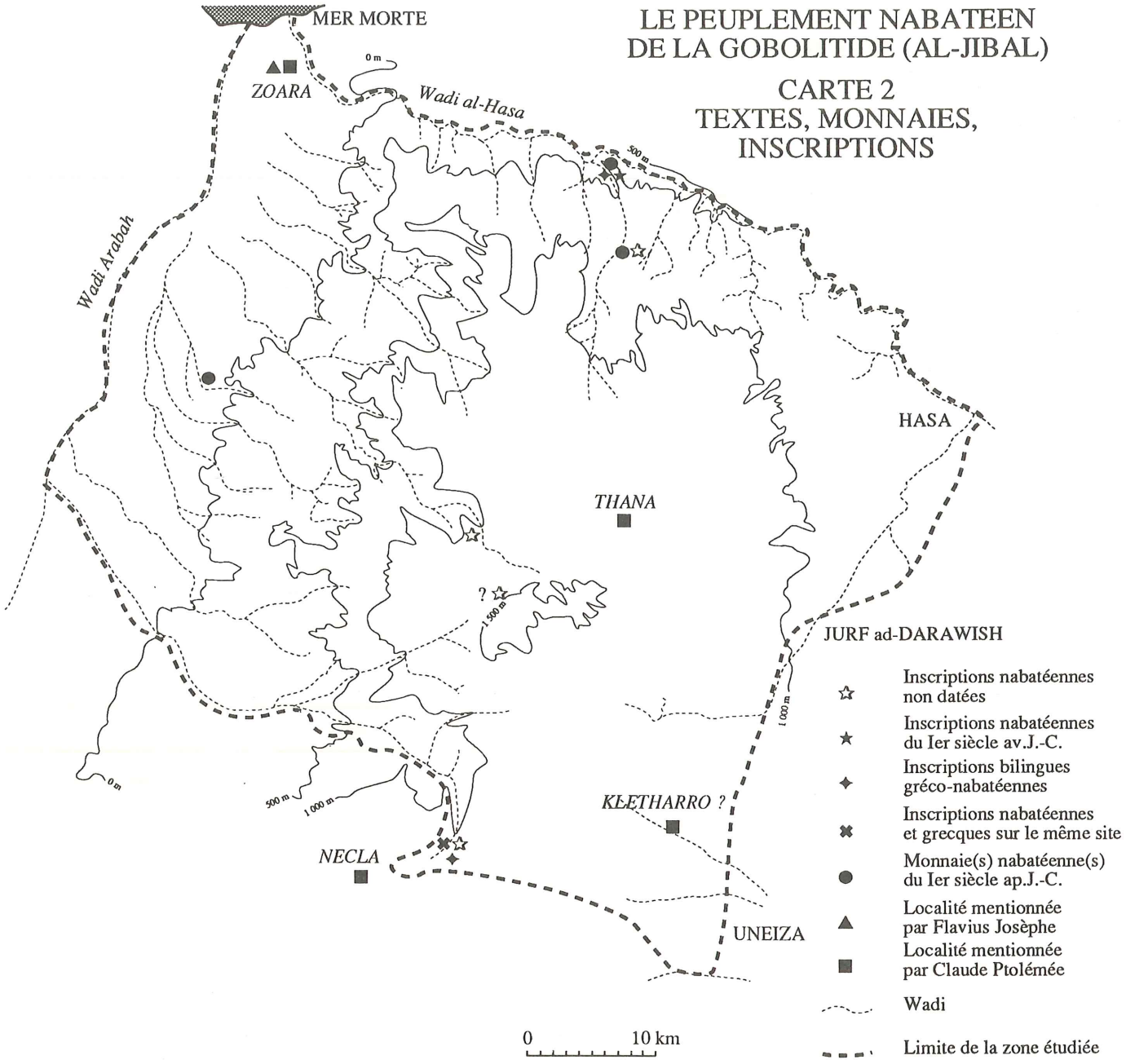
Soulignons, dans le cadre de notre zone, à propos des approches a), b), c), définies ci-dessus, les problèmes d'échelle: traitant des principaux sites nabatéens, Wenning (1987) en retient 110, soit 0,04 site/km^2; MacDonald (1988), sur la base d'une prospection assez intensive mais couvrant 492km^2, relève 232 sites "nabatéens", "nabatéens-romains", "nabatéens/ romains", soit 0,5 site par km^2; Bossut (1988), dans la prospection très intensive autour de Ḏariḥ, en note 28, soit 2,6 sites/km^2. Il est donc clair que notre connaissance de la région est tout sauf homogène.



1. Hydrogeólogie, precipitations, fouilles, prospections.

FIG I.
Le relief est connu et bien décrit (difficultés de communication vers l'ouest et le nord, entraînant sans doute une pérennité des routes). La carte des précipitations montre une zone centrale (> 200 mm de pluie) assez propice aux cultures sèches, et effectivement (FIG. 6) assez occupée dans la phase nabatéenne. La zone des wadis affluents du Ḥasa, au nord, est en-dessous des 200 mm de pluie: les nombreux villages et écarts de la phase nabatéenne n'ont donc pu s'y développer que par l'irrigation (bien attestée, FIG. 6). La 'Arabah et la steppe orientale, en-dessous des 100 mm, sont répulsives, et de fait n'on pas attiré les installations sédentaires.

FIG 2
Textes.
Il convient de laisser à l'écart les sources postérieures au IIème siècle ap.J.-C. Dans ces



2. Textes, monnaies, inscriptions.

conditions, les sources sont rares. Diodore de Sicile (milieu du Ier siècle av.J.-C.) ne donne aucune indication sur notre région en particulier, mais, à propos des expéditions d'Athenaios puis de Demetrios contre la Nabatène, et sans doute contre Pétra, en 312-311 av.J.-C., indique (XIX, 94-100) que les Nabatéens vivent en plein air, que leur territoire est ''sans maisons'', qu'ils ne pratiquent pas l'agriculture, mais ont des citernes, élèvent des chameaux et du petit bétail collectent le bitume de la Mer Morte, font le commerce de la myrrhe, de l'encens, des aromates, tiennent des foires *(panègureis)*, et ne sont guère plus que 10 000. Donc, nomadisme, si ce n'est (XIX, 94,10) que d'autres *genè* arabes cultivent le sol, sans pour autant vivre dans des maisons (semi-nomadisme).

Strabon (XVI,4,18-26), pour la fin du Ier siècle av.J.-C., montre qu'un développement important a déjà eu lieu: la Nabatène est un pays abondamment peuplé et aux bons pâturages, fertile et cultivé (sauf

en oliviers, le sésame servant de substitut); les Nabatéens élèvent des moutons, des boeufs, des chameaux, mais pas de chevaux; ils ont des maisons de pierre coûteuses; les villes sont sans remparts; ni le fer ni le cuivre ne sont produits en Nabatène. Le gros du commerce ne passe plus par Pétra, mais plus au sud. Enfin, les Nabatéens sont assez nombreux pour fournir 1000 hommes à l'expédition d'Aelius Gallus. On n'en est visiblement plus au nomadisme prépondérant.

Pline l'Ancien (H.N., V. 12-15; VI, 32) (milieu du Ier siècle ap.J.-C.) n'est à peu près d'aucun secours, sauf par sa mention des ethnies, signalée ci-dessus. La zone à l'est de la Mer Morte (toujours exploitée pour son bitume) reste chez lui "l'Arabie des nomades".

Josèphe (fin du Ier siècle ap.J.-C.), outre qu'il nous indique le nom antique de notre région (v.ci-dessus), n'y signale qu'une localité, Zoara, que la comparaison avec Ptolémée et avec les sources byzantines invite à placer dans le Ghor es-Safi.

Cette dernière indication est à présent confirmée par les papyrus des "archives Babbatha" (années 90 à 130 ap.J.-C.), qui mentionnent en outre le village de Maoza (non porté FIG. 2), à proximité immédiate de Zoara, et indiquent que les affaires judiciaires de la région, après l'annexion romaine, sont plaidées tantôt à Pétra, tantôt à Rabbathmôba (Lewis 1989): ce qui indique qu'il n'y avait pas de ville vraiment importante sur le plan administratif en Gobolitide à ce moment.

Claude Ptolémée (lère moitié du IIème siècle ap.J.-C.) mentionne (Géogr., V, 17) en Arabie Pétrée, dans une liste indifférenciée de villes ou villages, trois localités qui, sur la base de ses coordonnées, sont à situer dans notre zone: Zoara; Thana, dont la localisation correspond bien à l'importante ruine de Thawāneh; Necla, sans doute 'Ain Nijl. Une autre localité, Klètharrô, se placerait, au vu des coordonnées, à l'emplacement du fort de Da'janiya, mais la ressemblance du nom avec celui de Betthorô dans les sources byzantines, communément située à Lejjun en Moab, incite à la prudence.

Inscriptions.

Des inscriptions nabatéennes ou d'époque nabatéenne n'ont été trouvées, en petit nombre, qu'à Tannūr, Ḏariḥ, Buseirah (dans ces trois cas, ce sont des inscriptions liées aux cultes), peut-être à Rashādiya (simple mention) et, hors d'un site de village, au Wadi Ghuweir (5 graffites, dont une bilingue gréco-nabatéenne, à quoi s'ajoutent quelques graffites grecs). A Tannūr est connue une inscription grecque associée au sanctuaire nabatéen. Seule une inscription de Tannūr est datée, de 8-7 av.J.-C., inscription importante puisqu'elle est la seule à donner une petite information sur l'organisation politique de la région, le dédicant étant le "chef" ("curateur" est déjà une interprétation) de la source du La'ban: donc peut-être une organisation locale à l'échelle d'une vallée, autour de la question de l'irrigation.

Monnaies.

Les rares monnaies lisibles trouvées (une à Tilāh en surface; une à Tannūr, contexte non précisé; cinq à Ḏariḥ dans la couche de destruction de l'huilerie V10) sont toutes du Ier siècle ap.J.-C., du règne d'Arétas IV à celui de Rabbel II. Signalons à Ḏariḥ la présence d'une bonne quantité de monnaies romaines du début du IIème siècle, et du IVème siècle.

FIG. 3: Céramique.

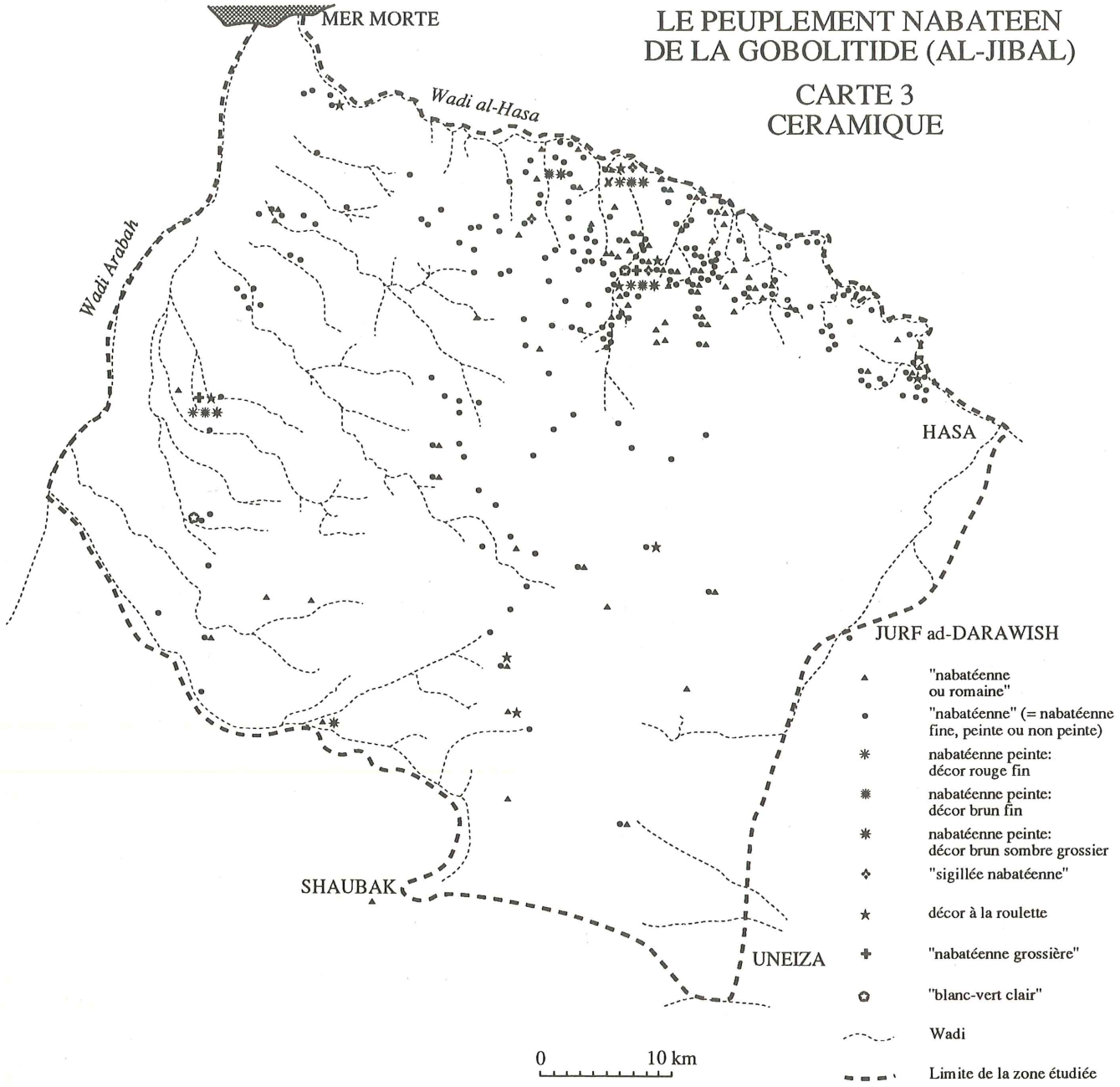
Vu la faible abondance des données ci-dessus examinées, la qualification de l'immense majorité des sites comme "nabatéens" repose sur la céramique, en général de surface. L'apellation "céramique nabatéenne" recouvre en fait les variétés suivantes: céramique rouge-orangé grossière, du type bien connu à Pétra; céramique fine non peinte et non sigillée, avec ou sans décor à la roulette; céramique peinte: à décor rouge fin; à décor brun-rouge fin; à décor brun sombre plus grossier (ces trois types étant généralement supposés se suivre chronologiquement, sur la base de fouilles à Pétra); "sigillée nabatéenne", avec ou sans décor à la roulette; enfin, une céramique blanc verdâtre (Schmitt-Korte 1984: 24-25, et Amr 1991, signalant un exemplaire non publié découvert dans MacDonald: s.d.), jusqu'ici méconnue et qui n'est peut-être pas spécifiquement nabatéenne, mais pourrait caractériser le Ier et le début du IIè siècle ap.J.-C. (?).

La carte montre:

a) L'extrême fréquence de la céramique "nabatéenne" ou "nabatéenne ou romaine" partout dans le zone, sauf à l'est et dans la 'Arabah.

b) La grande difficulté qu'il y a à tirer des conclusions de la distinction faite dans les prospections récentes (MacDonald 1988 p.ex.) entre céramiques "nabatéennes", "nabatéennes ou romaines", "nabatéennes-romaines". Ces céramiques se retrouvent avec la même dispersion, souvent sur les mêmes sites. L'absence d'explications sur ces distinctions, la rareté des planches de céramique, l'absence de stratigraphie à Tannūr, n'autorisent aucune certitude.

c) La grande rareté des sites où la céramique soit suffisamment décrite, vue, ou publiée pour que l'on puisse sortir des catégories floues énumérées en b). Ces sites ne sont pratiquement que Tilāh (en surface), Tannūr (non stratifié) et Ḏariḥ. Or, sur ces sites, on voit que toutes les catégories de céramique "nabatéenne" sont trouvées ensemble. Mieux, à



3. Céramique.

Ḏariḥ, toutes ces catégories se retrouvent en quantité dans la fouille d'un seul gros locus, la couche de destruction de l'huilerie V10, avec un *terminus post quem* fourni par cinq monnaies (fin du Ier siècle ap.J.-C.), et associées à d'autres formes qui ne surprendraient pas dans un contexte du IIIème siècle ap.J.-C. Cet ensemble est donc à dater entre la fin du Ier siècle ap.J.-C. et le IIIème siècle ap.J.-C. J'ai donc les plus grands doutes: a) sur la valeur absolue de la succession des types de céramique nabatéenne à décor peint (il apparaît qu'ils ont tous au moins coexisté à un moment); b) sur la certitude que l'on aurait d'un abandon de nombreux sites dans le courant de IIème siècle ap.J.-C., tant que l'on n'aura pas éclairci les problèmes de chronologie de la céramique. En d'autres sondages de Ḏariḥ (maison V1, nécropole) apparaît une occupation sûre du site jusqu'au milieu du IVème siècle - même s'il est vrai que la continuité jusqu'à cette date n'est pas prouvée - et le temple, réutilisé comme église, puis comme

habitat, n'est pas détruit avant l'époque omeyyade. Les théories de Roller (1983) sur une dépopulation de l'oasis du La'ban à partir de 130 ap.J.-C. sont donc obsolètes.

Mieux vaut enfin ne pas parler du problème de la date d'apparition des céramiques nabatéennes, qui est dans le flou. L'ensemble de nos FIG. 2 et 3 montre en tout cas que rien n'est attesté avec certitude, dans la région, en matière d'occupation sédentaire et même de fossiles directeurs, avant la fin du Ier siècle av.J.-C.

FIG. 4: Sites.
Cette carte n'a qu'un caractère indicatif, vu ce qui a été dit de la variété des types de prospection et des incertitudes sur les indicateurs. Tous les sites hellénistiques, nabatéens, nabatéens ou romains, nabatéens + romains y figurent, mais pour éviter une surreprésentation de la zone nord, j'ai arbitrairement éliminé du rapport de MacDonald (1988) tous les sites ayant fourni moins de quatre tessons des périodes considérées.

La répartition des sites, dépendant fortement de la pluviosité ou de l'irrigation, est claire: sites assez nombreux sur le plateau central; rares à l'est; rares dans la 'Arabah (même en faisant la part de la disparition des vestiges de brique crue), où ils se concentrent le long des wadis: très nombreux au nord, sur les wadis affluents du Ḥasa, mais plus rares entre les wadis. Les questions de densité n'étant pas significatives à ce stade, c'est plutôt l'évolution chronologique qui est à souligner. Aucun site à l'époque perse, sauf Buseirah (jusqu'au Vème siècle: Bienkowski 1989). Les efforts de Bartlett (1979) pour démontrer la continuité entre le peuplement édomite et le peuplement nabatéen sont donc démentis (la possible continuité culturelle, attestée par le culte de Qôs chez les Nabatéens et peut-être par l'usage nabatéen de l'écriture araméenne, peut fort bien transiter par une phase de nomadisme, et n'est pas très significative). Les sites uniquement "hellénistiques" sont rares, mais non inexistants. L'absence d'indicateurs "nabatéens" sur ces sites et dans cette phase n'implique évidemment pas que ces sites ne soient pas politiquement ou ethniquement nabatéens. Ce peuvent être les quelques foyers de peuplement sédentaire à partir desquels s'est redéveloppé le peuplement sédentaire nabatéen: plusieurs sites hellénistiques + nabatéens, et hellénistiques + nabatéens + romains existent. Mais ce n'est pas le cas à Ḏariḥ et Tannūr, seuls sites significatifs fouillés. Enfin, le grand nombre des sites "nabatéens ou romains" dans la zone prospectée par MacDonald (1988) et nabatéens - romains un peu partout (toujours en fonction de la céramique...) incite à la plus grande réserve vis-à-vis de la thèse d'un dépeuplement de la région à l'époque romaine. On sait beaucoup trop peu de l'histoire chronologique de chaque site, et en particulier de la taille des sites. Le nombre des sites enfin, n'est pas une indication suffisante quant à la densité de population. Le peuplement d'époque romaine peut avoir été plus concentré en villages que le peuplement d'époque nabatéenne.

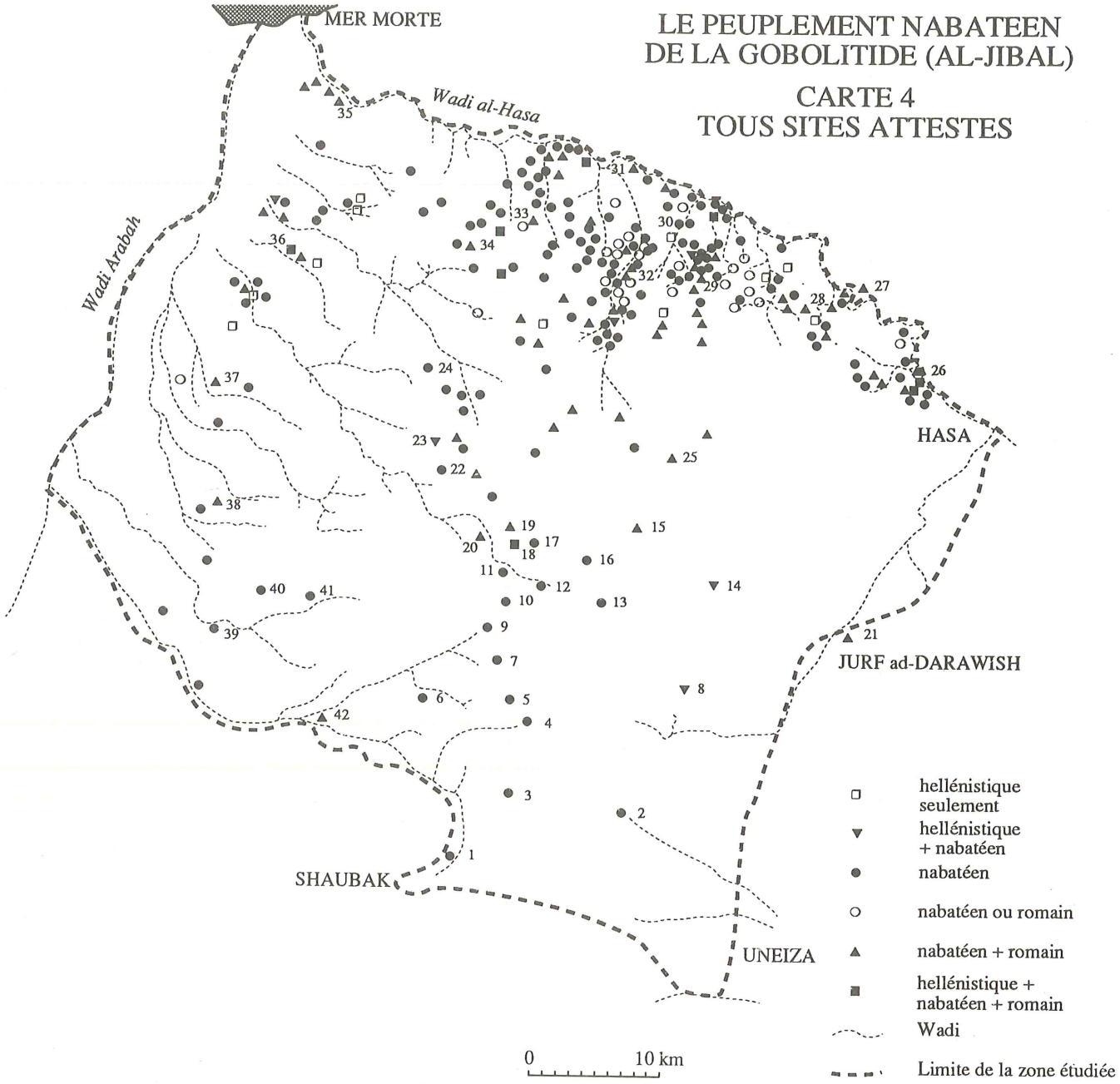
FIG 5: Routes, Forts, caravansérails.
Les routes figurées ici ne sont qu'indicatives. On ne sait rien des routes avant 106 ap.J.-C., sauf à les déduire, de façon assez vraisemblable, mais tautologique, du relief et de la localisation des sites. Les routes figurées sont les routes traditionnelles décrites par Musil (1907-1908) - nous y intégrons un tronçon de route pavée découvert au sud-est de Tafileh par MacDonald (1988) - et la Via Nova Traiana. Celle-ci est évidemment, en tant que telle, une création romaine. Elle peut avoir repris un itinéraire antérieur. MacDonald (1988) a mis en évidence la présence de céramique "nabatéenne", "nabatéenne ou romaine", "nabatéenne-romaine" sur la plupart des sites de surveillance associés à cette route. Cela peut signifier deux choses: la route existait avant l'annexion romaine; ou ces céramiques sont d'époque romaine...

Hormis les tours et fortins localisés sur cette route, les tours sont rares, et de fonction douteuse. Plusieurs se trouvent au voisinage de Ḏariḥ: ce peuvent être des tours de surveillance des champs plutôt que des tours militaires.

MacDonald (1988; s.d.) a attiré l'attention sur deux sites majeurs de grands camps militaires d'époque sans doute nabatéenne, à Umm Ubṭulah dans un méandre de la rive nord du Ḥasa et à Umm aṭ-Ṭawabīn (= Khirbet Labrush, selon Kitchener 1884) au S.-E. de la Mer morte. Leur dispositif n'est pas romain; leur localisation n'est pas associée à celle des tours et fortins.

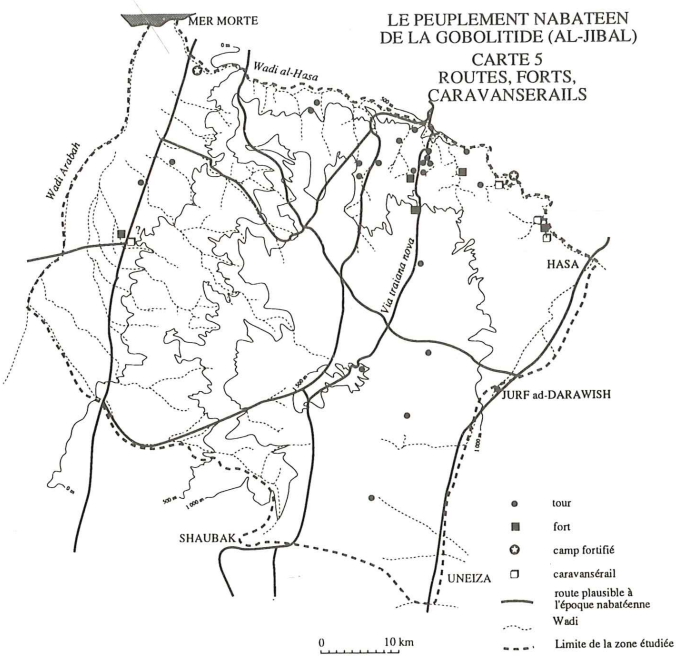
Quelques hypothétiques "caravansérails" ont été signalés, mais la distinction entre caravansérail, fort ou grande maison me paraît arbitraire sans fouille. L'argument de la proximité des "routes" est évidemment tautologique.

FIG. 6: Habitats.
La trame urbaine paraît quasiment inexistante. Les mentions de Josèphe et Ptolémée ne permettent pas de savoir si les quelques sites cités sont des villes, ou des villages de quelque importance. Buseirah (Bennett 1975; 1977; Bienkowski 1989) n'est pas une ville à l'époque nabatéenne et romaine. Feinan ne semble guère en être une non plus. Zoara, citée par Josèphe, Ptolémée et les "archives Babbatha", n'offre guère de données archéologiques à l'époque



1 al-Mustaʿjilah
2 Khirbet Ṭawīl Ifjeij
3 Khirbet as-Samra
4 Khirbet al-Ḥamāṭah
5 Khirbet al-Bīr
6 Sheikh ar-Rīsh
7 Khirbet al-ʿAlimah
8 Tell al-Juheira
9 Imtāt
10 Rashādiya
11 Khirbet Ruwāth
12 Gharandal
13 Khirbet Atāʿitā
14 Jabal al-Qirana
15 Thawānah
16 Rujm Rāʾs al-Ḥalā
17 Khirbet Umm Zeitunah
18 Umm Dāyifa
19 Khirbet al-Janīn
20 Busaira
21 Qaṣr al-Bint
22 Selaʿ
23 Qaṣr ad-Deir
24 Siniṭha
25 Qufeiqif
26 Khirbet ar-Ruwaihi
27 Umm Ubṭūlah
28 Rujm Bākher
29 Rujm al-Faridiyyah
30 Khirbet Jāʿis
31 Khirbet at-Tannūr
32 Khirbet adh-Dharīḥ
33 Khirbet Bahlūl
34 Rabāb
35 Umm aṭ-Ṭawābīn
36 Rujm Umruq
37 Tilāh
38 Khirbet Khusaiya
39 Khirbet an-Nahās
40 Khirbet al-Jāriyyah
41 Khirbet al-Ghuwaiba
42 Feinān

4. Sites.



5. Routes, forts, caravansérails.

considérée. L'extension de Thawāneh, citée par Ptolémée (Thana) n'est pas connue. Ṭafilah ferait un excellent ''lieu central'' urbain pour la zone, mais strictement rien n'en est connu entre l'âge du Fer et l'époque byzantine. Une civilisation de villageois, d'habitats dispersés et de nomades, donc.

Les villages sont quasiment inexistants dans la 'Arabah et à l'est, assez nombreux dans la zone centrale (plateau), nombreux dans les wadis du nord. Mais on n'arrive qu'à un total de 50 villages repérés sur toute la zone, soit un finage moyen de 55 km^2 par village (chiffre énorme; il est évident que chaque village devait exploiter des finages beaucoup petits, donc que les zones non exploitées par les sédentaires étaient vastes). Le seul site de village sur lequel on ait des indications sûres de superficie est Ḏariḥ: or ce village, considéré comme ''sizeable'' par MacDonald (1988) occupe au grand maximum 4 hectares, et a moins de 25 maisons (moins de 250 habitants?), et l'on n'a encore d'indications chronologiques que sur deux d'entre elles (V1 et V10), mais non sur leur date précise de construction.

Il ne faut donc pas surestimer le peuplement ''nabatéen'' en quantité. Ce n'est certainement pas la trentaine d'habitats dispersés et de hameaux qui modifie la chose, mais cette dernière forme d'habitat est intéressante, parfois en nébuleuses autour des villages, parfois franchement à l'écart. Les villages ne semblent jamais fortifiés.

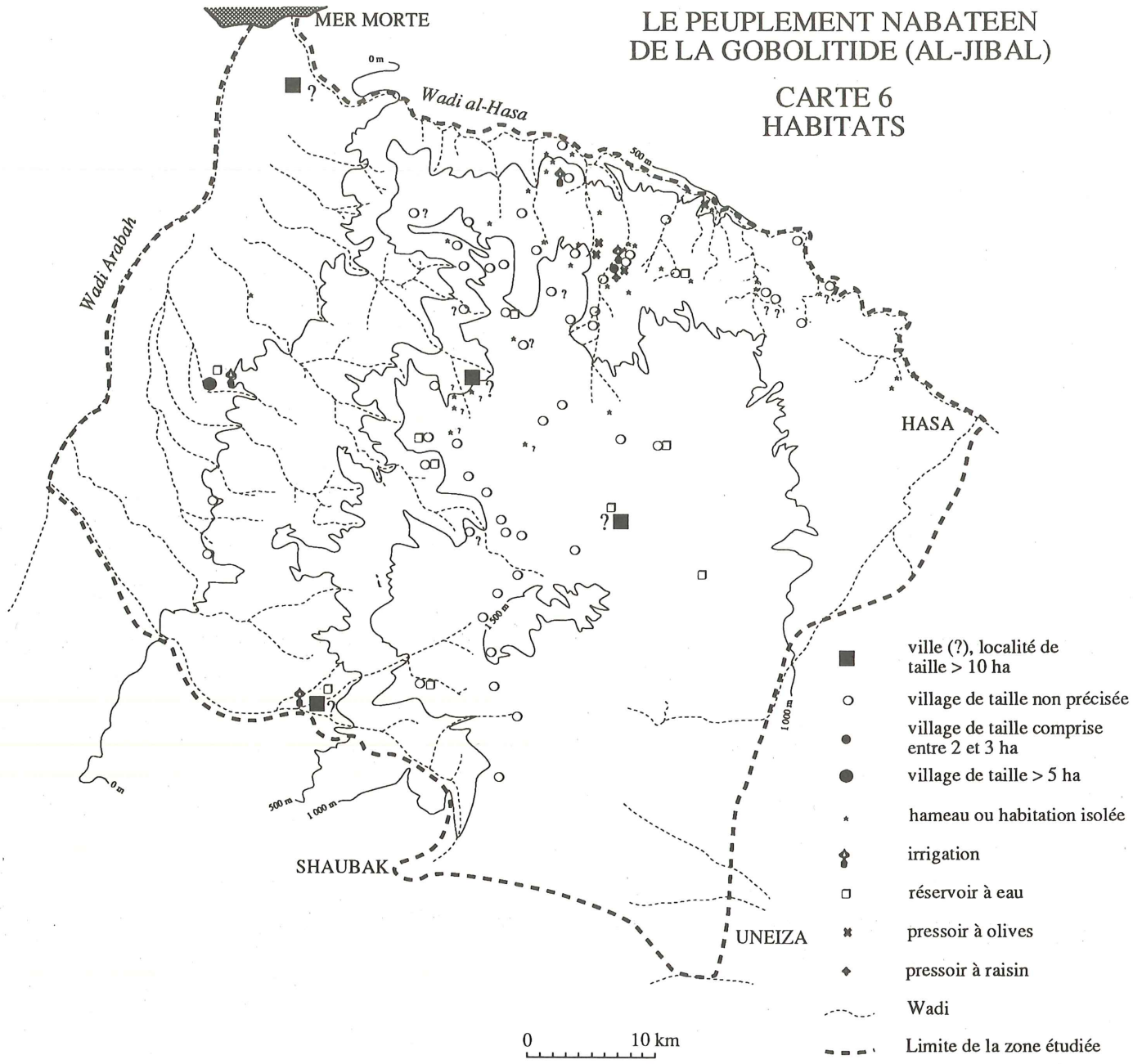
L'irrigation antique est courante autour des villages sur les wadis, tant au nord que dans la 'Arabah. Les autres activités sont trop peu documentées, mais la fouille de Ḏariḥ permet de signaler que le pressage des olives était pratiqué, au plus tard au IIème siècle ap.J.-C. (évolution par rapport à l'époque de Strabon). La question des moulins reste en suspens. Un édifice de Ḏariḥ (Wadi Sharheh), partiellement fouillé, pourrait être un moulin à eau. Les grands moulins à chute verticale visibles au Wadi La'ban ne peuvent être antiques, car ils sont trop bien conservés. L'argument, avancé dans l'ouvrage de MacDonald (1988), qu'ils ne fonctionnaient pas au XVIème siècle, d'après les sources fiscales turques, donc qu'ils sont plus anciens, est sans valeur: ils sont bien postérieurs, et sans doute dépendants de la ville moderne de Ṭafilah. Un moulin de Feinan est sans doute antique, mais rien n'indique sa date.

FIG. 7: Tombes.
La répartition des tombes et nécropoles, très peu décrites, n'apporte pas de complément significatif. Le nombre assez élevé des nécropoles dans le nord-est de la 'Arabah, hors de la zone des villages, pourrait être un indice d'activité nomade dans ce secteur, mais la connexion entre la céramique de surface et les tombes, sur ces sites multipériodes, est nécessairement floue. Les ''tours/tombes'' signalées par MacDonald (1988) sont de fonction douteuse.

Pour le tournant du Ier et du IIème siècle ap.J.-C., la nécropole principale de Ḏariḥ montre une grande prospérité: mausolée construit, à 30 tombes, tombes-fosses maçonnées (Villeneuve et Moheisen 1989). Le mausolée est encore en usage jusqu'aux années 360 ap.J.-C. Les inhumations des années 110-120 montrent des pratiques funéraires nettement préromaines (linceuls de cuir, absence totale de parure), mais hellénisées (oboles de Charon).

FIG. 8: Lieux de culte.
Cette carte confirme la très faible urbanisation et le développement très relatif de la zone à l'époque ''nabatéenne' et au début du IIème siècle ap.J.-C. Le temple de Tannūr est incontestablement un sanctuaire de pélerinage, vu son isolement. Mais sa fonction est-elle locale (cf.ci-dessus, initiative de ''chef de la source du La'ban'') ou régionale? La controverse sur sa datation est connue. La théorie des ''trois phases'' de Glueck ou, avec une troisième phase au début du IIè siècle ap.J.-C., ne s'appuie que sur le secteur précis de l'édicule central. La datation tardive de la dernière phase de construction ne s'appuie sur rien de sûr. La seule date certaine est celle de 8/7 av.J.-C., pour l'une des phases, et Starcky (1968) paraît voir juste en limitant les phases, édicule central mis à part, à deux, et en réalité à une phase majeure comportant aménagement de l'ensemble du sanctuaire dans son état visible.

Le temple villageois de Ḏariḥ paraît dépasser de

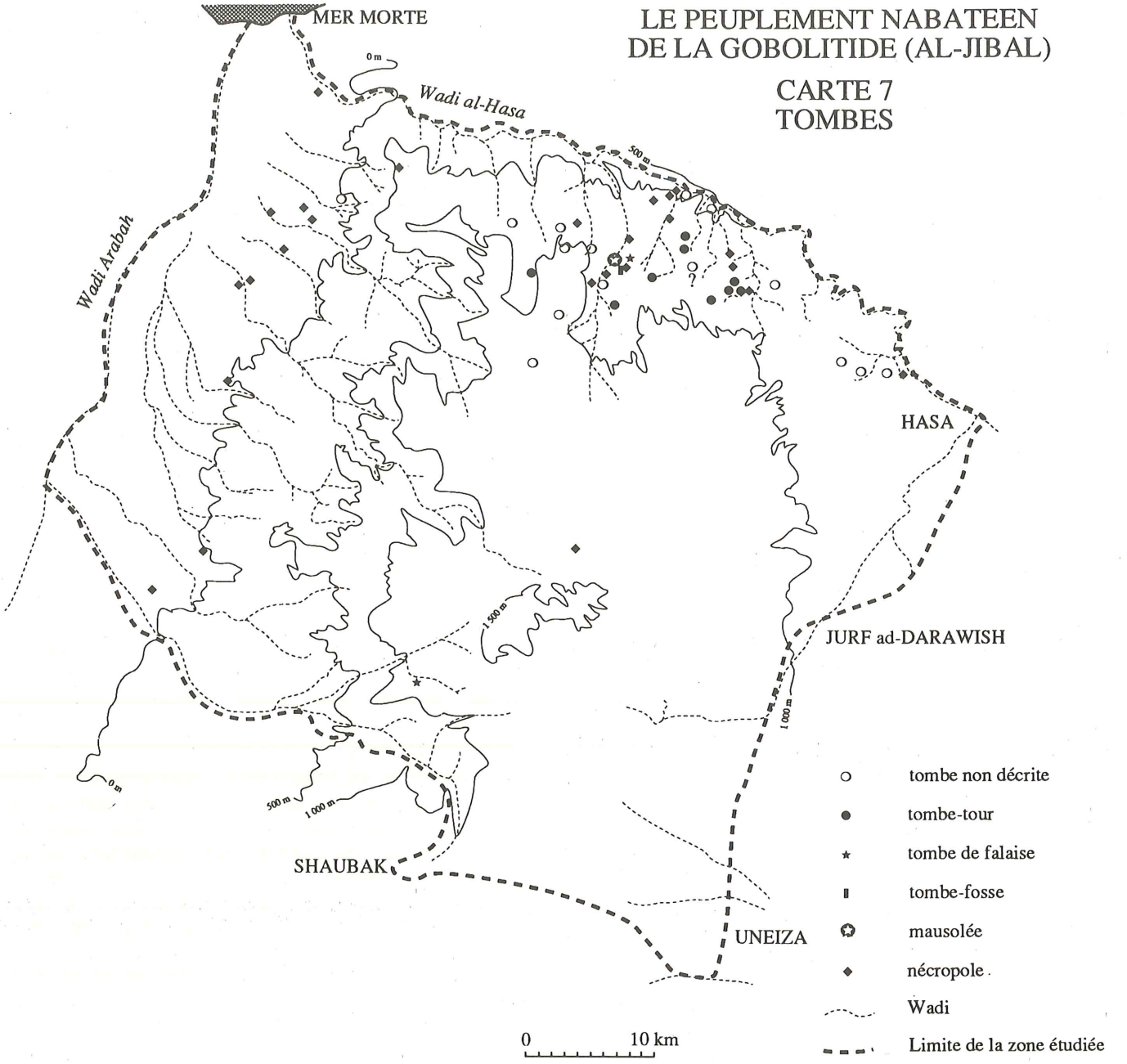


6. Habitats.

loin l'importance et les moyens du modeste village associé. II forme donc avec Tannūr un couple de lieux de culte d'importance au moins locale (la vallée du La'ban et les vallées adjacentes), qui s'explique par le peuplement rural relativement dense du secteur et par l'existence vraisemblable d'une grande route nord-sud. Le temple de Ḏariḥ n'est pas encore daté mais se place avec certitude, d'après le décor (cf. Dentzer-Feydy 1989) entre la fin du Ier siècle av. et la fin du Ier siècle ap.J.-C. II faut au moins poser la question de savoir si ce couple de temples a été le noyau d'une sédentarisation (celle-ci n'étant pas dans ce cas antérieure au Ier siècle ap.J.-C.), ou s'il est le résultat d'une vie villageoise déjà assez développée.

Le temple signalé par Brünnow et Domaszewski (1904) à Thawāneh est incertain. Le plan barlong tripartite et la cour évoquent en effet un temple, mais l'absence totale de décor signalé surprend.

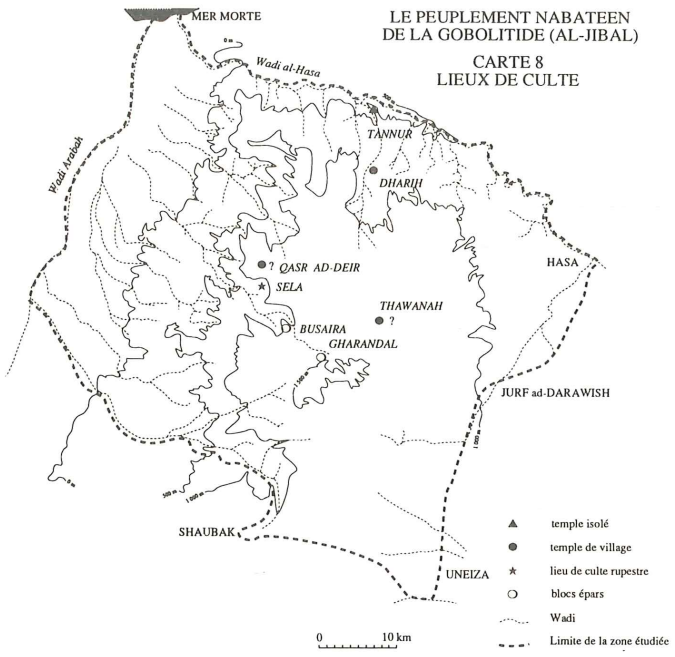
A Buseirah a été retrouvé un autel inscrit en



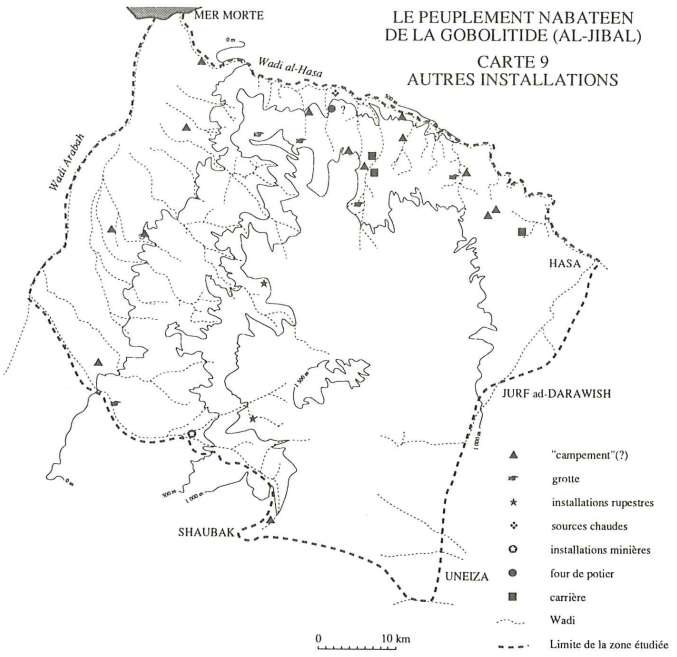
7. Tombes.

nabatéen (Starcky in Bennett 1975), qui ne provient pas nécessairement du lieu. Des installations cultuelles rupestres sont brièvement décrites par Glueck à Sela', et un sanctuaire villageois pourrait avoir existé peu au nord à Qaṣr ad-Deir. Plus au sud, à Gharandal, Irby et Mangles (1823) signalent deux rangées parallèles de colonnes, des tambours de colonne et chapiteaux doriques épars: il y avait sans doute là un temple, que plus aucun explorateur ne mentionna par la suite.

FIG. 9: Autres installations.
L'activité minière dans la région de Feinan a repris, selon Hauptmann 1986, à la fin du Ier siècle ap.J.-C., après une longue interruption depuis la fin du Fer IIC; elle est alors limitée encore aux environs immédiats de Feinan, notamment au puits n°3 du "triple puits" du Wadi Khalid. II paraît clair (Hauptmann, Knauf et Weisgerber 1985) que les Nabatéens de l'époque de l'indépendance n'exploitaient pas le cuivre dans la région, ce qui confirme le témoignage de Strabon



8. Lieux de culte.



9. Autres installations.

(v.*supra*).

Un possible four de potier (Glueck) ou tuilerie (MacDonald 1988) existait à, 'Ain ad-Dahs, peu au sud du Ḥasa. Quelques carrières sont attestées, notamment près de Ḏariḥ. Les sources chaudes de la région de 'Afra, au sud du Ḥasa, étaient peut-être utilisées (céramique nabatéenne non loin), et les sanctuaires de Tannūr et Ḏariḥ ne sont peut-être pas sans relations avec elles.

Des installations rupestres (citernes, escaliers) proches de celles de Pétra, sont décrites par Glueck à Sela' et à Sheikh ar-Rīsh.

Les données concernant le nomadisme, enfin, sont des plus ténues. Quelques ''lieux de campement'' (?) sont signalés dans les prospections, et de la céramique ''nabatéenne'' a été trouvée à proximité de ou dans quelques grottes. Dans plusieurs cas, l'un et l'autre type d'installations sont très proches de villages et de petits sites habités. L'affectation de ce genre de traces au nomadisme pastoral, au semi-nomadisme, ou à la vie sédentaire est donc affaire de goût. Il tombe pourtant sous le sens que le nomadisme devait exister (cf.Banning 1986), vu surtout le caractère finalement assez réduit de peuplement sédentaire. Les graffites nabatéens, grecs et bilingues du Wadi Ghuweir, associés à des dessins de chameaux montés, de bêliers à grandes cornes, de chevaux (Brünnow et Domaszewski 1904: 120) pourraient être la seule trace nette que nous ayons du nomadisme dans la région. Les inscriptions thamoudéennes apporteront sans doute dans l'avenir quelques lueurs de plus.

On voit donc combien les données sur ce peuplement, apparemment abondantes, et qui semblaient à première vue donner quelque fondement à l'idée d'un apogée de cette région à ''l'époque nabatéenne'', sont en réalité ténues, quant à la chronologie et quant à la nature des modes de vie. La connaissance du peuplement nabatéen de la Gobolitide et des autres régions, ne pourra devenir solide que par le développement des fouilles (p.ex.à Thawāneh et sur les sites villageois majeurs, ainsi que sur les ''forts'' ou camps militaires), par l'amélioration des connaissances sur la céramique, et par des prospections fournissant plus de plans de sites. Peut-être pourra-t-on dire quelque chose de plus substantiel, alors, sur le Ier siècle av.J.-C. et sur le caractère décisif, ou non, de l'annexion romaine.

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Répartition des inscriptions grecques de Jordanie. L'exemple des inscriptions métriques aux époques romaine et byzantine

Au Proche-Orient comme ailleurs, la présence ou l'absence d'inscriptions grecques ont servi depuis longtemps d'argument pour juger d'une part du développement économique ou démographique et d'autre part de l'hellénisation d'une région. Les deux indications principales, situation et date, même si cette dernière est souvent approximative, ont permis à juste raison d'établir des séries. Maurice Sartre[1] a montré avec prudence l'usage qu'on pouvait faire dans le Hauran de ces ensembles, à condition de tenir compte de leur contenu et de distinguer par exemple les inscriptions funéraires des autres témoignages épigraphiques.

Les inscriptions métriques grecques témoignent, quelle que soit leur valeur poétique, d'une recherche formelle, d'une certaine culture littéraire et donc d'une hellénisation au sens le plus simple du mot. Il m'a semblé utile d'essayer d'apprécier l'usage que l'on pouvait faire de leur répartition spatiale et chronologique pour juger du développement de la culture grecque en Jordanie, dans une zone géographique qui a des caractères d'unité, même si, dans l'Antiquité, elle est partagée entre des ensembles administratifs différents. En un mot la présence de quelques vers gravés sur une pierre ou dessinés sur une mosaïque en un lieu X peut-elle être considérée comme une preuve forte d'hellénisation de ses habitants et leur absence doit-elle être utilisée pour démontrer un retard culturel? Au contraire, doit-on accorder exactement la même valeur à une inscription métrique qu'à n'importe quel autre témoignage épigraphique, comme par exemple une inscription funéraire en prose?

Il faut, pour mieux poser ces questions, considérer d'abord l'ensemble du Proche Orient. Un coup d'oeil rapide sur le livre classique, bien qu'un peu ancien, de Kaibel[2] laisse perplexe et rend méfiant; en apparence la très forte concentration d'inscriptions métriques dans les régions du Hauran contraste avec leur rareté dans des zones qui passent pour être cependant des phares de la culture grecque au Proche Orient: les quatre grandes villes de la Syrie du Nord, Antioche, Séleucie, Apamée, Laodicée, ou les cités côtières phéniciennes. Même si les découvertes se sont multipliées dans ces régions depuis 1878, date de l'ouvrage de Kaibel, le nombre des épigrammes du Hauran a également beaucoup crû. Ainsi la disproportion régionale est-elle restée la même. On ne peut non plus considérer que seule la bonne préservation des inscriptions du Hauran explique ce déséquilibre; en effet, les inscriptions abondent en Syrie du Nord, Antiochène ou Apamène, et dans certaines cités phéniciennes comme Tyr ou Sidon et, en proportion, les inscriptions métriques y apparaissent beaucoup moins représentées qu'en Syrie du Sud. Le rapport entre l'hellénisation d'une région et la présence d'une épigramme ne semble donc pas automatique.

Pour préciser ces impressions sommaires, on étudiera la situation de la Jordanie, selon un plan chronologique.

LE HAUT EMPIRE

On ne sera pas surpris de constater qu'en Jordanie toutes les inscriptions métriques grecques[3] du Haut Empire ont été trouvées dans des cités de la Décapole

[1] M. Sartre, "Le peuplement et le développement du Hauran antique à la lumière des inscriptions grecques et latines", in J.-M. Dentzer ed., *Hauran* I, Paris, 1985, p. 189-202.

[2] G. Kaibel, *Epigrammata graeca ex lapidibus conlecta*, Berlin, 1878. L'ouvrage de W. Peek, *Griechische Vers-Inchriften*, 1, *Grab-Epigramme*, Berlin, 1955, sans classement régional ni index des provenances, est d'un usage malaisé.

[3] Je ne connais pas d'inscription latine métrique en Jordanie; H. Waddington, *Inscriptions Grecques et Latines de la Syrie*, Paris, 1870, n'en fournit que deux pour les régions syriennes qu'il étudie. Le n°2475 à Busr el-Hariri en Trachonitide concerne le préfet du prétoire Majorinus également célébré par une épigramme grecque; L. Robert, *Hellenica*, 11-12, Paris, 1960, p. 302-305, date la fonction de ce personnage du milieu du 4e s.; le n°2644 à el-Bara en Syrie du Nord, précédé d'une croix, date vraisemblablement de la même époque; *IGLS*, 4, n°1459, le rapproche d'une autre épigramme en latin, de Sidon, mais compare-à tort me semble-t-il- l'écriture à celle des monnaies byzantines des 6e et 7e siècles.

et qu'il n'y a pas d'épigramme antérieure au second siècle. Deux inscriptions de Philadelphie peuvent être prises en compte. L'une, (Gatier 1986, n°33) pourrait dater de cette époque (2e s.); l'autre provenant de Rajib dans les environs d'Amman, récemment découverte, est datée de 202 de l'ère de Philadelphie, c'est-à-dire 139-140 de notre comput[4]. L'inscription de Rajib regroupe en fait deux épigrammes avec des mètres différents, hexamètres ou distiques élégiaques. La datation d'une troisième (Gatier 1986, n°12) est problématique: fin du 2e s.? début ou milieu du 3e s.? A Gérasa, Welles place au second siècle quatre inscriptions funéraires métriques (Welles 1938, n°219, 221, 222, 223). J'y ajouterai l'inscription Welles 1938, n°231, que Welles attribue au 3e s., sur des critères paléographiques, mais qu'A.-M. Vérilhac ramène, à juste titre, au 2e s. L'inscription Welles 1938, n°232, datée de la même façon par Welles, pourrait bien être également rapportée à l'époque antonine ou à la rigueur à l'époque sévérienne. Un texte grec peint dans un tombeau de Marwa (Maru) a été publié par Mc Cown d'après une médiocre copie antérieure à sa destruction. J'y reconnais une inscription métrique pour une jeune fille comparée à Koré, car, disparue prématurément, elle se trouve comme celle-ci dans la demeure de Pluton[5]; c'est le thème bien connu de la morte épouse d'Hadès. Marwa se trouvait dans le territoire de la cité de Capitolias, comme nous l'apprend une source tardive, et il me semble raisonnable de dater ce tombeau du deuxième siècle, avec les autres tombes peintes de la région[6].

Une inscription métrique n'a pas le caractère funéraire de ces neuf ou dix textes; il s'agit de Welles 1938, n°25, de Gérasa, qu'on attribue au second siècle et qui concerne apparemment les statues en bronze de trois prêtresses. Elle serait extrêmement intéressante si elle était mieux conservée; en effet, elle me paraît témoigner d'un degré plus important de culture grecque que les inscriptions funéraires. Les deux épigrammes de Rajib ont un caractère exceptionnel qui tranche sur la banalité des inscriptions funéraires déjà évoquées. Si elles appartiennent à un pigeonnier qui servait de tombeau, comme l'indique une autre pierre qui a été trouvée au même endroit et qui fournit la date, elles concernent essentiellement les colombes qu'elles mettent en rapport avec deux divinités, Zeus et Déméter, et elles louent celui qui a fait bâtir l'édifice, Ariston fils de Clément. Il est vraisemblable qu'une ou plusieurs autres inscriptions s'y ajoutaient, qui concernaient le ou les défunts, dont probablement Clément. En elles-mêmes ces épigrammes, de Gérasa, Welles n°25, et de Philadelphie (Rajib), témoignent fortement par leurs thèmes, leurs réminiscences et la qualité de leur facture, de l'hellénisation profonde de certaines catégories sociales de ces cités[7].

Il semble donc, assez naturellement, qu'il y ait, pour le Haut-Empire, une certaine adéquation entre la présence d'épigrammes et le degré d'hellénisation d'une cité ou du moins de ses notables. Mais il ne faut pas se cacher qu'on trouve le plus grand nombre d'inscriptions métriques là où l'on connaît le plus grand nombre d'inscriptions, à Gérasa par exemple. Il faut cependant constater qu'on ne possède pas d'inscription métrique pour Pella, Gadara et Abila à ces époques et qu'une seule provient de Capitolias. Sans en tirer des conclusions exagérées, ce sont donc les deux cités de la Décapole incorporées dans la province d'Arabie par Trajan qui semblent, dans ce domaine au moins, l'emporter sur leur soeurs et voisines confiées à d'autres provinces[8]. Toutefois, la proportion des textes métriques est faible dans l'ensemble des nombreuses inscriptions trouvées à Gerasa, et même dans l'ensemble plus restreint des inscriptions funéraires; encore s'agit-il là du seul site où l'on peut essayer de raisonner sur un nombre total d'inscriptions point trop restreint.

L'ANTIQUITÉ TARDIVE.

A. Du milieu du 3e s. à la fin du 4e s.

On doit constater, au cours de cette période si riche en inscriptions métriques dans les régions du Hauran[9], que les villes de la Décapole, en Jordanie, ne fournissent pas ou presque pas de texte métrique, même si l'on devait rapprocher du milieu du 3e s. certains des textes que nous avons attribués au 2e s. En revanche, des textes métriques apparaissent dans des régions nouvelles comme le Nord-Est de la Jordanie, prolongement naturel du Hauran. Ainsi une inscription d'Azraq, sous Dioclétien et Maximien[10], est une dédicace en latin à Jupiter Sol invictus, suivie d'une épigramme grecque fragmentaire. L'usage du latin conduirait à mettre ce texte en relation avec le

[4]Voir l'appendice, *Textes*, à la fin de l'article.
[5]Cf. P.-L. Gatier, "Inscriptions des tombes peintes de Jordanie", in A. Barbet, *Les peintures des nécropoles romaines d'Abila et du Nord de la Jordanie* (texte), à paraître, inscription n°15.
[6]Cf. note précédente et la "Présentation historique", que je fais, *ibid.*
[7]Il est trop tôt pour dire quel est le sens qu'il faut donner à la présence, parmi de rares noms propres, sur des textes souvent mutilés, de deux noms latins, celui du centurion de Gérasa, Welles, 219, nommé Germanus, et celui du père d'Ariston dans l'inscription de Rajib, Clément. Dans les deux cas il s'agit d'importants tombeaux monumentaux.
[8]Par ailleurs, les inscriptions métriques de Bostra, M. Sartre, *IGLS*, 13, fasc. 1, paraissent pour la plupart postérieures au milieu du 3e s., mais l'hellénisation de la cité est lente.
[9]Cf.L. Robert, *Hellenica*, 11-12, Paris, 1960, p. 296-97, en particulier sur les pigeonniers du Hauran.
[10]Première des deux inscriptions d'Azraq mentionnées; R. Dussaud et F. Macler, *Mission dans les régions désertiques de la Syrie moyenne*, Paris, 1903, p. 268, n°85 (C. Clermont-Ganneau, *RAO*, 6, Paris, 1905, p. 301-302, amélioration; *IGRR*, 3, n°1329, sans connaître Clermont-Ganneau); D.L. Kennedy, *Archaeological Explorations on the Roman Frontier in North-East Jordan*, BAR Int. S. 131, Oxford, 1982, p. 91-92 sans connaître Clermont-Ganneau ni *IGRR*.

milieu des militaires ou des fonctionnaires. Une seconde inscription d'Azraq, entièrement en grec et fragmentaire également, pourrait être datée de la même période. A Umm el-Djemal, beaucoup plus près du Hauran, un texte de 344 de notre ère provient du tombeau de Julianus construit par son père Agathos. Enfin, au Sud, les quatre inscriptions connues à Pétra, bien que fragmentaires et difficiles à dater, doivent vraisemblablement être attribuées à la même période. Pour résumer, il semble que les inscriptions métriques, funéraires ou non, disparaissent des cités anciennement hellénisées et apparaissent dans des régions où la culture grecque est plus récente. Naturellement, là encore, nous sommes tributaires d'une documentation limitée mais il me semble qu'on discerne une tendance que la période postérieure permettra peut-être de confirmer. Signalons qu'aucun de ces textes ne porte de trace d'influence chrétienne.

B. Du 5e s. au 7e s.

Les inscriptions métriques chrétiennes de la période byzantine, du 5e au 7e s., se répartissent en deux catégories. La première comprend les inscriptions funéraires du pays de Moab, en nombre relativement important; huit environ viennent de Charachmoba-Kérak, trois de 'Azra et deux d'autres villages de la région. En dépit de la simplicité ou du caractère répétitif de ces épigrammes funéraires chrétiennes mêlées à de nombreuses épitaphes en prose, on doit constater qu'elles témoignent de l'hellénisation tardive du pays de Moab, de la fin du 5e siècle au 7e s. La deuxième catégorie est celle des inscriptions en vers, sur mosaïques et sur pierres, qui accompagnent des constructions dont elles exaltent la merveille[12] et louent le constructeur. Toutes ces inscriptions se trouvent à Jérash. L'épigramme n°300 de Welles (Welles 1938, n°300) datée de 496 de notre ère était le linteau de l'église dédiée à Saint Théodore dont les mérites sont célébrés; l'épigramme Welles 1938, n°299 raconte le remplacement d'un sanctuaire païen par ce martyrion construit par l'évêque Enée. L'inscription métrique Welles 1938, n°308, en trimètres iambiques, mètres rarement utilisés, sur une mosaïque de l'église Saint-Jean-Baptiste, date l'achèvement de l'édifice de 531 de notre ère, sous l'évêque Paul. Un troisième évêque est signalé, dans un troisième bâtiment, l'église des saints Pierre et Paul. Il s'agit d'Anastase, originaire de Pétra, dont trois inscriptions Welles 1938, n°327, 328 et 330, louent l'activité de construction. Nous avons essayé de montrer qu'Anastase était évêque au début du 7e s.[13] Ces inscriptions qui présentent des qualités formelles un peu plus élaborées que les inscriptions funéraires plutôt médiocres du pays de Moab me semblent refléter certes un degré d'hellénisation assez élevé à Gérasa mais surtout dans son haut clergé, l'évêque et son entourage immédiat, de la fin du 5e s. au début du 7e s.[14].

Hors de Gérasa, il n'y a guère qu'à Medaba-Madaba qu'on trouve une inscription métrique chrétienne dans une église, encore ce texte est-il bien isolé au milieu des nombreuses inscriptions chrétiennes de l'évêché. Il s'agit d'une invocation au lecteur l'invitant à la prière, sur une mosaïque de l'église de la Vierge Marie. Il ne faut pas se cacher que ce texte, qu'on date de 663, en fonction d'une inscription voisine qui elle-même soulève des difficultés de datation, est peut-être antérieur à cette date. Gadara est également un cas particulier, fort intéressant d'ailleurs, puisqu'on a retrouvé dans les bains de Hammath Gader, el-Hammeh, trois inscriptions métriques d'époque chrétienne. L'une est un poème en hexamètres dactyliques rédigé vers 455 par l'impératrice Eudocie; une autre, bref texte en trimètres iambiques, signale les constructions d'Alexandre, un homme de Césarée; la troisième décrit l'effondrement des thermes avec des formules de couleur homérique. Deux de ces trois textes nous renseignent sur la culture de la haute société palestinienne à laquelle appartiennent l'impératrice divorcée installée à Jérusalem et l'habitant de Césarée. Les bains de Gadara, centre de cure et de pélerinage très fréquenté, ne sont que le décor où s'exprime cette culture et non le lieu où elle s'élabore[15].

Ainsi l'étude de la répartition des inscriptions métriques dans le temps et dans l'espace semble montrer des phénomènes curieux de déplacement des zones hellénisées. Certes il ne faut pas trop les exagérer et l'on doit voir à quel point ces conclusions sont liées à la rareté ou à l'abondance de notre documentation épigraphique générale. Cependant, il est évident que la plus ou moins grande quantité d'inscriptions, métriques ou non, dont nous disposons dans tel ou tel site est due, bien entendu, au hasard des trouvailles et de la conservation des antiquités mais aussi à la plus ou moins grande

[11]Je remercie Maurice Sartre, dont le volume *IGLJ*, 4, consacré à la région sud de la Jordanie, est sous presse, pour les renseignements qu'il m'a amicalement fournis et pour l'inscription inédite qu'il m'a signalée. J. Starcky et C.M. Bennett indiquent que l'inscription qu'ils publient "n'est pas antérieure au 2e s.", ce qui est bien trop prudent; l'écriture me paraît pouvoir être celle du 4e s.

[12]Thème fréquent dans les textes de l'Antiquité Tardive; L. Robert, *Hellenica*, 4, Paris, 1948, p. 64-66.

[13]P.-L. Gatier, "Une lettre du pape Grégoire le Grand à Marinus évêque de Gerasa", *Syria*, 64, (1987), p. 131-135; cf. la note 19. p. 135, sur la patrie d'origine d'Anastase.

[14]Sur cette question, P.-L. Gatier, "Nouvelles inscriptions de Gerasa", *Syria*, 62, (1985), p. 306-307.

[15]J. Green et Y. Tsafrir, *IEJ* 32, (1982), p. 77-91 *(SEG* 32, 1982, 1502 et 1503); cf. D. Feissel, *Bull. epigr., REG*, (1987), p. 377-378, n°520, avec bibliographie.

hellénisation de ce secteur dans l'Antiquité. D'autre part on peut se demander si les épigrammes n'accentuent pas, comme des révélateurs ou des marqueurs, des tendances culturelles que nous masquent la dispersion et la diversité des autres inscriptions. Tout paraît se passer comme si la production d'épigrammes dans une région se faisait au moment où la culture grecque y pénétrait: on rencontre des épigrammes à Gérasa et à Philadelphie au 2e s; en bordure du Hauran et à Pétra aux 3e et 4e s; dans le pays de Moab de la fin du 5e s. au début du 7e s. Curieusement les épigrammes semblent un luxe de nouveau riche ou du moins de nouveau riche de la culture et on ne les rencontre plus après la période d'hellénisation, si ce n'est à Gérasa à l'époque byzantine. Mais peut-être s'agit-il du même phénomène qui mêle les modes et le désir, dans les nouvelles élites, d'afficher leur culture: couches dirigeantes fraîchement hellénisées des cités du Haut Empire et des bourgades de l'Antiquité Tardive, haut clergé aux pouvoirs récents de la Gérasa chrétienne.

On pourrait également insister sur l'aspect social plutôt que sur l'aspect géographique. Au deuxième siècle, les élites restreintes qui ont accès à la haute culture vivent dans les cités grecques les plus importantes. A l'époque chrétienne, c'est le haut clergé des villes qui prend en charge les aspirations culturelles et leur expression sous la forme, entre autres, des inscriptions métriques. Les inscriptions funéraires métriques dans les campagnes (bordure du Hauran, Moab) peuvent montrer ou que les villes sont alors désertées par une partie de leurs anciennes élites ou qu'émergent, dans les bourgs, de nouveaux notables.

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- Welles, n°219.
- Welles, n°221.
- Welles, n°222?
- Welles, n°223.
- Welles, n°231; A.-M. Verilhac *Paides Aôroi,* t. ler, Athènes, 1978, n°109a.
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- Welles, n°300.
- Welles, n°327.
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- inédite, M. Sartre, *IGLJ,* 4, n°47.
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Nota. je ne fournis pas de lemme bibliographique ni même de bibliographie complète mais uniquement quelques références pratiques ou récentes. Je considère comme métriques des inscriptions dont les vers présentent parfois des défauts.

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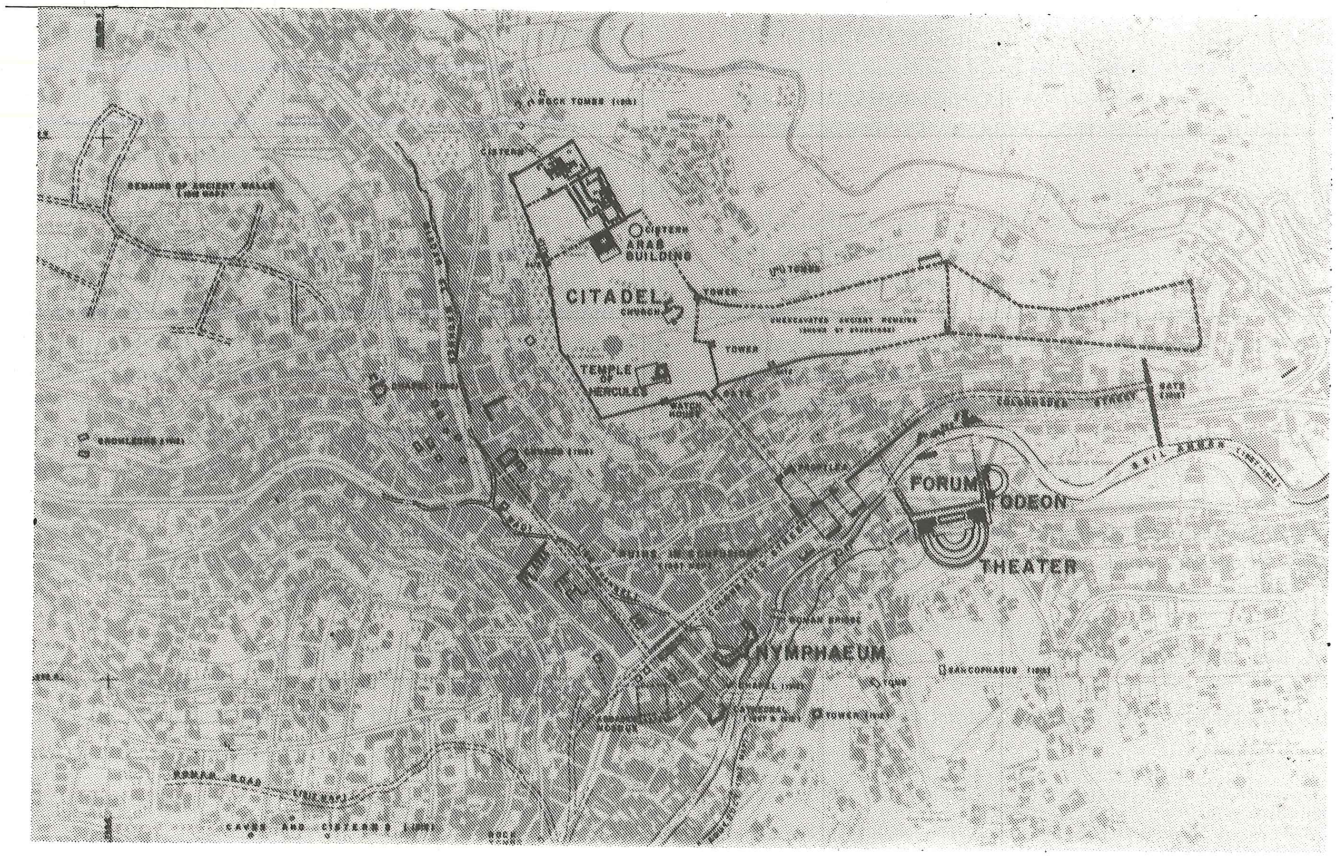
Adnan Hadidi

Amman-Philadelphia: Aspects of Roman Urbanism

Introduction

Ancient Amman was built in and around Wadi 'Amman, through which a stream flows from west to east—locally known as the Seil 'Amman—a tributary of the Zarqa River (the Yabbok of the Bible). The topography consists of a hilly plateau cut by steep sided narrow valleys and basins. It is adjacent to fertile fields suited to the cultivation of crops and has a plentiful and steady supply of water. Indeed, the springs that still give Amman its water supply have made this place a site of human habitation for more than 12000 years, as shown by Palaeolithic remains in the area.

The Roman city of Amman consisted of a lower and an upper section. The latter was built on a prominent hill and constituted the *acropolis* of the city. This hill is a strategic natural L-shaped oblong plateau overlooking the *forum* area in the lower section to the south (FIG. 1). It consists of two rectangles of unequal dimensions. The first, which is oriented east-west, is about 900m long and about 60m wide and the second, which is oriented north-south, is about 400m long and about 80m wide and contains a temple and other important buildings. Steep wadis surround the hill on all sides except for the north where it is separated from the main hill of Jabal al-Ḥusein by an artificial depression. The *acropolis* area itself rises from east to west in three terraces.



1. Plan of Roman Amman-Philadelphia.

From very early times this hill had been a fortress of great importance. Recognizing its value for the area of Amman, the Romans rebuilt the ancient Ammonite fortress and surrounded it with massive walls which rank among the finest of ancient fortifications. These walls consist of lower courses which incline inwards in steps of heavy, well joined, rusticated stone-work with drafted edges overlaid by a wall of smooth *opus quadratum* of excellent quality.

The wadi bed down below the acropolis to the south is divided by Seil 'Amman into two long narrow strips of land on which were built streets, public buildings and a *forum.* Along the north bank of the Seil ran the colonnaded street and across it on the east end was a *propylaeum* which must have led up to the temple on the hill (FIG. 1).[1] South of the Seil were situated the *forum*, the *odeum*, the theatre and the *nymphaeum.* The hills on both sides of the *forum* area slope deeply from an elevation of 850m asl at the summit to about 743m asl down in the wadi bed. This sharp slope causes a considerable amount of wash to be carried down the hills to the *forum* each winter. Moreover, during winter time heavy rains cause the Seil's waters to rise so much that the *forum* gets flooded and thus silt accumulates in considerable quantities. In Roman times these problems were solved by covering the stream with a series of arches and vaults as well as installing a network of underground channels and conduits. Many of these public buildings and water-works have long been landmarks on the archaeological maps of early explorers during the last century. But most of these remains have sadly been damanged either by natural causes or as a result of modern expansion, and indeed some monuments have completely disappeared.

Description of the *Forum* Area

The *forum* occupies the middle *insula* of the southern half of the lower ancient city, lying on the south side of the stream which separates it from the main thoroughfare between the east and west gates (FIG. 1). Being so placed, the *forum* takes full advantage of the space rendered by the natural widening of the valley between the foot of the Citadel hill and the theatre; an important consideration in the rugged topography of the city.

Stratigraphic evidence indicates that the *forum* area was in its greater part filled in and levelled artificially.[2] The preparation of the site seems to have involved a deep fill sometimes reaching close to bedrock. This was done in order to raise the level of the *forum* above the stream so that the *forum* could be kept dry especially in winter time. Further, the area was provided with a drainage system which consisted of terracotta pipes, about 0.25m in diameter, that ran along the inner sides of the stylobates below pavement level and terminated in the northwest corner of the *forum* where the water flowed into the stream.[3] The *forum* and the city quarter south of the stream were connected with the main thoroughfare (*decumanus maximus*) to the north by stair systems, ramps and bridges.[4] A retaining wall and a series of arches built of small voussoir blocks laid dry, sealed off the two sides of the stream. The retaining wall is perpendicular and each side flanking an arch is 1m wide and 2m high with a 0.40m set-off from which the arch springs. The arches are of two different sizes; the span of each of the larger arches is 2.5m and that of the smaller arches is 1.7m. Each small arch is set between two large arches. The original level of the ancient city was made by a filling as high as the crown of the larger arches. Evidently, great effort and expense were made to keep the street well up the slope of the wadi and maintain it on one level from end to end. Further, the evidence indicated that originally both sides of the stream were kept at a level surface extending from the *decumanus maximus* to the steep hill on the south side of the stream.[5] The stream itself was paved and covered with a series of barrel vaults from the east to the west end of the ancient city.

The Layout of the *Forum*

Oriented northwest/southeast, the *forum* is bordered by porticos on three sides and closed on the north by the semicircle of the stream and the colonnaded street beyond. The *forum* and porticos constitute an irregular ensemble in the form of a trapezium rather than a rectangle. Including the colonnades, the *forum* measures 100m on the south side, 48m on the west and 50m on the east. The radius of the semicircle on the north is nearly 130m The total area of the *forum* as defined by the outer lines of the colonnades and the semicircle, is nearly 7620 square metres. Thus, the *forum* at Amman ranks among the largest Roman imperial *fora*. The area of the *forum* was originally paved with rectangular and square blocks of greyish-white limestone. In front of the colonnade, a broad step or landing projected covering a gutter for rain water. The rain water found its way into the gutter and eventually into terracotta pipes through semicircular openings in the outer edge of the step.

Corinthian columns surrounded the *forum* on three sides. The colonnades are not, however, uniform in character at the three sides. On the east and south, the columns are larger and display a better quality of stone and workmanship than those on the west side.

The Buildings around the *Forum*

The principal buildings in the area of the *forum* are all, more or less, oriented in conformity with the axes of the

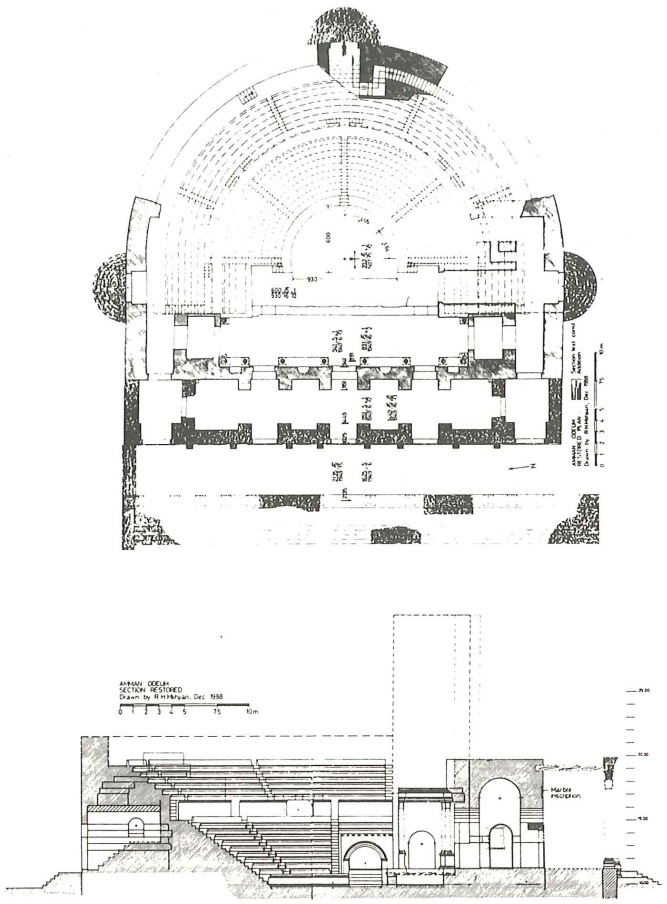
[1]B. Schulz, 'Bogenfries und Giebelreihe in der romischen Baukunst', *Jarbuch des Deutschen Archäologischen Institut* 21 (1906), pp. 221-230, Pls. 3-4.
[2]A. Hadidi, 'The Excavation of the Roman Forum at Amman (Philadelphia), 1964-1967', *Annual of the Department of Antiquities of Jordan* 19 (1974), pp. 71-91.
[3]A. Hadidi, 'The Roman Town-plan of Amman', *Archaeology in the Levant*, eds R. Moorey and P. Parr (Warminster, 1978), p. 213.
[4]Charles M. Doughty, *Arabia Deserta*, (London, 1888), p. 18; H.C. Butler, *Ancient Architecture in Syria*, Princenton University Archaeological Expedition to Syria, Div. II, A (Leyden, 1907), p. 60.
[5]A. Hadidi, *The Roman Forum at Amman*, **Ph.** D. Dissertation, University of Missouri (1970), pp. 46,80.

two colonnaded streets. In the vicinity of the *forum*, the *odeum* is oriented toward the west and its axis is almost perpendicular to the axis of the *decumanus maximus* and to that of the theatre. The orientation of the theatre is such that its axis runs 9° west of north, thus providing for a minimum of sunlight in the eyes of the spectators. The axes of the theatre and the south colonnade of the *forum* run nearly parallel to the semicircle of the main street on the north. The architectural complex is very sensibly conceived. The theatre utilizes the hill on the south for part of its auditorium, and the location of the *odeum* in close proximity to the theatre offer a striking example of coordinating two recreational centres within almost immediate reach from the main thoroughfare of the city. The peripheral character of the *forum* on the north side is accentuated by the natural semicircular course of the stream which separates the plaza from the *decumanus maximus*. This accentuation is further enhanced by the curve of the street at this point to make it run parallel to the curve of the stream.[6] The semicircle on the north side of the *forum* is balanced by the semicircle of the *cavea* of the theatre on the opposite south side and thus—in its original shape—the area would appear to be symmetrical.[7]

The theatre is located against a hill to the south of the *forum*. The *cavea* was apparently at least partially hollowed from the hill-side and the artificial portions were built upon masses of stonework and barrel-vaults. The theatre is semicircular in plan with three horizontal divisions of seats.[8] The stage-building or *scaenae* consists of a wall with a central opening, on either side of which there is a pilaster. On either end of the *scaenae frons* is a semicircular niche and two half niches in the middle flanking the central opening. The spacious *proscaenium* in front has a low wall decorated with alternating small square and round niches. Rain water was led out of the *orchestra* through terracotta pipes which ran under the *scaenae* to the *forum* where they joined the main drainage pipe.

The *odeum* is also semicircular in plan with a stage building that is connected with an outer wall by a barrel vaulted passage with a corner tower at each end (FIG. 2). The *cavea* is oriented to the west and is built up entirely from ground level of well-dressed blocks of limestone, sometimes bossed and drafted especially in the interior sections. Semicirular stairways provided approach to the *odeum* on the south, east and north entrances.

The *nymphaeum* which lies further west, is very close to the point where the *cardo* intersects with the main thoroughfare. The building is oriented toward the north-west and its longitudinal axis is parallel to the axis of the *cardo*. The building originally stood upon the edge of the main stream. A small branch of this stream flowing from



2. Plan of the Amman *odeum* and restored section.

north to south, especially in winter time, passes underneath the middle of the *nymphaeum* where it empties into the main stream.

The overall scheme for the urban development of Roman Amman was determined, not only by the configuration of the terrain in the lower part of the city, but more decisively by the position of the *acropolis* hill and the lines of its walls. The *decumanus maximus* follows a straight line which was broken at several points in order to make it conform to the irregular shape of the east-west rectangle of the hill and the axes of the *acropolis* walls on the south. This orientation of the street is also dictated by the course of the stream. The sensible conception of this layout brings the lines of the hill, the main thoroughfare and the stream into an admirable symmetry.

The temple of Hercules is built close to the south wall of the acropolis. Facing east, its longitudinal axis is parallel to the south wall. The plan of the temple is *tetrastyle in antis*

[6]A similar arrangement is found at Qanawat (Canatha) in Syria, dating from the same period; R.E. Brünnow and A. von Domaszewski, *Die Provincia Arabia*, vol. III (Strassburg, 1909), p. 107, Fig. 1000.

[7]The combination of rectangles and semicircles seems to have had a special attraction for Roman architects since early imperial times, as may be seen in the Forum of Augustus and later the Forum of Trajan; W.J. Anderson *et al.*, *The Architecture of Ancient Rome*, (London, 1927), pp. 52-53.

[8]*Annual of the Department of Antiquities of Jordan* 19 (1974), p. 88, Fig. 8; A. Almagro, 'The Survey of the Roman Monuments of Amman by the Italian Mission in 1930', *Annual of the Department of Antiquities* 27 (1983), pp. 607-639.

with one column on either side. The *antae*, which were made of half columns, terminate in rectangular pilasters set at the angles of the *cella* wall. The *podium* on which the temple was erected is a rectangle measuring 8m by 19m. A fragementary inscription discovered in the debris around the temple indicates that it was built during the reign of Marcus Aurelius (A.D. 169-180).

Conclusion

The following statements may be made on the basis of the above description of aspects of Roman urbanism of Amman. First, the altering of natural contours, filling valleys and cutting back hills were common practices in Roman building methods especially from Flavian times onward. Second, the Roman *forum* at Amman, being trapezoidal in plan, constitutes one of a few exceptions to the Vitruvian rule. Third, the principle of axial symmetry is adhered to by the Roman town planner inspite of the rugged configuration of the city of Amman.

Roman Amman is, of course, only one of the hundreds of cities of the Roman Empire. Among these centres of ancient life it ranks comparatively low, and one which is even today not extensivly known. Yet it has its importance, its well-preserved buildings and the striking features of its Roman town plan show the various aspects of Roman engineering and urbanism.

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Irbid and Beit Ras
Interconnected Settlements *c.* A.D. 100-900

The sites of Irbid and Beit Ras, Arbela and Capitolias of the Roman and Byzantine periods, Arbad and Beit Ras of the Islamic periods, are located on the fertile plateau of northwestern Jordan. Separated by only five kilometers, the two sites have been the foci of a long-term research programme since 1983.[1] Both sites have gradually been encroached upon by the development of the area in the last sixty years; thus, research is a combination of long-term strategies and salvage and rescue archaeological strategies in cooperation with the citizens and municipalities. Irbid, a walled site at least from the Middle Bronze Age through the Iron Age, and Beit Ras, originally a planned, walled Roman site, together bear witness to the long occupational history of the region.[2] How the two sites were interconnected during the period between *c.* A.D. 100-900 is dependent on two sources of data: archaeological and textual. It is not necessarily possible to merge the two data sets, as the former is concerned with the minutiae of the past and the latter generally is concerned with the governmental and administrative past.

During the Roman period, the two sites were in the region of the Decapolis: a loose confederation of cities within the modern states of Jordan, Palestine and Syria. Located in Jordan were the cities of Amman/Philadelphia, Jarash/Gerasa, Faḥl/Pella, Umm Qeis/Jadar/Gadara, Qweilbeh/Abil/Abila and Beit Ras/Capitolias.[3] The most continuously excavated and best reported of the sites are: Amman, Faḥl and Jarash. Intensive research at Jadar, Abil and Beit Ras has only recently started. Irbid was never listed as one of the cities of the Decapolis;[4] nor, was it ever declared a *polis*, "city", as Beit Ras was by the Roman authorities. It would appear, however, that the two sites were both centres and urban in nature throughout the time period.

Unlike other sites in the region, neither Irbid nor Beit Ras are necessarily appropriate places environmentally for the location of sites. Water is not easily accessible, as there are no springs; however, the land, transected by small wadis joining the major east-west Wadi al-'Arab, has been noted throughout antiquity for its fertility. Lying presently within the 400mm isohyet, the land supports rain-fed grain agriculture as well as vegetables, olives and grapes. Archaeologically, the use of wheat, barley, lentils and olives in antiquity has been confirmed by palaeobotanical analysis. Although the fertility of the land accounts partially for the general growth and habitation of this section of Jordan, it does not account for the development of two centres following the Roman occupation of the area.

In order for there to have been these two centres, the water-supply problem had to have been solved to support the populations. The Irbid water system seems to have been partially a modification of the ancient Middle Bronze system, with the addition of a reservoir on top of the tell.[5] Certainly, however, the system had to have been more intricate and is now obscured by the modern growing city. In Beit Ras, the system was carved from the bedrock: large cisterns with cut-channel run-offs to collect the rain water as well as a well-constructed reservoir formed the central elements of the system.[6] In the 1989 excavation season, this system was better defined archaeologically; it would appear that it was used throughout the occupational periods of the site.[7] Whereas to incorporate the tell of Irbid into a Roman city, and some would argue an earlier Hellenistic one, was what had been done at the other Decapolis cities in Jordan,

[1]Cf. Bibliography under Lenzen; definitive statements on specific material culture remains are in preparation.

[2]Stratified remains indicate occupation at Tell Irbid since the Chalcolithic period, at Beit Ras since the Roman period.

[3]It remains unclear whether the tell located in the modern village of al-Ḥuṣn, south of Irbid, was Dion.

[4]This is *contra* to Ghawanmeh, 1986 and corresponds to the lists of Pliny and Ptolemy.

[5]Schumacher (1890: 153ff) discusses an ancient reservoir and a modern one (1885) outside the city, guarded by Ottoman soldiers. He does not mention the large reservoir on top of the tell, surveyed recently, and out of use by the 1930's, according to oral history.

[6]Glueck was the first to mention the system; cf. Lenzen and Knauf 1987b.

[7]One of the cistern walls was excavated, indicating a Mamluk rebuilding of the wall. The large reservoir seems to have been used from the Roman period on. The original suggestion by Lenzen and Knauf of the space being used for a theatre seems untenable after now. This is based on architectural analysis by Z. Zaid.

to build Beit Ras was to construct a city where there had been none.[8] It would seem that the Roman authorities normally chose areas of population concentration and where a civil infrastructure already existed for their cities. These were then connected by well-made roads and played various roles in the eventual provincial and ecclesiastical systems.[9]

The intentionality of the construction of Beit Ras cannot be ignored. Ostensibly, there was no reason to build another city in close proximity to Jadar, Abil and Irbid. To be sure, the reason may rest with a group of citizens, who have gained wealth and status within the new empire, did not want citizenship within the existing territories; and, thus, they chose to build anew. However, the city was the smallest in plan[10] of the Decapolis cities and it would seem that less was expended on it than others. The location of Beit Ras/Capitolias is simply a strategic one; all directions are generally visible from the "ras", the highest point north of the 'Ajlun mountains. The city was founded it would appear to make a statement concerning Roman authority.

There is little doubt from the textual evidence that Beit Ras took precedence over Irbid.[11] As well, the archaeological data argues for the site remaining urban in nature at least until A.D. 900.[12] Recent excavations on the "ras", at the northern section of the city wall and within the archaeologically designated Area A,[13] all indicate the continuity of occupation following the foundation of the city in A.D. 97/98. The pottery *corpora* indicate only gradual changes over a long period of time. Lying below the sixth century church in Area A is an earlier Roman construction,[14] paralleled by the foundations of the major walls throughout the Area. The same type of constructional techniques and changes were found at the city wall and on the "ras".[15] What had been originally designated a public area, Area A, remained as such throughout the time period, as did the major wall construction on the "ras". At the city wall, however, the excavated gate underwent changes: the gate was blocked, back-filled and a tower was added to the outside, sometime during the late-eighth century.

Irbid, on the other hand, presents an altogether different archaeological picture. This is primarily due to the continuous occupation of the site[16] and thus the altering of not only the tell's configuration but the surrounding area as well. Prior to 1986, little stratigraphic evidence had been found to argue for a Roman, Byzantine and Islamic occupation of the site. The majority of the data originated with chance finds of the citizenry, early (pre-1970's) salvage excavations of the Department of Antiquities, records left by the nineteenth century explorers/travellers and from survey[17] and wash layers excavated in 1984 and 1985. In 1986, excavations were continued on the north side of the tell in the archaeologically designated Area A.[18]

At the time of excavation, the municipality of Irbid was constructing shops to the north and east of the Area. What had been exposed was part of the Middle Bronze Age *glacis* and the curve of the same period basalt boulder city wall. In the process of constructing the shops, the contractors had bulldozed into the tell and, unhappily, had destroyed what was probably part of the seventh through ninth century A.D. water system; what remained was stratigraphically excavated. A plastered water channel, running under a wall, debouched into the remaining portion of what has been identified as a "tank". The pottery from these features dated to the end of the Umayyad period and the beginning of the Abbasid period. Admittedly, the data is slim; it is, however, the first stratified evidence for post-800 B.C. occupation of the tell.[19]

A review of the archaeological data from all available sources indicates that both Irbid and Beit Ras existed as cities or urban centres. Following the foundation of Beit Ras/Capitolias, Irbid/Arbela lost its earlier dominance and did not regain it until the Ottoman governmental seat was established there in the nineteenth century. This is a difficult notion to accept: two centres within such close proximity. It would seem, however, that this was indeed the case, leading one to question the roles of each and their interdependency. The five kilometres dividing the sites, although apparently part of the provincial boundary at an early point, was hardly a clear division. The fertile land between the two sites would have been used and formed part of the economic base for the region, particularly after the development of the late antique wine industry. The fact that as late as A.D. 724, an Umayyad caliph, Yazid II, lived in Beit Ras and died in Irbid, points to the continued connection of the two sites. Neither archaeological nor textual data will ever provide all of the answers; however, the integration of the data sets provide some understanding of the existence of two cities within such close proximity.

[8]Capitolias was built *de novo*, if the suggestion of an earlier Hellenistic "watch-tower" is accurate.

[9]Cf. Lenzen and Knauf 1987b.

[10]This is primarily based on Schumacher's drawings; however, the inaccuracy of his drawings should be taken into account.

[11]Cf. Lenzen and Knauf 1987b.

[12]The date of A.D. 900 is rather arbitrary. The author does not necessarily agree with Walmsley (1987) either; although, it is clear that the change from city to village was gradual.

[13]Area A is north of the modern east-west road and east of the modern mosque, originally referred to as a "sunken area". Cf. Lenzen *et al.* 1985.

[14]Lenzen and Knauf 1987b contains an argument against there being a church; this proved to be a hasty conclusion.

[15]This conclusion is based on Zaid 1989.

[16]Cf. Lenzen 1988.

[17]Full survey data is in preparation by Lenzen; for the time being cf. Lenzen and McQuitty 1988.

[18]There was also a rebuild of the city wall, which has not yet been fully analyzed but seems to have been contemporary with the installations.

[19]This is *contra* to the original data published following the 1986 season.

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The Distribution of Safaitic Inscriptions in Northern Jordan

It is clear from the content of the Safaitic inscriptions that the vast majority of their authors were bedouin and, perhaps, semi-nomads.[1] Although a handful of texts have been found in towns such as Buṣra[2] and Umm aj-Jimal,[3] Littmann's remark that "the fewer the traces of real civilization are, the more numerous are the Safaitic inscriptions" (Littmann 1904: 104) still holds good in general.

The nomadic authors of these texts ranged over a large area of southern Syria, northern and eastern Jordan, and northern Saudi Arabia. Isolated inscriptions have been found northwest of Palmyra, as far west as Wasṭa between Tyre and Sidon, as far south as Ha'il, and as far east as Wadi Hauran in Iraq. However, the vast majority occur in the deserts of southern Syria and northern Jordan. The fact that their authors were nomadic and that, with the exception of some cairns and the presence of their names outside their normal context,[4] these graffiti are the only record of their presence in any particular place, obviously affects both the way we look at the distribution of texts and the inferences we draw from it.

Inevitably, the places where they are found are restricted to the places where they have been sought. Thus, although the 19th century explorers, who first discovered these texts in southern Syria, made it quite clear that they can be found on any rocks or stones suitable for inscribing,[5] the search for them in Jordan has, until recently, concentrated on obvious landmarks such as ridges, outcrops, and above all cairns. This has distorted considerably our picture of the distribution of the Safaitic texts in Jordan and ultimately led to Oxtoby's now notorious claims that Safaitic inscriptions are to be found mainly at "cairns and only occasionally elsewhere" (Oxtoby 1968: 1). What lies behind this, of course, is that the expedition of which he was a member, and which was ultimately to result in the book entitled *Inscriptions from Fifty Safaitic Cairns*, concentrated its searches on these structures and looked "only occasionally elsewhere". The distortion of the distribution pattern evident in Oxtoby's view of course becomes self-perpetuating when in order "to gain further information about the Safaitic tribes one's method is to explore the desert for additional cairns" (*ibid*: 2)!

Since the relationship of Safaitic inscriptions to cairns has become a vexed issue[6] it is worth examining the evidence in detail. The majority of Safaitic texts are to be found in the Ḥarra, an area covered by countless millions of basalt stones and boulders. It is probable that as long as they have lived there men have been building cairns for a variety of purposes: camp and field clearance, hides for hunting or spying out the land,[7] memorials of important events,[8] etc. Thus, the period over which cairns have been built in the Ḥarra is likely to have been an extremely long one and it is usually impossible to assign a particular cairn to a specific period with any certainty. Moreover, there is clear evidence that cairns have been used and re-used at different times for a variety of purposes. Thus, for example, a cairn may have originally been erected over a burial or to mark an event but, because it is in a suitable position, is later used as a hide, or may gain a religious or magical significance and, as is very common with large cairns associated with historical or legendary figures, attract "satellite graves" around it.

Because the Safaitic inscriptions are the only written records left by the inhabitants of the Ḥarra before the

[1]The suggestion was made during the conference that a recently discovered drawing of a man ploughing accompanied by a Safaitic text showed that some at least of these authors were not bedouin. However, it is well-known that bedouin will from time to time sow opportunistically and one Safaitic text (C 4985) shows that its author was, in this sense, both an agriculturalist and a pastoralist: *w slḥ h-'bl mdbr w zr' h-rḥbt* "and he drove [cf. Heb. *šālaḥ* "to send forth"] the camels into the desert and he sowed the Ruḥba".

[2]These are not yet published but are mentioned in Sartre 1985: 148.

[3]LP 1269-1279.

[4]That is, for instance, in Greek transcription at such places as Buṣra, see Sartre 1985: 147-148.

[5]See, for instance, Graham 1858: 236; Wetzstein 1860: 67; de Vogüé 1868-77: 139, etc.

[6]See, for instance, Harding 1953: 8-12; Jamme 1970: 323-334; 1971: 42-43; Harding 1978; Jamme 1979: 491-498; Clark 1979: 42-43; and 1981.

[7]See, for example, Musil 1928: 191.

[8]Compare Genesis 31: 45-54 and Zayadine 1980: 108.

present, they are our only "historical" source for the building and use of cairns in the area, albeit for a relatively brief period of its history. The excavation of four cairns[9] has added to our knowledge to some extent, though inevitably it has raised as many questions as it has answered.

It is clear that the Safaitic bedouins built cairns. It is also clear that they built them over graves. These two facts are generally accepted. However, because Professor Jamme has refused to accept the second, it may be as well to cite the evidence briefly. In Arabic the word *rağam* means stones piled up over a grave, i.e. a cairn, and hence the grave itself. In Safaitic it is clear from the way the word is used that it had a very similar range of meanings. It almost always occurs in one of two expressions, either *l N h rgm* "the cairn is so-and-so's" or *bny l/'l N h rgm* "he built the cairn for/over so-and-so". This is usually accompanied, either in the same text or in others on the same cairn, by expressions of mourning (*wgm, wlh, ndm,* etc.) for the person mentioned in the *bny* texts. At WH Cairn 12, three texts describe finding the body of a certain *ġyr'l* (*wgd gtt ġyr'l*), two more say they buried him (*w qbr ġyr'l*), two others that they built a cairn (*w bny hrgm, w bny l ġyr'l*), while one other, presumably later, states that he discovered his grave (*wgd qbr ġyr'l*).

At the most famous "Safaitic cairn", that of Hani' near Ṣafawi, 82 of the texts[10] refer either to building or mourning for him. The cairn was large and apparently undisturbed, and Gerald Lankester Harding's excavations revealed a single intact burial beneath it.[11] But it is clear that this cairn is quite exceptional, and is unique in having a large number of texts mentioning the dead man. Even on cairns which almost certainly cover a Safaitic burial generally only a tiny minority of the texts have to do with its construction or even refer to the deceased.[12]

It is clear from the Safaitic evidence that it was relatively rare for a cairn to be used only once and for one purpose. More often they were used and re-used, as the intrusive burials in those excavated by Clark (1981) show. This is also suggested by WH Cairn 7, for example, where one text records the building of cairns (*'rgm*), four the construction of a *bly*,[13] one is the memorial stone (*nfst*) of another individual, and six describe it as a look-out point (*mẓr*). There are numerous other examples of cairns on which inscriptions record the different uses to which they have been put, or the different structures of which the stones on which they are written have formed part. Many have been built into shelters (*ẓlt, strt*) or enclosures (*ẓrt*), or have been used as grave markers (*nfst*) or standing stones (*nṣb*) before being incorporated into the cairns in which we find them.

The fact that one or more stones on a cairn bear Safaitic inscriptions does not therefore indicate that the cairn is necessarily of Safaitic origin. Conversely, texts which probably were originally part of a cairn may now be found used in a different structure. A curious example of this is Clark's Site F,[14] where all the inscriptions were found on stones used in a low wall. This bordered the southern edge of a cleared area in which stood a large cairn of indeterminate age on which there were no inscriptions. Of the 18 texts at this site one mentions the cairn of a woman called *'d,* five others say their authors built over her, and others mourn for her. It is therefore possible that her cairn was dismantled to build the wall and that the present anepigraphic cairn belongs to another period. By contrast, on WH Cairn 46 there are 488 inscriptions not one of which mentions the words *rgm* or *bny*. Three texts claim a shelter (*strt*) and one,[15] possibly, a sheepfold (*ṯyt*), but apart from these no other structures are mentioned; and this is typical of many cairns. The multiple uses to which cairns could be put no doubt encouraged a gradual accumulation of inscriptions on them.

But while on some cairns there are very large numbers of texts, cairns play a relatively small part in the distribution patterns of the Safaitic inscriptions in general. For as the field-work at Jawa of the Corpus of the Inscriptions of Jordan Project of Yarmouk University and the Department of Antiquities has conclusively demonstrated, inscriptions can be found on any stone or boulder capable of being inscribed, whether it is in an outcrop, a structure, or merely one of the millions littering the desert floor. Once preconceptions about where texts occur are abandoned and a systematic survey is made of a well-defined area, a much truer picture can be obtained of their distribution on a local level. Because at Jawa we recorded all inscriptions, drawings and *wusûm*, including the modern, and noted their locations with great precision, we can now make plans of the area showing the distribution of the Safaitic, Greek, early Arabic and modern Arabic inscriptions as well as the rock-drawings and *wusûm*. One of the many interesting

[9]See Harding 1953 and 1978, and Clark 1981.

[10]That is over half of the inscriptions found on the cairn itself, see Harding 1953: 8-9, 12, 14.

[11]There was a subsidiary burial, of a woman, to the south, but this was clearly intrusive, for it was lined and covered with stones which must have been taken from the cairn, since almost all of them refer to Hani' (Harding 1953: 11, add to the list given there nos. 23 and 117). Jamme (1979: 492) is incorrect when he asserts that "G.L. Harding never submitted the skeleton from his so-called Hani"s [*sic*] tomb to scientific analyses in order to ascertain both its date and the sex of the person it belongs to". The report of the scientific analyses on both skulls and some of the long bones, by W.M. Shanklin and A.J. Dark, was published in the *Annual of the Department of Antiquities of Jordan* 2, 1953, 57-61, immediately after Harding's own article. There the sex of each skeleton is established and it is explained why a precise date could not be arrived at.

[12]For instance, of the almost 500 inscriptions on WH Cairn 9 (the "Cairn of Sa'd"), only 11 refer to him. Moreover, there are two others, possibly brought from elsewhere, carved to mark the tombs (*ṣwy*) of other individuals.

[13]Possibly the pit in which was placed a *baliyya*, i.e. a camel which was trussed and left to starve to death at the grave of its master.

[14]Clark 1979: 37 and nos. 407-424. For descriptions of similar structures see Jamme 1971: 43 at Badanah and Littmann 1904: 104 at al-Ḥifneh (though he does not mention cairns).

[15]Three others may refer to a sheep-fold blowing away, though in all four cases the interpretation is very doubtful.

results of this exercise is that it demonstrates that the Safaitic and early and modern Arabic texts, (there are only a handful of Greek), are not confined to obvious places such as outcrops, cairns, the edges of pools, etc., but are widely scattered over the area. However, the distribution pattern is almost identical for each of these groups of texts. The modern shepherd boys who have been taught to read and write in the government schools leave their graffiti in almost exactly the same places as the Safaitic bedouins before them. This does not mean that they are necessarily written on the same rock but in the close vicinity. In some cases these are places which afford a good view, in others where there is shade and shelter, but others are in flat open country where after the rains there is good grazing.

While it is true that one graffito attracts others, this cannot explain such an extensive match of the distribution patterns of the Safaitic and early and modern Arabic inscriptions. On the other hand, the way the modern inhabitants use the area and the distribution of the inscriptions which results, strongly suggests that their Safaitic predecessors, whose inscriptions have an almost identical distribution, may have used the resources of the area in a very similar way.

Naturally, large numbers of inscriptions are also found on natural or man-made features. Thus at Jawa one large outcrop with a commanding view yielded over 300 inscriptions and drawings, while at Saja, a conical hill surrounded by wadis near Jabal 'Uneizah, over 200 were found. Jabal Qarma and Tell Fara, on the lower reaches of Wadi Rajil, may well have been points at which huntsmen kept watch for migrating game. Wadis with deep gorges, like Wadi Rajil, Wadi Ṣafawi and Wadi Irenbeh, to take a few at random, where pools remain after the rains and shelter can be found in caves and under overhanging rocks, also yield numerous inscriptions. Again the pattern is the same, a mixture of Safaitic with early and modern Arabic.

Thus, looking at distribution on the smallest scale, the places where Safaitic inscriptions are found, it is clear that they occur, in greater or lesser numbers, almost anywhere that the rock is suitable for inscribing. Often one stone among the millions on the desert floor has been picked out and inscribed, while those around are untouched. Others occur in groups, again for no discernible reason at this distance of time. In other places, high points, outcrops, around pools or in wadi gorges, large numbers of texts can be found together, and here the reasons are more obvious. In all these cases, and particularly when they are on cliffs or immovable boulders, the texts can be said to be *in situ* and conclusions drawn from their distribution.

By contrast, on cairns there can be no certainty of the relationship between an inscription and its context. While with a huge and apparently undisturbed cairn on which over half the inscriptions mention one man, it is a fairly safe assumption that the body beneath it belonged to the person referred to in the texts, it must never be forgotten that this *can* only be an assumption. In fact, it not only frequently *is* forgotten but the relationship between texts on a cairn and bodies beneath it is often extended to much more doubtful cases. As mentioned above, of the almost 500 inscriptions at WH Cairn 9, only 11 actually mention Sa'd and it may well be that Sa'd's original cairn was demolished and the inscriptions mentioning him re-used with others to cover a later burial nearby. I do not wish to endorse the extreme position adopted by Professor Jamme, but merely to make the distinction between the often doubtful provenance of texts on a cairn and those which can be said unequivocally to be *in situ*.

The distribution of the Safaitic tribes cannot at present be described in any detail. Relatively few texts give the author's tribal affiliation and in those that do, with one or two exceptions, the same word (*'l*, Arabic *'âl*) is used for all social groupings from family to tribe. Here again, inscriptions gathered together on cairns can distort our understanding of tribal distribution. For instance, among the 173 texts at or around the Cairn of Hani', membership is claimed of 20 different *'ls*. Of these, members of 6 were involved in Hani's obsequies, again an unusual number. By comparison, no *'ls* are mentioned in the texts concerned with the burials of Sa'd (WH Cairn 9) and Gyr'l (Cairn 12), only the tribe of the dead woman, *Ḫrg*, at Clark 1981: Cairn 2; the tribe of the dead woman plus one other at that of *'d* (CSNS Site F), and that of the dead man plus one other at the cairn of *'bgr* (WH Cairn 1).

However, even more extraordinary than this is the fact that the texts on the cairn *not* related to the burial are by members of 17 different *'ls*.[16] This extraordinary concentration of members of different *'ls* in one spot is, to the best of my knowledge, unique. Compare, for instance, the WH collection from the Ruweished area where, in approximately 4000 inscriptions, membership is claimed of only 29 different *'ls*, of which 22 are mentioned only once.

The reasons for this concentration can only be guessed at. Apart from the cairn there is nothing remarkable about that particular place, at least to the non-bedouin eye. It is possible, of course, that some of the texts pre-date the cairn and were simply used as building blocks in it, but this in itself is not a sufficient explanation. If the cairn had become a place of pilgrimage for members of different *'ls* one would have expected some indication of this in the texts. Instead there is little out of the ordinary in them. Whatever the reasons for this particular concentration, it is a dramatic illustration of the problems which cairns can pose to any

[16]This includes 3, other members of which assisted in the burial. Of the total of 20 *'ls* represented by those involved in the burial as well as those who were not, 11 are mentioned only once and 9 more than once.

attempted analysis of the distribution of the Safaitic *'ls*.

One other point should be made about the distribution of *'ls*. It is generally assumed when a Safaitic ethnicon can be matched with one found in a Nabataean or Greek text, that both refer to the same, or a related, group. Thus Milik (1980: 45) has no hesitation in identifying the *'l 'mrt* of the Safaitic inscriptions both with the *'l 'mrt* of a Nabataean-Greek bilingual from Madaba and with the "children of Jambri" from Madaba[17] mentioned in 1 Maccabees 9: 36. Similarly he suggests that the 'l *qmyrw* of a Nabataean inscription from Ithra in Wadi as-Sirḥan,[18] is the same as the *'l qmr* of the Safaitic texts. But, however attractive such identifications, they are as yet unprovable and it is important that they are treated as hypotheses and not facts. It is very probable that some, at least, of the Safaitic *'ls* had both nomadic and settled sections. But it is a long step from this to identifying the *'mrt* of Madaba with those of Ṣafawi and Burqu'. *'mrt* is, after all, a common personal name in Safaitic, Nabataean and Palmyrene, and is even found in north Minaean. It would thus not be surprising if it designated two unrelated groups of people. The same might be said of Grushevoi's attempts (1985) to link the *'l 'byšt*/ Οβαισηνοι of a Nabataean-Greek bilingual at Si' (CIS ii 164/Waddington 2366) with the Safaitic *'l 'bšt*, were it not for one Safaitic inscription, alas unknown to him. This is CSNS 424, from a site south of the main road, between Ṣafawi and Ruweished, which reads *l 's bn 'm bn 's ḏ'l 'bšt w mrd 'l 'l rm f h b'lsmn 'lh s" slm,* "By 's son of 'm son of 's of the 'l of 'bšt: and he rebelled against the Romans, and so, O Ba'alšamîn the god of Šî' [grant] security".[19] Given the close association of the *'byšt* with the temple of Ba'alšamîn at Si', as shown by the Nabataean and Greek texts discussed by Grushevoi, it seems fairly safe to associate the author of this text with them. On the other hand, the author of WH 1725a, from Wadi Miqaṭ, not very far away from the place where Clark found his text, also describes himself as *ḏ'l 'bšt* but tells, along with many others at this cairn, of the goats giving birth, and mourns for his son in characteristic Safaitic phraseology. In the case of *'bšt/'byšt*, therefore, it seems probable that one section were nomadic and another sedentary, settled in Si' or a nearby village. However, there seems no justification for Grushevoi's conclusion that, because the latter are described as a δημος, the entire tribe was settled.

I regret that this survey has had to concentrate so much on what we do *not* know about the distribution of Safaitic inscriptions in northern Jordan, and on the limitations on our knowledge inherent in the material itself. However, I hope that some misconceptions may have been cleared away and that, if the example of the Corpus of the Inscriptions of Jordan Project is followed in the systematic surveying of limited areas and the detailed recording of the location and context of finds, it may be possible to present at a future conference in this series a more complete picture of the distribution of the Safaitic texts.

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[17]He prefers a variant reading "Amrai".

[18]*Apud* Winnett and Reed 1970: 160, no. 130.

[19]The stone is in the Amman Museum, no. 14203. Clark does not read the second name which is, however, visible on the stone. My examination of the original suggests that, *contra* Clark, the letter before *mrd* is *w* not *f*. For the evidence that Safaitic *s* represented /š/ see Macdonald 1986: 110, 117-118, 123-124, and n. 123. The spelling *s"* parallels of course the Nabataean *š"* in Littmann 1914: no. 103.

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SIGLA

C	*Corpus Inscriptionum Semiticarum Pars V,* Paris 1950-51.
CIS ii	*Corpus Inscriptionum Semiticarum Pars II,* Paris, 1889-.
CSNS	Inscriptions in Clark 1979.
HCH	Inscriptions in Harding 1953.
LP	Inscriptions in E. Littmann: *Safaïtic Inscriptions.* Division IV, Section C of *Publications of the Princeton University Archaeological Expeditions to Syria in 1904-1905 and 1909.* Leiden: Brill, 1943.
Waddington	Greek inscriptions in W.H. Waddington: *Inscriptions grecques et latines de la Syrie recueillies et expliquées.* Paris, 1870.
WH	Inscriptions in Winnett and Harding 1978.

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Internal Settlement Patterns in Abila

Agricultural and pastoral potential, economic and commercial possibilities, geographical situation, cultural and artistic advantages, religious complexities, etc., all played a role in the size, quality and nature of Abila's population.

The Archaeological Evidence

In size, Abila is quite large, *c.* one kilometer and one half north-south by *c.* two thirds of a kilometer east-west (FIG. 1.), with Tell Abila on the north, Umm al-'Amad on the south with a saddle depression in between, and substantial suburbs and farmsteads extending out on various sides. Extensive surface ruins on both tells and in the saddle witness to the vigorous building activity especially in the Roman-Byzantine periods. Two large underground aqueducts run from 'Ain Qweilbeh south of Umm al-'Amad along the east ledge of the south tell north to the saddle depression, and in ancient times a third large underground aqueduct also brought water to the site from farther south. Many tomb and grave complexes were dug into the wadi ledges to the east and south of the site (FIG. 2).

The pottery distribution found at Abila covers a wide range of archaeological periods, as was initially shown by the 1980 survey and further illustrated in the 1982, 1984, 1986, and 1988 excavation seasons. The archaeological periods represented by pottery evidence at Abila range from the Neolithic to Ayyubid/Mamluk period (and including some Ottoman), with heavier concentrations for the Middle and Late Bronze Age, Iron Age, Hellenistic, Roman, Byzantine and Umayyad periods.

As to architectural evidence on the acropolis of Tell Abila (Area A), excavation has shown that the sixth century A.D. basilica (34.50m by 19.0m) there had used part of the foundations and other parts of an earlier structure (probably a Roman temple; cf. Ḥesban). The acropolis wall system is substantial (an extended portion is of header-stretcher construction) with long use and rebuilding evident.[1] A section of re-used basalt architectural fragments just south of Area A and a flight of basalt stairs (2.30m wide; risers 0.50m high) at the southeast corner of the tell may point to an entrance to Tell Abila from a terrace in the saddle below.[2] Excavation on the north side of the tell shows that the 5.00m high city wall was used as early as the Late Roman period. Just below the acropolis wall on the south of Tell Abila the Decumanus street proceeded west from the ancient bridge; the Cardo Maximus went south from Tell Abila over a vault to Umm al-'Amad.

On a shelf just east of the theater cavea on the north slope of Umm al-'Amad, a small singleapse basilica (nave, 24.5m by 18.7m; apse radius, 4.85m; a narthex on the west is 4.5m wide) has been surveyed. The theater cavea, diameter 80m, height above the floor *c.* 30m, evidences multiple use. In 1986 and 1988 we excavated a portion of the street (which extends off the Decumanus; MacDonald shows side streets off main streets in his plan of Timgad[3]) in front of the cavea, and a portion of the cavea itself, finding in 1988 under the heavy overburden remains of a large Umayyad palace (re-used in the Abbasid and Ayyubid/Mamluk periods). Also at the east end of the palace we encountered a suspicious looking apse wall, suggesting remains of a possible Byzantine basilica.

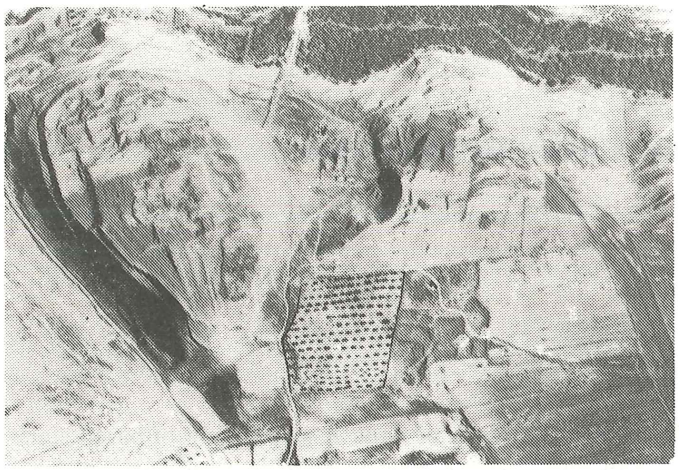
Survey and mapping have been done in the two underground Umm al-'Amad aqueducts (the Upper Roman/Byzantine aqueduct, 1.76m wide, 0.78m high; and the Lower Iron Age-Early Roman aqueduct, 2.38m wide, 0.88m high) and also in the third Roman/Byzantine water tunnel which brought water from 'Ain Khureibah further south to augment the 'Ain Qweilbeh supply. Because these Umm al-'Amad tunnels brought water north from 'Ain Qweilbeh at least 1,400 m away, under the eastern ledge of the tell up to and near these ruins, we suspect that the ruins just north of the theater constituted a bath and possibly a nymphaeum complex for which much of this aqueduct water was needed.

On Umm al-'Amad to the west of the basilica we found

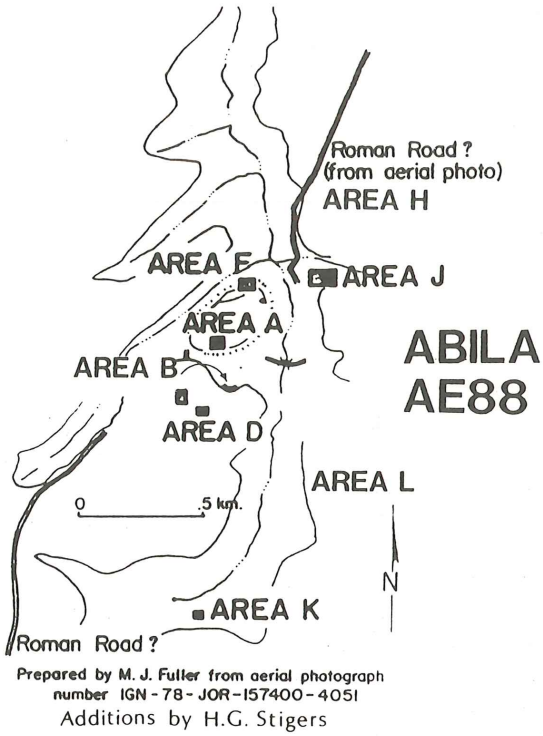
[1]K. Smith, "Abila, 1982", in 'The Abila Excavation: The Second Campaign at Abila of the Decapolis (1982), A Preliminary Report, Part II,' *Near East Archaeological Society Bulletin*, 22 (1983), pp. 30, 31.

[2]Smith, *op. cit.*, p. 31.

[3]W.L. MacDonald, *The Architecture of the Roman Empire, Volume II, An Urban Appraisal* (New Haven: Yale University Press, 1986), p. 27, figs. 23, 24.



1. Qweilbeh, aerial photograph of Abila; upper background, Wadi Qweilbeh; center foreground, Tell Abila; right foreground, Umm al-'Amad and the theater cavea.



2. Qweilbeh, contour and excavation site map of Abila, 1988.

remains either of a market, a street, a palaestra, or a small Byzantine garden villa with two columns to mark the entrance.[4] The Umm al-'Amad Area D Christian basilica (Christian crosses are carved on some of the capitals), excavated in 1984, 1986 and 1988, is *c.* 41m long by 20m wide, with the nave 10m wide and each side aisle 5m wide. In front of the nave and narthex on the west we have excavated remains of the church's monumental porch.

Of a total number of the fifty-five tombs and graves excavated from 1982 to 1988, a number are to be dated to the Roman/Byzantine periods, usually with re-use in more than one period, in some cases into the Umayyad. In a few cases the tombs and/or graves were dug in the Hellenistic period (Area H 8) or the Late Hellenistic/Early Roman period (L 15, L 16 and L 3), and one with Nabataean features (H 3) seems to have been dug as a Nabataean/ Roman tomb. In 1988, two Bronze-Iron Age tombs were salvaged (H 13, Middle/Late Bronze; H 10, Late Bronze/ Iron Age). These Abila tombs thus far excavated often had a dromos and exhibited a variety of types: 1) single chamber tombs (as L 16); 2) main chamber tombs with or without a central sump with loculi (as H 1, H 2, L 15), or with arcosolia (J 3, J 4, L 2, L 10; this type is well attested in Palestine in the Late Roman/Early Byzantine periods),[5] or with a rock cut bench (J 5);[6] 3) or shaft tombs cut down into the ground (as J 9, J 10, J 14, 15, J 18, J 22-25;[7] and H 8, H 9). Also excavated were one Roman sarcophagus (K 2) and one columbarium (L 4) constructed either for the placement of burial urns or used just for offerings for the dead. Sometimes the tombs were carved with elaborate external facades (L 13) or with internal entrance medallion painting (L 5), and in the large tombs sometimes with elaborate wall and ceiling paintings (L 5, the Temple Tomb near 'Ain Quweilbah, etc.).[8] Often the loculi were sealed with stone, mortar and plaster (as L 5, H 6) and painted (H 6, L 13, L 5), sometimes with inscriptions (H 6).

Ethnoarchaeological studies conducted during the 1982, 1984 and 1986 seasons in the Abila region agree with the study made of the floated soil samples, containing botanical specimens, that ancient and modern Abila specialized in the husbandry of sheep and goats and the raising of crops such as olives, grapes, figs, wheat, barley, garden vegetables, etc. The rainfall in the Abila area now averages 350 to 450mm annually,[9] and assuming similar rainfall in ancient and modern times, this is well within the range of dry farming and even truck farming at ancient Abila.

Of the 61 coins found at Abila from 1982 through 1988 all but two (silver coins, one Ottoman, A.D. 1754, and the other Ayyubid, A.D. 1239/40) have been bronze. The time periods represented range from Hellenistic to Ottoman.

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[4]W.H. Mare, *et al.*, 'The 1984 Season at Abila of the Decapolis,' *Annual of the Department of Antiquities of Jordan* 29 (1985), p. 225.

[5]J.J. Davis, "Abila Tomb Excavations: 1984", in 'The Abila Excavation: The Third Campaign at Abila of the Decapolis (1984), A Preliminary Report, Part I,' *Near East Archaeological Society Bulletin* 24 (1985), pp. 79, 80.

[6]Davis, *op. cit.*, pp. 52, 53.

[7]Davis, *op. cit.*, pp. 85-90.

[8]Cf. W.H. Mare, 'Tomb Finds at Abila of the Decapolis, News and Notes,' *Biblical Archaeologist* 45/1 (1982), pp. 57, 58.

[9]Cf. J.A. Shoup, "Ethnoarchaeological Report," in 'The Abila Excavation: The Fourth Campaign at Abila of the Decapolis (1986), A Preliminary Report, Part III,' *Near East Archaeological Society Bulletin* 30 (1988), pp. 38, 39.

The mint marks, where visible, include Tyre, Antioch (Syria), Constantinople and Rome.

INTERPRETATION OF THE ARCHAEOLOGICAL EVIDENCE:

Settlement Pattern in Roman/Byzantine and Umayyad Abila

Internal Population Levels at Abila

Comparing the population density of Abila (1500m N-S, 750m E-W) with modern Khureibah south of Abila (21 persons per hectare, 700 to 1,000 persons), and modern Ḥarta to the north (population 5000;[10] physical size in 1972, 1000m by *c.* 500m),[11] we can project that ancient Abila had a population of *c.* 8 000 to 10,000 persons — a medium size city. This projection agrees with the estimates of Broshi and Frankfort on Abila population size for the Roman period, 6320 and 6241 respectively, and for the Byzantine/Umayyad periods, 12,760 and 12,600 respectively.[12]

The above population estimates for Abila can be correlated in general with the archaeological data found at the theater cavea, assuming that below the heavy debris overlay and other building remains in this area there is finally to be found more material evidence of the theater. At Abila in 1988, Reuben G. Bullard, in arguing for the theater hypothesis, indicated that this theater cavea must have been man-made; it is too steep to be a natural slope. Incidentally, Schumacher in his brief survey in 1888 comments about the theater: "The configuration of the slope was made use of to form the amphitheater, the seats — of which but few remained — were placed on a masoned foundation, for the reception of which the soft rock had been prepared."[13] In the 1980 survey the diameter of the theater cavea was determined to be 80m, and the height has been shown to be *c.* 30m. The theater of Marcellus in Rome (120m wide, 32m high) seated 11,000[14] and the north theater at Jarash 56.50m across and *c.* 16m high seated 1,600.[15] Thus the Abila theater, about two thirds size of the theater of Marcellus and more than twice as large as the Jarash north theater, must have held about 6000 to 7000 persons; compare the comparable size theater at Aphrodisias, Turkey, seating *c.* 8,000.[16] It is well to remember, however, that it is difficult to estimate the population size of an ancient site from theater capacity without also knowing the intensity of cultural interest in the population and the city's ability and willingness to expend sizable funds on such facilities.

'Ain Qweilbeh, with a flow of 7.7 liters per second volume, would be putting out 665,280 liters per day, enough to provide for 2218 persons,[17] (on an estimate of 300 liters per person per 24 hours),[18] but with the capacity of either one of the Umm al-'Amad aqueducts (each with a capacity to provide water for 10,000 to 20,000 persons), and the additional services that the Khureibah aqueduct, bringing water from 'Ain Khureibah on the south, would provide, and the possibility of water being brought from the westsouthwest by an additional aqueduct (West Transect 15), the possibility of providing water for a population of 8000 to 10,000 is certainly reasonable.

The Social Classes and their Standing at Abila

Following the patterns of the social classes generally represented in the Roman Empire, [1) the wealthy Senatorial-Equestrian class[19]; 2) the household community unit, the *oikonomia*,[20] headed by the *pater familias*[21]; 3) the free plebs; 4) freedmen; and 5) slaves]; or in the Greek world [1) the rulers; 2) soldiers; and 3) manual laborers, Plato, *The Republic*][22]; or set forth in Roman Jerusalem [1) the rich rulers, merchants, landowners, tax-farmers, bankers, religious officials; 2) middle class entrepeneurs (traders, craftsmen, clergy, freedmen, innkeepers, etc.); and 3) the poor (slaves, day-laborers and beggars],[23] Abila must have had at least three social classes: 1) the wealthy; 2) middle class entrepeneurs; and 3) the poor.

Evidence from the Abila tombs gives some support to this three tiered model of society. Evidence of the wealthy class is seen in elaborately painted tombs, containing loculi[24] (L 5, L 17, the Temple Tomb on the south slope of Umm al-'Amad, etc.), some with basalt sarcophagi (H 1, L 5, K 2), monumental tower tombs (L 12), and wide ranging and expensive grave goods (as in J 1, two gold rings, etc.). The middle class is represented by smaller and less elaborately decorated tombs (H 1, H 2), also equipped with loculi (H 1, H 2), sometimes with arcosolia (J 13, L 12) and containing a moderate variety of grave goods (H 1, H 2). Evidence of the poor and day-laboring class is seen primarily in Area J of the necropolis in shaft and cist graves

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[10]N.B. Fuller, "Analysis of the Ethnoarchaeological Studies," in 'The Abila Excavation: The Third Campaign at Abila of the Decapolis (1984), Part II,' *Near East Archaeological Society Bulletin* 25 (1985), p. 76.

[11]N.B. Fuller, *op. cit.*, p. 77.

[12]M.J. Fuller, Unpublished dissertation, 1987, p. 246.

[13]G. Schumacher, *Abila of the Decapolis* (London: Palestine Exploration Fund, 1889), p. 30.

[14]MacDonald, *op. cit.*, p. 125.

[15]V.A. Clark *et al.*, 'The Jerash North Theatre,' *Jerash Archaeological Project, 1981-1983*, F. Zayadine (ed), (Amman: Department of Antiquities, 1986), pp. 213, 226, 229.

[16]Erim, *Aphrodisias, City of Venus Aphrodite*, (New York: Facts on File Publication, 1986), pp. 79, 80.

[17]M.J. Fuller, *op. cit.*, p. 251.

[18]*Ibid.*

[19]D. Tidball, *The Social Context of the New Testament*, (Grand Rapids: Zondervan, 1984), p. 69.

[20]C. Hill, *The Sociology of the New Testament*. Unpublished Ph.D. dissertation, Nottingham University, 1972, p. 215.

[21]Tidball, *op. cit.*, pp. 79-81.

[22]Cf. G.W. Botsford and C.A. Robinson, Jr. *Hellenic History*, 5th ed, revised by Donald Kagan (New York: Macmillan, 1969), p. 363.

[23]J. Jeremias, *Jerusalem in the Time of Jesus*, (Philadelphia: Fortress Press, 1969), Ch. IV to VII.

[24]J.J. Davis, "Abila Tomb Excavations," in 'The Abila Excavation: The Second Campaign at Abila of the Decapolis (1982), A Preliminary Report, Part I,' *Near East Archaeological Society Bulletin* 21 (1983), p. 55 and *op. cit.* p. 91, states that elaborately painted tombs point to a wealthy and important class at Abila..

there (J 9, J 10, J 14, J 15, etc.) (*cf.* also the Hellenistic grave H 8, excavated in 1988), with few grave goods. About this phenomenon Davis comments, "...simple graves and cist burials reflect the hasty disposition of the body of individuals of a poorer class".[25] That the wealthy are primarily buried in Area L and that the poorer classes primarily in Area J (with the middle class buried some in Area H and some Area J) suggest that class segregation was practiced at Abila. As Davis says, "The very large and elaborately painted tombs are usually quite isolated, whereas the common chamber and loculi tombs and graves of average citizens are concentrated in a distinctly different area. The socio-economic factors that divided the people of urban Abila apparently divided them in cemetery traditions as well".[26]

The Economic and Cultural Patterns of the People in Abila

A prominent factor in determining class status at Abila must have been one's economic position as well as his social and cultural background. How prosperous was Roman-Byzantine Abila?

Economic Prosperity

On Tell Abila, the 5m high city wall exposed on the north, the substantial acropolis wall on the south, the Roman temple-Byzantine basilica structures and later Umayyad buildings on the acropolis and the Cardo Maximus road running north-south along the west of the acropolis all point to an opulent city.

In the saddle depression the theater cavea (containing a theater, then possibly a basilica, and finally an Umayyad palace), the east-west Decumanus street system, running west across the ancient stone bridge, with a branch off to the south to go between the theater cavea and the bath/nymphaeum complex, the monumental buildings and large civic center which must have been located on a platform in the middle of the saddle, also bespeak economic wealth and prosperity.

The Area D basilica on Umm al-'Amad and the earlier building there (stratigraphic evidence shows that floor and surface layers of this earlier structure were cut to lay down the stylobate foundation of the seventh century AD basilica), the Byzantine villa (or market, palaestra, etc.) to the west, and the surface remains of many other building on the south tell give evidence that this part of the city was economically and commercially prosperous.

The agricultural diversification at ancient Abila, as evidenced through the study of the botanical specimens and the osteological evidence showing that many sheep and goats were raised,[27] point to prosperous farming and to potential for prosperous landowners "households" in the Abila area. The Abila ethnoarchaeological reports[28] corroborate this. This evidence runs contrary to Rostovtzeffs claim that the Transjordan region was too poor agriculturally to sustain a sizeable city population.[29]

Artisan products also bear testimony to a vigorous economy at Hellenistic, Roman and Byzantine Abila. The quantity of imports, such as Hellenistic black ware (found in increasing amounts), Eastern Terra Sigillata sherds and some Cypriot ware (as Cypriot white ware) evidence economic prosperity and commercial connections. The presence of molded figurines of classical Greek and Roman mythology (the Dionysos, Terpsichore, and horse and rider figurines found in Tomb H 2), and part of a figurine of a Roman figure wearing Roman clothing and holding a scroll (?) (A 88, H 16001, #849) point to high culture and affluence.

Expertise in tomb painting, tomb carving (done by tomb masons), and the extensive use of glass — many fragments of glass objects and whole glass vessels (lamps, unguentaria, flasks, etc.) and window glass — point to sophistication, as do sophisticated temple buildings, some with a double roof, portrayed on some Abila coins[30] and the many pieces of sculptured architecture found in excavation, including a part of a marble altar screen (Area A) and a beautifully carved marble foot of a large statue (found in Area B in 1988).

The Arts and Culture

The theater cavea, the bath/nymphaeum complex and the nearby monumental buildings and middle level plaza (?) for an expanded civic center in the large central depression certainly point to concentrated cultural, as well as business, activity in the center of the site. Compare other ancient theater, bath/nymphaeum complexes, and nearby civic centers at Palmyra, at Antioch on the Orontes, at Timgad and at Lepcis Magna in north Africa.[31] The importance placed on Roman temples (one on Tell Abila, and possibly another on Umm al-'Amad in Area D) and on Byzantine church basilicas speak to the cultural, as well as religious,[32] climate of Abila.

Further evidence of religious emphases and cult practices

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[25]Davis, *op. cit.*, p. 91.

[26]*Ibid.*

[27]Cf. R.H. Kyle, 'Human Skeletal Remains from Abila: 1988 Season,' *Near East Archaeological Society Bulletin* 31 (1988), p. 35.

[28]N.B. Fuller, *op. cit.*, pp. 79-82; J.A. Shoup, *op. cit.*, pp. 37-40.

[29]M. Rostovtzeff, *Caravan Cities* (New York: AMS Press, 1975, reprint of the 1932 edition), p. 62; later in his *The Social and Economic History of the Roman Empire*, 2nd ed., (Oxford: Oxford University Press, 1957), pp. 270, 271, he revised his concept and allowed for agricultural prosperity and landowners.

[30]A. Spijkerman, *The Coins of the Decapolis and Provincia Arabia*, (Jerusalem: Franciscan Press, 1978), pls. 7-9.

[31]MacDonald, *op. cit.*, p. 20, fig. 16, Palmyra; p. 23, fig. 18, Antioch on the Orontes; p. 27, fig. 23, Timgad; and p. 40, fig. 36, Lepcis Magna.

[32]Inscriptional material bears testimony to a bishopric at Abila in the sixth century A.D. See B. Van Elderen, 'The Water Tunnel Inscription of Abila,' to be published in the Winter-Summer, 1989, double issue of the *Near East Archaeological Society Bulletin*; the inscription reads, "[At the time of....] the most holy and most blessed bishop ...., the upper channel was cleared in the month (s) September (and) October, in the second indiction (and) the year 631 [Pompeian era, i.e., A.D. 568]."

at ancient Abila can be seen in the silver amulet (probably a fertility cult image, used for apotropaic purposes) found in Area A in 1982 on Tell Abila, and in the broken well-weathered limestone altar, with a *patera* on top to hold libation offerings and with carved scenes of a bull (?) on the sides (a Mithraic cult object?),[33] found north of Tell Abila in 1982.

Tomb evidence pointing to Abila's ancient religious practices include: 1) loculi-central sump Roman tombs (H 1), representing domicile living after death; 2) loculi sealed with stone and/or plaster, enabling families in comfort to visit tombs for worship; 3) limestone busts/headstones, pointing to family reunions and feasts[34]; 4) Dionysos and Terpsichore figures (H 2) used in the cult[35]; 5) food offerings and incense (L 15) for cult worship; 6) lamps and lamp niches pointing to the Roman practice of honoring the dead with lighted lamps on the Kalends, Ides and Nones of each month and yearly in the Parentalia, February 13 to 21[36]; and 7) bronze bells buried with the dead, pointing to an apotropaic practice of warding off evil.[37]

Thus we have proposed that Abila in the Roman and Byzantine periods was a moderate size city and urban area of 8000 to 10,000 persons, with a prosperous agricultural and commercial economy, and the type of class and cultural structure which befits a city belonging to that area and time.

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[33]Cf. Michael P. Speidel, *Mithras-Orion: Greek Hero and the Roman Army God*. (Leiden: E.J. Brill, 1980), pp. 39-40.

[34]Davis, *op. cit.* (n. 5), p. 72.

[35]Davis, *op. cit.*, p. 90; J.M.C. Toynbee, *Death and Burial in the Roman World*. (Ithaca, New York, 1971), pp. 38-39, 236.

[36]N.B. Fuller, "Abila Tomb Excavations: 1986," in 'The Abila Excavation: The Fourth Campaign at Abila of the Decapolis (1986), A Preliminary Report, Part II,' *Near East Archaeological Society Bulletin*, 29 (1987), p. 59; Toynbee, *op. cit.*, pp. 63, 64.

[37]N.B. Fuller, *op. cit.* (n. 36), p. 59; N.P. Toll, *Excavations at Dura Europos, Part II, The Necropolis. Preliminary Report on the Ninth Season of Work, 1935-1936*, M. Rostovtzeff *et al.* (eds) (New Haven: Yale University Press, 1946), p. 122.

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The Macellum in the Economy of Gerasa

Since 1984, the excavation, study and restoration work performed in the Roman city of Gerasa in the Provincia Arabia by various research groups, archaeological missions and the Jordanian Department of Antiquities have brought to light vestiges and remains with which we can begin to fill in some details of the history of the city, and to take a different viewpoint of other work on which merely provisional conclusions had been based.

The unceasing activity and preoccupation of the Department of Antiquities, and the increase in the number of teams of archaeologists and researchers, have led to further changes in our view of the city of several years ago.

Accepted theories have been replaced by new ones, some ideas have given ground to others, but, above all, the history of the city of Jarash, first Roman, then Byzantine, and Umayyad up to the present day, still contributes valuable data with which to construct the historical framework of the region on a solid basis.

The Spanish Archaeological Mission, under the direction of the author since 1984, has been in charge of a central area of the old city, in which the excavations of the University of Jordan under Dr. Barghouti, continued years later with the Spanish participation in the Gerasa Project and published by Olavarri, gave an overview of what that central area offered. This was all a continuation of the work performed in the '30s by American teams, who discovered the first Gerasa groups, and with them the *cardo maximus*, on which our work area is located.

All these precedents gave a general, imprecise and often vague or erroneous idea of the function of these remains and particularly of their identification. Evidently, the small research base to date did not support more precise assessment.

Since 1984, and intensely since 1986, the work of the Spanish Archaeological Mission has expanded considerably, thanks to which the field work and the consolidation, restoration and laboratory work as well as the study of structures and materials have proceeded at a rapid pace. The presence of teams of archaeologists and restorers on site eight months a year, in larger numbers, has led to a decisive change in our knowledge of the physiognomy of that sector of Gerasa.

The research work performed has been described briefly in Martin-Bueno 1987 - 1989, which describe the progress made and the interpretation of structural and material remains. The building we excavated was identified as a *macellum* or Roman food market, with genuinely classical type and layout, and very pure proportions, which place it among the best examples in the Roman Empire.

This building played an important commercial role, both because of its basic function, and because of its role as a focus of trade attraction in a very central area of the city of Gerasa.

Ancient sources say little about the commercial function of Gerasa and of the Decapolis to which it belonged. Although they do mention the city and its neighbours, their purpose is not mentioned, so we do not know if this association was political, or commercial, and the information at hand does not allow us to define the nature of this relation and the links involved.

Gerasa is, nevertheless, one of the largest cities of this group, or at least the one which was most developed, as evidenced by its size. Its origins are unclear, since the remains found in some high areas inside the sector belong to very old settlements, and we cannot be sure that there was continuity between these and the classical Gerasa which is the object of our research, but there was clearly a tradition of occupation in a territory with certain facilities for the presence of human groups. Of interest in this context is the work by Braemer in recent years, which defines the ancient levels of occupation around the beginning of the first millennium B.C.

The morphological characteristics of the *macellum* building itself show it to be a monumental construction, with its facade onto the *cardo maximus* of the city being located on the main axis of urban development. However, the special urban layout of Gerasa, the fact that it is located in a valley and fed by a stream means that the grid scheme has to be based on more than one axis, and each side of the river can be considered as clearly defining the functions of the quarters or neighbourhoods there.

Within this initial distribution, the monumental area of

Gerasa, particularly the religious centre, is located on the western side, where the *macellum* is located. The main gates of the city at each end of the *cardo maximus* open onto this area and revalue this decisive function.

We consider the location of the *macellum* to be particularly well chosen, for two reasons. First, it is a relatively central point of the city, apart from the religious centres but not too far from the two principal sanctuaries, as if to take advantage of their evident attractive force to the benefit of the *macellum*. Second, its proximity to the Southern Gate, the city's main gate which connected it to the Philadelphia road and the Mediterranean coast, and the large oval plaza that welcomed visitors, although its actual function is unknown (it was certainly not the *forum*, as was once proposed). This certainly channeled people directly towards the *macellum*.

The *macellum* is of moderate dimensions, considering the size of oriental buildings in general, of which Gerasa has several more than eloquent examples. The facade is 50 metres long, and the building is 55 metres deep, almost square were it not for the portico on the east wall which makes it longer in that direction. It is surrounded by shops, *tabernae* which justify its commercial function, and the interior is divided into more open spaces in which this function is clearly seen (FIG. 1).

Entry is by a large, triple, monumental door, with windows over the side doors (FIG. 2). This entrance, which stands out in the facade because of an increase in the height of the portico columns, leads into an octagonal patio, with a covered pillar-lined corridor, and an open central space, presided in the centre by a kiosk which contains a fountain and a pedestal for sculpture, with an inscription (FIG. 3).

Around this octagonal patio there are four exedrae in the corners, thereby creating four spacious, semicircular covered areas which are separated by pillars from the octagonal centre. Between these spaces there are straight sections which frame the three access areas, the main door and the two side doors, with *tabernae* on each side, and a rectangular room of the same dimensions, with two side doors leading outside and which, presumably, gave access to the second floor of the building from the outside.

This space could be related to a sacred space, a *sacellum*, although no evidence has been found to definitively support this relation, apart from some as yet unidentified sculptural remains, since the successive re-occupations of the building have prevented its being conserved intact. Taking into account the location, it might have had that purpose, since we should perhaps associate with it the remains of at least one *ara* found among the debris levels of the *macellum*, which was later moved from its original site.

In the centre of the internal exedrae was a *mensa* with a single block of stone as the table, resting on supports or legs on the front of which are carvings of animals, felines and goats (FIG. 4). These *mensae*, of which there were at least five, were located in the four exedrae at each side of the main entrance. They were perhaps used as stalls for money-changers and for commercial transactions, and not just as sales stalls. *Mensae* commonly have this function in most known *macella*.

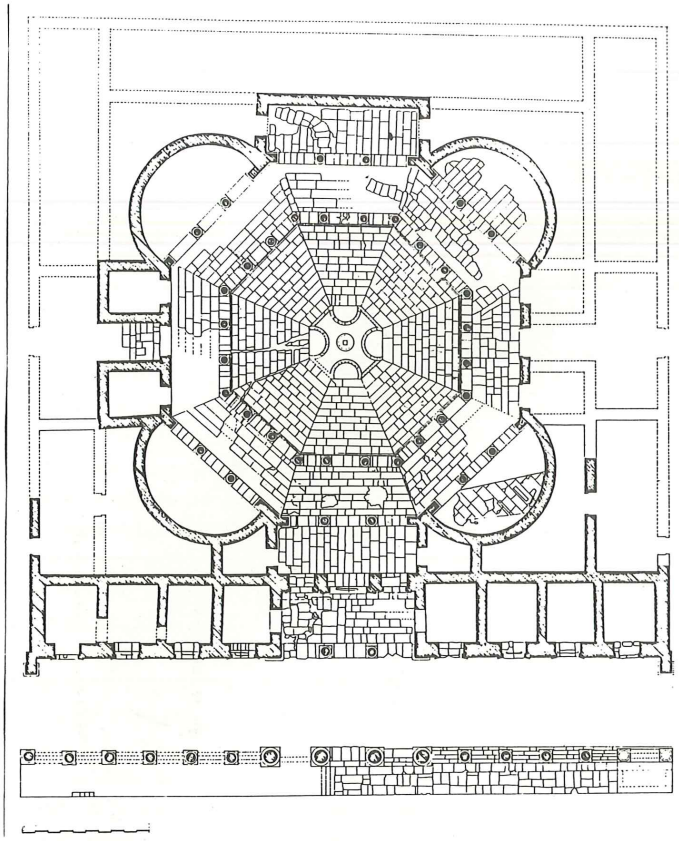
The number of stalls, *tabernae*, including those already excavated and those estimated to be located along the back wall of the building, which has not yet been fully excavated, is about forty-six. To these we must add the exedrae with their tables, and the spaces in the internal patio and corridor, which would be used for temporary stalls, as would appear to be borne out by the presence of shoulders on the columns to attach awnings, and perhaps partitions. With regard to the distribution of these stalls inside and outside the building, one must recall that the *macellum* is a free-standing block, all four sides of which can be used for stalls. Although the *macellum* is a closed, unified space, its three or four doors open it to the outside, and allow the free flow of traffic through the building. To about thirty or thirty-five fixed stalls, external *tabernae*, were added a similar, though less regular, number of internal stalls.

Such a large number of stalls leads us to question the specific type of products sold here. Was it a *macellum* in the strict sense of the word, i.e. a meat and fish market, as noted by the Latin authors? Or was it a market in a broader sense? To answer these questions, in the general study of the building and its surroundings which we are performing, we will have to consider all the details and information available. Inscriptions, ranging from large to small down to graffiti on the building materials, though open to many interpretations, do point towards a market in a wider sense than the traditional *macellum*, particularly if we consider its location in such a special geographical area as this Oriental province.

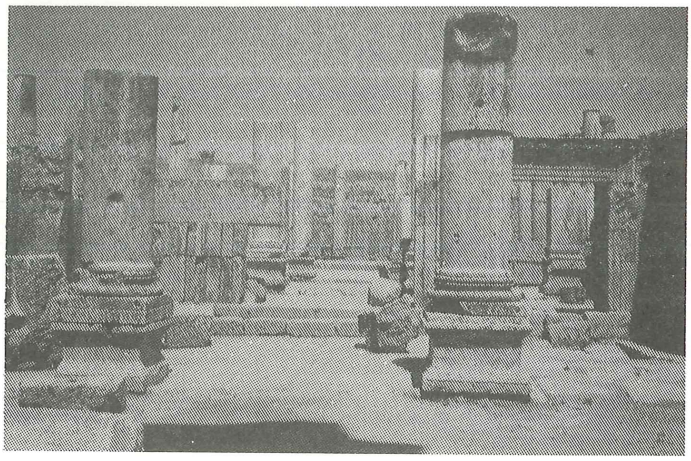
Undoubtedly, the *macellum* of Gerasa had a decisive influence on the area where it was located. In a city of this size, this building must have been surrounded by a shopping area in which citizens and visitors could do their business and also buy the goods typically found in ancient markets. We cannot conceive this building as being isolated from its surroundings, either physically or functionally. It was located in a sector where activities such as daily shopping for immediate consumption were performed.

The presence of the *macellum* close to the southern *tetrapylon* of Gerasa, which was modified to accommodate shops, appears to point to the existence of a shopping sector. We cannot rule out the possibility that the oval plaza was also related to commerce. Its surroundings, as yet unexcavated, could contain shops, which would reveal a large commercial area ranging from the Oriental type market, linked to the *agora*, to the Roman *macellum* as a symbol of quality specialized trade.

Its proximity to the main gate of the city, to one of the two main temples (the oldest, without doubt), and to the theatre, gave it considerable force as a commercial and economic sector. We must not forget that the temple and the theatre drew large numbers of local people and visitors, who would have to pass through the area and do some



1. General plan of the *macellum*.



2. Main entrance of the *macellum*. (Photo. M. M.-B.).

shopping on the way. The place itself must be related to this purpose, which can still be seen today in the Oriental *souq*, with the same accumulation of commercial functions.

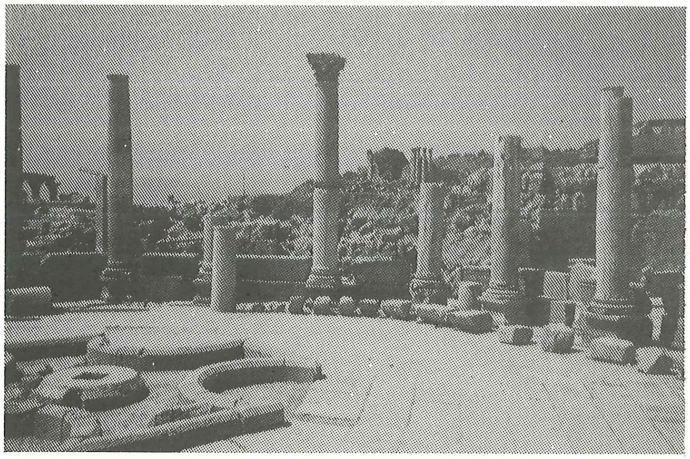
The *macellum* and the commercial area of the *tetrapylon* could have seen a modification in the flow of traffic of potential customers as the axes of urban development in *Gerasa* shifted to the north and, perhaps, to the other side of the river. The existence of a bridge between the two different sectors of the city gave easy access to the *macellum* from the other side. The shift which some authors attribute to the construction of the temple to Artemis, followed by the north theatre, does not appear to us to be sufficient reason for changing an entire shopping tradition, since the city was still open and oriented in the same direction, southwards, and because the *macellum* was still reasonably close to this new centre of religious and possibly political attraction.

The explanation for the development of the east of Gerasa and its layout is less clear. There is evidence that some of the city's monuments were located there, such as the large baths, whose ruins now house part of the modern *souq* of Jarash. We must not forget the possibility that the *forum* was located in that area, since the west side of Gerasa is not large enough to hold such a building, which must have been very large, nor does the stretch of the land support the possibility, for the moment.

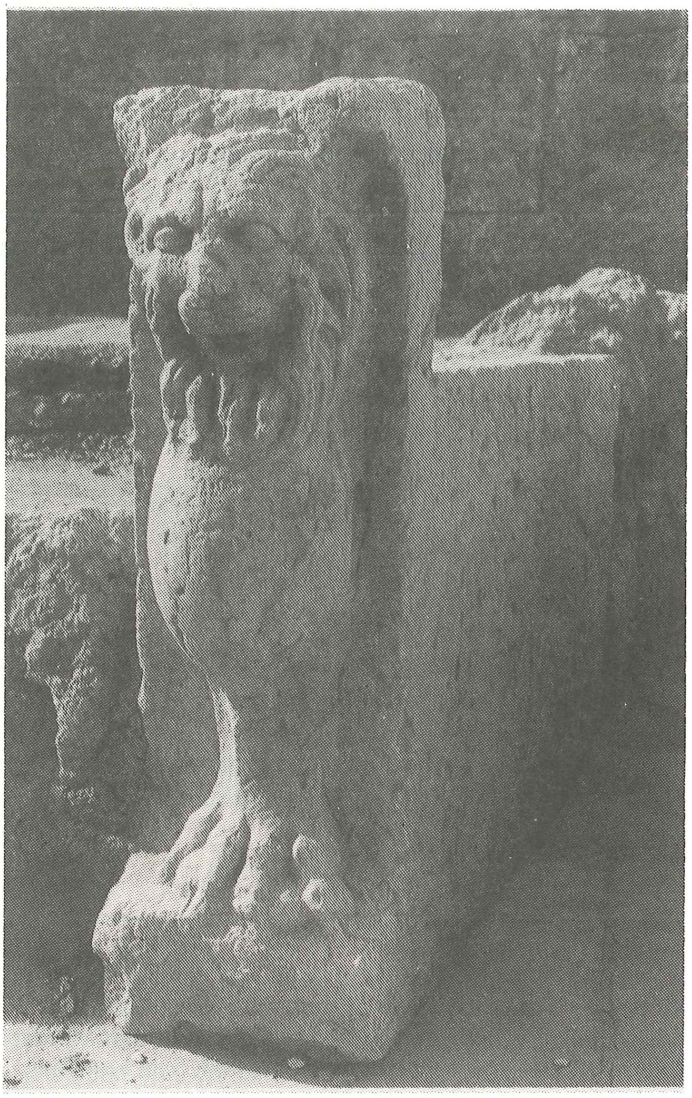
Gerasa must have developed from the southwestern side to the northwest, crossing the river to the east to occupy the two banks, and forming a town based on two axes tending to be parallel. Our ignorance of the eastern sector, due to the development there of the modern city, and the fact that the most spectacular monuments are in the west, leaves our picture of the city decidedly incomplete. The presence on this bank of the two main temples of the Roman era, the two theatres, the *macellum*, and the oval plaza, with the *cardo maximus* connecting the two main gates confirms this idea. The persistence of this character as the city grew, with the construction of Hadrian's arch, and the later construction of the main Christian churches in the Byzantine period, appears to confirm this possibility. However, we are unable to provide reasons for this development, due to our lack of knowledge of the other bank, and of the dating of the different sectors and monuments.

The external configuration of the wall of Gerasa, with its modifications, which surrounds the city and encloses a very large area, can be deceptive with regard to the date and phases of construction. It was undoubtedly a symbol of prestige rather than just a defensive barrier, at least in the beginning, but we cannot define the stages in which it was built, since there are no reliable excavations in the surroundings and the only work performed to clean and approximately rebuild the walls and towers provided no data on this point. We have no archaeological information with which to talk about the construction and dating, and its extensions, reuse and modification during the Byzantine and Umayyad periods, which appear clear from the external configuration and the building techniques involved.

Seigne's proposal that it was a late construction cannot explain all the gaps in our knowledge, and arguments based purely on construction and urban development are not



3. General view of the court. (Photo M. M.-B.).



4. Support of the *mensae* for the money-changers. (Photo. M. M.-B.).

sufficiently backed up by reliable excavation data.

It seems reasonable to assume that the city reached maturity over a long period, in the light of the results from the monumental centres, but there is not enough archaeological evidence to support the idea that all Gerasa was modern. Clearly, in the second and even third centuries A.D., there was a high level of construction activity, but it is also true that the city is mentioned in ancient sources, that its location made it viable long before that, and that such a large urban development is a slow process. Findings in some sectors of the city include remains from the first century A.D. or older, but it is no less true that the difficulty in excavating below the foundation levels of these monuments greatly reduces the possibility of gaining a full understanding of the situation in the first century A.D. and earlier. Therefore, what is required is systematic excavation below the monumental areas in order to gain solid information about Gerasa's early urban development. Such buildings as the *macellum*, the temples and the centre of the city deserve more than mere recording as splendid monuments for public exhibition. Historical investigation should take precedence.

The city expanded north- and eastwards, following an economic development based on the caravan routes and on the strategic location of the city in this trade network. Gerasa quickly set itself apart from its neighbours and competitors, due not only to the dynamism of its inhabitants, but also to the natural resources of the area, which was fertile, with nearby quarries for building materials, and sufficient irrigation for crops. These factors enhanced its economy and inscriptions describe considerable natural expansion from the first century A.D. onwards, heightened by the construction of the *via trajana* which improved communications in the region. The visit of Hadrian, and the continuity during his dynasty and the Severan dynasty which followed led to a constant increase in urban activity and economic development and, apart from the monuments on the western side of the river, there must have been considerable activity on the other side, which is as yet little known.

With regard to population distribution, the most affluent residential areas were those around the monumental centres, passing to poorer areas the further one goes from these centres. If, as some researchers think, there was a point in the second century A.D. in which there was a polarization of population pressures around the two temples, we must try to imagine how the residential areas would be divided. It is possible to draw some conclusions about the neighbouring areas, but much more difficult to speak of the areas around the baths on the other side of the river where, in our opinion, most of the middle and lower income citizens lived. Further excavations are required there, over a large area if possible, to confirm or deny these hypotheses.

As a provisional conclusion, we can say that in general, and in the absence of detailed information, the *macellum* of Gerasa fits into a picture of the upper levels of the city's economy. It is a singular building, built in the first quarter of the second century A.D. according to inscriptions and archaeological data, on an area occupied previously by buildings which remain to be defined by excavation. This building appears to have been a gift to the city by, or built in honour of, the Governor, Tiberius Julianus Alexander, who is reported to be in Rome in A.D. 126 after serving as governor of the province, and was built after considerable social upheavals in the city, as reported by inscriptions. The market was part of an upper class economy, at least because of the etymological significance of this type of building, and we do not know if it was put to other uses. The building was, therefore, linked to the privileged classes, but because of its location and proximity, it was accessible to all those who could pay for its wares.

The building suffered the same vicissitudes as its neighbours, and among natural and human catastrophes it lost the distinction afforded it by its fountains, *marmora*, sculptures and inscriptions. It continued to be a market place, as shown by its reoccupation to this end for centuries, although after obligatory interruptions it slowly degraded, losing its rich appearance as well as its characteristics. With the passage of time the rooms were roughly modified to house other activities such as stables, skin and wool dying, pottery and glass making, forges, and the building fell slowly into decrepitude, although retaining the vestiges of its former splendour and elegant proportions. It lost its essence, but maintained for Gerasa its commercial functions, first as an excellent specialized market, and later as a small *souq* or place for bartering and selling such goods as livestock, pottery or wool.

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The *Limes* and Settlement Patterns in Central Jordan in the Roman and Byzantine Periods

After the pioneering work of Nelson Glueck in the 1930s, little survey of central Jordan was conducted until the 1970s. Since then several projects have intensively surveyed large portions of this region east of the Dead Sea. The recent publication of final reports of two major regional surveys and an interim report of a third now permit some analysis of settlement patterns in central Jordan. This paper offers a preliminary analysis of this new material, aided by other evidence, such as the excavations of a few sites in each survey area. My purpose is to offer a reconstruction in broad outline of human settlement on the plateau east of the Dead Sea from the Late Hellenistic (*c.* 200 B.C.) through Byzantine (to A.D. 636) periods.

The Tell Ḥesban survey (TABLE 1) recorded 148 sites, most within a ten kilometer radius of Ḥesban (Ibach 1987). Ibach notes several methodological limitations about the survey. The survey did not gather chipped stone artifacts, but was concerned only with sites with ceramics and/or visible structures. The survey used no recognized strategy for random sampling nor was it intended to be exhaustive. However, pottery collected by the survey could be assessed against well stratified ceramic sequences from the excavation of Tell Ḥesban (Sauer 1973). Therefore, proposed dating of the survey pottery is probably quite reliable for the periods represented at Tell Ḥesban: Iron Age, Late Hellenistic through Umayyad, and Ayyubid/Mamluk. Unfortunately, no survey pottery appears in the report of the Ḥesban survey. Some is promised in a future volume devoted to pottery.

The Wadi al-Ḥasa Survey, conducted in 1979-82, was in many ways a model for Jordan (MacDonald 1988). It employed a broad interdisciplinary approach, including environmental studies, and a purposeful sampling strategy. An enormous corpus of 1074 sites was recorded along the southern bank of Wadi al-Ḥasa. Representative pottery is published in the final report. This survey had no parallel excavation for control of the surface ceramic evidence. But this is largely compensated for by excavations conducted subsequently in the surveyed region itself or in adjacent areas (cf. Villeneuve 1984).

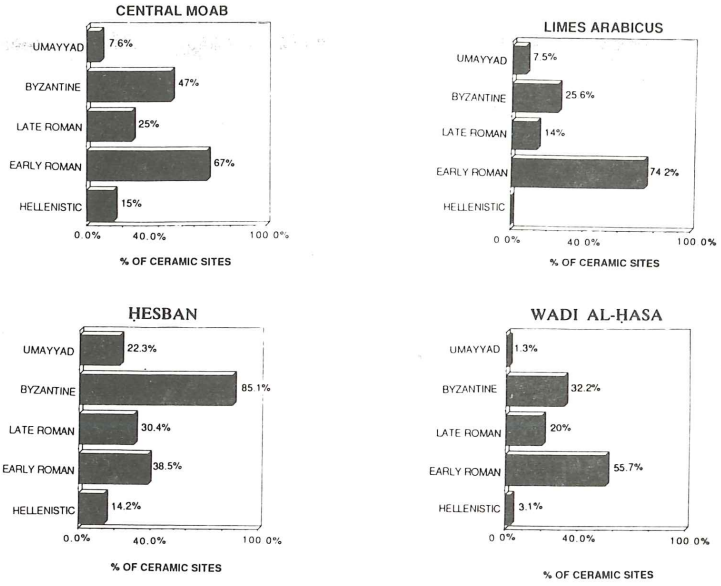


Table 1: Comparison of the results of the four surveys.

The Limes Arabicus Project surveyed in 1980-87 the eastern portion of the Karak Plateau. One survey team covered the upper Wadi al-Mujeb to the Desert Highway (the late Roman *limes*, 442 sites); another team covered the region *c.* 10-15km east of the Desert Highway (the "Desert Survey", 118 sites). Thus the project recorded a total of 560 sites from both surveys. Although all sites noticed were recorded, there was no special search for lithic sites, which consequently are probably under represented in the corpus. The results from all but 54 of these 560 sites are summarized in the interim report, published in 1987 (Koucky 1987b; Clark 1987).[1]

[1]The remaining 54 sites were visited during the 1987 field season and will be published in the project's final report along with a reevaluation of all the survey evidence.

A fourth project has completed its fieldwork but awaits final publication. The Central Moab Survey was conducted in 1978-82. It focused on a region bounded by the Dead Sea escarpment on the west, Wadi al-Mujeb on the north and east, and Wadi al-Ḥasa to the south. Thus it was contiguous with the regions surveyed by the Wadi al-Ḥasa Survey to the south and the Limes Arabicus Project to the east. Like the Ḥesban survey, the Central Moab Survey did not collect chipped stone artifacts. But it still recorded 474 sites. Thus far its results have been published only in preliminary reports (Miller 1979a; 1979b). But its director has generously shared much of his project's data with the present writer.[2]

A comparison of the results of these surveys reveals a remarkable degree of correspondence in the number of settlements occupied in each historical period from the Iron Age to the early Islamic era.

When comparing the number of sites occupied in each period, note that both the Wadi al-Ḥasa and Limes Arabicus surveys included many strictly aceramic lithic sites, sites not recorded by the other two surveys. For example, 118 (21%) of 560 sites recorded by the Limes Arabicus Project were aceramic. The Wadi al-Ḥasa Survey recorded 595 aceramic sites (55% of all sites) among its total of 1074 sites. Inclusion of aceramic sites results in artificially lower percentages of all sites occupied for the Wadi al-Ḥasa and Limes Arabicus surveys when compared to corresponding percentages from the Ḥesban and Central Moab surveys. To compensate for this bias, I have computed percentages for the accompanying table of only *ceramic* sites from the Wadi al-Ḥasa survey (total of 479 ceramic sites) and Limes Arabicus survey (total of 442 ceramic sites).

The Iron Age (1200-539 B.C.) was a period of significant settlement in each region. Some 43% of all sites in the Ḥesban region yielded evidence of Iron Age occupation. Significant numbers of Iron Age sites also appeared in the region covered by the Limes Arabicus Project (163 sites, 37% of ceramic sites). The Wadi al-Ḥasa Survey recorded only 75 Iron Age sites (16% of all sites). The Central Moab Survey recorded 176 Iron Age sites (37% of all sites).

The Persian period (539-332 B.C.) was poorly represented in all surveys. The Hellenistic period (332-63 B.C.) is more problematic. Specifically, how much of the Nabataean pottery found by the three more southerly projects within the borders of the Nabataean kingdom actually dates to the Hellenistic period? We avoid this issue in the Ḥesban region, which lay just outside the Nabataean kingdom. Hellenistic evidence was found at just 21 sites (14% of all sites). This suggests that the region now witnessed the smallest population prior to the medieval Islamic era. Ḥesban itself seems to have been resettled about 200 B.C. The Central Moab Survey recorded 71 Hellenistic sites (15% of all sites). The Wadi al-Ḥasa Survey reported only 15 Hellenistic sites (3% of ceramic sites) while the Limes Arabicus Survey found no Hellenistic evidence at all. The impression from all four surveys is one of low population from the end of the Iron Age until the second or first century B.C. This could change with a better grasp of the chronology of early Nabataean pottery.

The Early Roman period (*c.* 63 B.C.-A.D. 135) witnessed the greatest density of population in the three contiguous survey regions. The Limes Arabicus Survey recorded evidence of this period at 74% of all ceramic sites and 59% of all sites (n=328). The Wadi al-Ḥasa Survey reported Early Roman/Nabataean pottery at 56% of ceramic sites and 25% of all sites (n=267). The Central Moab Survey reported Early Roman/Nabataean sherds at 67% of all sites (n=319).[3] This period was also well represented on the Ḥesban survey, where 39% of all sites (n=57) yielded Early Roman material.

All four surveys suggest that many sites were abandoned by the Late Roman period (*c.* A.D. 135-324). The decline is not pronounced in the Ḥesban region, where the percentage of sites occupied falls from 39% (n=57) in Early Roman to 30% (n=45) in the Late Roman period. But farther south the abandonment of sites is much more dramatic. On the western Karak Plateau (i.e., the Central Moab Survey), the percentage of occupied sites drops from 67% (n=319) in Early Roman to 25% (n=118) in Late Roman. On the eastern plateau (Limes Arabicus Project), the percentage of occupied sites drops from 74% of ceramic sites (n=328) in Early Roman to 14% of ceramic sites (n=62) in Late Roman. South of Wadi al-Ḥasa, the decline in occupied sites is also dramatic, from 56% of ceramic sites (n=267) in Early Roman to just 20% of ceramic sites (n=96) in Late Roman.

Analysis of the Byzantine period (324-636) is complicated by the fact that two of the four projects do not offer more refined dating. Recent publication of coin-controlled, stratified sequences of pottery from several sites in the region justify subdivision into Early (*c.* 324-500) and Late Byzantine (*c.* 500-636; Parker 1987: 525-619). Thus only the evidence from the Limes Arabicus Project is broken down in this fashion. The Central Moab Survey did report "Early" and "Late" Byzantine pottery from some sites, but most of their material is simply described as "Byzantine". The two others merely report "Byzantine" (i.e. fourth-early seventh centuries) pottery.

Nevertheless, it seems clear that the number of occupied sites in all four survey regions rose dramatically in this period. The Ḥesban survey reported that the Byzantine

[2] I am grateful to Professor Miller for kindly sharing these results with me in advance of publication.

[3] The Central Moab Survey differentiated between "Nabatacan" and "Early Roman" pottery. Nabatacan pottery was recovered at 298 sites. Early Roman pottery was found at 148 sites, but all but 21 of these not surprisingly also yielded Nabatacan sherds. The figure of 319 Early Roman sites given in the text is thus obtained by adding the 298 Nabatacan sites with the 21 sites that yielded Early Roman pottery but no distinctive Nabatacan sherds.

period was the best represented of all historical periods, with 87% of all sites (n=126) occupied. On the western Karak plateau the Central Moab Survey recorded an increase from 25% (n=118) in Late Roman to 47% (n=223) in the Byzantine period. The Wadi al-Ḥasa Survey also recorded a significant increase, from 20% of ceramic sites (n=96) in Late Roman to 32% of ceramic sites (n=154) in the Byzantine era. The Limes Arabicus Survey found that the number of occupied sites nearly doubled from 14% of all sites (n=62) in Late Roman to 26% (n=113) in the Byzantine period. Significantly, the vast majority of these Byzantine sites yielded pottery judged "Early" but almost none dated "Late". This suggests that the fourth and fifth centuries witnessed a significant increase in population but that considerable depopulation had occurred by the sixth century. Whether this settlement pattern on the eastern Karak Plateau is paralleled elsewhere is unclear until the pottery is analyzed more closely.

It seems that the densest Byzantine population in central Jordan was in the fourth and fifth centuries, when the Roman *limes* was at its height. The extensive excavations of Ḥesban, for example, suggest that the city reached its peak during strata 9-10 (*c.* A.D. 363-527) and declined thereafter (Storfjell 1983: 54, 112). Dhiban also seems to have flourished in the Byzantine period (Tushingham 1972: 59-74). Recent excavations of Umm ar-Raṣaṣ have revealed a thriving Byzantine town just north of the Mujeb near the edge of the desert. Garrisoned in the fourth century by a Roman cavalry unit,[4] Mefa'a was occupied through the Umayyad period (Piccirillo and Attiyat 1986: 344-351).

Most frontier forts were abandoned by the early sixth century and a real threat was posed by Lakhmid Arab raids.[5] Thus marginal areas on the edge of the agricultural zone were probably abandoned and population shifted either to walled towns, notoriously difficult for Saracen raiders to assault, or to regions deeper within the sedentary zone. This is also suggested by the location of the Byzantine sites recorded by the Wadi al-Ḥasa Survey. The eastern portion, nearest the desert, was practically denuded of occupied sites while the vast majority were located in the western sector, farthest from the desert (MacDonald 1988: 248).

Even if outlying areas on the fringe of the desert were abandoned by the sixth century, the province of Arabia as a whole continued some level of prosperity, as the evidence of church-building in the sixth century suggests. This is attested at several sites, including Mount Nebo, Tell Ḥesban, Madaba, Umm ar-Raṣaṣ, Dhiban, and al-Lajjun.

The surveys suggest that the Umayyad period (*c.* 636-750) witnessed a radical decline in settlement, most pronounced farthest south. Only 1% (n=6) of the ceramic sites of the Wadi al-Ḥasa Survey yielded Umayyad pottery. This rises to 7.5% (n=33) of ceramic sites on the eastern Karak plateau and 8% (n=36) on the western Karak plateau. A significant number of Umayyad sites (22%, n=33) was found in the Ḥesban region. But even here the number of sites occupied represented a 75% reduction from the Byzantine period and was the smallest number occupied since the Hellenistic period.

To summarize, the long-held view that Iron Age population was relatively dense in central Jordan seems confirmed. But the region supported only a small sedentary population in the Persian and early Hellenistic periods (*c.* 539-200 B.C.). An extraordinary rebound in population began sometime in the last two centuries B.C. The Early Roman period witnessed the greatest density of population for any historic period in both the Karak Plateau and south of Wadi al-Ḥasa. Dense occupation is also attested for the Ḥesban region. Why?

One major reason must be the effectiveness of the Roman client kingdoms, especially Nabataea, in restoring security in a formerly troubled land. The region no doubt suffered from the Syrian Wars between the Seleucids and Ptolemies in the third century and the ethnic warfare that accompanied the collapse of Seleucid rule in the second and early first centuries B.C. This included attacks against towns of Transjordan by the Hasmonaeans and nomadic Arabs from the desert. How the Nabataeans restored order east of the Dead Sea is a matter of conjecture. The reoccupation of many Iron Age watchtowers and fortlets in the region suggests a strategy to monitor and regulate nomadic transhumance and thus permit sedentary exploitation of the potential agricultural areas. We know little about the Nabataean army, but limited evidence suggests a strength of *c.* 10,000 men (Parker 1986: 118). Environmental conditions may also have been a factor, since Koucky's climate model suggests wetter conditions prevailing during this period (Koucky 1987a: 24-25).

Perhaps the most interesting result from the surveys is the evidence for abandonment of sites in the Late Roman period, following the Roman annexation of A.D. 106. This phenomenon can also be observed in the Jordan Valley, well west of the frontier (Yassine 1988: 187-207). What can account for this? Koucky suggests a return to drier conditions in the second and third centuries (1987a: 24-25). If so, this could have had two consequences: some marginal sites were no longer viable for sedentary inhabitants and water and grazing in the desert may have become more scarce. This in turn could have led to nomadic raids on the frontier. Bulliet has argued that the development of the North Arabian camel saddle gave the nomadic tribes vital new military capability in the third century (Bulliet 1975: 87-105).

[4]Eusebius, *Onomasticon* 128.21; *Notitia Dignitatum, Or.* 37.19.

[5]Procopius, *Bellum Persicum* 1.17.45-48.

Trajanic policy in newly annexed Arabia included construction of the *via nova Traiana*, completed in 114. It served as a fortified caravan route for luxury traffic between the Red Sea and Decapolis cities and as a military trunk road along the edge of the desert to monitor nomadic movements (Parker 1986: 123-129). Trajan's road to the Red Sea should be associated with clearance of the Nile-Red Sea canal, the continued second century prosperity of the Red Sea port of al-Quṣeir, and development of the fortified road connecting Coptos in Upper Egypt with the Red Sea. Some Red Sea commerce passed up the *via nova Traiana*, as the economic boom in the Decapolis cities suggests. Yet Trajan's road was not designed merely to protect and service this traffic. The road forts of the southern sector are spaced roughly 12 Roman miles (*c.* 20km) apart, not the 30-50km apart one expects for mere caravan stations. In fact, as the recent surveys reemphasize, there was a large sedentary population in central and southern Jordan that had emerged in the Nabataean era but was now under Roman rule. Does the widespread abandonment of sites by the second century imply the inadequacy of security measures or merely that marginal sites were not viable during a dry phase of a climatic cycle? Was there some migration of sedentary population from rural to urban centers as more secure bases from which to exploit the land? The building programs in the second century that adorned the Decapolis cities just to the north suggest continued economic vitality.

Resurgent population in the Byzantine period may be associated with other facts, real or alleged. A massive military buildup in this region in the Tetrarchic period can no longer be seriously questioned. Koucky's climate model (1987a: 24-25), if accepted, suggests a return to cooler, moister conditions. If so, areas on the agricultural periphery could be exploited if a reasonable level of security was maintained. The military zone of forts, watchtowers, and walled towns was manned by several thousand Roman troops, including *legio IV Martia* at al-Lajjun. The fortifications are concentrated at the eastern, desert approaches to the upper Wadi al-Ḥasa and Wadi al-Mujeb. This suggests that this region was a principal Roman concern that mandated constant surveillance (Parker 1987: 804-811). Despite evidence for nomadic raids in the fourth and fifth centuries, the surveys suggest that the *limes* of Diocletian maintained security, even of the peripheral regions. Recent surveys of both the Rift Valley and several major eastern tributaries suggest dense settlement in the Byzantine period (Jacobs 1983: 262-272; Hanbury-Tenison 1984; Banning and Fawcett 1983; Banning *et al.* 1989: 43-58).

The abandonment of the *limes* by the early sixth century, as attested by literary and archaeological evidence, led to the decline of frontier security. This is apparent on the eastern Karak plateau, which was most exposed to nomadic raids (Parker 1987: 819-823). But perhaps this also reflects the fact that the Limes Arabicus Survey broke down its Byzantine pottery into more discrete periods. One hopes that the pottery from the other surveys may be reexamined for this purpose. The sharp decline in occupied sites in the Umayyad period in all the surveyed regions suggests that regional population had fallen sharply at least by the early seventh century.

A more detailed picture of settlement in central Jordan will be obtained from examination of the individual sites, not possible here. But the overall development of settlement patterns from these four surveys in the Roman and Byzantine periods seems clear. A small sedentary population in the Persian and Hellenistic periods grew dramatically in the first centuries B.C. and A.D. under Nabataean rule. This growth into marginal areas along the frontier may have been aided by a cyclical period of wetter climate and by Nabataean ability to improve regional security. There was some abandonment of sites in the second and third centuries after the Roman annexation. Interestingly, this coincides with an alleged cyclical reduction in rainfall and, at least by the third century, increased nomadic pressure on the frontier. A revival of population occurred in the fourth through sixth centuries. This coincided with a Roman military buildup at the beginning of this period combined with possible return of cooler, wetter conditions. But the abandonment of the military frontier by the mid-sixth century and perhaps drier conditions led to renewed vulnerability of marginal zones. This may explain the decline in settlement by the seventh century.

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Les Progrès de la Citoyenneté Romaine en Arabie sous le Haut Empire

La diffusion de la cité romaine dans les provinces fournit un indice intéressant des progrès de l'intégration des notables indigènes dans la classe dirigeante romaine. Dans bien des cas, notre connaissance du phénomène reste vague dans la mesure où elle se fonde sur des impressions et une documentation survolée à la hâte. Sauf ignorance de ma part, parmi les provinces de langue grecque, seule la province d'Asie a fait l'objet d'une enquête systématique par B. Holtheide[1] qui a pu présenter des observations d'un grand intérêt à ce sujet. Je ne crois pas qu'un relevé systématique dans l'ensemble des provinces syriennes apportera des bouleversements dans nos connaissances mais il devrait permettre de préciser les évolutions, de marquer les différences entre les provinces syriennes et de fonder avec plus de pertinence des analyses sociales indispensables.

On peut juger que la province d'Arabie offre un contexte un peu étroit pour ce type d'enquête mais le nombre relativement important d'inscriptions qui y a été trouvé justifie l'entreprise. En excluant de l'enquête les citoyens romains apparaissant dans des inscriptions postérieures au IIIème siècle, ceux qui ont toutes les chances d'être étrangers à la région comme les fonctionnaires impériaux de rang supérieur (sénateurs et chevaliers) et la plupart des soldats à l'exception de ceux d'entre eux qui peuvent être indigènes, on obtient une liste d'une bonne centaine de citoyens romains, ce qui est dérisoire par rapport à l'Asie mais peut fournir quelques indications à condition d'être prudents et de garder présente à l'esprit l'étroitesse de la documentation.

La première constatation qui s'impose est la présence de citoyens romains presque exclusivement dans les cités, et surtout dans deux cités: Gérasa et Bostra. Philadelphie, Adraa et Pétra n'en ont livré à peu près aucun.[2] Je ne crois pas qu'il faille en tirer trop de conséquences car le nombre d'inscriptions en provenance de ces trois dernières cités est plutôt faible comparé aux deux premières. La découverte de nouveaux textes pourrait donc modifier les données. Cependant, la rareté des textes des Ier-IIIème siècles est déjà en soi un indice révélateur.

On peut diviser les porteurs des *tria nomina* en deux lots: ceux qui portent un gentilice impérial et les autres. Le premier groupe l'emporte en nombre sur le second, même si l'on en exclut les *Aurelii*. Cela ne peut surprendre car le phénomène est général dans l'Empire. De plus, la création tardive de la province d'Arabie, en 106, exclut que les gentilices non impériaux soient abondants à Bostra comme à Pétra et dans la plus grande partie de la nouvelle province. En revanche, dans les cités de la Décapole qui appartiennent à la province romaine de Syrie depuis le Ier siècle av. J.C. (Gérasa, Philadelphie, peut-être Adraa), on pourrait s'attendre légitimement à trouver des gentilices impériaux des Julio-Claudiens et des Flaviens, voire ceux des *imperatores* de la fin de la République.

Si l'on passe en revue les gentilices impériaux en suivant l'ordre chronologique, on observe la forte prédominance des *Flavii*, la plus grande rareté des autres. Un examen systématique par ordre chronologique permet de faire quelques premières observations.

Les *Iulii* sont tous tardifs et se trouvent principalement à Bostra, quelques uns étant attestés à Adraha, Pétra et Gérasa. Ceux de Bostra sont pour beaucoup des soldats et leurs *cognomina* ne permettent guère de savoir s'ils sont indigènes; seule la famille de Iulia Marus, dont les fils se nomment Iulii Apollinaris (il est *beneficiarius consularis*), Pacatus et Iamleeilus, est sûrement syrienne. Les autres, dont la citoyenneté peut remonter à Auguste ou à Caligula (ce sont toujours des *Caii Iulii* lorsque le prénom est indiqué), sont des soldats et, dans

[1] B. Holtheide, Römische Bürgerrechtspolitik und römische Neubürger in der Provinz Asia,1983.

[2] Si Gérasa, Bostra, Philadelphie, Madaba et Hesbous disposent de corpus publiés, celui d'Adraha est actuellement prêt en vue de sa publication dans les *IGLS* XIII/2 et celui de Pétra est à l'impression.

quelques cas, des responsables locaux; le plus anciennement daté est un épimélète de Gérasa en 193. Cela oblige à se demander si Iulia Domna n'importe pas plus dans cette dénomination que les premiers Julio-Claudiens. On sait que les Eméséniens ajoutèrent le gentilice *Iulius* à leur nom en son honneur.

Claude eut en Syrie comme ailleurs une active politique d'attribution de la citoyenneté aux notables locaux comme le montrera sans doute une enquête en cours pour cette province. Même des régions annexées pour quelques années seulement durant son règne (comme le Hauran entre 44 et 51) ont fait connaître des citoyens créés durant ce bref intervalle (un Tiberius Claudius Balsamès à Canatha par exemple). En Arabie, son nom ne devrait pas apparaître puisque les territoires qu'elle regroupe appartiennent durant son règne au royaume de Nabatène, à l'exception des villes de la Décapole. De fait, les quelques *Claudii* de Bostra appartiennent aux IIIème ou IVème siècles et aucun ne porte de prénom. Le seul *Claudius* de Gérasa, dans une inscription de 231-232, ajoute M. Aurelius à son nom, ce sur quoi on reviendra plus tard.

Sur les quatre *Domitii* relevés, trois sont des soldats dont l'origine est inconnue, sauf peut-être pour l'un d'entre eux qui appartient à la *cohors II milliaria sagittariorum Syrorum* stationnée à Banasa (Espagne). Un centurion mentionné à Madaba peut également être indigène à moins qu'il ne commande une unité stationnée dans cette ville. Le seul *Domitius* qui ne soit peut-être pas soldat se trouve à Adraha mais ne porte pas de prénom.

Avec les *Flavii* on retrouve un terrain plus sûr grâce à l'abondance des documents. Trente-trois personnes portent ce gentilice, essentiellement à Gérasa et à Bostra. Pour Gérasa, il apparaît fréquent chez les membres de l'aristocratie municipale au IIème et au IIIème siècle. Cela ne peut surprendre et il est clair que les Flaviens, sans doute Vespasien lui-même à la fin de la guerre juive, accordèrent largement la citoyenneté aux notables des cités grecques proches de la Judée qui avaient rendu service aux troupes romaines.[3] En renforçant l'intégration de ces notables dans les cadres dirigeants de l'Empire, on pouvait espérer les rendre plus solidaires encore du maintien de l'ordre dans la région. Que l'origine de la citoyenneté des *Flavii* de Gérasa remonte aux Flaviens est peu douteux puisque chaque fois qu'un prénom apparaît, c'est toujours Titus.

C'est sans doute dans les mêmes circonstances que des familles de Philadelphie reçurent la citoyenneté des Flaviens: un soldat en garnison à Bostra dans les premières années de la province est un Flavius de Philadelphie.

Les autres cas sont beaucoup plus difficiles à interpréter. En effet, il s'agit soit de soldats en garnison à Nemara et dans le Djawf, qui peuvent être datés aussi bien du IVème siècle, soit d'habitants de Bostra, soldats ou non, dont l'appartenance à cette *gens* est plus difficile à expliquer. Pour les soldats, ils peuvent être originaires d'autres régions. Pour les autres, même ceux qui occupent des charges municipales dans la cité, il peut s'agir de membres de familles venues s'installer ici après 106 et qui ont fait souche dans la cité. Ainsi, T. Flavius Marcianus de Philadelphie est venu avec sa mère et sa soeur; un ancien *beneficiarius*, vétéran, est devenu bouleute de la ville; T. Flavius Rufinus honore le Zeus de Damas, ce qui pourrait suggérer son origine.

Deux *Cocceii* de Philadelphie, père et fils, peuvent devoir leur citoyenneté à Nerva mais le nombre est trop faible pour qu'on en tire des conclusions fermes.

Avec les *Ulpii* on devrait retrouver une plus grande uniformité dans la répartition à travers la province puisque désormais toute la région est réduite à l'état de province romaine. En réalité, les *Ulpii* sont surtout présents à Bostra parmi les soldats. On en trouve cependant un, sans prénom, en 217-218, comme prêtre de la Grande Tychè de la ville. A Gérasa, en dehors d'un affranchi impérial, on trouve un M. Ulpius Tiberinus en 159-160, et un L. Ulpius Cerealis dont la citoyenneté peut ne rien devoir à Trajan.

Les *Aelii* sont presque aussi nombreux mais répartis très différemment puisqu'ils proviennent tous de Gérasa sauf un, peu sûr, d'Adraha, et un soldat de Bostra. Sur les huit restant, quatre sont des affranchis impériaux ou des membres de leur famille.

Les *Aurelii* enfin sont de loin les plus nombreux. Mais aucun d'entre eux n'est daté avec certitude d'avant l'édit de 212; il n'y a donc rien à en tirer quant à la politique de Marc Aurèle ou de Commode en matière de citoyenneté. Je relève en revanche que quatre magistrats de Gérasa qui possédaient déjà la citoyenneté, Antonius Marsos, Claudius Nicomachos, Licinius Marsos et Vipsanus Ausos, ajoutent M. Aurelius à leur nomenclature comme s'ils recevaient une nouvelle fois la citoyenneté de Caracalla.

L'absence des *Septimii* dans une province proche de la Syrie pourrait surprendre. Je n'en vois pas d'autre explication que le faible nombre de documents disponibles. Cependant, on a noté plus haut que la forte proportion de *Iulii* pouvait tenir à l'activité de Iulia Domna; cela pourrait éclairer l'absence concomitante de *Septimii*.

[3] Bien qu'ils aient subi, au début de la révolte, les assauts des Juifs (*BJ* II, 458), comme toutes les cités grecques de la Décapole, les Géraséniens ne se livrèrent pas à des exactions contre les Juifs de leur cité et leur permirent contraire de quitter la ville sous escorte (*BJ* II, 480).

Pour les gentilices n'appartenant pas à la famille impériale, le petit nombre des occurrences interdit toute généralisation. Tout au plus peut-on relever qu'un Vipsanus de Gérasa doit sans doute sa citoyenneté à M. Vipsanus Agrippa, le conseiller d'Auguste. On pourrait être tenté d'attribuer la citoyenneté de L. Aemilius Aquila, magistrat de Gérasa au milieu du IIème siècle, au gouverneur d'Arabie L. Aemilius Carus, de la même époque.[4] Enfin, les *Antonii* forment un groupe relativement important; il est cependant difficile de les rattacher directement à l'activité d'Antoine en Orient car il s'agit soit de gens de Bostra, soit de soldats; seuls ceux de Gérasa qui appartiennent aux milieux dirigeants de la cité pourraient avoir une telle origine.

Si l'on tente un bilan d'ensemble, on reste frappé par le petit nombre de citoyens romains en Arabie. En dehors des soldats, ils ne sont nombreux qu'à Gérasa et, dans une moindre mesure, à Bostra. Ils sont presque inexistants ailleurs, y compris dans les cités de Philadelphie, Madaba, Adraha et Pétra. Mais même à Gérasa, les notables locaux sont loin d'être tous citoyens romains dans le courant du IIème siècle: la moitié au moins des magistrats de la cité sont encore pérégrins à la veille de la *constitutio Antoniniana*. A Bostra, les bouleutes citoyens sont l'exception[5] et je n'y connais qu'un seul magistrat citoyen romain daté de façon certaine avant 212[6]. C'est là une conclusion qui va exactement à l'inverse de ce que B. Holtheide a montré pour l'Asie où dès le IIème siècle tous les notables civiques bénéficient de la citoyenneté romaine, les exceptions étant rarissimes.

Ce retard de l'Arabie, y compris dans les cités de la Décapole, se retrouve logiquement lorsque l'on examine la participation des élites d'Arabie au gouvernement de l'Empire. Glen W. Bowersock avait noté qu'aucun sénateur ne semble être originaire d'Arabie:[7] l'étroitesse du milieu où il aurait pu se recruter explique cette absence.

Le maintien de fortes traditions indigènes ne favorisait sans doute pas non plus l'intégration des habitants de l'Arabie romaine à l'Empire. Certes, on pourrait s'attendre à ce que ce phénomène joue pour les milieux les plus modestes et épargne au contraire les cercles dirigeants. On voit qu'il n'en est rien. A cela s'ajoute une entrée tardive dans l'Empire, ce qui retarde d'autant les phénomènes d'acculturation[8]. En définitive Rome n'a pu trouver en Arabie qu'un petit nombre de notables susceptibles d'être intégrés pleinement par octroi de la cité romaine. Partout ailleurs qu'à Bostra et surtout qu'à Gérasa, il a fallu confier le gouvernement des cités à des gens qui ne paraissaient pas suffisamment assimilables pour bénéficier d'une telle mesure. Cela illustre le caractère marginal de l'Arabie dans la culture gréco-romaine: la quasi-absence de concours grecs dans cette province, en dehors de Gérasa et, tardivement, de Bostra, le maintien d'une onomastique sémitique vigoureuse, la persistance des langues indigènes et les progrès de l'arabe sont autant de signes de ce même phénomène.

[4] M. Sartre, *Trois Etudes sur l'Arabie romaine et byzantine*, Bruxelles, 1982, p. 82-83, n° 7, en 141-142.
[5] Cf. les tableaux de mon Bostra, Paris, 1985, p. 84-85.
[6] Bostra, p. 86-87; Iulius Marcianus est proèdre de la cité vers 204-208.
[7] G.W. Bowersock, "Senators from the Near East", *Tituli*, 5, 1982, p. 651-668.
[8] Je n'ignore pas combien les états clients ont pu favoriser la diffusion de la culture grecque et romaine en Orient: on trouve des Nabatéens portant des noms grecs dès avant 106. Il n'en reste pas moins que le royaume nabatéen ne semble pas avoir adopté, pour les villes, les institutions municipales grecques qui auraient pu préparer les notables au rôle qu'exige d'eux l'administration romaine.

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Jérash romaine et byzantine: développement urbain d'une ville provinciale orientale

Il y a cinquante ans, C.H. Kraeling publiait dans *Gerasa City of the Decapolis* la synthèse des résultats des différentes campagnes de fouille menées entre 1928 et 1934 sur le site de Jérash par les équipes anglo-américaines de la *British School of Archaeology in Jerusalem,* de la Yale *University* et des *American schools of Oriental Research.* Les dégagements opérés il y a un demi-siècle ne touchèrent, malgré leur ampleur, qu'une faible part de la ville antique. Des secteurs entiers de la cité comme le "*Camp Hill*", la place ovale, le sanctuaire de Zeus... restèrent inexplorés, et ce bien que leur importance dans la genèse du développement urbain de Jérash n'ait pas échappé aux fouilleurs. Néanmoins, les découvertes archéologiques et épigraphiques faites alors permettaient à C.H. Kraeling de proposer un premier schéma d'urbanisation de la ville antique.[1]

A une mythique origine macédonienne de la cité du Chrysorhoas, sur les rives duquel le général d'Alexandre Perdiccas aurait installé un groupe de vétérans,[2] C.H. Kraeling préférait, pour des raisons historiques et archéologiques, une origine séleucide. Fondée par Antiochos IV, la ville aurait connu un développement limité jusqu'au milieu du Ier siècle de notre ère, "*covering only a small part of the area later incorporated in the larger Roman city, and having no basic relation to the latter's ambitious plan*".[3] A partir du milieu du Ier siècle de notre ère la ville se serait dotée d'un grand plan d'urbanisme de type hippodamien et d'une vaste enceinte à tours carrées de protection. Autour des années 75/80, la grande ligne de défense encore visible aujourd'hui aurait été achevée, les grands axes de la ville tracés, son organisation spatiale fixée.[4]

Au début du IIème siècle, et par la volonté de l'Empereur Hadrien, un nouveau quartier aurait été créé vers le sud à l'extérieur des murailles, à l'image de celui que le maître de Rome venait de faire édifier à Athènes. Et C.H. Kraeling d'ajouter: "*Coming so soon after the plan of the flavian era and at a time when a great part of the area enclosed by the existing walls was not by any means built up, the project to increase the city's size is an important witness to Gerasa's life in Hadrian's day. It indicates that in all probability the area south of the walls was already dotted with private houses lying unprotected...*".[5]

Au cours des siècles suivants, des modifications auraient été apportées à ce plan d'aménagement – construction du sanctuaire d'Artémis, des thermes, du nymphée, des portiques des rues, élargissement du cardo...–, mais sans en modifier ni l'ampleur ni l'organisation.

Pour C.H Kraeling, la structure urbaine de Gerasa était fixée dès la deuxième moitié du Ier siècle de notre ère, dans ses principes si ce n'est dans ses détails matériels.

Cette opinion, basée sur de forts arguments épigraphiques à défaut de preuves archéologiques alors peu nombreuses,[6] fut adoptée par la plupart des historiens. Elle ne fut pas fondamentalement remise en question, si ce n'est par les partisans d'une urbanisation plus précoce encore de la cité et qui voulaient voir dans le "tracé de type hippodamien" des rues de la ville, la marque d'un plan d'urbanisme

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[1] C.H. Kraeling, *Gerasa City of the Decapolis*, New Haven 1938. Voir aussi les différents comptes-rendus de fouille publiés dans *B.A.S.O.R. 30, 37, 40, 41, 43, 45, 49, 53, 54, 56, 57 et 87; A.A.S.O.R. XI.*

[2] *Comme le laisserait entendre le contenu d'une dédicace faite par les géraséniens au début du IIIème siècle de notre ère. Inscription Welles n°137 dans C.H. Kraeling op. cit.*, p. 423

[3] C.H. Kraeling, *op. cit.* p. 38 à 39.

[4] C.H. Kraeling, *op. cit.*, p. 42 et suivantes.

[5] C.H. Kraeling, *op. cit.*, p. 50 à 51.

[6] Une grande partie des travaux entrepris alors étant centrée sur l'étude des monuments chrétiens. Voir par exemple les chapitres de J.W. Crowfoot, de C.S. Fisher et de F.M. Biebel dans C.H. Kraeling, *op. cit.*

d'époque hellénistique.[7]

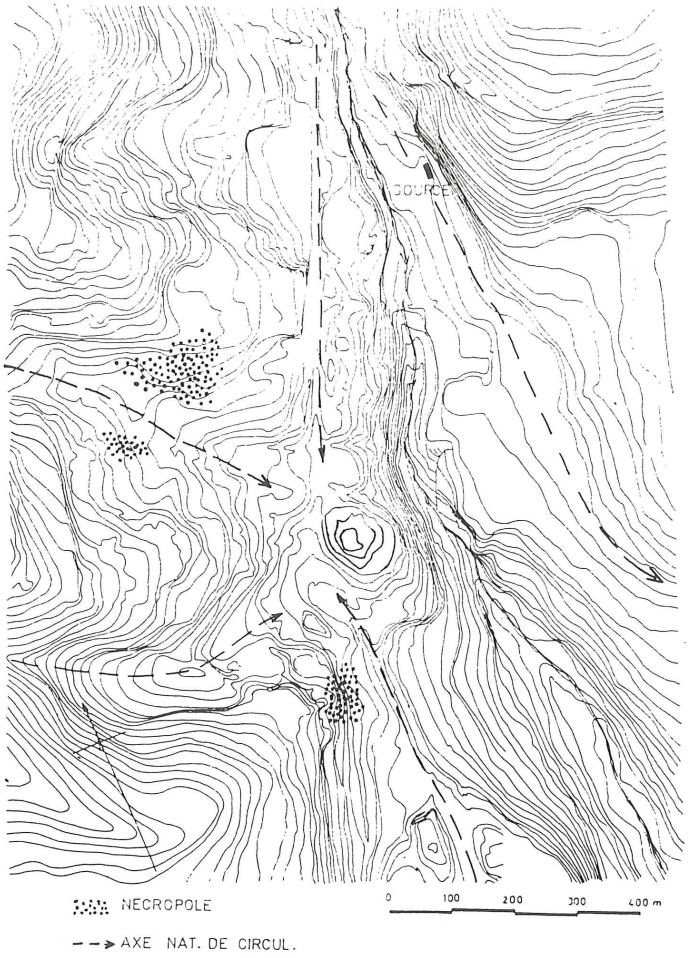
La reprise des fouilles à grande échelle à partir de 1982, dans pratiquement tous les secteurs du quartier monumental,[8] apportait une nouvelle masse, considérable, d'informations archéologiques et épigraphiques. La datation des bâtiments et ensembles fouillés était précisée, parfois fondamentalement remise en question. Parallèlement, et pour la première fois, des informations précises sur l'urbanisation antique de la rive orientale de Jérash étaient fournies grâce à la surveillance des chantiers de construction de la ville moderne.[9]

A la suite de ces travaux, certaines hypothèses émises par C.H. Kraeling sur l'histoire et le développement urbain de Gerasa ont été confirmées, mais de nombreuses autres ne peuvent plus être retenues aujourd'hui.

-1- Les origines (FIG. 1)

Les origines de Jérash demeuraient obscures il y a quelques années encore. C.H. Kraeling avait bien pressenti que le noyau ancien de la cité devait se situer au niveau de la colline de l'ancien rest-house, le *Camp-Hill* des missions anglo-américaines.[10] En 1975/76, les fouilles effectuées par l'Université de Jordanie à proximité de la place ovale,[11] puis, à partir de 1983, celles de la mission de l'Institut Français d'Archéologie du Proche-Orient sur le sanctuaire de Zeus[12] en apportaient les premières confirmations matérielles par la mise au jour de nombreux vestiges céramiques datables des âges du Bronze et du Fer. En dégageant des structures d'habitat appartenant aux mêmes périodes et associées à du matériel semblable sur les pentes mêmes de la colline de l'ancien rest-house, F. Braemer montrait en 1985 et 1986 que cette dernière était bien le *tell* supposé de la ville de Gerasa.[13]

Si les origines anciennes de Jérash sont maintenant clairement établies, la date de fondation de la ville hellénistique reste par contre très incertaine. Malgré les nombreux sondages réalisés un peu partout dans le périmètre de la ville antique, on doit toujours constater qu'aucun tesson de céramique, aucune monnaie, et, *a fortiori,* pas la moindre structure architecturale antérieur au milieu du IIème siècle



1. Gerasa hellenistique: extention supposée

avant notre ère n'a été découvert *in situ.*[14] Cependant la céramique commune hellénistique du Proche-Orient reste mal connue, en particulier celle des périodes anciennes. Une occupation du site aux IVème/IIIème siècles avant notre ère, marquée par un tel matériel non individualisable pour le moment, n'est donc pas à exclure *a priori* mais l'absence de toute céramique d'importation attribuable à cette période ne prêche pas en faveur d'une occupation de grande ampleur, si occupation il y eut.

Comme C.H. Kraeling, et pour les raisons qu'il a

[7]Voir par exemple A. Barghouti, *Urbanization of Palestine and Jordan in hellenistic and roman times. Studies in the history and archaeology of Jordan I,* Amman 1982, p. 209 à 229.

[8]*Jerash Archaeological Project.* Programme élaboré et financé par le Service des Antiquités de Jordanie. Les premiers résultats des fouilles effectuées en 1982/1983 par sept équipes internationales ont été publiés dans F. Zayadine, *Jerash Archaeological Project I 1982/1983,* Amman 1986. Le deuxième volume, *Jerash Archaeological Project II 1984/1988,* sous presse, constituera le tome LXVI, 1989, de la revue *Syria.*

[9]A. Nagawi, A.-M. Rasson et J. Seigne, comptes-rendus à paraître.

[10]C.H. Kraeling *op. cit* p.28

[11]A.Barghouti, *op. cit.*

[12]J. Seigne dans F. Zayadine, *op. cit.,* p. 44 à 45. F.Braemer dans F. Zayadine, *op. cit.,* p. 61 à 66.

[13]F. Braemer, dans O. Aurenche, *Chronique Archéologique. Syria* LXII, 1985, fasc. 1-2, p. 159 à 161. F.Braemer, *Two campaigns of excavations on the ancient tell of Jarash dans A.D.A.J.* XXXI, 1987, p. 525 à 530.

[14]La monnaie de Ptolémé II, découverte en 1930 provient de Birketein. Voir C.H. Kraeling, *op. cit.* p. 30. Celle de Ptolémée I, mise au jour en 1982 près du théâtre nord provient de remblais de surface. Voir J.M.C. Bowsher, *The coins* dans *The Jerash North Theatre* dans F. Zayadine, *op. cit.,* p. 255. Ce sont les seuls ''indices'' relevés à ce jour d'une occupation du site au IIIème siècle av. J.C.

exposées,[15] nous admettrons, jusqu'à preuve du contraire, que la fondation de la Gerasa hellénistique fut le fait d'Antiochos IV plutôt que celui d'Alexandre ou de Perdiccas.

La superficie, les limites et l'organisation interne de l'installation antérieure à la conquête romaine nous sont peu ou pas connues. A l'heure actuelle les niveaux archéologiques *in situ* datables des IIème/Ier siècles avant notre ère n'ont été rencontrés de façon certaine que sur la colline du rest-house et sous la terrasse inférieure du sanctuaire de Zeus, ce qui semble limiter à cette zone réduite, celle du *tell* et de ses abords immédiats, l'aire d'implantation de la ville hellénistique.

La topographie même du site montre bien, à elle seule, que la ville créée (?) en cet endroit par le roi séleucide devait être de faible étendue. Jamais, à l'époque hellénistique, le fond de vallée encaissé, indéfendable, qui allait abriter la Gerasa romaine n'aurait été choisi pour établir une colonie de quelque importance.[16]

La topographie et les indices archéologiques s'accordent donc pour limiter l'extension de la "cité" séleucide à celle du *tell* situé sur le petit éperon naturellement défendu et au relief autrefois beaucoup plus accusé, dominant la rive occidentale du Chrysorhoas. Puisque, semble t-il, les deux hectares du *tell* furent alors jugés suffisants pour les besoins de la nouvelle installation, il faut donc imaginer la Gerasa hellénistique comme un simple village, un groupement d'habitations et de bâtiments agricoles entourant probablement un point d'appui militaire, un fortin.

Comme C.H. Kraeling, nous devons en conclure que la "fondation" d'Antiochos IV n'occupait qu'une petite partie de la future superficie de la ville romaine et qu'elle n'avait aucune relation directe avec le futur plan d'urbanisme hippodamien.[17]

-2- Les balbutiements (FIGs. 2 et 3)

L'histoire urbaine de Gerasa, pendant les deux siècles suivant sa naissance, se confond avec celle du sanctuaire de Zeus Olympien. Pour la période comprise entre 100 av. J.C. (?) et 60 ap. J.C., nous ne possédons pour le moment que cette seule source d'information directe, archéologique, monumentale et épigraphique pour illustrer le développement de la cité.[18]



2. Gerasa: état supposé au tournant de l'ère.

Implanté sur le flanc oriental de la colline dominant à l'ouest le *tell*, le complexe religieux dédié au maître de l'Olympe comporte deux terrasses artificielles, étagées sur la pente et reliées par un large escalier. Sur la plus élevée fut construit à l'époque antonine un grand temple périptère. Les travaux menés par l'équipe française depuis 1982 ont montré que la terrasse inférieure correspondait au noyau originel à partir duquel le domaine de Zeus allait se

[15] C.H. Kraeling, *op. cit.*, p. 30 à 32.

[16] D'une manière générale, la position topographiquement indéfendable du site de Jérash, un fond de vallée, a été assez peu notée par les auteurs, en particulier par les partisans d'une fondation hellénistique importante. Un simple examen superficiel des remparts montre qu'en de très nombreux endroits ceux-ci ont été implantés immédiatement en contrebas de petites collines (voir par exemple les secteurs nord-ouest et nord), sous le feu direct de celles-ci. De même le présence d'un *wadi* à l'intérieur d'une ville crée automatiquement deux points faibles dans le système défensif. Autant d'aspects incompréhensibles si l'on admet une création *ex nihilo* du périmètre remparé et de la cité mais justifiables dans le cas de la fortification *a posteriori* d'une ancienne ville ouverte.

[17] C.H. Kraeling, *op. cit.*, p. 38.

[18] Si l'on fait abstraction des différents vestiges céramiques et monétaires rencontrés un peu partout sur le site mais provenant dans la plupart des cas de remblais tardifs ou de tombes anciennes.



3. Gerasa: état supposé vers 75 ap. J.C.

développer au cours des siècles.[19] Les vestiges les plus anciens rencontrés à l'heure actuelle sont sûrement antérieurs à la conquête romaine, sans qu'il soit possible d'être plus précis pour le moment. Ils correspondent à un sanctuaire de type oriental implanté à l'extérieur du village, au sommet d'un éperon rocheux.[20] Ce ''haut lieu'', orienté au sud-est/nord-ouest conformément à l'ancienne topographie du secteur, était accessible du sud-est, suivant la ligne de moindre pente de ce rocher.

Au milieu du Ier siècle avant notre ère, le sanctuaire fut considérablement agrandi vers le sud par l'édification d'une vaste terrasse artificielle de 40m sur 60m environ.[21] La topographie locale, alors très accusée, fut à nouveau déterminante pour l'implantation de la nouvelle construction. Pour réduire au maximum les travaux de remblaiement et la taille des murs de soutènement, les constructeurs n'hésitèrent pas à décaler de 20° l'axe de la cour par rapport à celui du ''haut lieu''.

Après une série d'embellissements internes au cours des dernières décennies précédant notre ère,[22] l'ensemble du sanctuaire fut à nouveau profondément modifié dans la première moitié du ler siècle après J.C. Une inscription[23] nous apprend qu'en 27/28 l'architecte gérasénien Diodoros agrandit la terrasse vers l'est, ce qui nécessita la construction d'un cryptoportique, et vers le nord, pour lui donner l'ampleur que nous lui connaissons aujourd'hui. A l'unique porte méridionale originelle venaient s'ajouter un nouvel accès par le nord et surtout une entrée monumentale par l'est, en face du *tell*. Ces travaux marquèrent un tournant décisif dans l'organisation interne du sanctuaire et dans ses rapports avec la ville: à partir des années trente l'accès principal à la terrasse sacrée n'était plus au sud mais à l'est. L'axe du téménos était basculé de 90° et le domaine de Zeus s'ouvrait enfin directement sur la ville.

En 69/70 le remplacement du naos hellénistique par un temple axé sur la cour marqua l'achèvement des aménagements entrepris sur la terrasse inférieure, l'ensemble des constructions étant alors entièrement organisé autour de deux directions perpendiculaires étroitement liées aux particularités de la topographie locale.

La superficie et l'organisation de Gerasa au tournant de notre ère ne nous sont pas connues dans le détail. Il est toutefois probable que la ville connut alors un développement certain, favorisé par la ''paix romaine'', et que son importance s'accrut proportionnellement à celle du sanctuaire de Zeus. Débordant de son cadre primitif du *tell*, elle devait commencer à s'étendre vers le nord et vers l'ouest, colonisant progressivement les terrains plats les plus accessibles, les fonds des petits *wadi* et les premières pentes des collines limitrophes.

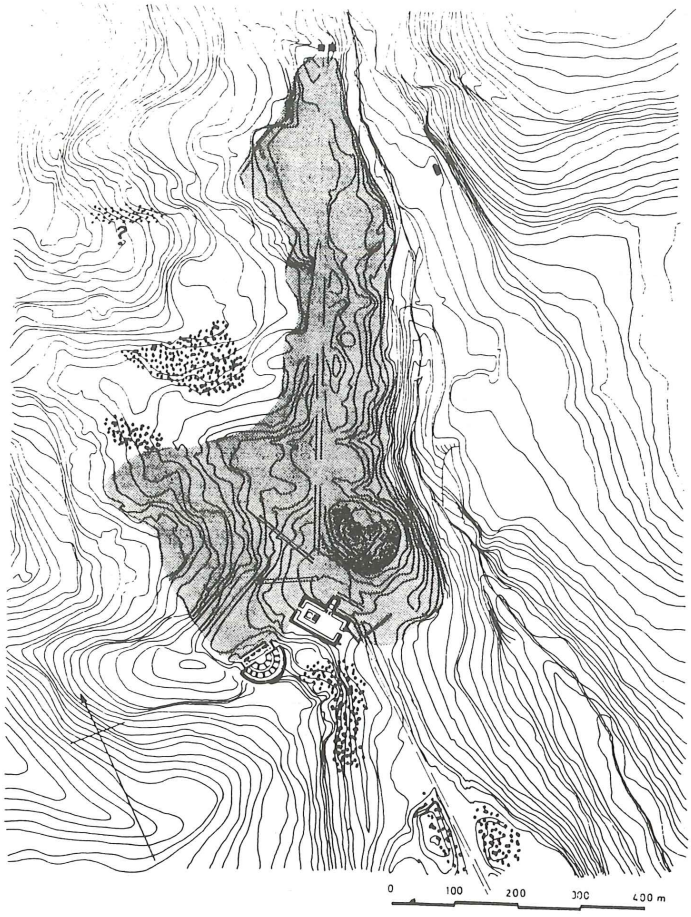
[19] J. Seigne dans F. Zayadine, *op. cit.* Chronique archéologique *Syria* LXII (1985) fasc. 1-2, p. 162-164 Chronique archéologique *Revue Biblique* 1985 p.238-247. J. Seigne, F. Braemer, *Jérash, la Gerasa antique* dans *Dossiers Histoire et Archéologie*, Juin 1987, p.48-63

[20] Pendant toute sa genèse ce sanctuaire va se développer sans lien direct avec la ville naissante. Son implantation remonte peut-être au règne d'Antiochos IV, sans qu'il soit possible de le prouver pour le moment. De même il est impossible de prouver qu'il ait remplacé un sanctuaire plus ancien dédié à une divinité sémitique comme Baalshamin.

[21] Cette datation est basée sur le matériel archéologique trouvé dans les couches de remblais accumulées derrière les murs de soutènement de la terrasse. Le matériel céramique le plus tardif comme les monnaies les plus récentes mis au jour dans ces dépôts datent, au plus tard, du milieu du ler siècle avant notre ère.

[22] Pour une présentation plus détaillée des différents états architecturaux du sanctuaire, voir références en note 19.

[23] J. Seigne *Le sanctuaire de Zeus à Jérash: éléments de chronologie* dans *Syria*, LXII, 1985, fasc 3/4, p. 16 à 28



4. Gerasa: état supposé au début du IIème siècle.

-3- De Vespasien à Hadrien. La croissance (FIG. 4)

Pour C.H Kraeling la construction de la puissante enceinte à tours carrées ceinturant la ville antique remontait aux années 70/80 de notre ère.[24] Cette datation reposait essentiellement sur l'interprétation donnée de trois inscriptions antiques, deux se rapportant à la construction d'un "mur" (inscription Welles 45 et 46),[25] la troisième à celle de la porte nord-ouest (inscription Welles 50), ainsi que sur l'examen des portes sud et nord de la cité. Par ailleurs des passages étant ménagés dans le rempart, dès sa construction, sur l'axe de chacune des rues, les voies ne peuvent être qu'antérieures – au plus tard contemporaines – à la fortification. Ayant daté le rempart de la deuxième moitié du Ier siècle, C.H. Kraeling proposait donc, logiquement, une origine flavienne pour le plan d'urbanisme de Jérash.

En 1982/83 la découverte, sous les fondations de la muraille, à l'ouest de la porte sud, des vestiges d'une huilerie incendiée dans les dernières années du IIIème siècle de notre ère, venait infirmer cette hypothèse.[26] Le réexamen attentif des fortifications, en particulier des différentes portes, révélait alors que le rempart à grosses tours carrées fut édifié au tournant des IIIème/IVème siècles de notre ère et non au Ier siècle.[27]

Par ailleurs en 1983, l'équipe australienne montrait que les éléments constitutifs des colonnes ioniques du decumanus nord n'étaient que des réemplois. Ils proviendraient, vraisemblablement, des anciens portiques de la partie médiane du cardo, démontés lors de l'élargissement de la rue principale de la ville et du remplacement de l'ordre ionique par l'ordre corinthien pour les colonnades.[28]

La même année, les membres de l'équipe polonaise, découvraient, sous le decumanus sud, les vestiges de maisons romaines arasées en 165/170 ap. J.C. pour permettre le passage de la nouvelle voie.[29]

Ces travaux révélaient que les deux decumani principaux de la cité n'existaient pas au Ier siècle de notre ère, et que leur tracé ne pouvait être antérieur à la deuxième moitié du IIème siècle.

Ces nouvelles données, ajoutées à une série d'informations anciennes et peu exploitées concernant certaines nécropoles restées en usage

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[24] C.H. Kraeling, *op. cit.*, p. 42 et suivantes.

[25] "Mur" = restitution très vraisemblable et généralement admise d'une lacune fort mal placée sur les inscriptions Welles 45 et 46. D'une manière générale, voir C.H. Kraeling *op. cit.* p. 42 et suivantes.

[26] J. Seigne dans F. Zayadine, *op. cit.*, p. 47 à 59.

[27] Le caractère très particulier de l'inscription de la porte nord-ouest, plus religieux que militaire, est connu depuis longtemps (cf. C.B. Welles dans C.H. Kraeling, *op. cit.*, P. 398). Le linteau inscrit pourrait soit avoir appartenu à la porte d'un monument plus ancien incorporé dans la ligne de défense au moment de la construction de cette dernière, soit, plus vraisemblablement, correspondre à un réemploi lors d'une réfection tardive de la muraille. Dans ce secteur tout le mur d'enceinte présente de nombreuses traces de reconstructions effectuées à l'époque byzantine. On ne peut même pas exclure que les blocs inscrits aient été réutilisés en simple bourrage à l'intérieur de la maçonnerie. La datation du rempart par l'inscription Welles 50 semble pour le moins aléatoire.

Par ailleurs, l'examen des faces latérales de la porte nord, élevée en l'honneur de l'Empereur Trajan en 115 ap. J.C. (Welles 56/57 dans C.H. Kraeling op. cit. P; 401) ne révèle aucune amorce de murs de fortification. Au contraire, les côtés est et ouest sont parfaitement rectilignes, appareillés en assises régulières de gros blocs de calcaire tendre à léger bossage et cadre ciselé périmétral. De même les quatre angles du bâtiment présentent une arête rectiligne, parfaitement verticale. Ce bâtiment ne doit plus être considéré comme une porte ménagée dans l'enceinte mais comme un arc, incorporé ultérieurement dans la fortification de Jérash. Il en est de même pour la porte sud, même si dans ce cas particulier, les faces latérales présentent des amorces de murs, l'arc ayant été implanté dans un mur préexistant, mur dont la fonction défensive n'est pas prouvée.

Le mur plus ancien retrouvé sous les fondations de la porte sud (cf. J. Seigne, *op. cit.)* et auquel pourraient appartenir les deux inscriptions Welles 45 et 46, n'a pas été retrouvé ailleurs. Pour diverses raisons en partie exposées dans l'ouvrage en référence et qui seront développées ultérieurement, il ne semble pas que cette construction ait appartenu à une fortification. Elle correspondrait plutôt à une simple limite (faible épaisseur du mur, absence de tours, passage sans dispositif de fermeture...).

[28] W. Ball, *The Architecture. North Decumanus and North Tretrapylon at Jerash* dans F. Zayadine, *op. cit.*, p. 392.

[29] M. Gawlikowski, *Residential Area by the South Decumanus* dans F. Zayadine, *op cit.*, p. 109-110.

jusqu'au milieu du IIème siècle de notre ère,[30] en particulier celle du nord-ouest, située sous le sanctuaire d'Artémis et l'église de St Théodore, ne permettent plus d'attribuer une origine flavienne au plan d'urbanisme hippodamien de Jérash et obligent à revoir tous les schémas de développement urbain proposés.

A la fin du Ier siècle de notre ère, la ville avait sans doute largement débordé de son cadre originel, s'étendant loin à l'ouest du *tell*, comme le laissent supposer la création d'un accès sur la façade nord du sanctuaire de Zeus et la construction à partir des années 80 du théâtre sud, et vers le nord où un sanctuaire dédié aux Dieux Arabiques est attesté en 73/74 (inscription Welles 17). Au sud et au sud-ouest, la présence de nécropoles[31] et d'un mur[32] aux abords immédiats du Sanctuaire de Zeus ne permet pas d'envisager une urbanisation dans ces directions. Il en était de même au nord-ouest, où un vaste cimetière occupait le flanc méridional de la colline qui portera plus tard le grand sanctuaire d'Artémis.[33]

Les voies de circulation attribuables à cette période ne semblent pas correspondre à un schéma organisé préétabli. Les axes sont divers, les directions multiples. La voirie apparaît spontanée, semblable à celles des villes médiévales. La dépression située au nord-ouest du *tell*, la future place ovale jouait sans doute déjà le rôle de carrefour, de point de convergeance et de départ des différentes rues.[34] Les plus importantes de ces dernières, devaient emprunter les axes naturels de circulation matérialisés par les fonds des différents petits *wadi*. De même, en raison de la topographie et des directions de développement de la cité, il semble très vraisemblable qu'une voie de circulation privilégiée (un "proto cardo") ait existé en bordure de la rive ouest du Chrysorhoas.[35]

C'est probablement au tournant des Ier/IIème siècles qu'une première structuration de l'espace urbain fut opérée, concrétisant de façon monumentale l'ébauche de voirie préexistante. Suivant un principe bien établi en Orient, une avenue fut créée entre l'entrée principale de la cité, située au nord, et le sanctuaire alors le plus important, celui de Zeus Olympien au sud.[36] Le tracé du "proto cardo" fut régularisé, redressé. Au sud, à la jonction de cet axe avec le sanctuaire de Zeus, la dépression existante était réaménagée pour permettre l'implantation de la place ovale.[37]

Le tracé du cardo est vraisemblablement antérieur de quelques années, au plus tard contemporain, à la construction de la porte nord.[38] Cette dernière, placée à la naissance de l'avenue, à l'endroit où elle rencontrait la voie menant de Pella à Mafraq, au niveau du seul passage naturel aisé entre les deux rives du Chrysorhoas, montre que dès 115 ap.J.C. la ville s'étendait–ou qu'il était prévu qu'elle s'étende–à près d'un kilomètre au nord du *tell*.

Si le tracé du cardo est assuré dès le règne de Trajan, il est moins sûr que les portiques bordant la rue aient été élevés dès cette époque.[39]

Quoiqu'il en soit, au début du IIème siècle la ville de Gerasa apparaît en plein développement. Limitée à l'est par le profond ravin du Chrysorhoas, à l'ouest et

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[30]C.H. Kraeling, *op. cit.*, p. 53. Cl. S. Fischer, *The campaign at Jerash in september and october 1931*, *A.A.S.O.R.* XI. Peu d'informations précises concernant la nécropole nord-ouest apparaissent dans les divers comptes-rendus des fouilleurs anglo-américains. Nous pouvons simplement supposer, d'après les quelques renseignements mentionnés ici et là dans les textes, qu'elle fut en usage dès l'époque hellénistique (cf C.H. Kraeling op. cit., p. 293, ce qui pourrait expliquer la présence d'amphores rhodiennes et de monnaies et de matériel céramique des IIème-Ier siècles avant notre ère dans ce secteur), jusqu'au IIème siècle ap. J. C. P. 53 de *Gerasa City of the Decapolis*, C.H. Kraeling écrit: "*In the cemetery south of the Temple of Artemis and west of the Cathedral area burial was discontinued–in the age of the Antonines–... but Temple C was apparently build–in the second century–over the tomb of some important person before the use of the earlier cemetery ceased*". D'après les fouilleurs il faudrait donc admettre que la nécropole était encore en usage au début du IIème siècle, un demi-siècle au moins après qu'elle eut été incluse, selon son hypothèse dans les limites remparées de la cité... Cette incohérence dans le raisonnement avait déja été relevée par R. Pierobon, *Gerasa in archeological historiography. Gerasa I. Report of the Italian archaeological expedition at Jerash. Campaigns 1977-1981, Mesopotamia XVIII-XIX*, Firenze 1984, p. 14-15.

D'une manière plus générale les nécroploles de Jérash demeurent très mal connues et mal datées. Elles mériteraient une étude approfondie que les destructions massives opérées sans contrôle ces dernières années rendent d'autant plus urgentes.

[31]C.S. Fisher, *The southwest cemetery* dans C.H. Kraeling *op. cit.*, P.549 à 571. A. Nagawi, A.-M. Rasson et J. Seigne, *Nouvelles observations sur les nécropole sud de Jérash*, à paraître.

[32]Cf. ci-avant note 27

[33]Cf. ci-avant note 30

[34]En plus du cardo et des deux rues longeant les faces orientale et septentrional du sanctuaire de Zeus, trois autres rues prenaient naissance sur la place ovale, une sur sa face sud, deux sur sa face nord. Leur emplacement est marqué par un espacement plus large entre deux colonnes des portiques et la présence d'une architrave plus haute au dessus de chacun des passages. Les trois rues, antérieures à la mise en place des portiques de la place ovale, sont orientées différement entre elles et avec le cardo. Voir *Gerasa I, Report of the Italian Expedition at Jerash, Campaigns 1977-1981, Mesopotamia XVIII-XIX*, Firenze 1984, pl. VIII. Voir également A. Barghouti, *op. cit.* p. 221-223.

[35]Les restes d'une rue antérieure auraient été relevés par les fouilleurs de la place du tétrapyle sud. C.H. Kraeling, *op. cit.* p. 112. La réelle appartenance de ces vestiges à une rue n'est pas assurée.

[36]Les exemples de tels dispositifs sont nombreux: voir Palmyre, Pétra, Bosra...

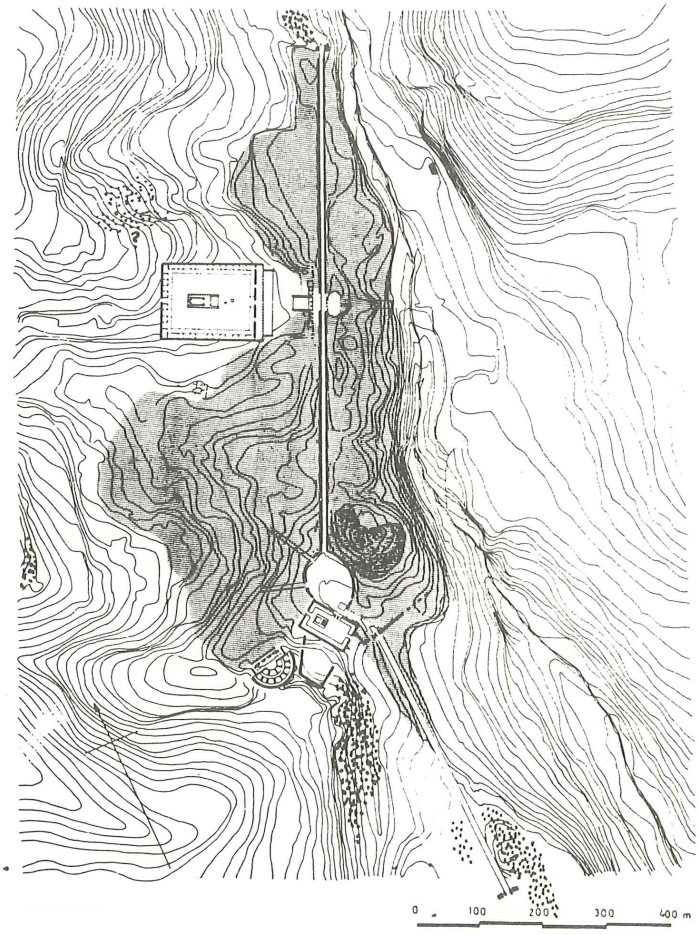
[37]La place ovale ne doit plus être considérée comme le "Forum" de Jérash. Elle n'est en réalité que le raccord–fort réussi–entre deux éléments architecturaux d'axes totalement différents: le sanctuaire de Zeus et le cardo. La place ovale n'est que l'extrémité méridionale du cardo, élargie de manière à incorporer dans un dispositif unique les entrées est et nord du sanctuaire. De même il semble à peu près certain que la rue ne se prolongeait pas au delà de l'entrée du ' naine de Zeus, la branche orientale des portiques venant tangenter le mur d'échiffre oriental du propylée est, à l'image de la branche occidentale venant buter contre l'escalier (?) d'accès à l'entrée nord du sanctuaire. Voir J. Seigne, *op. cit.*.

[38]Le plan trapézoïdal du monument, comme son implantation sur un terrain en forte déclivité ayant nécessité la construction de puissants soubassements, alors qu'il existait un vaste terrain plat à quelques mètres plus à l'ouest, prouvent qu'il a fallu implanter et adapter la porte en fonction d'un axe preéxistant, celui du cardo.

[39]A l'extrémité nord du cardo, les bases des colonnes des portiques se trouvent à niveau très supérieur à celui des bases moulurées "correspondantes" de la porte nord, comme si ces dernières avaient été enterrées lors de la construction des colonnades. De même on doit constater, par exemple, que la place ovale était en cours de remblaiement et d'aménagement quand les fondations des colonnades furent creusées (voir coupe stratigraphique publiée par F. Braemer dans F. Zayadine, *op. cit.*, p. 62).



5. Gerasa: état supposé en 130 ap. J.C.



6. Gerasa: état supposé vers 150 ap. J.C.

au sud par le relief et les nécropoles encore en usage, l'urbanisation s'est très naturellement orientée vers le nord, sur les terrains en faible pente, le long de l'axe principal de circulation dont le tracé vient d'être redressé, le cardo. Au moment de la visite de l'Empereur Hadrien, la ville devait se présenter comme un groupement sensiblement linéaire d'habitations et de sanctuaires, limité à la rive occidentale la "rivière d'or", entre la porte nord et le *tell*.

Seuls deux grands ensembles monumentaux, implantés sur la même colline, dominent la masse des constructions: le sanctuaire de Zeus et le théâtre sud. Malgré leur proximité immédiate, ces monuments n'ont aucun axe en commun, pas plus qu'ils n'en ont avec le cardo, alors seul élément réellement structuré de la voirie urbaine, ce qui montre bien qu'à la fin du premier siècle de notre ère le plan d'urbanisme de type hippodamien n'avait pas encore été adopté.

-4- Hadrien. La réorganisation (FIGs. 5 et 6) L'urbanisation linéaire, pratiquement unidirectionnelle et dirigée vers le nord, ne pouvait se poursuivre indéfiniment. Face à une croissance continue des activités et de la population liée à la *Pax Romana*, une extension et un rééquilibrage du tissu urbain devinrent rapidement indispensables. Peut-être est-ce à l'initiative de l'Empereur Hadrien, comme le supposait Kraeling, qu'un nouveau quartier fut projeté au sud du *tell*, toujours le long du même axe général nord-sud, mais à l'opposé de la zone précédemment urbanisée. Deux nouveaux arcs monumentaux furent élevés pour en marquer les limites.[40] Il est possible de penser que par cette opération le *tell*, la place ovale, le théâtre sud et le sanctuaire de Zeus devaient retrouver une position centrale dans le tissu urbain projeté.

La création de ce nouveau quartier, autour d'un axe de même orientation générale que le cardo, bien que non coaxial, confirme, si besoin était,

[40]Il est remarquable de constater que les trois grands monuments commémoratifs de Jérash, les trois arcs élévés en l'honneur de Trajan et d'Hadrien, se trouvent tous sur le même axe nord-sud, confirmant, si besoin était, que la circulation privilégiée de la ville antique fut à cette époque celle du bord occidental du *Wadi*.

l'importance de la topographie–et le pragmatisme des planificateurs–dans l'organisation urbaine embryonnaire: ce sont les directions du relief, les accidents du terrain, qui furent alors et encore les vrais maîtres de l'urbanisation.

Quelques années (?) après l'impériale visite Gerasa se vit soudain dotée d'un nouveau grand sanctuaire, dédié non à Zeus mais à la déesse Artémis. Quatre fois plus vaste que celui–alors en service–du maître de l'Olympe, il fut édifié *ex nihilo*, à l'extérieur de ville, sur la colline de la nécropole nord-ouest, elle même désaffectée à cette occasion.[41] Au centre d'une cour de 161m sur 121m un énorme temple périptère fut alors consacré à la Tyché. A l'est, un grandiose dispositif d'accès, établi perpendiculairement à l'axe du cardo fut adjoint au complexe sacré,[42] en raison de la forte déclivité du terrain à cet endroit mais aussi, et probablement surtout, pour rivaliser avec l'accès monumental au sanctuaire de Zeus, marqué lui par le cardo et la place ovale.

La création subite d'un tel sanctuaire pour Artémis ne peut manquer de surprendre. Jusqu'à la visite de l'Empereur Hadrien, c'est Zeus qui règne visiblement en maître sur Gerasa: le sanctuaire le plus considérable, celui en fonction duquel la ville s'est organisée jusqu'alors, lui est dédié. C'est vers lui que le cardo, épine dorsale de la cité et véritable allée processionnelle, se dirige. C'est à cause de son orientation ancienne et divergeante qu'il a fallu créer la place ovale. Les premières monnaies de Gerasa sont frappées à son effigie et les plus considérable, celui en fonction duquel la ville s'est organisée jusqu'alors, lui est dédié. C'est vers lui que le cardo, épine dorsale de la cité et véritable allée processionnelle, se dirige. C'est à cause de son orientation ancienne et divergeante qu'il a fallu créer la place ovale. Les premières monnaies de Gerasa sont frappées à son effigie et les plus nombreuses et les plus anciennes inscriptions lui sont consacrées. Artémis, bien que "protectrice de la cité" n'est alors qu'une divinité secondaire.

primauté des cultes sous-entend sont directement confirmés par la mise au jour en différents points du site de traces de destructions violentes et par la découverte de nombreuses dédicaces faites aux représentants de l'empereur venus–*manu militari*?–rétablir la concorde à Gerasa.[43]

Assister, grâce aux différentes réalisations architecturales, au "déclassement" d'un grand centre religieux au profit d'un autre est déjà peu commun. Mais il y a plus exceptionnel encore. La construction du nouveau sanctuaire d'Artémis ne marqua pas une victoire écrasante de la déesse sur son rival de l'Olympe. Bien au contraire. Ce ne fut qu'une étape dans la lutte pour la suprématie des cultes à laquelle se livrèrent alors les clients des deux divinités, lutte visible dans les bâtiments concurrents que les deux groupes firent élever progressivement sur leurs sanctuaires respectifs.

En effet la construction du grand temple d'Artémis fut immédiatement suivie de l'édification, au-dessus du domaine de Zeus, d'un nouveau naos dédié au maître de l'Olympe. Légèrement plus vaste que celui d'Artémis (28,25m/41,25m pour Zeus contre 22,60m /40,10m pour la déesse), ce temple périptère octostyle, (alors que celui d'Artémis n'est qu'hexastyle), consacré en 163,[44] fut complètement achevé dans ses moindres détails de sculpture et de décoration, alors que celui de sa concurrente demeura en chantier.[45]

Détrônés politiquement, les clients de Zeus Olympien restèrent néanmoins les vrais maîtres de l'économie locale... jusqu'à l'avènement d'une troisième puissance, celle des Chrétiens.

Les travaux engagés pour la construction du sanctuaire d'Artémis[46] sont trop considérables, les arrières plans politiques trop importants et trop évidents, pour que leur financement de départ n'ait pas été d'origine impériale. Aucune inscription ne permet actuellement de confirmer cette hypothèse, mais à travers Artémis, c'est dorénavant et selon toute vraisemblance l'empereur qui "protège" la cité du Chrysorhoas. Cette remise en ordre politico-re-

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[41]Cf. ci-dessus note 30. Voir également *B.A.S.O.R.* 41 (1931), p.10 à 12.

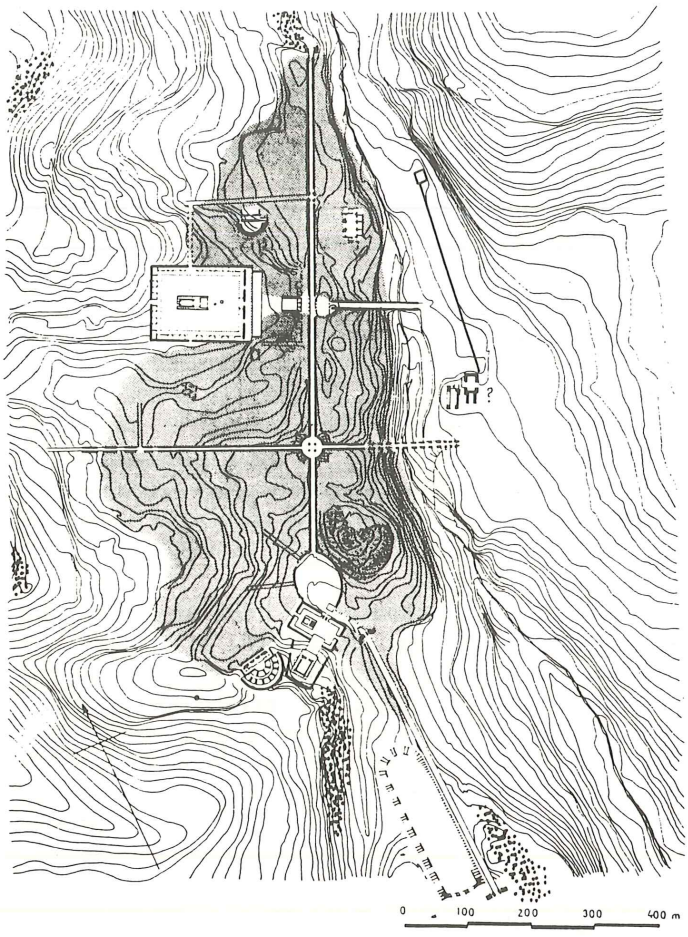
[42]En 150 les Propylées (inscription Welles 60) et la place trapézoïdale leur faisant face, à l'est du cardo (inscription Welles 63), sont achevés. L'axe perpendiculaire au cardo qu'ils matérialisent pour la première fois sera copié pour le nouveau plan d'aménagement. Il ne fait aucun doute que le tracé des decumani n'est pas contemporain mais dérive de cette implantation du sanctuaire d'Artémis. 15 ans–au moins–séparent la construction du nouveau complexe religieux du tracé du decumanus sud par exemple (cf. M. Gawlikowski, *A residential area by the South Decumanus* dans F. Zaydaine, *op. cit.* p. 109).

[43]La concorde est une vertu fréquement exaltée à Jérash (voir par exemple inscriptions Welles 2,3,4,5,15 dans H.C Kraeling, *op. cit.* Voir également *Ti. Julius Alexander, Gouverneur d'Arabie,* M. Sartre, A.D.A.J., XXI, 1976. Sur les gouverneurs d'Arabie honnorés à Gerasa voir *Les gouverneurs de l'Arabie romaine.* M. Sartre. Dans: *Trois études sur l'Arabie romaine et byzantine* Latomus vol. 178, 1982).

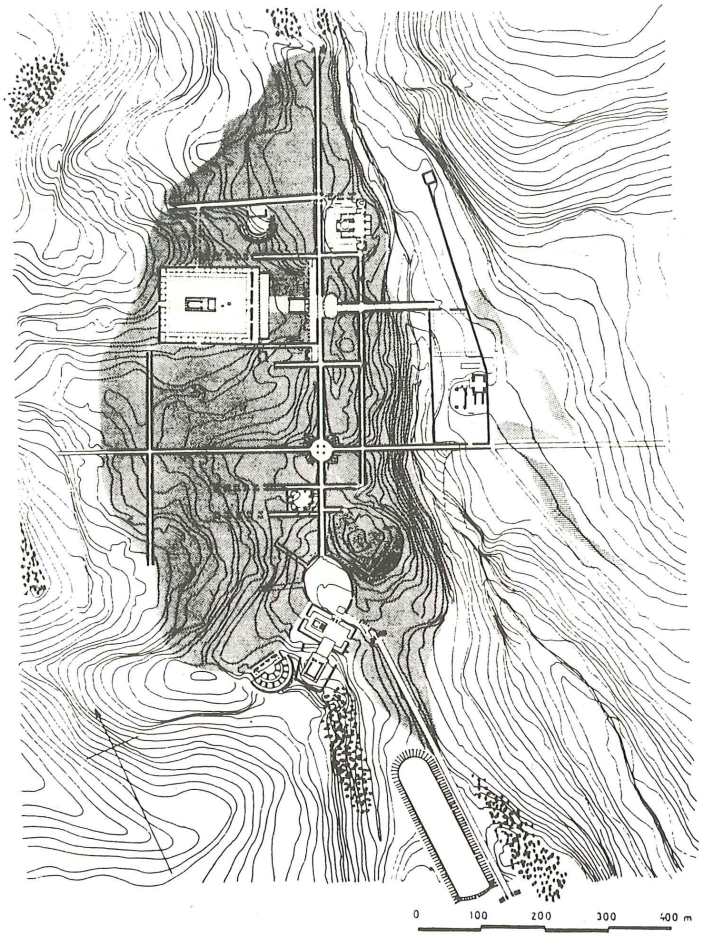
[44]Inscription Welles 11, H.C. Kraeling, *op. cit.* p. 380.

[45]Seules les colonnes des deux rangées de la façade orientale du temple furent mises en place, l'entablement n'ayant jamais été réalisé. R. Parapetti dans A. Hadidi (éd.), *Studies in the History and Archaeology of Jordan I* 1982 p. 255/261 et dans F. Zayadine, *op. cit.*, p. 167-204.

[46]De fait il ne s'agit pas d'une création mais d'un transfert de lieu de culte, un sanctuaire d'Artémis étant attesté à Jérash dès 79/80 (inscription Welles 28 *op. cit.* p. 389). La localisation du sanctuaire primitif de la déesse reste inconnue. Cependant, Artémis apparaissant dès l'origine comme la "protectrice de la cité", on peut se demander si elle ne correspondrait pas, de fait, à la plus ancienne des divinités de Gerasa, celle dont le temple devait se dresser au milieu du noyau le plus ancien de la ville. Dans ce cas c'est sur le *tell*, sur la colline du musée qu'il faudrait rechercher les vestiges de son domaine du Ier siècle et des siècles antérieurs.



7. Gerasa: état supposé vers 180 ap. J.C.



8. Gerasa: état supposé vers 230 ap. J.C.

Les travaux s'échelonnèrent sur plusieurs dizaines d'années, et dans bien des cas ne furent pas menés à leur terme: le decumanus principal, tracé à partir de 165/170, ne traversa en totalité la ville que dans l'idée de ses concepteurs,[53] le decumanus nord n'atteignit semble-t-il jamais la porte nord-ouest prévue au IVème siècle sur le rempart,[54] quant aux rues secondaires...

Parallèlement aux différents travaux de voirie en cours (élargissement progressif du cardo dans sa partie centrale, tracé des decumani, des cardines,...), la ville fut dotée de nouveaux monuments: grand temple de Zeus, odéon, hippodrome, nymphée, tétrapyle nord, tétrapyle sud... La présence, dès 150, de fontaines (inscription Welles 63) à proximité du propylée d'Artémis indique qu'à cette date–au moins–un système permanent d'adducation d'eau avait été mis en place entre la grande source de Birketein et le secteur monumental de la ville antique.[55] Conséquence de cette nouvelle installation (ou raison d'être?), Gerasa se vit dotée à la même époque d'un premier ensemble thermal, les thermes de l'ouest.[56]

La deuxième moitié du IIème siècle vit Gerasa se couvrir d'échafaudages, transformant la ville en un

[53]La porte prévue sur le rempart au débouché oriental de la voie fut très rapidement condamnée, celle-ci étant sans doute jugée non nécessaire. Le bouchage mis en place dès l'époque byzantine (présence de croix gravées sur la face obstruée) est encore parfaitement visible.

[54]V.A. Clark, J. Bowsher, *A note on sounding in the northwetern quarter of Jerash* dans F. Zayadine, *op. cit.* p. 345. W. Ball, *The North Decumanus Architectural report* dans F. Zayadine, *op. cit.*, p. 385 et suivantes.

[55]Système remplaçant au moins partiellement les citernes et les *birkets* établies sur le cours des *wadi* du site (cf. par exemple la *birket* découverte à l'emplacement de la Porte Sud (J. Seigne dans F. Zayadine, *op. cit.*, p.45).

[56]L'étude des thermes de Jérash reste à faire. Un simple examen des ruines des thermes de l'Ouest montre que ces derniers connurent au moins deux grandes phases de construction, dont la première pourrait remonter au milieu du II° siècle. La présence de ces thermes anciens expliquerait les aberrations observées dans ce secteur dans la structure du cardo élargi (absence de trottoirs en particulier).

ligieuse de la ville aurait pû être une conséquence directe du séjour de l'empereur Hadrien à Jérash. Elle semble pourtant lui être postérieure de quelques années. Le projet de nouveau quartier au sud, entre la porte sud et l'arc d'Hadrien et le rééquilibrage projeté de la ville autour du *tell*, de la place ovale et du sanctuaire de Zeus, élaborés lors de la visite de l'Empereur, ne peuvent se concevoir dans le cadre d'une réorganisation de la cité autour du sanctuaire d'Artemis telle qu'elle sera réalisée, comme nous le verrons plus loin. On doit donc supposer qu'au moment du séjour d'Hadrien à Jérash, la nécessité de construire un grand sanctuaire à Artémis ne se faisait pas encore sentir, mais qu'elle le devint quelques années plus trad, peut-être à la suite de la grande révolte juive de 131/135.[47]

La construction de ce nouveau complexe correspondit à un recentrage, définitif, du tissu urbain vers le nord. Le sanctuaire d'Artémis devint subitement le point de focalisation des activités édilitaires, au détriment de l'ancien centre marqué par le sanctuaire de Zeus et la place ovale. Il est remarquable de constater qu'à l'exception de l'hippodrome tous les aménagements monumentaux postérieurs à 150 se feront autour ou en liaison directe avec le sanctuaire d'Artémis: théâtre nord (162/166), tétrapyle sud et tétrapyle nord (fin IIème), nymphée (190/191) thermes de l'ouest (160/170? pour leur premier état)...

Au sud, le grand quartier de "rééquilibrage" projeté sous Hadrien, redevint, à peine fondé, excentré, marginal. Des artisans s'installèrent bien le long de la rue, à proximité de la porte sud[48] mais le développement général du secteur fut de peu d'ampleur et linéaire. Les nécropoles restèrent même en service, la faible importance de l'urbanisation de ce secteur ne rendant plus leur désaffection nécessaire.[49] Seule la construction de l'hippodrome à la fin du IIème siècle entraîna la destruction de certaines d'entre elles.[50]

L'édification du nouveau domaine dédié à la déesse protectrice de la cité eut une deuxième conséquence, fondamentale celle-là, sur l'organisation spatiale de la ville: pour la première fois, un axe perpendiculaire à celui du cardo était matérialisé dans la trame urbaine préexistante. En donnant naissance aux premiers decumani de la cité (le propylée et ses annexes et les rues longeant l'ilôt sacré) le sanctuaire d'Artémis enfanta, de fait, le plan hippodamien de Gerasa.[51] L'idée d'un réseau de rues orthogonales découpant la ville en *insulae* régulières venait de naître. Il ne restait plus qu'à la mettre progressivement en pratique.

Enfin le prolongement vers l'est de l'allée monumentale d'accès au sanctuaire, le premier decumanus, entraîna la construction du pont dit des propylées. Cet ouvrage, en permettant pour la première fois un accès direct et facile entre les deux rives du Chrysorhoas fut à l'origine de la "colonisation" progressive, à partir de la fin du IIème siècle, de la rive orientale du *wadi*, problablement réservée jusque là à des jardins.[52]

-5-L'expansion (FIGs. 7 et 8)

Recentrée autour du nouveau sanctuaire d'Artémis, la ville fut progressivement restructurée à partir du milieu du IIème siècle. Petit à petit une trame de rues orthogonales fut surimposée aux tracés antérieurs.

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[47]Peut-être sous le gouvernorat de T. Haterius Nepos. Il est en tout cas remarquable que le nom de ce gouverneur ait été effacé de toutes les dédicaces qui lui avaient été faites à Jérash (Welles 58, 143...), en particulier de celle située sur l'arc d'Hadrien, à près de 20m de hauteur. (voir M. Sartre, *Trois études sur l'Arabie romaine et byzantine* dans *Latomus* 1982 p. 82).

[48]J. Seigne dans F. Zayadine, *op. cit* p. 47 à 49

[49]A. Nagawi, *Nouvelles tombes dans la nécropoles sud de Jerash.* A paraitre dans *J.A.P. II, Syria* 1989.

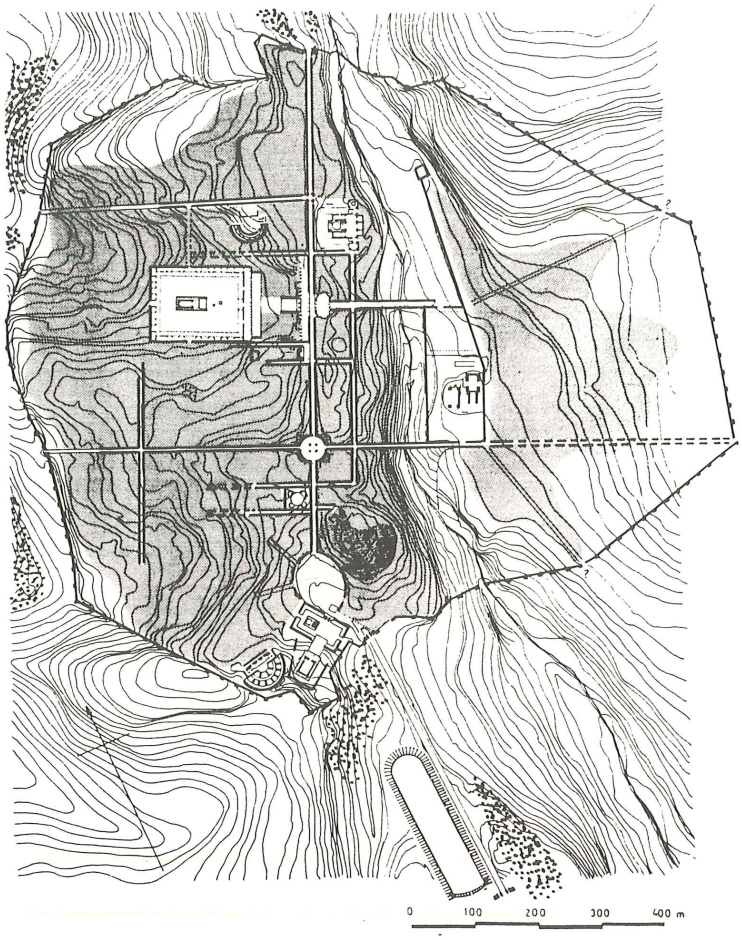
[50]Depuis 1984 A. Ostrasz poursuit le dégagement et la restauration de l'hippodrome. Grâce à ses recherches nous savons manintenant que la construction de ce monument ne fut pas entreprise avant le milieu du IIème siècle de notre ère, mais qu'elle était achevée au début du IIIème. Ce monument est donc largement postérieur à la construction de l'Arc de Triomphe. Il fut implanté dans ce secteur alors marginal de la cité pour des raisons évidentes de topographie et d'encombrement urbain. A. Ostrasz, *The Hippodrome of Gerasa: excavation and research 1984-1987*. A paraître dans *J.A.P. II, Syria 1989*.

[51]De fait ce sont les événements rendant indispensable le remplacement de Zeus Olympien par Artémis dans la primauté des cultes de Gerasa qui sont indirectement à l'origine du plan hippodamien. La soudaine nécessité d'implanter un très grand sanctuaire, dominant et central tout à la fois, imposait un emplacement et, par voie de conséquence, une composition perpendiculaire par rapport aux éiéments existants, le cardo essentiellement.

Par ailleurs on doit aussi constater que si un plan de type hippodamien fut bien progressivement surimposé au réseau de rues antérieur, il ne fut que partiellement mené à bien (cf. par exemple l'inachèvement des tracés des decumani. Voir V. Clark et J. Bowsher dans F. Zayadine, *op. cit.*, p. 345 pour le decumanus nord...). De même la parfaite régularité des *insulae* ainsi crées relevée par certains auteurs ("120m/50m soit un rapport de 2/1" sic. cf.A. Barghouti, *op. cit.*, p. 227) n'est que pure vue de l'esprit. Aucun intervalle régulier n'a, au contraire, pû être relevé entre les emplacements assurés des rues (cf. *Gerasa I Report of the Italian Archaeological expedition at Jerash. Campaigns 1977-1981, Mesopotamia XVIII-XIX. op. cit.).* Distances réellement relevées entre les decumani, de la place ovale au sanctuaire d'Artémis: 57,15m, 51,60m, 48,60m, 101,06m (2×50,53m), 53,75m.

[52]Depuis plusieurs années nous suivons les travaux de construction moderne effectués dans le centre urbain de l'actuelle Jérash. Au cours de ces travaux, portant actuellement sur 16 emplacements différents, nous avons pû observer que les dépôts archéologiques, à l'exception d'un seul, ne remontaient pas au delà des IIIème/IVème siècles. Partout aussi le sol vierge à pû être observé. Sur la rive orientale il est constitué de terres argilo-sableuses rouges, sur plusieurs mètres d'épaisseur, contrairement à la rive occidentale où le rocher est en général immédiatement présent sous les strates achéologiques. Pour la plupart ces riches terres agricoles se trouvaient en contrebas de la grande source pérenne d'Aïn Caravan et étaient donc irriguables. Elles devaient constituer de remarquables jardins naturels.

La source fut aussi et de tout temps utilisée à des fins domestiques et une partie de la population de Gerasa venait sûrement chercher là l'eau qui lui était nécessaire. La construction du pont des propylées dut grandement faciliter l'accès direct à la source en supprimant l'obstacle constitué par le ravin du *wadi*. Il est d'ailleurs remarquable de constater que la monumentalisation d'Aïn Carvan date, selon toute vraisemblance d'après les vestiges encore *in situ*, de la fin du IIème siècle. On peut aussi se demander si nous ne possèdons pas là l'explication du non prolongement vers l'est de l'accès monumental du sanctuaire d'Artémis. L'objectif fixé étant atteint, accéder facilement à la source, tout en monumentalisant l'accès au sanctuaire, il n'était pas nécessaire de prolonger la rue au delà du débouché oriental du pont dans une zone alors non urbanisée (cf. ci-après note 58).



9. Gerasa: état supposé au début du IV ème siècle.

gigantesque chantier.[57]

Après un ralentissement au tournant des IIème/IIIème siècles, de nouveaux grands travaux furent entrepris sous les derniers Sévère: agrandissement de l'odéon, des thermes de l'ouest mais surtout construction du grand complexe thermal de la rive orientale et de ses annexes (basilique, cour à portique...). Occupant toute l' *"insulae"* située entre les deux ponts sur le Chrysorhoas, cet ensemble était alimenté par la source d'Aïn Carawân dont l'eau y était acheminée par un aqueduc récemment mis au jour.[58]

Il est possible aussi que l'édification du deuxième pont de Jérash, dans le prolongement du decumanus sud soit à mettre en relation directe avec la création de ce grand complexe thermal.[59] La construction de cet ensemble et des deux ponts marquait aussi la transformation définitive de la rive orientale. A partir du début du IIIème siècle les habitations remplacèrent progressivement les jardin.[60] Gerasa occupait les deux rives du *wadi*.

-6- Le repli (FIG. 9)

La fin du IIIème siècle correspond à un nouveau tournant majeur dans l'organisation de la cité: à la suite de la destruction et de l'incendie des quartier méridionaux, consécutifs à un raid de pillards,[61] la ville fut dotée d'une enceinte fortifiée. Au début du IVème siècle la ville ouverte fit place à une cité remparée. En englobant la rive orientale du *wadi* dans le périmètre défensif mais en excluant le quartier sud projeté sous Hadrien, les constructeurs du mur à grosses tours carrées ceinturaient les zones réelles d'activité de la ville antique au début de l'époque byzantine.

Abandonné après avoir été incendié, le quartier de l'hippodrome redevint une nécropole. Seul le cirque resta partiellement en usage pendant quelques siècles encore.

Repliée à l'intérieur de sa muraille la ville de Gerasa continua à vivre, c'est-à-dire à se transformer: des églises furent édifiées au détriment des sanctuaires païens, des thermes, des maisons et des magasins furent construits, mais la trame urbaine romaine ne fut pas fondamentalement modifiée. Tardivement, des échoppes occupèrent progressivement les différentes rues, réduisant leur largeurs, modifiant leur aspect, mais sans changer fondamentalement la structure de la ville antique. Pour quelques siècles encore la cité vécut sur les aquis des siècles précédents avant de s'endormir pour plus d'un millénaire.

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[57] L'importance des travaux entrepris à même époque dans partiquement tous les secteurs de la ville, pose de nombreux problèmes: financement des opérations, nombre d'ouvriers employés, approvisionnement en matériaux et en nourriture... On doit noter par exemple que la seule construction de l'hippodrome nécessita la taille et l'assemblage d'au moins 250 000 blocs de pierre, ce qui dut mobiliser 800 à 1000 personnes–carriers, transporteurs, tailleurs de pierre, maçons, charpentiers...–pendant quelques dizaines d'années (renseignements oraux aimablement fournis par A. Ostrasz). Ces différents aspects de la vie gérasénienne au IIème siècle mériteraient d'être étudiés plus en détails.

[58] A l'occasion de la construction d'un immeuble moderne, la fouille de sauvetage menée sur la rive est du *wadi*, à l'emplacement de la culée orientale du pont des propylées d'Artémis, a pû montrer que le decumanus associé au pont ne déservait que la source d'Aïn Carvan et l'entrée nord du complex thermal oriental. Au delà, vers l'est, il venait buter contre le mur continu de soutèment de l'aqueduc, haut de près de 4m en cet endroit.

A. Nagawi, A.-M. Rasson et J. Seigne, *Découvertes archéologiques sur la rive est du Chrysorhoas à Jérash*, à paraître.

[59] La datation du pont et du tronçon de decumanus qui lui est associé est très discutée. On peut simplement signaler qu'il est dévié de deux degrés environ par rapport à l'axe du decumanus et que selon les fouilleurs américains il fut construit bien après que la rue fut tracée (C.H. Kraeling, *op. cit.*, p. 127 note 7). Le dallage de la partie inférieure du decumanus, juste en amont du pont ne date que de la première moitié du III° siècle (inscription Welles 72), ce qui pourrait donner un terminus. Cependant et d'une manière générale, le dallage des rues apparaît comme bien postérieur à leur construction (cf. par exemple le dallage de la place ovale réalisé bien après l'érection des colonnes des portiques).

[60] Voir par exemple la mosaïque de la "maison du *moudir*" découverte au 19ème siècle et qui daterait des IIème/IIIème siècles. Imgard Kriseleit, *Forshungen und Berichte*, Band 24, Berlin 1984 p. 75 à 97

[61] J. Seigne dans F. Zayadine, *op. cit* p. 47 et suivantes.

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Les problèmes résolus et les questions posées par les trois premières campagnes de fouilles à Umm er-Rasas — Kastron Méfaa. La fin de la civilisation urbaine en Jordanie

Si la recherche archéologique à laquelle nous nous consacrons depuis plus de dix ans dans le territoire de Madaba, n'a pas encore apporté de précisions sur l'origine du diocèse, qui apparaît avec le concile de Chalcédoine en 451, elle a, par contre, amplement confirmé l'appartenance de Madaba à la Provincia Arabia, pendant la période byzantine, comme siège suffragant du métropolite de Bostra[1]. La recherche a, en outre, éclairci le problème de l'extension territoriale du diocèse et assez bien mis en lumière la vie de la communauté aux VIe et VIIe siècles, avant la conquête musulmane. La liste des évêques, depuis Fidus (2e moitié du Ve siècle) jusqu'à Léonce (premières décennies du VIIe siècle), liste que nous croyons quasi complète, constitue un résultat notable sur le plan de l'histoire ecclésiastique de la ville de Madaba, qui peut être prise comme exemple d'une situation valable aussi pour les autres villes de la Provincia.

La nouvelle étude, -que nous avons commencée en 1979, -de l'église de la Vierge à Madaba et des mosaïques de l'église sur l'acropole de Ma'in a ouvert à notre recherche un nouveau champ d'intérêt[2]. Un examen plus approfondi a démontré que la mosaïque de l'église de la Vierge était une restauration accolée à des fragments d'une mosaïque du VIe siècle (FIG. 1). Cette conclusion donnait raison à la lecture de la date de l'inscription dédicatoire, proposée par Clermont-Ganneau en 1898, et selon laquelle l'église avait étée construite et terminée en février 974, indiction 5. Cette date de l'ère séleucide correspondait à février 662-663. Même si la cinquième indiction ne correspondait pas à l'année en question et si l'année se rapporte non à l'église, mais à la réfection de la mosaïque du pavement, la datation de la mosaïque et de ses inscriptions à l'époque omayyade doit être retenue comme un fait établi[3]. La lecture de la première ligne de l'inscription dédicatoire, cachée jusqu'alors par le mur d'une maison arabe, nous redonna en 1980 le nom de Théophane, évêque du diocèse de Madaba en plein époque omayyade. A la lumière de cette découverte, les deux inscriptions de la mosaïque prenaient aussi un sens plus profond, avec la subtilité et l'exactitude des formulations théologiques qui insistaient sur l'unicité de Dieu. Il faut donc lire ces inscriptions dans le contexte historique de la polémique christiano-musulmane.

Le nouvel examen de la mosaïque de l'église sur l'acropole de Ma'in, mosaïque publiée par le Père de Vaux en 1938, conduisait aux mêmes conclusions[4]. La mosaïque devait être datée de 719/720, comme le disait l'inscription dédicatoire, puisque la *tabula ansata* faisait partie intégrante de la composition originale et ne constituait pas une addition de la restauration posticonoclaste.

Prenaient en même temps un sens historique les dates basses, d'époque omayyade, d'autres édifices sacrés chrétiens découverts en Jordanie: tels que l'église inférieure de Quweismeh datée de l'année 717[5], ou l'édifice inconnu de Rabbah-Areopolis, daté de 685/686[6].

Les deux inscriptions de l'église de la Vierge et de l'église sur l'acropole de Ma'in ont eu le mérite d'attirer l'attention des historiens sur l'existence et

[1] Voir mon étude, *Chiese e Mosaici di Madaba*, Jerusalem 1989.

[2] "La chiese della Vergine a Madaba", *Liber Annuus* 32 (1982) p. 373-408, tavv. 39-82.

[3] Voir P.-L. Gatier, *Inscriptions de Jordanie, (IGLJ2)*, n. 128, p. 128-131.

[4] *LA* 35 (1985) p. 344-348, nota 21; R. de Vaux, *RB* 47 (1938) p. 227-258.

[5] *LA* 34 (1984) p. 331-333.

[6] F.Zayadine, *ADAJ* 15 (1970) p. 71-76. Piccirillo, "The Umayyad Churches of Jordan", *ADAJ* 28 (1984) p. 333-341.



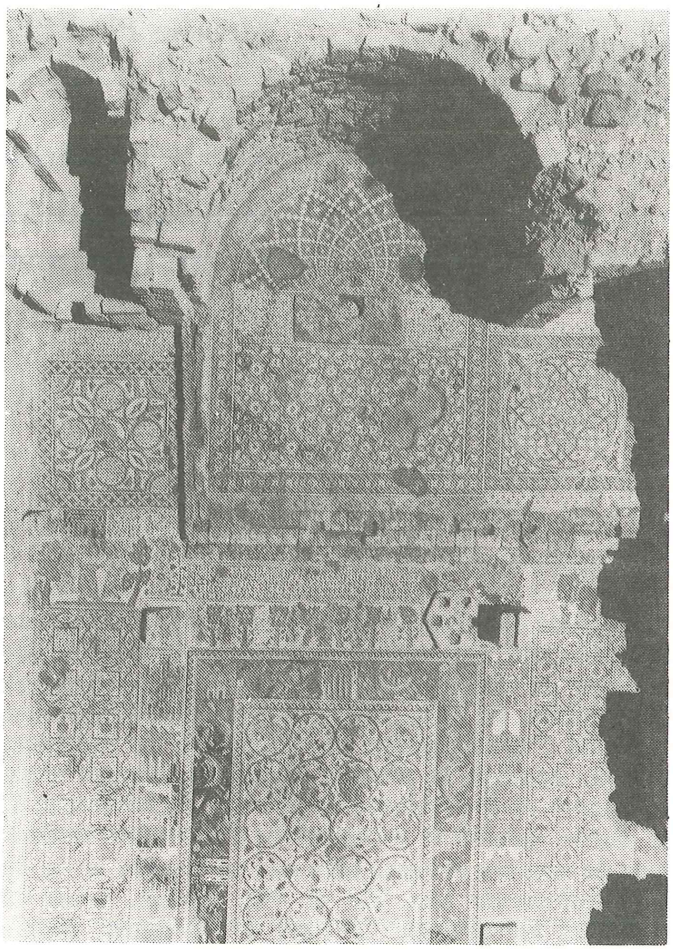
1. Madaba, église de la Vierge.

la continuité de la vie et de la foi de la communauté chrétienne de Madaba même pendant l'époque omayyade, ce dont les sources avaient perdu le souvenir.

Les fouilles d'Umm er-Rasas: les problèmes résolus.

C'est sur ces bases archéologiques, désormais acquises, que nous avons commencé en 1986 l'exploration des ruines d'Umm er-Rasas. Il est aujourd'hui de notoriété publique que les fouilles ne nous ont pas seulement redonné, dès la première campagne, une oeuvre de grande valeur artistique et documentaire avec la série de vignettes des villes de Palestine, de Jordanie et d'Egypte: elles ont surtout révélé l'existence d'une ville de Jordanie florissante dans la seconde moitié du VIIIe siècle[7].

L'église orientale du complexe ecclésiastique, -point initial de l'exploration archéologique des ruines, -possédait, à gauche et à droite de l'autel, une inscription dont la lecture nous a livré un nouveau nom de la liste épiscopale de Madaba et une date, ainsi que les noms des deux mosaïstes, qui avaient voulu ainsi signer leur travail[8] (FIG. 2). La mosaïque du choeur avait été terminée au temps de l'évêque Job, en mars 756, par Staurachios, mosaïste d'Esbous, fils de Zadas, et par son compagnon Eurémios. En outre, l'inscription dédicatoire, qui s'étendait le long de la marche du presbyterium, donnait le nom de Saint Etienne, titulaire de l'église, le nom de la localité,



2. Umm er-Rasas, église Saint Etienne.

Kastron Mephaa, le nom de l'évêque Serge II et la date de la mise en oeuvre de la mosaïque: octobre 785[9]. Le travail avait été réalisé grâce à l'intérêt et à la collaboration du diacre Jean, archonte et économe de la ville, ainsi que de la communauté chrétienne de Kastron Méphaa. Ajoutons que les nombreuses autres inscriptions de l'église ont conservé les noms de l'archiprêtre, du prêtre, de l'archidiacre, des diacres et de nombreux chrétiens.

Dans la seconde moitié du VIIIe siècle, non seulement le diocèse de Madaba possédait encore un évêque qui exercait ses pleines fonctions, mais dans la steppe jordanienne vivait une communauté chrétienne urbaine, dotée d'une organisation civile et ecclésiastique, gouvernée par un diacre et utilisant des mosaïstes qui continuaient la tradition locale de

[7]Piccirillo- T.Attiyat, "The Complex of Saint Stephen at Umm er-Rasas-Kastron Mefaa, First Campaign, August 1986", *ADAJ*, 30 (1986) p. 341-351, Pls LXX-LXXVIII; Piccirillo, "Le chiese e i mosaici di Umm er-Rasas-Kastron Mefaa in Giordania", in *Milion. Studi e Ricerche d'Arte Bizantina*, Roma 1988, p. 177-200, tavv. I-XIII.

[8]Piccirillo, "Le iscrizioni di Umm er-Rasas-Kastron Mefaa in Giordania (1986-1987)", *LA* 37 (1987) p. 180-182.

[9]Ibi, p. 183-186. La restauration partielle des deux lettres de la date, à la ligne 5 de l'inscription, ne modifie pas, à mon avis, la datation de base de la mosaïque et les conclusions historiques que nous en avons déduites.

l'art de la mosaïque.

Lorsqu'on se rappelle tout ce qu'on a jusqu'alors écrit sur la vie urbaine dans la région, la découverte a de quoi provoquer une surprise historique qui intéresse aussi bien la communauté chrétienne du diocèse de Madaba, but premier de notre recherche, que la fin de la vie urbaine en Jordanie[10]. Les deux dates rouvrent le problème du déclin et de la disparition de la communauté chrétienne du diocèse de Madaba. De plus, elles reproposent sur de nouvelles bases le problème du déclin et de la disparition de la vie urbaine organisée, dont l'abandon de Kastron Méphaa constitue un exemple, alors que nous trouvons la ville en pleine vitalité dans la seconde moitié de VIII siècle, déjà à l'époque abbâsside.

La poursuite des fouilles, arrivée en 1988 dans leur troisième campagne, et une nouvelle étude des sources historiques ont déjà donné des éléments suffisants pour situer la localité dans son cadre[11]. Les sources historiques nous apprennent que Mayfa'at était déjà connue à l'époque du Fer, dès lors qu'on accepte son identification avec la Méfaat biblique. La localité est mentionnée parmi les villes de la tribu de Ruben (*Jos* 13,18), du Mishor Moab (*Jr* 48,21), parmi les villes lévitiques (*Jos* 21,31 selon la LXX)[12]. Dans la période romaine tardive, nous y trouvons caserné un contingent de l'armée impériale, comme le mentionnent l'*Onomasticon* 128,21 et la *Notitia Dignitatum,* p.81, n. 19 éd. Seek. D'après la *Notitia,* la localité servait de casernement pour les *equites* indigènes promus, c'est-à-dire les troupes auxiliaires. Elle est encore connue de l'historien al-Bakrî au XIe siècle comme "un village de la Belqa de Syrie".

Une inspection superficielle des lieux et l'examen de la céramique recueillie attestent que la localité était habitée à la période du Fer. Quant aux fouilles, et en un endroit au moins, au sud de l'église Saint-Etienne, nous avons atteint la roche,- elles montrent une continuité d'occupation depuis la période nabatéo-romaine jusq'à la période arabo-omayyade. Au IIIe-IVe siècle après J.-C. appartiennent une inscription latine retrouvée à l'est de l'église et une sculpture en relief représentant un agneau, qui avait été remployée dans un mur de la cour occidentale transformée en église. Un tesson d'un bord et un chapiteau archaïque sont actuellement les seuls éléments qu'on peut rattacher à l'époque du Fer II[13].

Les problèmes non encore résolus

Pourtant, deux principaux problèmes attendent encore une solution. Les ruines d'Umm er-Rasas se composent d'un camp fortifié et d'un quartier qui s'est développé au nord de ce camp. Le premier problème concerne la datation de la partie fortifiée.

Les sources historiques s'accordent pour mettre en relief le caractère militaire de Kastron Méfaa, que conserve le nom de l'époque romano-byzantine. A ces sources il faut ajouter l'inscription nabatéenne publiée par Clermont-Ganneau, que les bédouins disaient provenir des ruines, et dans laquelle se trouve le nom d'un stratège nabatéen[14]. Le caractère militaire pourrait se déduire aussi des inscriptions qui accompagnent les mosaïques de deux églises fouillées jusqu'à présent. Plus que dans le terme *archôn* donné au diacre Jean, on pourrait y trouver une référence directe dans le terme *pistikos,* que nous avons suggéré d'expliquer comme un titre militaire possible d'un corps spécial[15]. L'examen archéologique du fort, à peine commencé en avril 1988, pourrait conduire à la même conclusion, mais rapportée à l'époque byzantino-omayyade. Déjà en 1898, le Père Lagrange avait noté que les deux absides de l'église double, située à l'intérieure du castrum, sont inscrites, et non simplement appliquées contre le mur oriental de l'enceinte fortifiée. Cette situation fait supposer une origine au moins contemporaine des deux constructions, église et mur. Dans cette hypothèse, qu'il faut encore vérifier, le castrum, tel qu'il se présente aujourd'hui, serait "d'origine chrétienne postconstantinienne"[16]. Dans le cas où cette hypothèse se révélerait exacte, on pourrait reconnaître en Kastron Méfaa un camp des tribus auxiliaires arabes qui se trouvaient, nous le savons, d'abord au service de l'armée romano-byzantine, et, ensuite, à celui des califes omayyades, avant leur suppression et leur dispersion à l'époque abbâsside. Pour désigner ces camps, les sources arabes utilisent les termes *ḥira ou ḥaḍir,* qui traduisent aussi le grec *parembolê,* plus lié aux origines nomades des tribus sédentarisées à l'époque byzantine[17]. L'hypothèse expliquerait le caractère

[10]Un problème d'actualité dans la recherche archéologique de Jordanie, comme le confirment, d'ailleurs, les recherches en cours à Jerash, à Pella et à Aqaba (voir les études de M. Gawlikowski, de A. Walmsley, de D. Whitcomb).

[11]Pour une brève information sur les résultats des deux campagnes de 1987 et 1988, cf. "Ricerca storicoarcheologica in Giordania", *LA,* 37, (1988) p. 401-403; 38, (1988) p....

[12]*LA,* 37, (1987) p. 196.

[13]Le fragment du bord a été identifié par la Mission Archéologique Suisse de la Fondation Van Berchem, qui effectue, depuis 1987, des fouilles à l'intérieur du Castrum. Le chapiteau ou base d'une colonne en basalte a été réutilisée dans l'église de l'évêque Serge comme noyau du support d'amphores, près de la citerne de l'angle sud-ouest.

[14]Ch. Clermont-Ganneau, "Les Nabatéens dans le Pays de Moab", *RAO,* II (1898) p. 185-218 (CIS Aram. n. 195).

[15]*LA,* 37, (1987) iscr. n. 6,1.5, p. 189; iscr. n. 48, 1.4, p. 207.

[16]*RB,* 7, (1898) p. 168.

[17]I. Shahid, *Byzantium and the Arabs in the Fourth Century,* Washington 1984, p. 483-498.

profondément chrétien des ruines d'Umm er-Rasas, comme l'avait déjà noté les premiers explorateurs. Dans le diocèse de Madaba, près de la ville épiscopale, dont la tradition urbaine était beaucoup plus ancienne, se serait développée au VIe siècle cette nouvelle ville, qui demeura un centre chrétien à l'époque omayyade.

Le second problème concerne la fin de la vie urbaine à Umm er-Rasas, liée d'une certaine façon à la solution du problème iconoclaste, remis lui aussi en discussion par les deux dates de l'église Saint-Etienne.

Sur la base des deux dates, il faut abandonner la tentative pour attribuer à Yazid II (720-724) le témoignage archéologique concernant les dommage iconoclastes subis par les églises et les synagogues de Palestine et de Jordanie[18]. Ce calife est, en effet, généralement considéré comme l'auteur du décret fanatique par lequel, comme l'écrit une chronique syriaque, "il ordonna, dans son Empire, la destruction de toutes les images et les figures, qu'elles aient été de bronze, de bois, de pierre, ou peintes". La destruction iconoclaste, des figures de la mosaïque qui décorait l'église Saint-Etienne et la restauration méthodique des parties enlevées témoignent d'une période de crise traversée par la communauté chrétienne après 756 et 785, mais, en même temps, de sa survivance après ces dates.

Si l'on admet que le phénoméne historique connu sous le nom d'iconoclasme doit être considéré comme un phénomène unique, même temporaire, l'année 785 peut devenir au point de vue historique une date importante de référence pour les destructions et les restaurations dont les mosaïques des églises de la région ont fait l'objet. Comme toutes les mosaïques de la région n'ont pas été défigurées, la découverte d'une mosaïque qui a conservé entières les parties figuratives, pourrait constituer un élément qui nous permettrait de conclure que l'église et, par conséquent, le village, lorsqu'il s'agit d'un petit centre habité, étaient déjà abandonnés avant la crise iconoclaste, fixée après 785.

Dans notre hypothèse de travail, l'intégrité des figures deviendrait un premier témoignage archéologique de la situation dramatique que l'invasion islamique a provoquée pour les populations chrétiennes de la région, une situation qui déclencha la dépopulation des villes, mais principalement et en premier lieu celle du territoire[19]. Dans ce contexte, on peut considérer comme significatif l'exemple du mont Nébo, toujours dans le territoire du diocèse de Madaba. Alors qu'aucune des églises du village du Nébo et de la vallée d'Ayoun Mousa fouillées jusqu'à présent ne montre de traces d'iconoclasme[20], la basilique de Moïse sur le sommet de la montagne a souffert de la fureur iconoclaste. Ainsi, tandis que le village et les églises ont été très vite abandonnées, le sanctuaire a continué d'être habité par les moines, qui ont restauré les dégâts causés aux mosaïques et ont pu poursuivre leur vie liturgique[21]. A Madaba, si le monastère dont faisait partie l'église des Apôtres, à l'extérieur de la ville, a été très vite abandonné, les mosaïques des autres églises ont été défigurées et ont fait l'objet d'une restauration afin que la vie religieuse ne connût pas d'interruption[22].

Quand Umm er-Rasas–Kastron Méfaa a-t-elle été définitivement abandonnée et quand a pris fin la vie urbaine? L'examen de la mosaïque de Saint-Etienne peut nous aider à résoudre cette question. Dans la nef nord et aux abords de l'autel, cette mosaïque présente quelques restaurations occasionnelles, postérieures à la restauration nécessitée par la destruction iconoclaste. Tandis que cette dernière restauration a utilisée les mêmes tesselles des figures endommagées, les restaurations ultérieures ont utilisé des tessons communément appelés "omayyades", du même type que la céramique peinte que nous avons récupérée dans la couche de l'abandon de la ville, sous l'éboulement des édifices. Si l'on prend en considération: 1) la date de la mosaïque, 785; 2) .l'intervention iconoclaste suivie de la restauration; 3) la réparation au moyen de tessons, nécessitée par un usage assez prolongé de l'église, on peut en déduire que cette céramique est certainement d'époque abbasside[23].

Conclusion

Après les trois premières campagnes, le témoignage archéologique nous porte à situer l'abandon de la ville d'Umm er-Rasas--Kastron Méfaa à l'époque abbâsside. Il faut parler d'abandon et non de destruction, parce que nous n'avons pas jusqu'à présent rencontré de traces de destruction violente.

On doit penser à un exode dont il faut encore préciser les causes: religieuses, politiques, économiques, ou simplement naturelles, telles une épidémie?

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[18] A. Grabar, *L'iconoclasme Byzantin. Dossier archéologique*, 1957, p. 105.

[19] E. Ashtor, *A Social and Economic History of the Near East in the Middle Ages*, London 1976 (ed. it. 1982), Chapter I.

[20] S.Saller-B. Bagatti, *The Town of Nebo*, Jerusalem 1949.

[21] S. Saller, *The Memorial of Moses on Mount Nebo*, Jerusalem 1941, II, pl. 103,109 f.

[22] Cf. Piccirillo, *Chiese e Mosaici di Madaba*, Jerusalem 1989.

[23] E. Alliata, "Nota sulla ceramica dello scavo di Umm er-Rasas", *LA*, 37, (1977) p. 221-231, tavv. 28-30.

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The Religious Factors in Settlement Patterns in Jerusalem in the Early Islamic Period

Jerusalem is better known to the Muslims by the names of Bait al-Maqdis (the holy house) or simply al-Quds (the holy); the latter is the most common name at the present (le Strange, 1890: 3). Al-Quds is one of the holiest three cities for Muslims following immediately Mecca and Medina. Its holiness is attributed to two principal reasons: The first stems from its being the first Qibla before Muslims were directed towards al-Ka'ba (sura II.144) and the second from the famous night journey of the prophet Muhammad between Mecca and Jerusalem. The description of this journey is clearly recorded in the Qur'an verse on Isra' to al-Masjid al-Aqṣa, where it says: [Glorified be He who carried His servant by night from the invoilable place of worship (Mecca) to the far distant place of worship (Jerusalem) the nighbourhood whereof we have blessed, that we might show him of our tokens! He only He, is the hearer, the seer]. According to historians, the journey was on the back of a wonderous animal, half horse, half man named al-Buraq (lightening). In addition to these two events many of the prophet's Ḥadiths indicate the holiness and the importance of this city for Muslims. The following Ḥadith attests to this fact: [You shall journey to but three Masjids (mosques), al-Masjid al-Ḥaram (at Mecca), al-Aqṣa (at Jerusalem) and my Masjid (at Medina)]. (Mujir al-Din 1973: 231).

Moreover, The holy city is of many virtues, which are well recorded in historical sources, most important of which are al-Wasiṭi, al-Suyuṭi, Mujir al-Din and al-Maqdisi.

Jerusalem became an Islamic city in the first half of the seventh century A.D. when Muslims entered the holy city in 14 A.H./A.D. 638 during the reign of the second caliph 'Umar ibn al-Khaṭṭab. According to historical sources the caliph 'Umar came personally and specially to take over the city from its patriarch at that time Sophronius, who refused to capitulate the city to any one except 'Umar. The sources also indicate that the caliph declared a special Ṣulḥ ('Ahd) to the Christians living in the city; its text developed in time to be known as the covenant of 'Umar. In this covenant the caliph guaranteed further religious freedom, safety of churches and secured the lives, fortunes and properties of the people living in the city (Mujir al-Din Vol. 1, 1973: 254).

Despite the above mentioned secured covenant given to the Christian inhabitants of the holy city, many of them according to the historical sources left the city and were replaced by Muslim inhabitants (Bahat 1983: 48), who were according to the Encyclopaedia of Islam (1980: 324) mostly from Medina. This, as a matter of fact, indicates the start of the Islamic era in the holy city of Jerusalem.

Early Islamic Jerusalem

Through surveying historical sources and travellers' documents, it appears that the early Islamic Jerusalem (from the time of 'Umar until the end of the Fatimid period) is extremely difficult for studying. The reason for this difficulty is attributed to the lack of documented information in these sources. The available information about the city is mostly of general nature dealing mainly with its character, climate, plants, etc. However, none of the historical sources provides a detailed picture of the layout of the city, in order to find out to what extent the city had been changed from its pre-Islamic status and what sort of changes or modifications were done on the plan and the structure of the city during the early Islamic period.

The important historians and travellers of this period include Arculf, Maqdisi and Nasir Khusru. Arculf is the earliest, he visited Jerusalem in A.D. 670 and lived in city for about nine months. He reports nothing about the Islamic city of Jerusalem except for his short description of the square prayer house: "on the spot where the temple once stood near the eastern wall, the Saracens have now erected a square house of prayer, in rough manner, by raising beams and planks upon some remains of old ruins; this is their place of worship and it is said that it will hold about three thousand men" (Wright 1948: 1-2).

Al-Maqdisi, a native of Jerusalem (d. 380 A.H./A.D. 985), indicates the character of the holy city and describes in detail the Aqṣa Mosque and the Dome of the Rock (Maqdisi 1906: 165-170). Nasir Khusru, a Persian traveller

visited Jerusalem in 438 A.H./A.D. 1035. He described the holy city in general indicating its beauty, buildings and markets in addition to a detailed description for the Aqṣa Mosque and the Dome of the Rock (Khusru 1970: 20-37).

The extant evidence of the scarcity of information is the new discoveries during the recent excavations which took place in the old city of Jerusalem. In the process of these excavations, archaeologists discovered few buildings which date back to the Umayyad period. The discoveries include a palace in the southwest corner of the Ḥaram enclosure from the outside, two paved streets and early Islamic houses discovered in the Jewish Quarter and Mount Zion. None of these discoveries is mentioned in any of the historical sources. Nonetheless, the discoveries would probably indicate that many other structures were built in Jerusalem during the early Islamic period and played an important role in changing the layout of the city, but they were not recorded in the historical documents.

The question as to what extent Jerusalem had been changed in the early Islamic period still stands. Mainly because if other places in the old city are excavated, additional new discoveries providing more information about the layout of the city may be found. According to scholars, the city underwent gradual change in its character but remained basically Byzantine Christian in design (Mazar 1975: 260). However, the extant remains and the new discoveries around the Ḥaram enclosure give indication that there was a significant change in the layout of the Christian city concentrated mainly in the eastern part of the city. This change can also be seen from the religious division of the city during this period — a division not imposed on the inhabitants of the city, but came about naturally as each religious community wished to live in one area separate from the members of the other faith (Bahat 1983: 52-53).

The Religious Factors

It is believed that Jerusalem was influenced by Islamic systems as soon as Muslims settled in the city, and there is no doubt that life was built on religious bases. In fact, many religious factors can be indicated in the holy city during the early Islamic period. Physical evidence of the religious factors is of two types: Architectural and ritual. The architectural evidence consists of religious building constructed in the early Islamic period, including mosques, khanqas, domes, cemeteries, minarets and miḥrabs.

Mosques: The most important religious factors in the Islamic religion. Muslims used to build them wherever they settled and they can be seen in any town or village in the Islamic world. The location of a mosque was usually in the centre of the town and often beside Dar al-Imara. The function of the mosque according to scholars is a place of assembly for religious, social and political meetings. In Jerusalem, it is recorded that Muslims erected a mosque soon after they entered the city, it was established as mentioned above by the caliph 'Umar (Wright 1948: 1-2), and was known later as al-Aqṣa Mosque (the distant place).

Al-Aqṣa Mosque was built by the Umayyad Caliph al-Walid ibn 'Abd al-Malik in A.D. 705, and is of great significance for Muslims, being second only to the mosques of Mecca and Medina, and the destination of Muhammad's night journey recorded in the Qur'an. Indeed, it is one of the holiest places of Islam. The Mosque was destroyed by earthquakes several times and underwent many restorations, during which some modification were carried out on its plan.

The other mosque which is related to this period in Jerusalem is 'Umar's Mosque. It was built, according to an inscription found in the Russian Hospice, near the Church of the Holy Sepulchre in A.D. 935, at the spot where the Caliph performed his prayers when arriving in Jerusalem (Bahat 1983: 53).

Khanqas: Another sort of religious Islamic buildings. The word khanqa, according to the Enyclopaedia of Islam, is a composite word of Persian origin meaning a building usually reserved for Muslim mystics belonging to a dervish order. Important evidence of the early khanqas in Jerusalem was recorded by al-Maqdisi. According to him, the khanqas in Jerusalem belonged exclusively to the theological ascetic sect of Karramiyya, which flourished in Khurasan, and a group of them was living in Jerusalem (Encyclopedia of Islam 1980: 65; al-Maqdisi 1906: 182).

Domes: Many domes were built in Jerusalem in the early Islamic period, mostly to commemorate reliogious phenomena and reflect the Islamic character. The most significant of these domes is the Dome of the Rock. It was built by the Umayyad caliph 'Abd al-Malik ibn Marwan, who allocated the taxes of Egypt for seven years to finance its construction. The Dome covers the Holy Rock from which Prophet Muhammad ascended to heaven on his night journey. The building underwent many restorations that maintained the original plan and design.

Another significant dome is the Dome of the Chain located on the eastern side of the Dome of the Rock, built also by 'Abd al-Malik ibn Marwan. It is similar in its design to the Dome of the Rock and was built to serve as a prototype to the great Dome or a store-chamber where money was deposited. Other smaller domes stand on the platform of the great Dome of the Rock. Two of them are located northwest of the Ṣakhra (the Rock) and commemorate the occurrence of the Prophet's night journey. These are the Prophet's Dome (Qubbat an-Nabi) marking the spot where he prayed while in the area, and the Dome of the Ascention (Qubbat al-Mi'raj) from where the Prophet ascended to heaven. In addition there is the Dome of Gabrael (Qubbat Jibril), commemorating the night of the ascention (al-Mi'raj), as the steed Buraq was tied up at this spot until the Prophet was ready to mount (le Strange 1890: 71-76).

Minarets: The minaret is an important architectural element which gives the mosque its distinguished character. It is not known wether al-Aqṣa had minarates at its first

stage. However, Sauvaire in his analysis and description of the al-Aqṣa Mosque indicates that the mosque had four minarets since the time of 'Abd al-Malik ibn Marwan — three of them on the western side and one on the northern side. He also indicates that the minarets which we see now are reconstructed on the ancient foundations (Sauvaire 1876: 125-126).

Miḥrabs (prayer niches): An architectural feature and a principal part of the structure of a mosque. The miḥrab is usually placed in the Qibla wall of the mosque, its main function being to indicate the direction of Mecca in prayer. Nasir Khusru, in his description of the al-Aqṣa Mosque, indicates many miḥrabs, three of them inside the mosque: Miḥrab 'Umar, Miḥrab Mu'awiya and the central main Miḥrab. In the area outside the mosque, he says that there were many beautiful miḥrabs occupied by groups of people (Khusru 1970: 23-24). There are in addition the beautiful miḥrab in the cave beneath the Holy Rock, and Miḥrab Dawood (David's Miḥrab) in the wall of Bait al-Maqdis (al-Iṣtakhri 1870: 57; Ibn Ḥawqal 1870: 141).

Cemeteries: Jerusalem has several Islamic cemeteries. The most important of which is that located behined the eastern wall near the Golden Gate. Two of the Prophet's companions are buried in this cemetery: Shaddad ibn 'Aws (al-Suyuṭi 1984, II: 29) and Thu al-Aṣabe' al-Tamimi (Dabbagh 1988, III: 100).

The second important cemetery in Jerusalem is Mamilla, which is the largest cemetery located on the western side of the city. Many important people were buried in this cemetery (Sauvaire 1876: 198).

The ritual religious factors on the other hand are mainly related to Muslim ceremonies and practices — these include the prayer (*ṣalāh*), the pilgrimage (*ḥajj*), feasts, animal sacrifice, Ramaḍan, etc.

Aṣ-Ṣalah: The most important religious ritual for Muslim and a fundamental part in the Islamic religion. Muslims practice it five times a day in addition to Ṣalat aj-Jum'a. According to Khusru the Ṣalah used to take place in the Mosque every Friday (khusru 1970: 23).

Visiting the holy places: Because of its sanctity people used to come to visit the holy places of Jerusalem. The religious value of Jerusalem is very clear in the Qur'an as it was the first Qibla and housed the third mosque in importance. In the Ḥadith the Prophet limited the visit to three mosques, the third being the al-Aqṣa Mosque. According to Khusru, people unable to go to Mecca in the pilgrimage time, came to al-Quds to visit the al-Aqṣa Mosque and make their sacrifices their. In some years the number of these people reached about 20,000 (Khusru 1970: 19-20).

Feasts: There are two main feasts for Muslims. Al-Aḍha (the feast of the sacrifice) which comes in the Ḥajj (pilgrimage) time and al-Fiṭer (the feast of breaking the fast) which comes after Ramaḍan. Both feasts have special ceremonies, such as special prayers, sacrifice, and Muslims visiting each other for blessing.

Animal sacrifice: A well-known practice by Muslims, done during the Ḥajj time and al-Aḍha feast or as offering to God. That of the Ḥajj time is well recorded by the Persian traveller Khusru (Khusru 1970: 20).

Al-Adhān (call to prayer): A Muslim religious rite, calling people for prayer. A special person named al-Mu'adhen calls five times a day, from a high place such as the minaret.

From what preceded we conclude that Muslims settled in Jerusalem from the time of 'Umar and came mostly from Medina. In addition, it appears that the gradual change took place in the layout of the Christian city in the early Islamic period, mainly in the eastern part. Evidence of that change can be seen in the standing remains and buildings recently discovered around the Ḥaram enclosure. As mentioned above, the religious factors marking Muslim settlement in the city took two forms. The first was architectural and was manifested in new building styles and features which are peculiarly Muslim. The second was ritual and reflected practices and ceremonials related to the basic pillars and teachings of the Muslim faith.

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Building Patterns in Umayyad Architecture in Jordan

Over recent years, several studies have been conducted with the hope of linking a number of constructions to the Umayyad period. These buildings, until just recently, had been the subject of dispute and were even considered to belong to other periods. Today, the findings reported in these studies have enabled us to analyse, in greater detail, the type of architectural structures built during the Umayyad period, despite the fact that such an analysis is essentially restricted to palatial or luxurious residences.

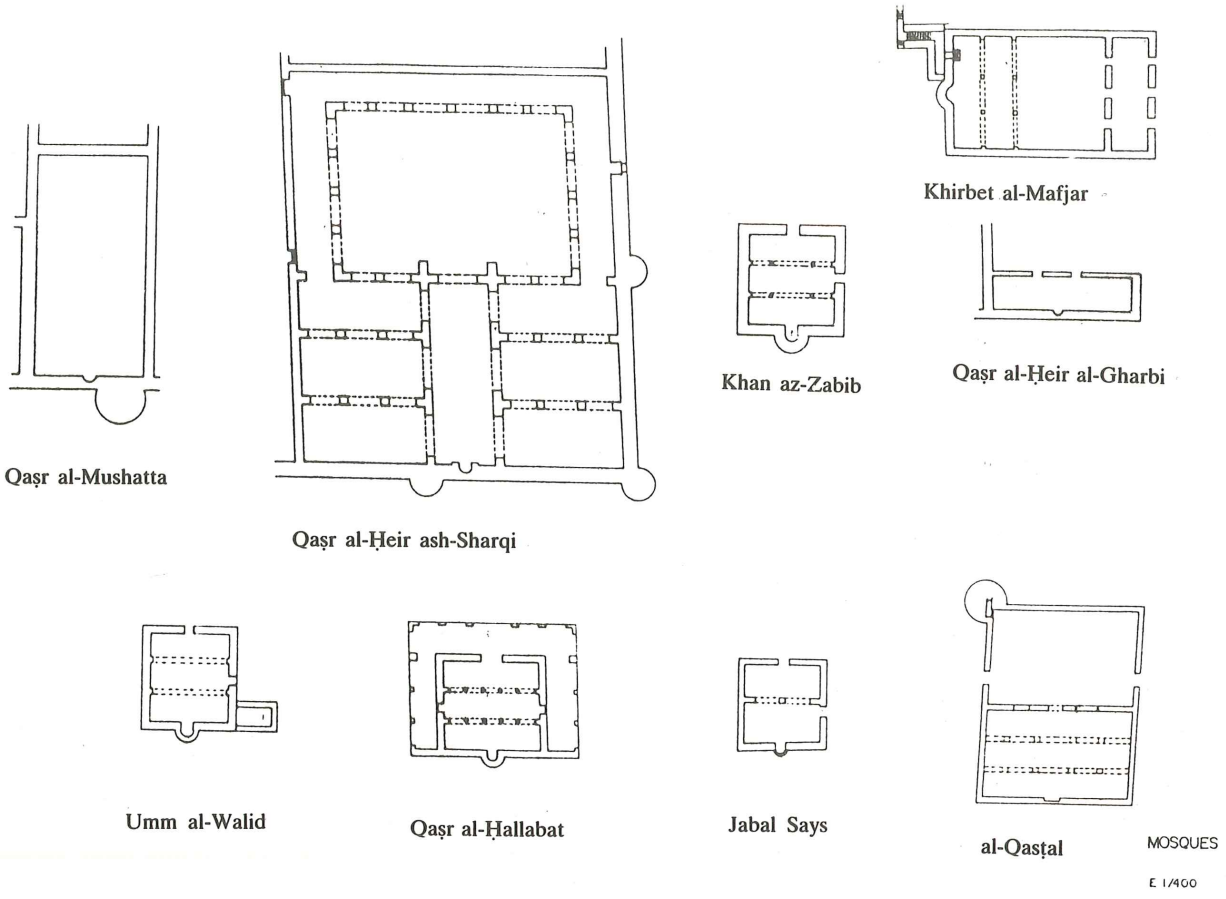
This present study, therefore, intends to focus on buildings of residential nature, always keeping in mind the scarce number of identifiable examples of Umayyad religious architecture that can be found today in Jordan [essentially confined to the mosques of Qaṣr al-Ḥallabat (Bisheh 1982), al-Qasṭal (Carlier and Morin 1984) and Umm al-Walid (King, Lenzen and Rollefson 1983), with the addition of the Qaṣr al-Mushatta mosque (Creswell 1969: 583), now an integral part of its palatial ensemble]. All of these mosques share several common features: a tremendous sense of simplicity; a two-to-three naved oratory lying parallel to the *qibla* where the naves are pillared and support a series of arches defining the division between each nave; and a reduced version of a circular *miḥrab* (with the exception of a rectangular *miḥrab* in the Qasṭal mosque; Carlier and Morin 1986), with no apparent decoration, at least none that has survived up to the present day.

Known examples of mosques built during the Umayyad period in Jordan are still much too scarce to make it possible to establish any type of design pattern or scheme to specifically define this type of construction. If we study the outstanding features present in the examples found throughout Bilad ash-Sham, despite the fact that there are no absolute models and that features vary from one example to another, the nave-parallel-to-qibla type, based on the Damascus model, tends to dominate (FIG. 1).

The results in a study of residential architecture prove to be even more varied. While examples of great palaces or prosperous private homes abound, there are few known examples of the common urban residence. Hence, it is necessary to establish certain hypotheses. Primarily, no modifications in the region's urban living style were effected during the Umayyad period, logically implying considerable continuity in the then-current way of living and in the architectural forms housing the city's most common functions. Moreover, given the eminent sense of religious tolerance inherent to the Islamic faith, Christian religious typologies continued to be built even after the Muslim conquest (Piccirillo 1984).

Therefore, the most outstanding or apparent changes that would have affected the existing architectural forms or types would correspond to those designed to fulfill new functions, such as those related to the new religion, or to the change in power and the new ruling class. Hence, it is not by mere coincidence that the greater part of the architecture attributed to the Umayyad period in Jordan, including the period's urban architecture, corresponds to palaces or prosperous private residences belonging to the new oligarchy who sought to forge a new image and mark the change of power, as O. Grabar has pointed out (Grabar 1973: ch. VI). We shall therefore focus on this type of architecture, even though we are unfortunately lacking in more detailed information on the humbler urban residence.

It is, nonetheless, interesting to study the few existing examples, as they do enable us to establish patterns and schemes which are comparable to more sumptuous models. As mentioned earlier, the examples of Umayyad houses which have survived in their entirety are few. These examples basically comprise the house discovered by G.L. Harding (Harding 1951) at the site of what is presently the Jordan Archaeological Museum on Jabal al-Qal'a in Amman, that discovered by Gawlikowski in Jarash (Gawlikowski 1986) and ruins of others found in Amman (Bennett and Northedge 1978) and Ṭabaqat Faḥl (McNicoll and Walmsley 1982; the complete ground plans of which remain unknown). In each of these Umayyad houses, several constants are apparent. Each has a courtyard, generally irregular in form, which functions as an element of distribution. All of the rooms to the house have either direct or indirect access to the courtyard. Access from outside the house or from the street is gained through one sole exterior door and a series of hallways and small



1. Plans of Umayyad mosques in Bilad ash-Sham.

vestibules. Entrance from the outside to the courtyard is direct, and no L-shaped passages are used to obstruct the vision of the visitor. Another common feature is at least one main room opening directly off the courtyard. Lastly, a hierachal arrangement is apparent in the remaining rooms, many of which are only indirectly connected to the courtyard by way of other rooms.

None of these features are considered to be new nor inventions of the period. The house-with-courtyard is one of the oldest known architectural forms, particularly prevalent in the Mediterranean area and surrounding regions. The plan of the most modest Roman or Byzantine house was very similar, an inheritance from the Hellenistic and earlier periods. What is of interest is how these patterns, which are ambigious, can be compared to the patterns found in more luxurious residences and, at the same time, how these patterns evolved to the more distinctive forms that more clearly define the attribution of these architectural arrangements to the Arab-Muslim culture.

Different typologies can be established in the architecture of the more sumptuous residences; either independent or grouped structures appearing in more or less compact ensembles. The independent type of construction corresponds to buildings organised around a courtyard; the courtyard generally being porticoed and two stories high, with the upper ground plan generally following the same guide-lines as the lower. This arrangement, considered a more orderly expression of the same pattern seen in the urban residences mentioned earlier, in some cases may appear in groups forming more extensive buildings or ensembles.

Rooms open off the courtyard and are either directly or indirectly connected to it. These rooms form secondary structures arranged around a main hall from which two or four adjacent rooms radiate. Other rooms may be added to this three- or five-room-group, yet there is no repetition of any particular type of pattern from one case to another. These secondary structures are arranged in varying numbers all along the perimeter of the courtyard, and the

number of structures appears to obey no special reasoning.

Those structures based on a main hall and two to four smaller-sized adjacent rooms, known as *buyut*, appear to comprise the simplest type of room-unit, and can be compared to similar, albeit not as regular, structures found in the urban house (FIG. 2) This functionally-logical pattern also appears in earlier houses, corresponding to the type assigned to the aedile. This pattern is well-defined in Roman times in the Governor of Buṣra Palace (Creswell 1969: 515), and later I believe this feature is identifiable in the Umm aj-Jimal praetorium (De Vries 1982: FIG. 11). In the Roman house, moreover, the main hall or *oecus* (from which other side rooms would almost always open off, even in cases where the greater complexity of this type of residence assigned the room functions and forms of access that were considerably more independent) generated ensembles comprised of three juxtaposed spaces. The most pronounced difference is that while in the Roman residence these three juxtaposed cells are the only ones in the entire house, the Umayyads tended to have multiple units of this type. I feel that such a pronounced difference is clearly indicative of a type of social organisation which is markedly different from the Umayyad precursors, even though they make use of the preceding architectural forms.

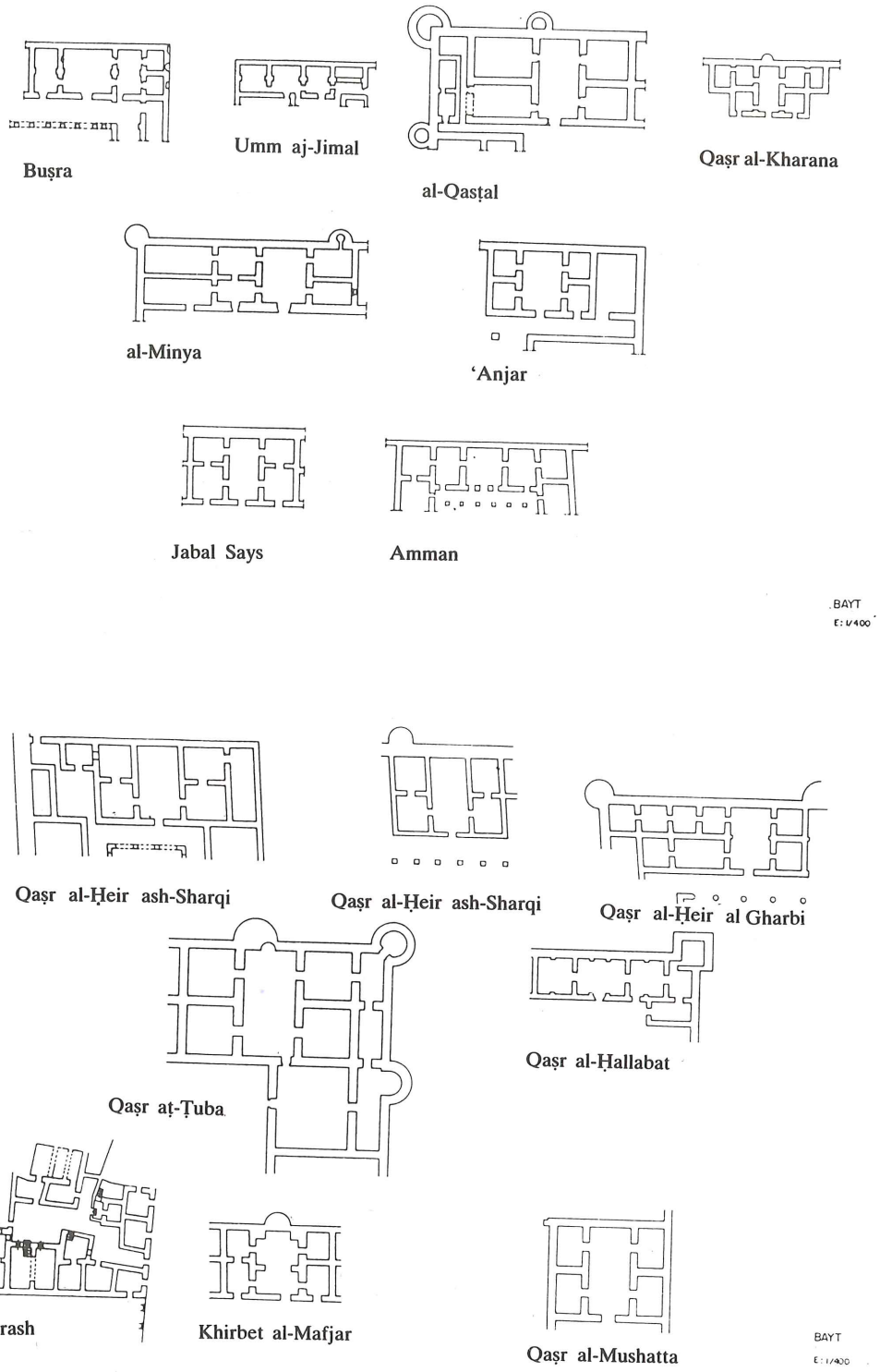
As mentioned earlier, the side rooms tended to vary in number between two or four, with the latter solution dominating in the majority of the desert palaces. The two-side-room pattern appears to be more characteristic of palaces of Persian influence, as is the case in Amman (Almagro 1983). Yet no specific functional reason appears to exist explaining these differences, and it would seem that they are based on either technical reasons related to the actual building of the structure (the wall dividing each of the side rooms conteracts the thrust of the ceiling over the main hall, and that of each side room) or based on reasons related to tradition.

The problem posed is that of discerning what functions were assigned to each of these structures and what daily living was like within each. Detailed narrations describing daily life in the houses or palaces of this period do not abound, a fairly common occurrence in Arab literature. References to the architecture of the period are few, essentially poetic in nature, difficult to interpret and, in any case, fairly inconcrete. It does seem apparent, however, that the different architectural forms bore no excessive relation to the functions carried out within, as the way of life was not determined by set schemes or forms, and even less related to a specific architectural framework. The main hall of the *bayt* must have been the site where most of the daily occurrences took place, apt for receiving, conversing, for an artisan to carry out his profession, a place to eat and, in some cases, even to sleep. The side rooms would have served as places to store domestic artifacts or as sleeping quarters. The more private rooms, many times solely connected to the main hall, appear to have been restricted to the exclusive use of family members. The kitchen, or place where food was prepared, does not appear to have been situated in any of these rooms. Perhaps this function was assigned to the courtyard, as in the case of the desert bedouins, and a fireplace for purposes of heating, warming bread or preparing infusions was situated in the main hall. Nonetheless, there is no precise archaeological evidence, that we are aware of, confirming these conclusions, and other rooms connected to the courtyard, bearing no apparent relation with the *buyut* could also have served as the kitchen. The presence of latrines constitutes another architectural constant, there being one latrine per *bayt*.

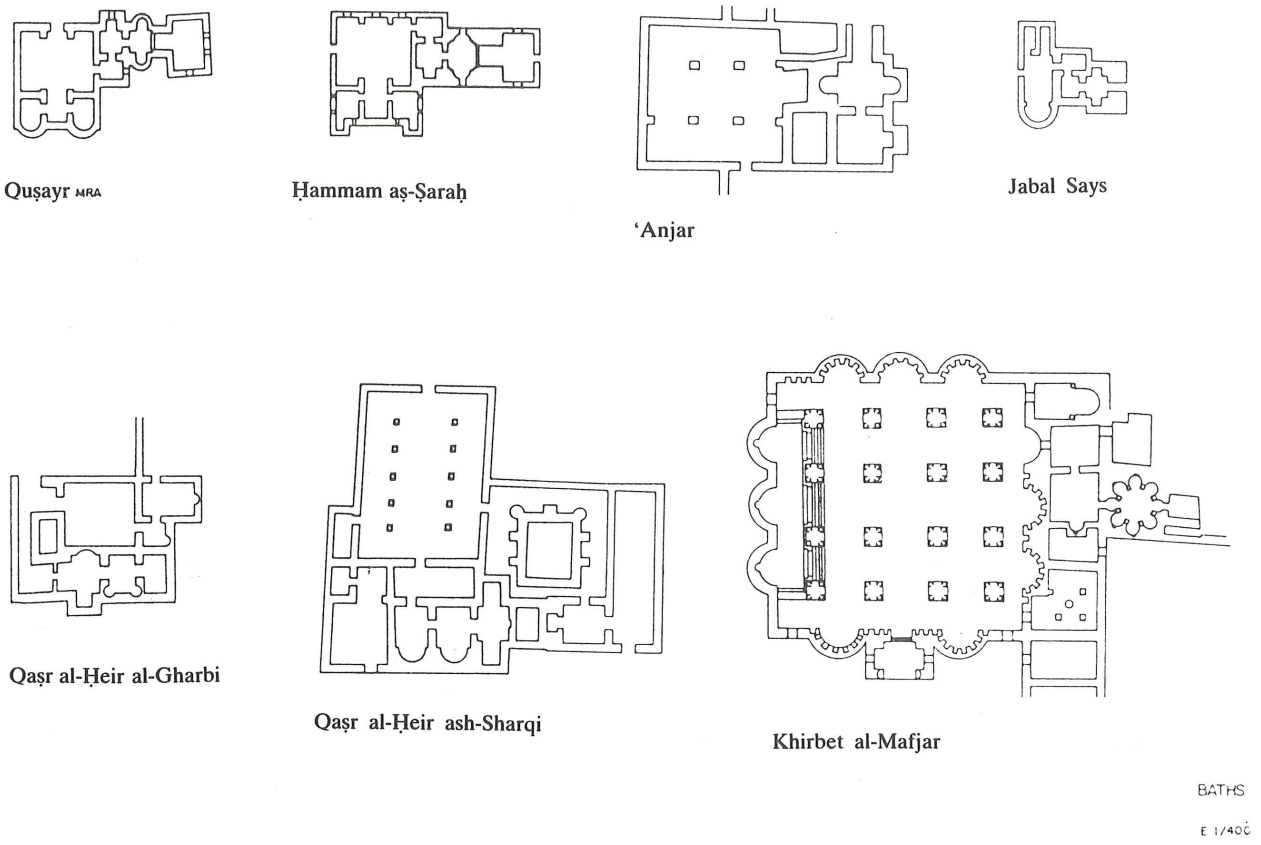
The next problem posed is that of discerning why so many units or *buyut* were organized around one sole courtyard. Two causes could be deduced. One supposes a lack of formal resources to assign to each domestic function, thus obliging the architect to repeat a specific scheme as many times as was deemed necessary to occupy or fill up a preconceived space in relation to the importance of the building. In such a case, different functions would be assigned to like spaces, thus posing the difficulty of being able to assign the same number of functions to the number of spaces available. Another interpretation, which in our opinion would come closer to reality, is to suppose a type of tribal or patriarchal-family social arrangement occupying each of the buildings, in such a fashion that each secondary family unit would reside in a *bayt*. This would designate the courtyard as the site for community living and social interaction. It is difficult, however, to distinguish a hierarchal pattern between *buyut* in specific buildings, hence making it impossible to admit in such cases that the social or family hierarchal order was manifested in architectural forms.

This pattern found in the Umayyad house is most probably an adaptation of previous architectural forms designed to accommodate a type of social organisation deeply rooted to the clan or tribal concept, and could be considered a transposition from the bedouin camp system based on the use of tents to a permanent form of architecture.

In attempting to establish a typology to define these buildings or to study their evolution, two basic types may be discerned. The first would be the one-courtyard type off which several *buyut* would open. This model corresponds to the majority of the known palaces, such as al-Qaṣṭal (Carlier and Morin 1984), Qaṣr al-Ḥeir al-Gharbi (Schlumberger 1986), the minor enclosure of Qaṣr al-Ḥeir ash-Sharqi (Grabar *et al.* 1978: FIG. 6D), Khirbet al-Mafjar (Hamilton 1959), Qaṣr al-Ḥallabat (Bisheh 1982) and the unexcavated area of Quṣayr 'Amra (Almagro *et al.* 1975). The other type would be that comprising several groups of courtyards. Examples of this type are the Amman *alcazar*, the main enclosure of Qaṣr al-Ḥeir ash-Sharqi (Grabar *et al.* 1978: FIG. 23D) and Qaṣr al-Mushatta (Creswell 1969: FIG. 644). Qaṣr aṭ-Ṭuba could be considered an intermedi-



2. Plans of *buyut* in Bilad ash-Sham.



3. Plans of Umayyad baths in Bilad ash-Sham.

ate model as it is comprised of two similar and juxtaposed enclosures, yet with an independent exterior entrance. The case of Qaṣr aṭ-Ṭuba is particularly interesting in that it entails an element of evolution; each *bayt* has its own courtyard which is connected to a central, main courtyard. In Qaṣr al-Mushatta, the *buyut* still visible today are arranged in pairs, each with its own courtyard. If Creswell's proposition proved to be true, the arrangement or lay-out of these external areas would correspond, as indicated earlier, to the courtyard group model (Creswell 1969: FIG. 661).

In some cases, independent halls existed within the *buyut* or were even located outside the building. These halls were clearly conceived to fulfill functions related to protocol and were endowed with a designated position of distinction which clearly marked the social hierarchy order. Such is the case of the Northern Hall of the Amman Palace (Almagro 1983: 60-107) or the Basilican Hall with trefoil apse in al-Mushatta (Creswell 1969: 587).

In other instances, this type of audience hall was found in a completely autonomous building linked to a bath, an architectural pattern which was frequently repeated in Umayyad constructions and even perpetuated by the Umayyads who settled in Córdoba. These halls, used for granting audiences or accommodating festive activities, are always connected to residential buildings such as those we have just described (see FIG. 3) In Quṣayr 'Amra, this residential structure once stood just several hundred metres away. Hammam aṣ-Ṣaraḥ (Creswell 1969: 498) must have been the *maylis* and bath of Qaṣr al-Ḥallabat. In Khirbet al-Mafjar (Hamilton 1959), the bath was comparable in size to the residential building Qaṣr al-Ḥeir al-Gharbi (Schlumberger 1986), Qaṣr al-Ḥeir ash-Sharqi (Grabar *et al.* 1978: FIG. 42D) and Jabal Says (Brisch 1963) similarly had a bath and hall immediately next to them. 'Anjar (Creswell 1969: 480) likewise had its bath with basilican hall and ceremonial niche or area of distinction. Although this hall is, on occasions, considered an apodyterium, the form seen in Quṣayr 'Amra, in Ḥammam aṣ-Ṣaraḥ, in Jabal Says and above all in Khirbet al-Mafjar leads one to think that the bath must have played an important role in the Umayyad customs and ceremonies, as there seems to be no other apparent reason to explain this specific pattern (Grabar 1973: ch. VI). In fact, the palace built by the Umayyads of Córdoba, in the palatial city of Madinat az-Zahra, whose main hall was built by 'Abd al-Raḥman III

had a bath in its immediate proximity (Vallejo 1987). This particular bath cannot be explained as having a mere utilitarian function, as it occupies an entire contiguous side of the hall and leads out into the garden area, with numerous doors opening out into the same. This further goes to prove that for the Umayyads, the bath formed a part of the norms established by ceremonial protocol, perhaps referring to a symbol of some particular status or hierarchal position that was intended to be highlighted in some fashion. This is the only apparent reason for explaining the existence of independent buildings designated to fulfill this specific function, assigned such marked importance and endowed, in some cases, with a pattern of smaller audience halls. In cases such as Quṣayr 'Amra and Ḥammam aṣ-Ṣaraḥ, the halls are comprised of two alcoves, representing once again the *bayt* pattern with one central hall or room and two immediate side rooms.

The types of baths and their use was inherited by the Muslims from the Romans and the Byzantines, and they immediately became second nature to the Muslim peoples, perhaps because they were encountered all throughout the Roman Empire. The evolution of the bath, with the disappearance of the frigidarium, began somewhat before Muslim times, yet it is during this period that the bath began to decidely evolve. The lay-out or architectural arrangement of the Umayyad bath presents a clearly distinct personality, distinguishing it from earlier and even later models.

To conclude, it can be affirmed that Umayyad architecture built in Jordan and in the areas immediately surrounding Jordan during the first half of the eighth century, inherited architectural forms and patterns from earlier periods, common to different civilizations that settled in the Mediterranean area, and to which the Umayyads combined Oriental elements originating from Persia and Sassania. Nonetheless, these elements acquired a personality of their very own either because they were adapted to meet new functions, such as in the case of the mosques, or they were used within a social organisation and type of living style that was in part different from the type of function housed previously by the same architectural structures. In a word, the Umayyad architecture of this region presents a clearly distinguishable personality both from its precedents and from the subsequent inheritance, influencing later Islamic architecture by setting the patterns that were followed until a clear differentiation between Muslim architectural forms and those of other cultures was established.

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Installations Omayyades à Jérash

On admettait encore au début des années 1980, que i'histoire de Gérasa s'arrêtail pratiquement avec la conquête islamique. Rien, parmi les ruines alors visibles, ne suggérait une occupation de quelque importance après 634. Le grand dégagement des années 30 négligeait ou méconnaissait les vestiges tardifs; des mentions disparates des murs "arabes" sont inutilisables de même que celles de l'occupation tardive sur la place ovale (Harding, 1949; 1967: 90) ou du "village arabe" sur la place du tétrapyle sud (Kraeling 1958: 105, 108 sq). C'étaient pourtant des quartiers entiers installés sur le dallage antique, qui furent rapidement dégagés sans que le matériel céramique ou autre fût publié, même à titre d'exemple. Les sondages que nous avons menés en 1983 dans la maison du quart NO de la place du tétrapyle indiquent que la dernière utilisation de cet édifice, partiellement dégagé naguère remonte au 9e siècle.

La fouille d'un quartier d'habitation à l'Ouest de l'église Saint Théodore n'a eu droit qu'à une publication sommaire (Fisher-McCown 1930:10-36; Fisher 1938:281 sq). A en juger d'après les documents disponibles, la céramique omayyade était systématiquement appelée byzantine, ce qui ne facilite pas l'appréciation des conclusions d'ensemble, très peu explicitées dans le texte. Ansi, les auteurs estiment que "purely Arabic wares are scantily represented", ce qui veut dire, selon toute probabilité, qu'ils n'ont retrouvé que peu de céramique glaçurée (qui apparaît au 9e siècle). Ils affirment aussi que "the Arab period left few traces in this section of the city, except in coins and lamps". En réalité, ces catégories d'objets ont été seules reconnues dans les maisons que les fouilleurs datent du 5e au 7e siècle et qui sont remblayées, ce qui empêche toute vérification.

Ainsi, la thèse formuiée par les fouilleurs anglo-américains (Kraeling 1938: 67-69) et généralement acceptée depuis, voulait que la ville tombât lentement en ruines sous le gouvernement islamique, la population s'installant dans de misérables bicoques sur la chaussée antique. La communauté chrétienne y aurait vivoté encore, en maintenant péniblement en usage certaines églises, qui souffrirent d'ailleurs des mesures iconoclastes prises par le calife Yazid II (Crowfoot 1938: 172-173). Le coup de grâce aurait été porté par le grand tremblement de terre survenu en 746, que l'on tient également pour responsable de la destruction de Pella, de Mafjar et d'autres sites sur les deux rives du Jourdain.

Une survie limitée dans les ruines, sans grand intérêt historique, telle était en somme l'opinion générale, consacrée par l'avis de G. Lankester Harding (1967: 89-90). Selon cet auteur, la ville omayyade éait réduite à un quart de la surface antique, encore que l'on voit mal comment une telle appréciation ait pu être formulée à partir des résultats du dégagement.

Cependant, les sondages d'Assem Barghouti ont démontré, en 1975-76, une belle continuité urbanistique depuis l'époque hellénistique jusqu'à la fin du 8e siècle, et ceci en plusieurs endroits, notamment sur le pourtour de la place ovale et à l'extrémité Ouest du decumanus Sud (Barghouti 1982:219-221, FIG. 14). Plus spectaculaire était la découverte, par Aïda Naghawy en 1981, d'une mosquée omayyade. Ce modeste établissement (13m sur 10m), installé dans un monument romain et remployant pour son *miḥrab* une niche antique, constitue le premier monument islamique connu de Jérash (Zayadine 1986:91).

Des vestiges de l'époque islamique ont été identifiés sur tous les chantiers du Projet international mis en oeuvre à partir de 1981, avec cependant une densité inégale. Ainsi, le secteur du sanctuaire de Zeus, fouillé sans interruption depuis 1982 par la mission française dirigée par Jacques Seigne, n'a-t-il été occupé que d'une façon tout à fait marginale, ce qui est également vrai pour le théâtre Nord, à l'autre bout de l'espace urbain.

En revanche, le secteur que j'ai eu le privilège d'étudier, situé sur le decumanus Sud, a fait surtout connaître une grande maison de l'époque omayyade. Elle s'inscrit selon toute apparence dans une trame continue, dont d'autres éléments ont été reconnus

immédiatement au Nord (secteur Fisher McCown près de Saint Théodore), à l'Ouest (secteur A de Barghouti), à l'Est près du tétrapyle sud, enfin au Sud, sur la place ovale. On sait que de larges surfaces *intra muros* n'ont jamais été bâties, par exemple au nord du théâtre, alors que l'on ignore tout de la moitié orientale de la ville, recouverte par l'agglomération moderne. Il n'y a donc, pour le moment au moins, aucune raison d'imaginer la Jérash omayyade comme diminuée par rapport à la ville byzantine.

Si les grands monuments de l'Antiquité, tels les sanctuaires ou les théâtres, étaient laissés à l'abandon, on n'a pas cessé d'utiliser des églises: nous en avons la preuve pour celle de l'évêque Isaïe, près du théâtre Nord (Clark 1986:303-341), et pour celle de l'évêque Marianos près de l'hippodrome (Gawlikowski-Ali Musa, 1986: 137-162). L'une et l'autre ont livré un matériel datable du 8e siècle; on manque malheureusement de renseignements analogues pour d'autres églises, mais la mutilation systématique des mosaïques, qu'elle fût imposée par Yazid (720-724) ou consécutive au mouvement iconoclaste qui commence dans l'Empire sous Léon II, en 726, deux ans donc après la mort de l'excentrique calife, implique la même datation pour certaines.

La maison que nous avons fouillée (Gawlikowski 1986:107-136) fut construite sur le terrain nivelé après un tremblement de terre. Sur ses deux côtés, la maison jouxte un haut remblai, dû aux dégagements effectués après le séisme. La construction est bien datée par les trouvailles numismatiques: d'une part des monnaies de Constant II (641-668), les dernières pièces byzantines ayant eu cours en Syrie-Palestine, trouvées dans le remblai (en profondeur et en surface), d'autre part des pièces arabo-byzantines frappées à Scythopolis (Beisan) et à Jérash même, ''scellées'' sous le sol de la maison. La datation exacte de ce dernier monnayage n'est pas assurée, mais il est raisonnable de le placer vers le milieu du 7e siècle, sinon plus tard (Bates, 1976). Par conséquent, j'ai proposé de reconnaître dans le séisme qui avait précédé la construction celui qui frappa la Syrie-Palestine en Juin 658, selon le témoignage de Théophane (Grumel 1958:479; Kallner-Amiran 1950-51:226). Une découvert récente de J. Seigne corrobore notre identification: l'écroulement du couloir voûté de la terrasse inférieure de Zeus ensevelit sous les décombres un troupeau de chèvres; l'âge d'un chevreau indique que le cataclysme eut lieu aux mois de mai-juin et de plus une monnaie byzantine à contremarque arabe renvoie au début du gouvernement musulman (Seigne, rapport inédit de 1984, aimablement communiqué par l'auteur).

La reconstruction partielle de la ville coïncida ainsi à peu près avec l'avènement des Omayyades en 661. La maison était encore utilisée au niveau du sol d'origine au moins en 770 (date d'une monnaie), mais elle était à cette époque partagée en trois, sans doute entre les membres d'une famille. Elle fut détruite, vers la fin du 8e siècle, par un autre tremblement de terre.

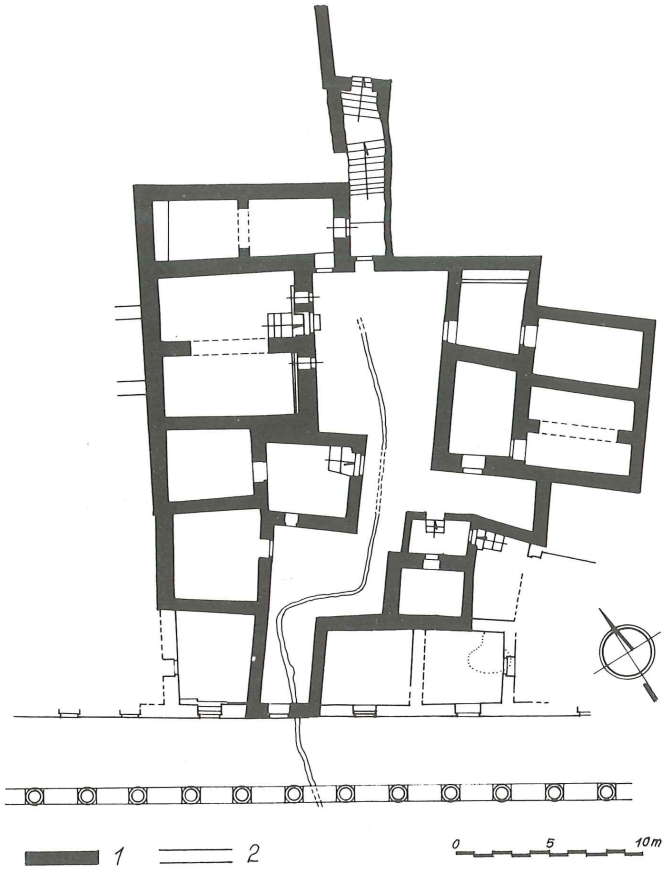
Le plan de cette maison (FIG. 1) était déterminé par des vestiges plus anciens qui y sont inclus, et qui ne diffèrent d'ailleurs pas, par leur appareil, des murs du 7e siècle. Il en résulte une disposition irrégulière des pièces autour de la cour, qui avait elle même une forme apparemment capricieuse. Les pièces sont souvent en contrebas de la cour; on distingue deux salles de séjour, munies l'une et l'autre de fenêtres, et trois unités d'habitation, composées chacune d'une pièce donnant sur la cour et d'une autre pièce au fond, dépendant de la première. Il est remarquable qu'il n'y ait eu aucune installation de cuisine ni de bain, le seul aménagement sanitaire consistant en un égout couvert.

La maison diffère notablement du modèle gréco-romain. Il reste à savoir dans quelle mesure ce modèle était suivi à Jérash à l'époque byzantine, voire romaine. La question reste en suspens faute de données, mais il n'y a aucune raison de croire que l'avènement du régime islamique ait dû amener un changement immédiat dans les modalités de l'habitat. Le nouveau gouvernement laissait en effet une liberté presque totale dans le domaine urbanistique.

La communauté chrétienne réussissait en général à conserver ses lieux de culte et trouvait parfois les moyens d'en construire de nouveaux (Piccirillo 1983). A Jérash, où l'on compte à ce jour quinze églises fouillées (la plus récente étant de 611), le besoin de nouvelles fondations ne se faisait sans doute pas sentir. En revanche, la communauté musulmane devait rester limitée en nombre, pour autant que l'on puisse en juger d'après la petite mosquée située sous le viaduc.

Dans une excellente étude qui me semble marquer une étape dans l'histoire de la période considérée, Hugh Kennedy a retracé à grands traits le passage de la *polis* antique à la cité musulmane (Kennedy 1985). Il se caractérise avant tout par l'occupation privée des grands monuments publics et des espaces civiques, que Kennedy explique par la vocation commerciale de la cité médiévale, contrastant avec le caractère aristocratique des élites urbaines du monde gréco-romain. D'où les empiètements sur la chaussée, qui traduisent l'attrait des commerçants pour cet espace intéressant.

La voirie de Jérash antique est dans sa partie actuellement dégagée, entièrement libérée des constructions adventices étudiées sur lesquelles on ne



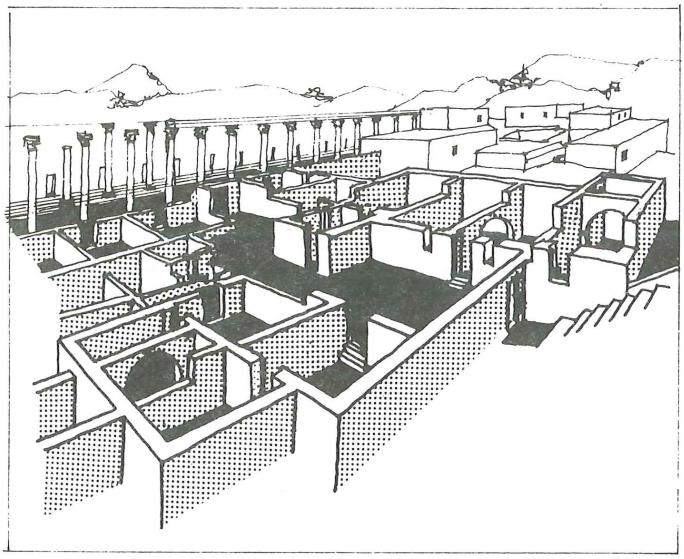
1. Plan de la maison omayyade (milieu du 7e siècle). Relevé A. Ostrasz.

possède aucune documentation. Selon l'appréciation de G. Lankester Harding, celles qui occupaient la place ovale ne dataient que la fin du 8e siècle, ce qui correspond parfaitement a nos constatations sur le decumanus Sud: la maison omayyade (FIG. 2) respectait le portique adjacent comme l'espace public, et c'est seulement dans la seconde moitié du 8e siècle que ce portique lui fut annexé; quant à la chaussée, tout ce qui l'encombrait a été enlevé, mais à la limite du dégagement apparaissent des constructions tardives de date indéterminée.

Le projet international a surtout permis d'apprécier la continuité de la production céramique de Jérash du 6e au 9e siècle. L'évolution en est lente et cohérente, assez indépendante des tendances générales. Le dernier type de céramique largement répandue que l'on retrouve à Jérash est représenté par les imitations de la pseudo-sigillée (Late Roman C), mais il développe, vers la fin du 6e siècle, une variante à peinture, bien locale (les "*Jerash bowls*"). Plus tard, la diffusion des types de céramique omayyade est souvent limitée à la Jordanie. Certains de ces types constituent sans doute la production spécifique de la ville, telles les lampes à tête d'animal, qui sont comme la marque de l'époque omayyade à Jérash, mais n'apparaissent que rarement ailleurs (Day 1942; Bagatti 1970).

Jérash s'est révélé en effet comme un grand centre de production céramique. On compte à ce jour, dans les limites de la ville, plus de vingt fours de potier, tous de l'époque islamique. Ceux qui ont jadis été fouillés dans la cour du sanctuaire d'Artemis, par Crowfoot et Fisher, datés du 5e siècle (Fisher 1938b: 132-138), ont été récemment réétudiés (Pierobon, 1983-48). Le résultat est formel: tout le matériel céramique de cet ensemble industriel remonte à l'époque omayyade, notamment de très nombreuses lampes. Cette vérification permet de corriger de la même façon la date des fours du quartier Saint-Théodore (Fisher 1983a:285-287, plan XLVI). D'autre part, les fours du théâtre Nord (Schaefer 1986:411-460), datés par ces auteurs de la première moitié du 8e siècle, sont identiques à ceux que l'on a retrouvés dans la maison omayyade (Gawlikowski 1986:117, Pl.IX), et qui sont nécessairement postérieurs à la ruine de cette maison, survenue après 770. L'aspect des poteries découvertes avec ces derniers indique d'ailleurs, en effet, une période légèrement plus avancée: des bols du type "*cut-ware*" ont été également retrouvés au théâtre Nord, mais les lampes en amande décorées de rinceaux de vigne, ainsi que la céramique peinte en rouge, manquaient. Elles indiquent une date remontant à la fin du 8e siècle, avant l'apparition, au siècle suivant, de la céramique glaçurée qui n'est représentée ici que sporadiquement, dans la couche de surface.

De hauts bols décorés (FIG.3) de festons peints en rouge constituaient le produit type de l'un des fours situé au bord du decumanus Sud. Ils ressemblent à ceux de la série récemment découverte à Rujm al-Kursi près d'Amman (Abdel Jalil Amr 1986a), mais leur décor paraît moins tardif; ceux-ci portent en effet des entrelacs stylisés très élaborés que l'on voit sur quelques tessons seulement dans notre secteur à Jérash. Il s'agit encore d'un type local dont l'aire de diffusion comprend principalement la vallée du Jourdain, mais qui est aussi attesté à Ḥallabat. Je ne peut accepter la dataion du fouilleur de Rujm al-Kursi, fondée exclusivement sur un malentendu numismatique: les *fulus* réformés en 697 par Abd el Malik ont été frappés jusqu'au début du 9e siècle (Bates 1976) et ne sont pas datables plus précisément à moins de porter la mention de l'année, ce qui n'est pas le cas ici. Notre appréciation du contexte stratigraphique à Jérash est confirmée par l'absence de bols à décor semblable parmi les poteries de Pella, dont la succession s'arrête, selon les fouilleurs, avec le tremblement de terre de 764.

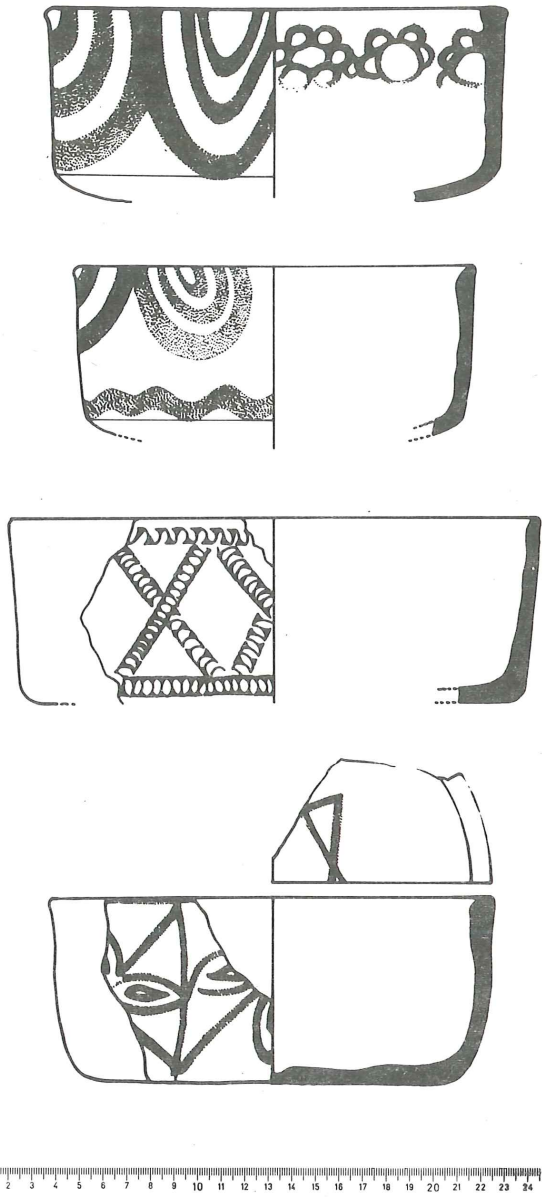


2. Reconstitution partielle de la maison omayyade, par A.Ostrasz.

Cette date est rendue probable, pour Pella, par des trouvailles numismatiques, en particulier celle de quatre dinars de l'an 117AH/AD 735, trouvés avec le squelette d'une victime (McNicoll 1982). Le même séisme a été pris comme repère chronologique pour Tibériade, Khirbet el-Mafjar et Jérash (Abel 1927; Baramki 1940; Kallner-Amiran 1950-51:226); on l'admet en général pour tout site omayyade, pourvu qu'il y ait des traces d'une secousse. L'expérience de tous les jours prouve pourtant que les tremblements de terre, même particulièrement désastreux, ne s'étendent heureusement jamais à tout un pays. Un renseignement contemporain n'est par conséquent valable que pour les lieux qu'il nomme expressément, alors que des catastrophes ont bien pu affecter certaines villes sans qui'il en reste dans nos sources une mention écrite.

Le grand séisme de 746 nous est rapporté par le chronographe Théophane (Migne, PG CVIII, 852): "un grand tremblement de terre se produisit en Palestine, sur le bord du Jourdain et toute la Syrie, le 18 janvier à la 4e heure, avec une telle violence que d'innombrables myriades de personnes périrent, que des églises et des monastères s'effondrèrent, surtout dans le désert de la ville sainte" (Abel 1933:53-54; le texte grec est repris presque mot par mot par Cedrenus, *PG* CXXI, 885).

Ce désastre ne fut pas le seul à cette époque. Le même Théophane en rapporte un autre, le 9 mars 856: "un grand séisme a frappé cette année, à travers la Palestine et la Syrie". Severus ibn al-Muqaffa, l'auteur d'une histoire en arabe des patriarches coptes, relate pour sa part, en des termes sans doute exagérés, un grand séisme qui aurait détruit



3. Bols à festons, d'un four installé dans la maison omayyade (fin du 8e siècle).

"beaucop de maisons dans toutes les villes et personne n'en fut sauvé, pas une âme; de même à la mer, de nombreux bateaux ont coulé cette nuit. Cela est arrivé à travers tout l'Orient, depuis la ville de Gaza jusqu'aux plus lointains confins de la Perse... six cents villes et villages, avec une grande destruction des gens et des bêtes" (Evetts 1910: 139-140). L'événement n'est pas exactement daté, mais il survint sous le calife Marwan II (744-750). Malgré la coïncidence de cette fourchette chronologique, le séisme en question est différent de celui de 746, parce qu'il a frappé de nuit, détail qui a toutes les chances

d'être authentique, alors que le tremblement de terre dont parle Théophane est survenu à la quatrième heure, soit en fin de matinée. D'autre part, la chronique de Michel le Syrien (II, 509-510, éd. Chabot) rapporte la destruction de plusieurs villes de Syrie, dont Tibériade, Damas et Bostra. Cette catastrophe est datée de 749; elle est sans doute identique à celle que raconte Severus et que mentionne également Théophane pour l'année 749/ 750 (Grumel 1958: 479).

Il n'y a aucune raison de chercher à Jérash la trace de l'un de ces sinistres. Nous avons été amenés, on l'a vu, à donner à la destruction de la maison omayyade une date aussi tardive que le dernier quart du 8e siècle. Le séisme n'a pas arrêté la production de céramique qui s'installa dans les ruines.

Comme le montre l'évolution de la poterie, la ville omayyade de Jérash continuait simplement la ville du 6e siècle, aves la même population fréquentant les mêmes églises (une bonne partie des lampes portent des croix ou d'autres symboles chrétiens). Un atelier monétaire y fut établi pour frapper des pièces imitant les *folles* byzantins, toutes semblables à celles de Scythopolis mais inscrites en grec *Gerasôn*. Cette production arabo-byzantine n'est pas datée par elle-même, mais semble pourtant représenter le premier numéraire omayyade (Bates 1976).

Un siècle plus tard, les potiers qui se sont mis, dans les années 740-750, à signer leurs lampes (Clermont-Ganneau 1886, 1887; Day 1942; Abdel Jalil Amr 1986b), sont chrétiens ou musulmans, s'appelant Théodore fils de Stéphane ou Djayrûn ibn Yussuf, mais toujours arabophones. La communauté sub-byzantine de Gérasa a ainsi parfait sa mutation.

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Islamic Settlement in Arḍ al-Karak

Archaeological field surveys of different regions of Jordan show similar variations in settlement numbers throughout the Islamic centuries. The number of sites peaked in Byzantine times, and declined by more than 50 percent under the Umayyads. Abbasid sites were completely absent from some survey areas, and in others declined by more than 50 percent. In all regions, the number of Ayyubid/Mamluk sites increased, and occasionally approached but rarely exceeded the number of Umayyad sites. For the Ottoman period, there was considerable variation from region to region: in all but one case, the number of sites remained constant or declined, and in some areas no site was observed. Hashemite site numbers are significantly lower than Ottoman. Within this general pattern, settlement south of Wadi al-Mujeb suffered a sharper decline in the early Islamic period, and a less remarkable recovery in Ayyubid/Mamluk times. Arḍ al-Karak seems to fit the general pattern (Miller 1979; Worschech 1985a; 1985b; 1986).

Most of these reports conflict strongly with the historical evidence as reviewed, for example, by Alan Walmsley (1987), but sufficient methodological weaknesses can be found in most of the field surveys to call their conclusions into doubt, at least for the early Islamic period.

The first weakness lies in the analysis and presentation of ceramic data in terms of historical or political periods — Byzantine, Umayyad, Abbasid etc. Of course, no correlation between political events and ceramic style is necessarily implied, and these periods are usually conventional substitutes for actual dates. But the absolute chronology and regional variation of early Islamic ceramics in Jordan is still generally unknown, and there is considerable variation in the definition employed by archaeologists of certain ceramic phases (Falkner forthcoming). Thus, any attempt to assign even approximate dates to these ceramic phases is premature, can look ridiculous, and may obscure regional variations.

Second, the 'type-fossils' of early Islamic pottery are at present mainly derived from a few sites to the north of al-Mujeb. This may obscure regional variation in ceramic styles. Walmsley has drawn attention to the strong contrast between the Umayyad and Abbasid ceramics from Pella, Jarash, and Amman, and those from Udhruḥ and Aqaba, and has suggested that "the supposed vacuum in the settlement history of south Jordan after the Islamic conquest...is an archaeological fiction, created by an ignorance of the material culture from the Early Islamic, 'Abbâsid and Fāṭimid periods in the region" (1987: 182-183).

Third, there is little consistency in the manner in which the various surveys were conducted. There seems to have been great variation in the sampling strategies employed, and in the level of intensity at which the surveys aimed. These variations will have had an unquantifiable effect upon the comparability of the data from any two (or more) surveys.

Fourth, a different problem of comparability is encountered over the definition of 'site', and over the on-site cultural variables recorded. Most surveys present no data at all for site hierarchy. Miller's Central Moab Survey, which recorded a full range of data regarding both settlement patterning and on-site cultural variation (Brown 1984: *passim*), is one notable exception. Once the results of such surveys are fully published, we shall begin to have the material for regional and chronological comparison.

Until these and other lesser methodological weaknesses are repaired, the general picture to be derived from the historical sources cannot be discounted. These suggest not catastrophic decline but broad continuity of settlement from the seventh until at least the 16th century AD. There is bound to have been change, but there is no evidence for 'gaps' in settlement, even south of al-Mujeb.

Continuing occupation into the eighth to tenth centuries can now be argued from the archaeological record for Pella (Walmsley 1982), Jarash (Gawlikowski 1986), the Amman citadel (Bennett and Northedge 1977-78), Ḥesban (Sauer 1973), and Dhiban (Tushingham 1972; Sauer 1975). Donald Whitcomb's recent re-examination of Baramaki's pottery from Khirbet al-Mafjar (1988) has demonstrated that this palace continued in use well into Abbasid times, and the probability that the 'desert palaces' of Jordan also had an Abbasid phase is raised by Oleg Grabar's proposed re-dating of Mushatta (Grabar 1987), and by the extensive evidence for Abbasid occupation from the Department of

Antiquities' recent excavations at al-Muwaqqar (Najjar 1989).

In the first twenty years of the 12th century AD, the Crusaders gradually wrested control of Transjordan from Damascus and Cairo. As yet, very little is known archaeologically of the Latin impact upon Transjordan, but the recent excavations by Robin Brown at Shobak, Karak, and al-Wu'eira (Brown 1987), the new Italian initiative (Cardini *et al.* 1987), and The Faris Project (Johns, McQuitty and Falkner 1989), together hold great promise for the future.

The Latin literary sources are completely independent from the earlier Arabic sources, and yet give the same impression of regional prosperity. The fertile soil of *Outre-Jourdain* yielded grain, vines and olives which, alongside sugar, dates, balm, salt and bitumen from the Ghor, were shipped across the Dead Sea. The king of Jerusalem derived revenue from merchants passing through the region, and an annual fair seems to have been held at Karak (Deschamps 1939: 48-50 and notes).

On the one hand, the sources attest to the continuity of settlement in the region under Christian rule. In *c.* AD 1184, Karak had a large, densely populated territory with "400 villages (*qarya*)" (Ibn Jubayr 1907: 287). "Muslims had lived in these parts from ancient times" ('Imād ad-Dīn *apud* Lyons and Jackson 1982: 209-211), and the houses of Karak "were well-stocked with wheat, barley, wine, and oil" (William of Tyre 1986: 1057).

On the other hand, there are reports of destruction, devastation, and constant insecurity. The hatred of the Muslims for Reynald de Chatillôn was so great that they used to raid his lands each year until he sued for peace ('Imād ad-Dīn *apud* Lyons and Jackson 1982: 248). In April, AD 1187, Ṣalāḥ ad-Dīn's "Turkomans ravaged the countryside; vines had been cut down; villages destroyed, and the peasants had gone off with their wives and children to the lands of Islam ... Nothing remained in the territories of Karak ... except for 'one little citadel' ... the districts were empty, the villages ravaged and the inhabitants had gone" (al-Qāḍī al-Fāḍil *apud* Lyons and Jackson 1982: 249-251).

These accounts give evidence for two very different aspects of settlement in the region: long-term trends, and short term fluctuations. That Ṣalāḥ ad-Dīn found crops to burn and villages to destroy attests to the continuity of agriculture and settlement under Frankish rule; that he did so attests to the interruption of that pattern in *c.* AD 1181-87. But it would be quite improper to assume, without positive evidence, that these accounts bear witness to permanent disruption of settlement in Arḍ al-Karak. Historical evidence for the medieval period tends to be predominantly anecdotal and, in this, it contrasts strongly with the evidence of regional archaeology, which is of particular use for observing broad trends on a large temporal and spatial scale. Should future fieldwork detect no late 12th century AD hiccough in settlement, we should not ignore the witness of the written sources to a generation of terror, calamity and destruction.

Ṣalāḥ ad-Dīn's reconquest of Jordan involved more than the return of the region to the Muslim world. The Latin presence had been "a blockage in the throat" of Islam (al-Qāḍī al-Fāḍil *apud* Lyons and Jackson 1982: 218) but, with the reunification of Syria and Egypt, Jordan became a crucial link between the two parts of the empire (Popper 1955: 47; al-Ẓāhiri 1894: 117, 119).

The literary sources suggest that Arḍ al-Karak remained prosperous under Ayyubid and Mamluk rule, until the 16th century, with many productive agricultural settlements dependent from the regional centre. Al-'Umarī in AD 1347, reported that the territory of Karak was fertile with abundant produce, and that it contained "grain lands and *iqṭā'āt* for the troops" (1892: 183). In *c.* AD 1453, Khalīl al-Ẓāhirī, who had been emir of Karak in AD 1437, reported that the territory contained many villages (1894: 43), although he does suggest that the region had somewhat declined since his own time (1894: 131-132).

The prosperity of Karak town and, albeit indirectly, of the surrounding area was largely dependent upon the patronage of the Mamluk sultans (Irwin 1986: 55-57). Al-Nāṣir Muḥammad spent two periods of exile in Karak and, when he finally established himself on the throne (AD 1310-41), it was largely with the support of Karaki Arabs (Irwin 1986: 106). Al-Nāṣir was fond of his place of exile: he visited Karak often, and in 1311 his emir built a palace, a bath, a school, a khan, a hospital and a mosque, "the basic elements of a complete city" (Lapidus 1967: 73). The sultan's older sons were brought up at Karak, which Irwin has called "the Balmoral (or even the Gordonstoun) of the fourteenth-century sultanate" (1986: 115). It was from Karak that al-Nāṣir Aḥmad, the eldest of Muḥammad's surviving sons, launched his bid for the throne in AD 1342. And it was to Karak that he sought to transfer the seat of government soon after his acclamation. Karak continued to be an important centre, closely linked to the Cairo court, throughout the 14th century, but slowly declined in importance under the Burjī dynasty, when its links with Cairo gradually weakened.

The Baḥrī sultans were attracted to Karak not by the amenities of urban civilization but by a passion for things Arab and bedouin. The picture of al-Nāṣir Aḥmad setting out from Cairo in full bedouin dress, mounted on a camel, followed by his father's vast herds of sheep, horses, and camels, to refound the Mamluk state amongst the Arab tribes of Karak, may be ridiculous, but it is a useful symbol of the role which Karak had come to play—that of a semi-independent Arab outpost, a centre of resistance against first Mamluk and then Ottoman cultural domination. Quite apart from the personal inclinations and political alliances of the sultans, their interest in Arab affairs was related to increasing state involvement in the

rearing of livestock: horses for the royal stables and for the army, camels for army transport, and — perhaps most important of all — sheep for wool and mutton (Irwin 1986: 115-116). A branch of the administration was developed specially to oversee bedouin affairs (Hiyari 1975).

But if relations between Cairo and the Syrian tribes were to some extent institutionalized, this does not mean that the tribes were pacified, still less settled. The 13th century AD was characterized by a succession of troop movements and migrations on an unprecedented scale which provoked a reaction amongst the tribes. The armies of the Crusaders and of Ṣalāh ad-Dīn, the internecine struggles of the Ayyubid princes, the Mongol invasions (of AD 1258-1260, but also of 1281 and 1303), and the campaigns against the Franks of Baybars and Qalāwūn, all had a profoundly disruptive effect. Arab revolts were a common feature of the second half of the 13th century, and again grew frequent after 1340, becoming endemic in Syria under Burjī rule (Ashtor 1976: 285-288).

The model of social and economic decline under the Burjī dynasty is well-established (Ashtor 1976: 301-319), and Robin Brown has transferred it entire to Arḍ al-Karak (1984: 45-46 *et passim*), but it is time—perhaps—to exercise a little more caution. As long ago as 1967, Lapidus argued for a "fifteenth century restoration: 1422-1470" (1967: 32-38). The trade in luxury goods remained depressed, but the internal flow of basic commodities continued, and may even have slightly revived. Syria and Palestine continued to supply the markets of Cairo and Damascus with their staple needs. Military pressure was heavy, but was concentrated on the northern frontier and the Mediterranean coast, although the burden of expense was inevitably heaviest upon the centres of agricultural production in Egypt and Syria. Other variables may partly account for the apparent decline of Syria: such as the decay of historical writing in Syria, and the self-confinement of Burjī chroniclers within a narrowing Egyptian horizon (Irwin 1986: 158).

One archaeological background against which these historical considerations can be viewed is Robin Brown's study of unpublished data for late Islamic settlement from the Central Moab Survey (Brown 1984). Brown divides the late Islamic phase into two periods: T1 (AD 1260-1400) and T2 (AD 1400-1600). Of a total of 158 sites occupied in T1, 15 were abandoned before T2, and 143 sites were continuously occupied in both periods. One hundred new sites were occupied in T2. These new T2 sites were more likely to be located in certain ecological zones than sites occupied in T1/2: "land use had decreased in the agriculturaly optimal zones ... and had increased in both the tertiary agricultural zone of the north and, to a greater extent, in the remote and rugged secondary agricultural zone of the south" (1984: 81-85). Moreover, new T2 sites showed a 50 percent increase in the number of sites located on agricultural land, in comparison with T1/2 sites (1984: 93). Further, very striking contrasts were observed in on-site cultural variables. First, the average number of T2 period sherds per site fell from 56 for T1/2 sites to 7 for new T2 sites. Second, 72% of T1/2 sites showed substantial structural remains, while 68% of new T2 sites had only the most rudimentary architecture (single structures and wall-lines) or even no architectural remains at all (Brown 1984: 106). The new sites were most heavily concentrated in the isolated and mountainous southwestern escarpment.

Brown concludes that T2 settlement shows two distinctive patterns: continuity of site occupation with the preceding T1 period; and occupation of new sites. Against the traditional historical background of rural depopulation (but see my comments above), Brown interprets these patterns as evidence for increasing population dispersal and mobility in T2, "as is characteristic of populations engaging in pastoral based economies" (1984: 108). This conclusion is supported by the low sherd concentration and minimal architecture on new T2 sites. Again, that T1/2 sites had tended not to occupy agricultural land, while new T2 sites were much more likely to be founded on farmland, suggests that conservation and maximization of agricultural potential was not a high priority in the later period (1984: 110). The relatively high concentration of sites on the southwestern scarp suggests that defence had become an important consideration in site placement.

In short, Robin Brown's analysis makes the best archaeological case yet for the move towards pastoralism in Arḍ al-Karak in the period 1400-1600. Final assessment of Brown's analysis must await the full publication of the data upon which it is based, but it constitutes at the very least a most useful working hypothesis and, at the same time, sets high standards for future analyses of field survey data.

If we know little of the history of Arḍ al-Karak in the Burjī period, we know still less of the region *c.* 1500-*c.* 1800, and even this is largely based upon the traditional tribal history of the Majālī (Peake 1958: 188-191), which displays features characteristic of extensive rationalization. Once again, a few general observations must suffice in the absence of detailed research.

By the reign of Sulayman the Magnificant, all of the southern Levant had been incorporated into the *wilāyat* of Damascus. Jordan, except the Ḥawran, belonged to the *liwā* of 'Ajlun: the south was divided into three *nāḥiyāt* - Karak, Jibāl al-Karak and Shobak — which had no administrative function beyond fiscal organisation. Sulayman had built the new *ḥajj* road along the desert fringe, which replaced the *ṭarīq al-raṣīf* as the main pilgrimage route, although the old road was still used when local circumstances favoured it (Petersen 1986).

The background to these events was growing anarchy caused by the Arab tribes. In the late 15th and early 16th centuries, the written sources record a succession of bedouin raids and revolts, which culminated with the short-lived rebellion of Karak town against Mamluk rule in 1506. The dominant tribe in the region appears to have

been the Bani 'Uqba, although the immigration of a fraction of the Bani Tamīm from al-Khalīl (Hebron) threatened Bani 'Uqba's preeminence. In 1517, Karak and its region passed into Ottoman hands and a governor was installed. He is supposed to have ruled very much through the Tamīmiyya and their allies in the district. In *c.* 1560, however, the Tamīmiyya rebelled and were fiercely suppressed: their survivors fled back to al-Khalīl, thus gaining the name al-Majālī—'the Wanderers'. But the Ottoman governor and his troops soon went native and, assuming the name of Aghawāt (from their commander, the agha), asserted complete independence from Ottoman rule. Successive Ottoman expeditions in 1678/9 and 1710/11 failed to regain control over Karak.

It is at this point that the *daftar-i mufassal*—Ottoman tax registers—come into play. Hütteroth and Abdulfattah have analyzed the registers which bear the year 1596 (1977; I am particularly grateful for a letter from Prof. Hütteroth [18 November 1989], which comments upon an earlier version of this paper, and gives additional data). The figures for southern Jordan are as follows: *nāḥiyat Karak*—1 town, 13 villages, 16 *mazārī'* (as separate units), and 28 *mazārī'* (listed as a single fiscal unit); *nāḥiyat Jibāl al-Karak*—7 villages and 4 *mazārī'*; *nāḥiyat Shobak*—1 town, 7 villages, 6 *mazārī'*, and 2 *qiṭa'* arḍ. The *mazra'a* (pl. *mazārī'*) was an agricultural estate with no permanent settlement upon it, inhabited perhaps only at certain seasons of the agricultural year—ploughing, sowing, and harvest—and the term *qiṭ'a* (pl. *qiṭa'*) *arḍ* is generally used in the same way as *mazra'a* (1977: 29-32). If all of the above are counted as settlements, they give a total of 85. Accepting, for the purposes of argument, Ibn Jubayr's figure of 400 villages in the province al-Karak (see above), the 1596 register would seem to attest to a dramatic decline in the number of settlements since the late 12th century. Indeed, as Hütteroth has observed, if Bernard Lewis (1951) is correct in arguing that the Ottoman censuses show a clear increase in settlements during the 16th century, then the 1596 *daftar* should record an *increase* in settlements since Mamluk times. But, while Mamluk sources mention the villages of Ader, ar-Rabbah, Mu'ta, Nakhl, and ath-Thaniyya, only Mu'ta appears in 1596 (Ghawanmeh 1982).

There is, perhaps, little to be gained from comparing the imprecise and second-hand report of a 12th century diarist who had never visited the region with figures from a late 16th century tax-register. The *daftar-i mufassal* describe a fiscal landscape, which will not necessarily correspond to any landscape which may be reconstructed from the archaeological record. Of course, this does not mean that the tax-registers are useless: the fiscal and the archaeological landscapes are equally valid, equally evocative metaphors for a hypothetical past.

Hütteroth and Abdulfattah compared the data from the 1596 register with Conder's maps to observe changes in the pattern of settlement by the late Ottoman period (1977: 54-63). In the *nāḥiya* of Karak more than 80 percent of 16th century villages had been abandoned by 1880: in that of Jibal al-Karak (and Shobak), 40-50 percent of settlements were abandoned. When, how, and why had this transformation occurred?

Little sense can yet be made of the conflict and disorder which characterised the history of the region in the 17th to late 19th centuries (Burckhardt 1822: 381-384; Musil 1907-8: *pass.*, esp. 3.70-84; Peake 1958: 189-191; Gubser 1973: 15-19), but it does appear that one of its principal causes was competition for land and, although a great deal of research has yet to be done upon the origins of present land-ownership and settlement in Arḍ al-Karak, it is possible to propose a three-stage model for the origins of modern settlement in the region.

'Pre-settlement' is the association of a group of pastoralists with a particular site, typically an abandoned village or *khirbah*, as their summer camping ground. This has already been noted for the Bani Ṣakhr by Norman Lewis (1987: 125-131). The same pattern may characterize the contemporary expansion throughout the plateau of the Majālī and their allies from Karak. Tristram describes the level of occupation: in the ruins of Miḥna (5km southwest of Karak) "both the caves and arches had lately been inhabited by men and flocks. In many of the caves was the raised platform or 'masṭaba' for sleeping on, formed of earth, at the further end, and several fragments of sheepskin coverlets and garments, as well as fodder, were strewn about" (1873: 102-103). By 1896, Musil was able to record quite precisely the northern extent of the pre-settlement of the Majālī (1907-8: 3.84, 97-105).

'Proto-settlement', in which the 'owners' of these ruins began to farm the surrounding land with their slaves or with migrant fellahin, is again described by Lewis for the Bani Ṣakhr (1987: 127). Tristram records the same phenomenon amongst the 'Ajarma around Ḥesban (1873: 162-63), and amongst the Bani Ṣakhr at Madaba (1873: 303, 307-308, 320).

We are less well informed for the Karak plateau, but oral sources suggest that the same pattern occurred on the lands of the Majālī, and at Khirbet Fâris in particular. Khirbet Tadūn, as the site was originally called, was already pre-settled in 1896 by two cadet branches of Majālī (Musil 1907-8: 3.97). Thereafter, one disappears from Tadun, but the other can be traced through Fāris himself to the present occupants of the site. Tradition records that it was Fāris who first settled fellahin from Filisṭin upon the site, and rebuilt the two Mamluk farm-houses. Fāris himself did not settle at the site, but merely camped there during the summer months (Johns, McQuitty and Falkner 1989).

'Full settlement', in which the owners of a site gave up their tents to settle besides their fellahin in villages in houses of stone and mud, occurred at only a very few of the proto-settlements, and the remainder were abandoned. This began to occur extensively on the plateau in the 1900s,

and most modern villages were founded before *c.* 1920 (Jaussen 1948, *passim*), although even after the Second World War the Majālī were still remarkable for their seasonal camping (Glubb 1948: 140). It was apparently in the 1930s that Khirbet Fāris was deserted by Fāris' sons and their farmers in favour of al-Qaṣr.

In conclusion, the broad trends which I have proposed for Islamic settlement in Arḍ al-Karak are rather different from those which have been suggested on the basis of recent archaeological surveys. I have argued that there was a basic continuity of permanent settlement on the plateau until the 16th century. There may have been a gradual decline from the Byzantine maximum in both numbers of sites occupied and total population, but this cannot yet be clearly observed, still less quantified. In particular, there is no good reason to postulate a total collapse of settlement from the ninth to thirteenth centuries, followed by a dramatic recovery under the Baḥrī Mamluks. At some point before *c.* 1800, and possibly as early as *c.* 1600, villages and fields were abandoned, and pastoralism with shifting cultivation became the rule. This transition from village-based agriculture to semi-sedentarism out of Karak town and semi-nomadism seems to have been relatively short-lived, and by the mid 19th century we can already observe pre-settlement and the first signs of a shift back towards settled agriculture.

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Settlement Patterns in Islamic Jordan: The Umayyads and their Use of the Land

An earlier scholarly generation interpreted the Umayyad *quṣūr* as reflections of an atavistic longing on the part of the ruling elite for a bedouin lifestyle. Affection for the desert and a wish to hunt may have formed a part of the Umayyads motivation to build their *quṣūr* where they did. Yet, nevertheless, other reasons and roles for their *quṣūr* may be sought in the light of more recent research, and increasingly it appears that individual Umayyad foundations served a variety of roles. The degree to which *quṣūr* tended to meet specifically Umayyad needs and interests may be measured by the absolute neglect of so many sites by the Abbasids. A reconsideration of the contexts of Umayyad *quṣūr* in al-Balqa' and in Palestine suggests a number of reasons for the location of particular *quṣūr*.[1]

1. Al-Balqa' and the Eastern Desert

As a result of recent excavations and surveys in Ḥawran and al-Balqa', we are now quite well informed about the extent of settlement in the sown land of Jordan in the Umayyad period. Indeed, more is known now of this area in many respects than the equally important areas of Palestine and Syria. Judging from the sites so far investigated, it seems in general that the farmland of Ḥawran and al-Balqa' continued settled into the Umayyad period, prolonging the occupation of the same areas in Byzantine, Roman and earlier times. In Ḥawran, excavations at Umm aj-Jimal indicate settlement in the Umayyad period, and surface sherding from further east in the Ḥawran suggests the same at the villages as far as Umm al-Quṭṭayn.[2] The Umayyad period settlement of Buṣra has long been known from the Mosque of 'Umar of 102/720-1, but the apparent extent of settlement in the countryside of Ḥawran in Umayyad times is much more impressive when the sherd evidence is considered.

In north-west and western Transjordan, in al-Balqa', a similar picture of continuity emerges from Byzantine times through to the Umayyad period, with villages still settled, and little or no evidence of a sharp break in occupation with the onset of the Islamic period. At Abila (Qweilbeh)[3], at Beit Ras[4], and further south at Pella (Fiḥl)[5], Jarash[6], Amman[7] and Ḥesban[8], excavations have all pointed to an Umayyad period settlement following on from Byzantine period settlement. Further south in al-Balqa', survey and excavation have also suggested the same pattern of Umayyad period use of sites settled in Byzantine times. Much of this area is agricultural today, and there is no reason to doubt that the villages and small towns of Ḥawran and al-Balqa' would have stood amidst farmed land in the early Islamic period, just as in earlier times.

Given the evidence of extensive agrarian activity in al-Balqa' and Ḥawran, it is harder to see some of the desert *quṣūr* of the Umayyads as quite the isolated buildings that they once seemed to be to earlier visitors. Indeed, al-Qasṭal, Qaṣr al-Mushatta and Qaṣr al-Muwaqqar can hardly be regarded as lying in remote desert: rather, they are set on or close to the margin between *bādiya* and sown land. Even *quṣūr* in the desert to the east are not so remote, least of all in a desert with higher levels of activity

[1]For an important discussion related to issues discussed in this paper, see H. Gaube, 'Die syrischen Wüstenschlosser. Einige wirtschaftliche und politische Geschicntspunkte in ihnrer Entstehung', *Zeitschrift des Deutschen Palästina-Vereins* 95 (1979), p. 182-209.

[2]B. de Vries, 'The Umm al-Jimal Project, 1972-1977', *Bulletin of the American Schools of Oriental Research* 244 (1981), pp. 53-72; *idem*, 'The Umm el-Jimal Project 1972-1977', *Annual of the Department of Antiquities of Jordan* 26, (1982), pp. 97-116; G. King, C.J. Lenzen and G.O. Rollefson, 'Survey of Byzantine and Islamic Sites in Jordan: Second Season Report, 1981', *Annual of the Department of Antiquities of Jordan* 27 (1983), pp. 405-417, 420-427.

[3]W.H. Mare, 'The 1982 Season at Abila of the Decapolis', *Annual of the Department of Antiquities of Jordan* 28 (1984), p. 41. However, he refers to the destruction of a church which seems associated with the early Islamic period; he allows that this destruction may be as late as A.D. 746.

[4]C.J. Lenzen, R.L. Gordon and A.M. McQuitty, 'Excavations at Tell Irbid and Beit Ras, 1985', *Annual of the Department of Antiquities of Jordan* 29 (1985), pp. 156, 159.

[5]A. McNicoll, R.H. Smith and B. Hennessey, *Pella in Jordan 1* (Canberra 1982), pp. 123-157.

[6]A.N. Barghouthi, 'Urbanization of Palestine and Jordan in Hellenistic and Roman Times', *Studies in the History and Archaeology of Jordan* I, ed. A. Hadidi (Amman 1982), pp. 209-229.

[7]A. Northedge, 'A Survey of Islamic Buildings at Amman', *Annual of the Department of Antiquities of Jordan* 22 (1977-1978), pp. 5-13; C.-M. Bennett, 'Excavation at the Citadel (al-Qal'a) Amman, 1977', *Annual of the Department of Antiquities of Jordan* 23 (1979), pp. 151-159; *idem*, 'Excavations on the Citadel (al-Qal'a), Amman, 1978, fourth Preliminary Report', *Annual of the Department of Antiquities of Jordan* 23 (1979), pp. 161-170; A. Almagro Gorbea, *El Palacio Omeya de Amman I, La Arquitectura* (Madrid 1983).

[8]J.A. Sauer, *Heshbon Pottery, 1971* (Michigan 1973), pp. 39-49.

than in modern times. Qaṣr al-Muwaqqar, on the edge of the cultivated land, is only 20kms from Qaṣr al-Mushash, while Qaṣr al-Ḥallabat is only 27kms from Umm aj-Jimal.

This may have been a sufficient distance for an Umayyad prince seeking the life of the *bādiya*. Yet rather than fulfilling a desire for isolation, the *quṣūr* may have served the needs of the Umayyad traveller. Many of the *quṣūr* of eastern Jordan and southern Syria related to routes between Arabia and Syria. This writer has discussed this issue elsewhere, drawing attention to the coincidence of the siting of many of the *quṣūr* with routes running through Wadi as-Sirḥan, through Baier, or through Ma'an and Amman, roughly the course of the Ḥijaz Railway.[9] There seems a likelihood, therefore, that some of these *quṣūr* in the desert may have served a caravanserai purpose, at least for the aristocracy or the high officials of the state as they moved between Bilād ash-Sham and Arabia. Such a role does not exclude the purpose of also being the centres of agricultural estates, nor does it exclude the possibility that Umayyad princes used the *quṣūr* to live the life of the *bādiya* and to hunt. It seems unlikely that many of the *quṣūr* served a single purpose, but rather a diversity arising from the needs of the regime.

Even where *quṣūr* clearly had an agricultural element, or exploited water facilities, there seems to be a variety of roles met by the Jordanian and the Syrian sites. At Qaṣr al-Ḥallabat, the elegant rebuilt residence of the Umayyad period is accompanied by an enclosure 270m × 220m with sluices, which Ghazi Bisheh has suggested was used for cultivating vines, olives and other fruits.[10] This rather modest enclosure contrasts with the very different facilities at Qaṣr al-Mushash to the south, with a total of 16 water storage or catchment facilities. Only two *qanawat* and rows of stones suggested grape production, and all else suggested pastoral activity.[11] The water may well have been used by travellers, but the provision of so many rain-fed water tanks at one place seems to point to investment to aid a pastoral community of sheep and goat herders. A similar use may be proposed for the dam at Wadi Jilat to the south. Whatever its origins it was in use in Umayyad times, and to this day the water trapped in the silt behind the dam is used by the bedouins to water their flocks as well as for their personal use.[12]

The Umayyad *quṣūr* on the edge of the sown land, al-Muwaqqar and al-Qaṣṭal, also appear to have had an agricultural element. A water tank exists at al-Muwaqqar but the site has long been so badly damaged that the best information available to us on it remains that gathered by Brünnow and Domaszewski.[13] However, the recent excavations and investigations around al-Qaṣṭal by Patricia Carlier and F. Morin have shown the remains of a dam and a reservoir in the immediate vicinity of the Umayyad palace, and this site too proves to have had an agricultural element to it.[14] Al-Muwaqqar is generally accepted to date from the Caliphate of Yazīd II b. 'Abd al-Malik, while it is clear that al-Qaṣṭal was important for al-Walīd II and 'Abbās b. al-Walīd II who both resided there: recently, however, Carlier and Morin have speculated that its origins might be associated with the Caliph 'Abd al-Malik b. Marwān, a point which has still to be securely established.[15] However, apart from their own particular agricultural features, the complexes at al-Muwaqqar and al-Qaṣṭal also straddle the desert and the sown land to an extent that seems almost symbolic. Standing at al-Muwaqqar on the eminence where the *qaṣr* once stood, one gazes to the west towards the dark earth of the farmland of al-Balqa'. To the east is the desert, the *bādiya*, extending towards Qaṣr al-Mushash and Wadi as-Sirḥan far beyond it. Much the same is true at al-Qaṣṭal, which stands likewise on a slight rise, with the desert to the east; to the west is the farmland of which the estate around al-Qaṣṭal was a part. By thus straddling the perimeter between desert and sown and surveying both, al-Muwaqqar and al-Qaṣṭal seem to encompass the Umayyads' dominion of the settled lands of Bilad ash-Sham and the deserts, the land of the farmers in the west and the pastoralists of the steppes to the east.

The significance of the siting of Qaṣr al-Muwaqqar and al-Qaṣṭal goes beyond mere symbolism, and is part of a far more widespread need that motivated the Umayyads to build in the areas that they did. Umayyad caliphs and princes residing on the edge of al-Balqa' and in the *bādiya* to the east were able to retain close contact with the tribes whose support was necessary for the Syrian-based regime. Most significant of these tribes were Banī Judhām and Banī Kalb. Their support was vital for the Umayyads and these two tribes, powerful in their own regions in pre-Islamic times, were to retain their pre-eminence in the new context of an Umayyad Islamic Caliphate.

Judhām before Islam had been a shepherd-herding tribe whose lands reached Tabuk, Wadi al-Qura and even the *ḥarra* of al-Madina;[16] they dominated the Ḥisma and Madyan, and appeared as settlers at Ma'an, Udhruḥ,

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[9]G.R.D. King, 'The Distribution of Sites and Routes in the Jordanian and Syrian Deserts in the Early Islamic Period', *Proceedings of the 20th Seminar for Arabian Studies* 17 (1987), pp. 91-105.

[10]G. Bisheh, 'The Second Season of Excavation at Hallabat, 1980, I', *Annual of the Department of Antiquities of Jordan* 26 (1982), pp. 138-143.

[11]King, Lenzen and Rollefson, *op. cit.*, pp. 386-392; Bisheh, 'Qaṣr Mshāsh and Qaṣr 'Ain al-Sil: Two Umayyad Sites in Jordan', paper presented at the Fourth International Conference on the History of Bilād al-Shām, University of Jordan, 24-29 October 1987.

[12]King, Lenzen and Rollefson, *op. cit.*, pp. 392-398.

[13]R. Brünnow and A. von Domaszewski, *Die Provincia Arabia* (Strasburg 1905) II, pp. 182-189.

[14]P. Carlier and F. Morin, 'Recherche archéologique au Chateau de Qastal (Jordanie)', *Annual of the Department of Antiquities of Jordan* 28 (1984), pp. 343-383; *idem* 'Qastal, un château du desert en Jordanie', *Archaeologia* 206 (Oct.-Nov. 1985), pp. 46-57; *idem*, *Qastal al-Balqa'* (1986); *idem*, 'Qaṣṭal', *Archiv für Orientforschung*, Band 33 (1986), pp. 187-206.

[15]*Idem*, 'Qastal' (1986), pp. 205-206.

[16]H. Lammens, 'Le Califat de Yazid I^er', *Melanges de la Faculté Orientale, Université St Joseph* (1906), pp. 598-601, 603-604, 617; C.E. Bosworth, 'Djudhām', *Encyclopaedia of Islam*, new edition, Vol. II, p. 573; U.R. Kaḥḥāla, *Mu'jam Qabā'il al-'Arab*, 3rd ed, I (Beirut 1982), pp. 174-175; A. al-Wohaibi, *The Northern Hijaz in the Writings of the Arab Geographers 800-1150*, (Beirut 1973), p. 50.

Amman and Gaza. With the coming of Islam they rapidly became important in the Umayyad period, and appeared in new territories, including the neighbourhood of Ṭabariyah in Jund al-'Urdunn, as well as at al-Lajjun and as far west as the outskirts of 'Akka. They also appeared in the neighbourhood of Beit Jibrin in Jund Filisṭin. Their northern borders ran up against the land of Banī Kalb, with whom they maintained good relations, while in the west they extended across Sinai to the Egyptian frontier. The Judhām were in Mu'āwiya's camp and supported him in his conflict with the Caliph 'Alī b. Abī Ṭālib. Mu'āwiya is said to have gone to the *bādiya* of Judhām, while under Yazīd I, one of their main leaders, Rawḥ b. Zinbā', was appointed governor of Palestine. They supported the succession of the Marwanids in 64/684 and they retained close relations with the Umayyad regime until its fall. They remained dominant as the principal tribe of much of al-'Urdunn and Filisṭin until the late third/ninth century when they appeared as supporters of the Tulunids.

The lands that Judhām encompassed in eastern Jordan were those very areas which bordered the farmlands of al-Balqa' and in which the Umayyads built their concentration of desert *quṣūr* between the sown land and al-Azraq. Certain more clearly caliphly or princely estates — including al-Muwaqqar, al-Qasṭal, al-Mushatta and Qaṣr al-Ḥallabat — were in neighbourhoods where the Judhām would have dominated among the tribes. From *quṣūr* such as these the Umayyad caliphs and *'umara'* could maintain contact with their tribal supporters in this part of the desert, many of whom would have been Judhām. Maintaining the allegiance of the major tribes of Syria was crucial to the sustenance of the Umayyad state and the loyalty of Judham and their manpower would have been a vital part of this political structure. The relationship between the Umayyad leadership and Judham, and with other tribes in the neighbourhood of the Transjordanian *quṣūr*, would have been reaffirmed and reinforced by the access of the tribes to the Umayyads. The Umayyad leadership would have received the tribes, or at least their leading shaykhs, sitting with them and being open to hearing their needs and their views. Such access would not have been confined to Judham, but in this area of the country, the *quṣūr* were conveniently placed in relation to their territory.

This close relationship between the ruling power and its tribal supporters is something that has occurred in Bilad ash-Sham and Arabia into modern times. The tradition of meeting tribal leaders on religious holidays and other occasions of state, and maintaining personal contact with them, that can still be seen in the region, is an aspect of political life that one can readily see existing in Umayyad times. It is for reasons such as these that peripatetic rulers and *'umara'* of the Umayyad family would have used residences like al-Qasṭal, al-Muwaqqar, al-Mushatta and al-Ḥallabat, among others. The location of the *quṣūr* is thus to some extent explained by proximity to the lands of a powerful tribe, and also by their ease of access, being on major communications routes of the state. Thus one can understand why Yazīd II should have chosen to have a residence at al-Muwaqqar, and both al-Walīd II and 'Abbās b. al-Walīd II should have resided at al-Qasṭal. If Patricia Carlier and Frederic Morin are right, then 'Abd al-Malik thought it to be of advantage to take up residence at al-Qasṭal much earlier. The importance for the Umayyads of the area of al-Qasṭal, al-Muwaqqar and the *bādiya* to the east may go back to a still earlier date, for as already mentioned, Mu'āwiya b. Abī Sufyān himself went to stay in the *bādiya* of Judhām. The particular region seems to be that where the Umayyads were to build in later times, for when Mu'āwiya stayed in the *bādiya* of Judhām, it was to the area of al-Masharif to which he went.[17] This area is now the *diyār* of Banī Ṣakhr, and is the very same *bādiya* east of the Ḥijaz Railway and the old pilgrim road where the Umayyad *quṣūr* are concentrated. The association of this district with the Umayyads thus seems to go back to the foundation of the regime.

It is interesting to observe that even in modern times the sites of al-Muwaqqar and al-Qasṭal retain a relationship to the *bādiya* to the east that is reminiscent of their role in the second/eighth century. Today, and in the recent past, all this part of the desert has been the *diyār* of the Banī Ṣakhr bedouin. At al-Muwaqqar is the residence of a leading *shaykh* of the Banī Ṣakhr, no distance from the old palace of Yazīd II. At al-Qasṭal the new residence of Shaykh Shiblī al-Fayiz of the Banī Ṣakhr has been built on the edge of the ruins of the old Umayyad *qaṣr*. It seems no accident that prominent *shaykhs* of the tribe dominating this district today should elect to live like the Umayyads before them, on the margin of the *bādiya*, where they are in contact with the pastoralists in the desert, and on main roads, in close contact with Amman.

If the hypothesis that the *quṣūr* were intended to facilitate the Umayyads' contacts with the tribes is valid for al-Muwaqqar and al-Qasṭal, then it may well be valid at other sites as well in the area. Qaṣr al-Mushatta is relevant to such a hypothesis for it too is close to the sown land, standing only 6.7 kms to the east of al-Qasṭal, and it almost certainly related to al-Qasṭal in some way. Elsewhere, I have suggested that one purpose for which al-Mushatta was intended by al-Walīd II was as a suitable setting for him to receive the returning pilgrim caravan each year. This practice, as crown-prince, he had undertaken formerly just to the south at Ziza. However, at other times of the year,

[17]Lammens, *op. cit.*, p. 621-622; Kaḥḥāla, *op. cit.*, 1, p. 174 refers to the *Masharif* as being Judhām territory.

al-Mushatta would have fulfilled the same purpose as al-Qasṭal and al-Muwaqqar — a residence where the caliph could receive visiting tribal leaders and other notables, with its audience hall as the magnificent setting in which the visitors sat with the caliph. In a recent paper, Robert Hillenbrand has rightly drawn attention to the fact that the surroundings of al-Mushatta lack any overt agricultural remains, in contrast to many other Umayyad *quṣūr*.[18] Yet in winter and in spring, after rain, lush thick grass grows here, covering the hills around, explaining the bedouin name for the site of "wintering place". It was a natural grazing place for nomads with sheep and goats, a natural destination for shepherd tribes like Judhām, as it still is for Banī Ṣakhr. Given that the natural environment of al-Mushatta was one where sheep-raising tribes would gather, it seems only logical that the caliph should select this area to build his palace, if his intention was to maintain close contact there with tribal supporters.

The numerous water tanks at Qaṣr al-Mushash and the seeming scarcity there of traces of agrarian activity may also be related to the pastoral economy of the district. The amount of water that the cisterns of al-Mushash would store would have been welcome to the shepherds of Judhām who inhabited this area, and al-Mushash could have been designed to improve the lot of the supporters of the Umayyads in the district. Similarly, the dam at Jilat would have been of advantage to shepherds because of the water that it trapped behind it. Even today it is still used by bedouins as already pointed out. If it was of Umayyad origin, then its existence could be explained as yet another effort to provide useful facilities for the bedouin herders of sheep in this part of the desert.

The *quṣūr* and other sites in the land occupied by Judhām have been stressed because these account for so many of the Umayyad desert sites in Jordan. However, further to the east at Qaṣr Burqu' is a very different environment. Burqu' stands on the edge of the lava plain, the Ḥarra, and it is far from any farmed land. At first sight, this *qaṣr* fulfils the image of a remote retreat in the *bādiya*, where an Umayyad prince would hunt and live a bedouin life. This was probably an aspect of Qaṣr Burqu''s existence, especially since game would doubtless have been attracted by water that pools behind a dam near the *qaṣr* during winter and spring. The fact that Burqu', according to an inscription of 81/700-701, was used by al-Walīd, son of the Caliph 'Abd al-Malik, while al-Walīd was still *amīr*, is significant in itself. As his father's eldest son, he was an important figure in his own right. I have explained elsewhere how Qaṣr Burqu' stood on a route from Wadi as-Sirḥan through to Qaṣr al-Bayda and Jabal Usays and beyond either to Damascus or to central Syria.[19] This explains the decision in pre-Islamic and Umayyad times to build at Burqu', and the hunting may well have attracted an Umayyad prince. But al-Walid's presence in the area takes on political significance when it is considered that Burqu' was within the vast territories traversed by the Banī Kalb b. Wabara.

Banī Kalb were camel rearers, occupying the territory between the Nufud in the south and extending in the north to Palmyra and towards the Euphrates. Their territory encompassed the Samawa desert between Iraq and Syria and in the west, their territory approached Ḥawran.[20] Burqu' therefore lay in the heart of Banī Kalb land, and given the tribes' close relations with the Umayyad regime, the existence of a residence of the caliph's eldest son cannot be divorced from its political context. Although the Banī Kalb were Christian at the advent of Islam and played little role in the Islamic conquest, they rapidly became a major factor in Umayyad power in Syria. Mu'āwiya married Maysūn, from a leading family of the aristocrats of Kalb, and Yazīd b. Mu'āwiya spend much of his youth in the neighbourhood of Palmyra with his mother and his uncles of Kalb.[21] Although Banī Kalb suffered reverses in later years at the hand of Qaysite tribes, they still seem to have retained their lands, for they appear in the deserts of central Syria in later times.[22] Its seems no accident that the eldest son of the caliph should have maintained a residence in the heartland of such an important tribe, who were allies of the Umayyads. The contacts of the Banī Kalb with the ruling family cannot be better demonstrated than by the decision of al-Walīd to restore Qaṣr Burqu' to use it as a residence where he would receive the people from the surrounding area, and would be living among the tribesmen of Kalb.

Given the extent of the lands of Banī Kalb, other desert *quṣūr* may be related to the Umayyads' connections with the tribe. An aspect of Qaṣr Jabal Usays, where al-Walīd resided as caliph, may have been to allow him to retain contact with the Banī Kalb, in the same way as the *quṣūr* in al-Balqa' of Jordan would have made access easy between the Judhām and the Umayyads. Furthermore, the domination of the desert as far as Palmyra and the Euphrates by Banī Kalb suggests that Qaṣr al-Ḥeir al-Gharbi and Qaṣr al-Ḥeir ash-Sharqi, perhaps, would also have allowed the Kalb access to the Umayyad princes or caliphs using these sites.

2. Palestine: al-Minya and al-Mafjar

In contrast with the concentration of Umayyad quṣūr in al-Balqa' and in the *bādiya* of Syria, there are very few

[18] R. Hillenbrand, 'Islamic Art at the Cross-roads: East versus West at Mshatta', *Essays in Islamic Art and Architecture in Honor of Katharina Otto Dorn*, ed. A. Daneshvari (Malibu 1981), p. 67.

[19] King, *op. cit.* (note 9), pp. 92-93.

[20] J.W. Fück and A.A. Dixon, 'Kalb b. Wabara', *Encyclopaedia of Islam*, new edition, Vol. IV, pp. 492-494; Kaḥḥāla, *op. cit.*, 3, pp. 991-992.

[21] H. Lammens, 'Etudes sur le regne du Calife Omaiyade Mo'awia I^er', *Melanges de la Faculté Oriental, Université St Joseph* 1 (1906), pp. 150ff, 190ff.

[22] Al-Ya'qūbī, *Kitāb al-Buldān*, trans. into French from the Arabic, G. Wiet (Cairo 1937), pp. 170-171.

quṣūr west of the river Jordan. Assuming that our archaeological information is accurate, the only major sites comparable to the *quṣūr* to the east are Qaṣr Khirbet al-Minya and Qaṣr Khirbet al-Mafjar. This is clearly no reflection of the relative importance of Palestine for the Umayyads. Their lavish patronage of Jerusalem and its mosques, the foundation of ar-Ramlah and the continuing activity at Caesaraea all serve to indicate the high regard in which the Umayyads viewed the country. Given its numerous towns and villages and their agricultural land, it is tempting to suppose that the Umayyads merely left the peasantry to continue to farm the fertile countryside. It was this unbroken line of agricultural activity which al-Maqdisī was still to see and to describe in the fourth/tenth century: indeed, it seems plausible that his description of the flourishing agricultural economy of Palestine at that date would have held true for the Umayyad period as well. In such a well-established agrarian regime, there was no need for the type of agricultural project that so often surrounds the Umayyad *quṣūr*. The Umayyads' latifundia-like agricultural investment projects appear to have been concentrated in suitable wastelands, and there was no rationale in disrupting the already flourishing farming economy that prevailed in most of the country west of the river Jordan and the Dead Sea.

However, the two Umayyad *quṣūr* in Palestine, al-Minya and al-Mafjar, retain elements that are shared with the *quṣūr* elsewhere in the *bādiya* regions of Jordan and Syria. At the same time, both are unusual insofar as they are in some of the hottest, most humid places in the region, at least in summer. Although the Arab geographers are enthusiastic in detailing the crops that grow in the Jordan Valley near Jericho (al-Mafjar lies 2.5kms north of Jericho/Arīḥa), al-Maqdisī is clear in his comments on its heat.[23] Still worse was Ṭabariyah/Tiberias, near al-Minya, where he refers to the effects that the climate was said to have on the people, who were said to go naked from the heat. In summer, Ṭabariyah was hot and unhealthy, but the numerous hot springs were its attraction as a resort, and for the treatment of illness.[24] At first sight, to build *quṣūr* in places which are so unpleasant in summer seems curious. Yet when the highlands of Syria and Jordan are cold in winter, the more clement climate of the Jordan Valley and the lake shore of Ṭabariyah would be a positive virtue. Furthermore, the hot springs of the Ṭabariyah area and the ostentation luxury of al-Mafjar imply that there was a strong element of the resort about both al-Minya and al-Mafjar. A peripatetic Umayyad court can well be imagined descending to either the Ṭabariyah area or to the Jordan Valley in winter to avoid the harsher climate of the highlands.

The location of Qaṣr Khirbet al-Minya can be explained on other levels as well. Grabar and his colleagues have pointed out the existence of an agricultural estate around al-Minya, traces of which could be seen in former times.[25] Although much of the evidence had been eradicated before Grabar and his colleagues investigated the site, he leaves no doubt that it had been a country residence surrounded by farmland, situated in a place where waters naturally gather. To this extent, as he points out, al-Minya was comparable to other Umayyad sites with agricultural estates around them.

The site also has other parallels with Umayyad *quṣūr*. As I have already observed, many of the *quṣūr* were on routes that were in use in the Umayyad period. Al-Minya seems to fall into this category as well. Grabar *et al.* refer to the fact that al-Minya registered as a halt on routes between Damascus and Cairo in Mamluk and Ottoman times.[26] This route was doubtless important in Umayyad times, given the wealth of Egypt, but it was also important as the same route passes through ar-Ramlah, the Umayyad town founded by Sulaymān b. 'Abd al-Malik as the capital of the Jund Filisṭīn before 96/715. Inasmuch as the route between Damascus and ar-Ramlah, and then on to al-Fusṭaṭ, was a major artery of the Umayyad state, it is not surprising to find al-Walīd b. 'Abd al-Malik building a *qaṣr* at al-Minya in 93-96/712-715. Ibn Khurradadhbih (b. *c.* 205/820) describes the route from ar-Ramlah to Damascus passing by Ṭabariyah, which at least shows that the road was close to al-Minya at that date,[27] but later writers are more instructive. Ḥajjī Khalīfa, writing in 1101/1655, refers to the road from ar-Ramlah to Damascus actually passing by a halting place called *Mīna* between al-Lajjun and Qunayṭra.[28] R. Hartmann compiled the halting places between ar-Ramlah and Damascus on the basis of the itineraries of Ibrāhīm al-Khijārī (d. 1082/1671) and 'Abd al-Ghanī al-Nabulusī (1101/1690). Once again, a halt at *Khān al-Minya* appears, this time the fourth halt after al-Lajjun.[29] It does not seem unreasonable to consider that, if a halt was made at al-Minya at this late period, then the necessary halt in the Ṭabariyah region in Umayyad times would also have been at al-Minya. Thus the *qaṣr* of al-Walīd at al-Minya would have had the character of halting place on the road, as well as a royal residence. While its use in this context would have doubtless been restricted to the court or even the caliph himself, the parallel is very close to the role of a halting place that can be identified in many *quṣūr* in Jordan and Syria: as already

[23]Al-Maqdisī, *Aḥsān al-Taqāsīm fī Ma'rifat al-'Aqālīm*, ed. M. de Goeje (Leyden 1967), p. 175.

[24]Al-Maqdisī, *op. cit.*, p. 185; Yāqūt, *Mu'jam al-Buldān*, ed. F. Wustenfeld (Leipzig 1868) iii, p. 510.

[25]O. Grabar, J. Perrot, B. Ravani and M. Rosen, 'Sondages à Khirbet el-Minyeh', *Israel Exploration Journal* 10 (1960), pp. 240-241.

[26]*Ibid.*, p. 242.

[27]Ibn Khurradādhbih, *Kitāb al-Masālik wa'l-Mamālik*, ed. M. de Goeje (Leyden, 2nd ed. 1967), p. 78 (Ar.) p. 57 (Fr.).

[28]Ḥajjī Khalīfa, *Gihan Numa, Geographia Orientalis*, trans. into Latin from the Turkish by M. Norberg (1818: reprinted Osnabruck 1973), p. 561.

[29]R. Hartmann, 'Die Strasse von Damaskus nach Kairo', *Zeitschrift der Deutschen Morgenländischen Gesellschaft* 64 (1910), pp. 699-700.

explained, many of these are set on major routes in exactly the same way as al-Minya.

Yet another reason suggests itself for the wish of the Umayyads to have a residence in the area of Ṭabariyah. As already observed, in the early Islamic period, Judhām extended their tribal territory into northern Palestine and they came to dominate the country between Ṭabariyah and the hinterland of 'Akka. Mu'āwiya b. Abī Sufyān, Yazīd I b. Mu'āwiya and 'Abd al-Malik b. Marwān all maintained residences to the south of Ṭabariyah,[30] and in building at al-Minya, al-Walīd I was only continuing the association of his predecessors with the district. Given the presence of the Umayyads' Judhām supporters in the neighbourhood, it is very likely that al-Walīd took advantage of the fact to reinforce ties with the tribe through receiving its leadership at a *qaṣr* such as al-Minya, with its fine reception hall and mosque.

Turning now to the lavish Qaṣr Khirbet al-Mafjar, it too shares a number of features with al-Minya in terms of facilities and location. The winter climate at al-Mafjar made the place an attractive winter residence, even if the summers were excessively hot. Furthermore, there is no shortage of evidence that al-Mafjar had a large agricultural estate. The fine buildings and their decoration have tended to overshadow this aspect of the site, and the excavators admit to having not fully explored the irrigation systems related to the farmed land and the water supply of the *qaṣr*.[31] R.W. Hamilton describes a walled enclosure extending about 2kms downhill to the east of the palace site, defined by a wall which was eroded nearly flush to the ground. It encompassed an area of 150 acres. He compared this to the *ḥeir* at Qaṣr al-Ḥeir ash-Sharqi and suggests that the enclosure at al-Mafjar was "partly irrigated and partly, perhaps, a grazing ground or covert for domestic animals or game.[32] The site was set at a place where it could draw water from several springs to the west borne to the palace and to the farming area by *qanawat* and aqueducts. There is no doubt therefore, that al-Mafjar was carefully sited to gain as much advantage as possible from the neighbouring springs. To this extent it parallels al-Minya and other *quṣūr* in the *bādiya* of Jordan and Syria.

In a recent paper, R. Hillenbrand revived a discussion of an irrigation project attributed to al-Walīd II. This was initially investigated by I. Braslavski in 1933, as a result of a reference in a Hebrew Apocalypse of the eighth century, *The Mysteries of Rabbi Simeon bar Jochai*.[33] It is said that Hishām's successor, i.e. al-Walīd II, planned to draw the waters of the river Jordan to an area of land for irrigation purposes, but his infuriated courtiers killed him. Braslavski, followed by Hillenbrand, draws attention to the fact that al-Ṭabarī was aware of a river in the Jund al-'Urdunn which al-Walīd had dug. Hillenbrand has suggested that this diversion scheme may have been related to his vast and incomplete palace at al-Mushatta. This palace was left unfinished at al-Walīd's death and his successor, Yazīd III, was to promise not only to cease building projects but also to dig no rivers.[34] Given the elevation of Qaṣr al-Mushatta (730m asl), it seems more likely that al-Walīd's diversion scheme was associated with another site. The Jordan river falls from minus 208m at the shore of Lake Ṭabariyah to minus 394m at the Dead Sea. With Khirbet al-Mafjar at minus 200-250m and about 8kms west of the river Jordan it seems a likely candidate for associating with a major irrigation scheme. One can imagine a diversion started in the upper waters of the river Jordan being used to irrigate the land near al-Mafjar at about 150-200m lower.

Apart from the agricultural aspects of al-Mafjar, like other *quṣūr* it stands on or near a route that was important in the Umayyad period. Any traveller between Amman and the land to the east who crossed the lower Jordan to go up to Jerusalem would pass by Jericho (Arīḥa) before ascending the mountains to Jerusalem and ar-Ramlah beyond. Insofar as it is so close to Jericho, al-Mafjar thus conforms to the trend among so many other Umayyad *quṣūr*, being located close to a route relevant to the interests of the regime.

The persistent attachment of the Umayyad aristocracy to the *bādiya* of Jordan and to northern Palestine suggests itself in the distribution of *quṣūr* built by the Umayyads or developed by them. A number of factors explain this preference for the area. Insofar as the Umayyads were interested in developing waste areas like the *bādiya*, eastern Jordan was an appropriate area to exploit. L. Conrad first drew attention to an interesting passage in a work attributed to pseudo-al-Jāḥiẓ (third/ninth century), entitled *al-'Ibar wa al-I'tibār*. Reference is made to deserts and wastelands in the following terms:

> "How many a barren waste has been transformed into compounds (*quṣūr*) and gardens by a group of people moving thither and settling there!"[35]

This development and settlement of wastes is a process which very exactly parallels that underway in the second/

[30]Lammens, 'Le Califat de Yazid I^er', pp. 463-464; K.A.C. Creswell, *Early Muslim Architecture* (Oxford 1969), I^2, p. 403. For *Khirbet al-Minya* see also pp. 381-389.

[31]R.W. Hamilton, *Khirbat al Mafjar, An Arabian Mansion in the Jordan Valley* (Oxford 1959), pp. 5-7; See also C.R. Conder and H. H. Kitchener, *The Survey of Western Palestine III: Judaea* (London 1883), p. 211.

[32]Hamilton, *op. cit.*, p. 7.

[33]Hillenbrand, *op. cit.*, p. 82, note 29; I. Braslavski, 'Hat Welīd II den Jordan ablenken wollen? (Ein Beitrag zu den *Mysterien des R. Simeon b. Jochai*)', *Journal of the Palestine Oriental Society* 13 (1933), pp. 97-100.

[34]Al-Ṭabarī, *Annales*, ed. M.J. de Goeje (Leyden 1885-9) III, secunda ser., p. 1803; Braslavski, *op. cit.*, p. 99.

[35]L.I. Conrad, 'Historical Evidence and the Archaeology of Early Islam', unpublished paper to appear in the *Malcolm Kerr Memorial Volume*. I am indebted to Dr. Conrad for providing me with a copy of his paper prior to publication.

eighth century in the Jordanian *bādiya*.

However, the concentration on northern Palestine and the more northerly parts of the Jordanian *bādiya* by the Umayyads may in part be related to the need to retain communication with the capital, Damascus. This would explain the fact that so many of the *quṣūr* are on or near roads which would have provided ready communication with Damascus and other major centres in Bilad ash-Sham and Arabia. This interpretation would be related to the role of the *quṣūr* as well-sited residences of a peripatetic Umayyad governing class. The facilities created, to be used by Umayyad caliphs and princes moving around Bilad ash-Sham, became more sophisticated over the lifetime of the regime, culminating in the great palatial foundations of al-Mafjar and al-Mushatta. But alongside these reasons, as suggested in this paper, there is a persistent coincidence between the location of *quṣūr* and the lands of the tribes close to the regime. The desertion of so many *quṣūr* in Bilad ash-Sham under the Abbasids tends to argue in favour of this political factor as a determinant in the siting of at least some of the *quṣūr* founded by the Umayyad leadership.

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Fiḥl (Pella) and the Cities of North Jordan during the Umayyad and Abbasid Periods

1) Introduction: Islamic Urbanism and Archaeological Models

The uncritical use of ill-defined models to explain the nature of settlement in Jordan following the Islamic Conquest has impeded the recognition of a continuing urban tradition during the Umayyad and Abbasid periods. Two consecutive models can be identified: the **Fisher Model**, apparent in the works of C.S. Fisher, and the more recent **Sauer-Smith Model**, evident in the writings of J. Sauer and R.H. Smith and widely accepted in Jordan today.

In the last two decades most historians and archaeologists have rejected the notion that the Islamic Conquest of Bilad ash-Sham resulted in the destruction of the Byzantine cities. This preconception, more the product of Western prejudice than scholarly endeavour, impeded the work of Jordan's pioneer archaeologists. A major proponent of this view was C.S. Fisher, who consistently down-dated the extensive early Islamic deposits at Jarash to the terminal Byzantine period (Fisher 1938a: 133, 138; 1938b: 275, 283-88). Thereafter many archaeologists conformed to the **Fisher Model**, for instance the Franciscans at Ṣiyagha (Mount Nebo; Schneider 1950: vi-vii, for dating examples see pp. 43-47, 78-81).

Fisher's conclusions were discredited by new excavations in the late 1960's and early 1970's; yet the failure of the Fisher Model did not prevent the adoption of an equally subjective interpretation of Islamic settlement history in Jordan. The demise of the Fisher Model and the formulation of a replacement theory stemmed from the work of J. Sauer at Ḥesban during 1971 and R.H. Smith at Ṭabaqat Faḥl in 1967 (Sauer 1973a; Smith 1973). The **Sauer-Smith Model** postulates that the Conquest was followed by only a few decades of social equilibrium before a combination of economic, political and natural factors lead to the rapid decline of the urban centres east of the Jordan River, most of which were abandoned shortly after the establishment of a supposedly "hostile" Abbasid Caliphate (132AH/AD 750) and the transfer of the capital to Baghdad. Recent articles by Sauer (1982: 332-333; 1986: 304) and Smith (1984: 59; 1985: 485-488) demonstrate their unwavering belief in the validity of this model.

The Sauer-Smith Model has attracted a wide following in Jordan. By assuming that urban life ended with the rise of the Abbasids, the authors of numerous site reports readily adopt the doctrine of relentless and accelerating decline during the first half of the second century AH (eighth AD). Recent examples include B. De Vries' urban history of Umm aj-Jimal (De Vries 1985: 251-252, 255), the excavation and survey work at Qweilbeh/'Abil by W.H. Mare (Mare *et al.* 1982: 40, 47-48; 1987: 217), the Danish excavations of the bath house at Umm Qeis (Holm-Nielsen *et al.* 1986: 228-229), and J. Eadie's survey of Ḥumeima (Eadie 1984). Authors of area surveys have also argued for the incremental abandonment of settlements during late Umayyad times. There are many examples, for instance the Wadi al-Ḥasa survey of B. MacDonald (1980: 179-180; 1982: 40; MacDonald *et al.* 1982: 129), the badiyah survey by V. Clark during S.T. Parker's *Limes Arabicus* Project (Clark 1987: 128, 135), J.M. Miller's archaeological reconnaissance in central Ma'ab (Miller 1979a: 49-50), the 1981-1982 survey of southern al-Balqa' by G. King (1985: 45), O.S. LaBianca's land-use survey around Ḥesban (LaBianca 1984), and R.G. Boling's regional survey within the Madaba Plains project (Geraty *et al.* 1987: 197). R. Schick's recent study of Christian society in Palestine and Jordan after the Conquest indicates the extent to which the Sauer-Smith Model has found general acceptance amongst archaeologists and historians (Schick 1987, especially pp. 236-237).

In order to test the validity of the Sauer-Smith Model, this paper combines literary sources with archaeological results in an attempt to reconstruct the nature and extent of settlement in north Jordan during Umayyad and Abbasid times. Central to this analysis is the present author's research into the occupation of Fiḥl/Ṭabaqat Faḥl after the Islamic Conquest (Walmsley 1987; 1988); which finds support in work at Beit Ras (Lenzen, Gordon and McQuitty 1985: 155-159; Lenzen and Knauf 1987), Jarash (Zayadine 1986), and Ayla Aqaba (Whitcomb 1987; 1988;

1989). Some preliminary comments are also offered on the problems of identifying post-Conquest occupation in southern Jordan where the Sauer-Smith Model is often invoked.

2) The Historical Geography of North Jordan: The Literary Evidence

a) Sources

Four major Arabic sources offer a reliable account of the principal urban centres of north Jordan in the first four centuries of Islam, and indicate a complex pattern of settlement development after the Islamic Conquest.

i) The *Kitāb Futūḥ al-Buldān* by al-Balādhurī (d. 279AH/AD 892). Published in 255AH/AD869, this work offers an indispensable account of the Islamic Conquests with much valuable geographical information on the places and administrative divisions of Bilad ash-Sham.

ii) The *Kitāb al-Masālik wa'l-Mamālik* by Ibn Khurdādhbih (211-300AH/AD826-913). Issued in 232AH/AD847 and 272AH/AD885-6, this official manual on the regions, administrative divisions and road system of the Empire accurately describes the urban geography of Bilad ash-Sham under the early Abbasids.

iii) The *Kitāb al-Buldān* by al-Ya'qūbī (d. 284AH/AD897 in Egypt). This quasi-official work was published in 278AH/AD891 as a practical guide to the topography, regions, routes and peoples of the Islamic World and beyond. Al-Ya'qūbī's critical evaluation of his sources recommends *al-Buldān* as a reliable geographical source.

iv) The *Kitāb Aḥsan at-Taqāsīm fī Ma'rifat al-Aqālīm* of al-Maqdisī (d. 390AH/AD1000). Published in 378AH/AD988, this book presents a full and critical account of the Islamic World in the third quarter of the fourth century AH (tenth AD) based upon al-Maqdisī's own observations.

b) *Evaluation of the Source Material*

The four works, although often frustratingly short on details, identify broad trends in the urban history of Jordan, and counteract the concept of rapid settlement decay and abandonment in the century after the Islamic Conquest. Ibn Khurdādhbih identifies five urban centres in north Jordan: Fiḥl (Ṭabaqat Faḥl), Jadar (Umm Qeis), 'Abil (Qweilbeh), Beit Ras and Jarash (de Goeje [ed] 1889: 78.7-10). Each of these centres formed the chief city of a *kūrah*, or administrative district, in the Jund al-'Urdunn (Lenzen and Knauf 1987: 42; Walmsley 1987: 104-120, 277-283), which stretched from coastal Ṣur (Tyre) and 'Akka to al-Jawlan and Jarash (FIG. 1, Walmsley 1987: 88-133). Ibn Khurdādhbih's practical objective leaves little doubt that the urban role of these centres extended into the first half of the third century AH (ninth AD) and, equally importantly, indicates the continuing interest of this dynasty in the affairs of north Jordan.

Al-Balādhurī's book names three of the five locations listed by Ibn Khurdādhbih: Fiḥl, Jarash and Beit Ras (de Goeje [ed] 1866: 115, 116.19). He pays particular attention to Fiḥl, the venue for a crucial battle between the



1. The Jund al-'Urdunn, as originally constituted in 18 AH/AD 637.

Byzantine and Islamic armies in 13AH/AD635, and the subsequent peace agreement between the people of Fiḥl and the Muslim commander Shuraḥbīl. Excavations at Ṭabaqat Faḥl have confirmed a peaceful transition to Islamic rule, as there is no hint of a brutal conquest of the city (Walmsley 1988). This agrees with the situation throughout north Jordan, where any substantive evidence for the violent overthrow of the old order is completely missing from the archaeological record (MacAdam 1986: 534-536). The two other centres, Jarash and Beit Ras, are simply listed with the other districts of al-'Urdunn taken by *ṣulḥ* (peace covenant). The omission of Jadar and 'Abil may be explained by the leading role of Beit Ras in the affairs of north Jordan, as by 96AH/AD715 this town had been joined with 'Abil and Jadar to form a *Tri-chora* (three districts) under the control of a single *'āmel*, or governor (Lenzen and Knauf 1987: 40; Peeters 1939: 305-306, 310, 313-314).

In the last quarter of the third century AH (ninth AD), southern Bilad ash-Sham was enjoying a period of stable government under the Egyptian Tulunid dynasty after the rural uprisings in the Caliphate of al-Mu'taṣem (218-227AH/AD833-842) and his immediate successors. When combined with long term economic factors, these social disturbances could explain the decreasing administrative

and urban role of Beit Ras, 'Abil and Jadar in the middle of the third century AH/ninth century AD and their subsequent omission from al-Ya'qūbī's account of al-'Urdunn. In their place, al-Ya'qūbī substitutes a general geographical term for rural lands under cultivation, the *as-sawād* (de Goeje [ed] 1892: 327.22). Fiḥl and Jarash retained sufficient regional importance to gain a mention in *al-Buldān*, in part due to a stronger local economy and their position on the route to Beisan, Ṭabariyah, and the port of 'Akka. The final demise of the *jund* system of administration after the fall of the Tulunid dynasty probably ended the urban functions of Fiḥl and Jarash (Walmsley 1987: 157-160, 287-288).

Al-Maqdisī's thorough description of al-'Urdunn in the second half of the fourth century AH (tenth AD) depicts north Jordan, which he calls Jabal Jarash, as a thickly populated region of large and small village communities (de Goeje [ed] 1906: 162.4-5). The produce of these villages was considerable, including olives, various fruits such as grapes, and honey. Adhri'at/Dar'a served as the local social and economic focal point for these villages, indicating that the former urban centres were indistinguishable from the many other rural settlements in the fertile uplands of north Jordan.

Although an area of diminishing urban life, north Jordan may have experienced a reciprocal increase in the density of rural settlement in the third and fourth centuries AH (ninth and tenth AD). The introduction of new crops and the presence of large markets in Damascus, Ṭabariyah, ar-Ramlah, al-Fusṭaṭ and other cities opened the way for economic improvement and population growth (Ashtor 1976: 90-92; Issawi 1981: 381, 385; Watson 1981; 1983). E. Meyers *et al.* (1978: 8-10) argue that north Palestine experienced a substantial rise in settlement density at this time, which was probably also true for Jabal Jarash as al-Maqdisī records that these two rural zones shared a common economic and social structure (de Goeje [ed] 1906: 162.4-5).

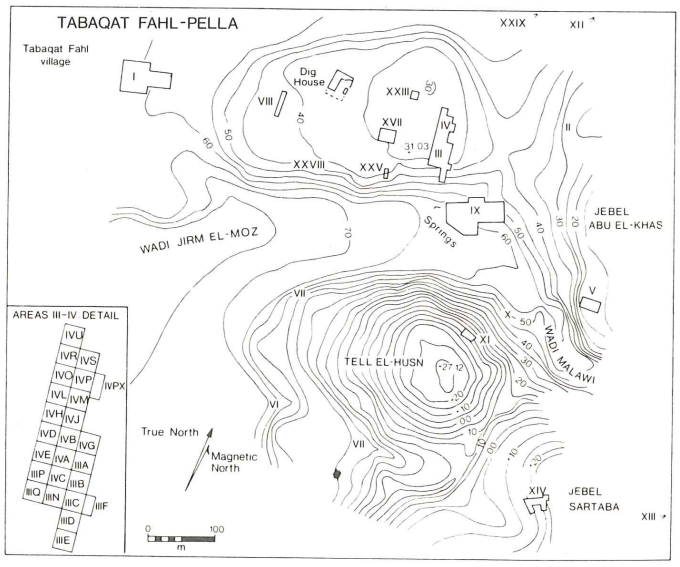
The four Arabic geographical works suggest three general stages in the settlement of north Jordan from the first to the fourth centuries AH (seventh to tenth AD). The first stage was marked by *urban continuity* during which urban life continued unabated in the five centres: Fiḥl, Jarash, Beit Ras, Jadar and 'Abil. The next stage saw the *contraction*, but not abandonment, of these centres during the second and third quarters of the third century AH (ninth AD). In the last stage, dating to the fourth century AH (and after), north Jordan had a strong *rural* economy supporting numerous village communities. In the next part of this paper, the validity of the three stage model is assessed by reference to recent archaeological work at these sites.

3) Islamic Settlement in North Jordan: The Archaeological Evidence

After years of neglect and misrepresentation, the Islamic cultural heritage of north Jordan has received belated recognition in the last decade. Excavations at Ṭabaqat Faḥl, Beit Ras and Jarash have identified a continuing urban tradition into the second and third centuries AH (eighth and ninth AD) (Walmsley 1988; Lenzen and Knauf 1987; Zayadine 1986). An inability to differentiate the material culture, especially pottery, of these periods was the principal reason behind the repeated down-dating of Islamic levels by adherents to the Fisher and Sauer-Smith models.

a) *The Nature and Extent of Umayyad and Abbasid Occupation at Fiḥl (Ṭabaqat Faḥl)*

Since 1979, excavations by the Sydney-Wooster Joint Expedition to Pella have uncovered public and private dwellings of the Umayyad and Abbasid periods. Umayyad occupation is attested in the residential quarters on the main mound (Areas IV and VIII), and in the churches of Byzantine construction (Areas II, V and IX; FIG. 2).



2. Map of Ṭabaqat Faḥl, showing the main excavated areas.

Evidence for Abbasid settlement is mostly known from two large structures, probably the Islamic city-centre, northeast of the main mound (Area XXIX).

The Area IV excavations at the east end of the main mound have exposed some 1700 square metres of a residential quarter destroyed in the severe earthquake of 129AH/AD747 (McNicoll *et al.* forthcoming Ch. 9; McNicoll, Smith and Hennessy 1982: 130-139; Walmsley 1987: 110-113; 1988). The sturdy, two-storied houses featured lower walls of stone with a rubble and clay filling, upper walls of unbaked clay bricks, and flat roofs made from wood beams, matting and clay. The upper level served as the main living area, and was often pleasantly finished with painted, plastered walls and white-tessellated floors. The

ground floor functioned as the work area of the household, with a small workshop in one unit and rooms for the stabling of animals, particularly cows, sheep/goats, and *equids*. Overall, the domestic structures in Area IV reflect the reasonably high standard of living enjoyed by the inhabitants of Fiḥl at the end of the Umayyad Period (Walmsley 1988; 1989a).

The close economic relations between Fiḥl and the other centres of north Jordan in the first half of the second century AH (eighth AD) is demonstrated by a shared ceramic tradition. The Area IV domestic wares have many features in common with late Umayyad ceramics from sites in the Jordan Valley and the north Jordan range; from Kursi on Lake Tiberias to the southern Ḥawran and Jarash (Lenzen 1990; Tzaferis 1983; Zayadine 1986). Much of Fiḥl's pottery came from the kilns of Jarash; particularly the cooking pots and casseroles, small jugs and jars, large hand-made mixing craters and some lamps (Walmsley 1986a: 355-357; 1988; Schaefer and Falkner 1986: 433-435). This, and the many post-Reform coins from the Beisan and Ṭabariyah mints found at Jarash (Walmsley 1987: 147-151), indicates that the route between Fiḥl and Jarash retained considerable provincial importance during the first and second centuries AH (seventh and eighth AD).

The continued settlement of Fiḥl after the momentous earthquake of 129AH/AD747 is indicative of the social and economic resilience of the city in the mid second century AH. Although evidence for post-earthquake occupation of the central mound is limited (Walmsley 1990), recent excavations in two sizable structures located on a low knoll in the valley to northeast of the main mound have uncovered stratified Abbasid deposits dating to the third and fourth centuries AH (ninth and tenth AD) (Walmsley 1986b: 182-195; 1988). The two rectangular buildings, which cover an area of around 70 by 40 metres, were constructed on different levels next to one another either side of a four metre wide street. Doorways lead to paved courtyards flanked by rooms, some of which served a public function while others were devoted to domestic purposes. A number of associated outlying units, probably houses, are traceable to the north, west and south.

Excavation of the east building in early 1989 has identified a number of occupational phases dating to the third and fourth centuries AH (ninth and tenth AD), producing ceramic lamps, domestic wares and pinch-decorated glass. In 1985 two 1.75m deep rubbish pits yielded ceramic jars, jugs, bowls, and casseroles along with an iron dagger, nails, a limestone box, glass fragments and chicken bone. An initial study of the pottery from the pits has identified nine different wares, including new shapes and production techniques unrepresented in the extensive Umayyad corpus (Walmsley 1986b: 193-194; 1988: 156-157). The new, distinctly Abbasid, varieties may have initially appeared towards the end of the second century AH (eighth AD), but became very common in the following two centuries. A greater proportion of the pottery from the pits represents a strong continuation of the late Umayyad ceramic traditions well into the third century AH (ninth AD), and clearly indicates that the imposition of an Abbasid administration over al-'Urdunn had little immediate cultural impact in the provincial centres. This material refutes Sauer's argument for "a rather sharp break in ceramic traditions" following the Abbasid revolution (Sauer 1973b: 16).

The twin buildings seem to have served as the new city centre of Fiḥl after the 129AH/AD747 earthquake, with markets and administrative quarters. If this proposition is correct, Area XXIX may contain the city's *masjid al-jami'*, as congregational mosques were probably built in all the major cities of Bilad ash-Sham. Examples are known from Jerusalem, Ṭabariyah and Qayṣariyah (de Goeje [ed.] 1866: 116.14, 143.1-8), Beit Ras (Peeters 1939: 302, 304), Jarash, and Amman (Northedge 1984: 53-56).

b) *The Archaeological Evidence for Umayyad and Abbasid Settlement at Jarash, Beit Ras, Jadar and 'Abil*

Renewed archaeological activity at Jarash during this decade has revealed a major Umayyad and Abbasid presence at the site (Zayadine 1986). Evidence for one or both of these periods has turned up in most of the newly excavated areas, particularly in and around the North Theatre and during the unearthing of shops and houses to the north of the western South Decumanus.

The original Umayyad structures of the South Decumanus consisted of adjacent shops along the street front and, behind them, a large house with two wings of rooms on either side of a central open court. In the latter part of the second century AH (eighth AD), the Umayyad house was subdivided into three and the shops converted into another house (Gawlikowski 1986: 114-115). By the third century AH (ninth AD) these dwellings had been destroyed, perhaps by an earthquake, and the area turned into a potters' workshop with four kilns for the production of lamps, cooking pots, bowls and cups (Gawlikowski 1986: 117). Pottery manufacturing was a major industry at Jarash in the first to third centuries AH (seventh to ninth AD). Other areas with kilns include the courtyard of the Artemis Temple (Fisher 1938a: 133; Pierobon 1983-84b: 85-111; 1986), the domestic quarter west of St Theodore's church (Fisher 1938b: 284), and the North Theatre (Schaefer and Falkner 1986) and portico (Walmsley 1986a: 355-357).

In addition to the kilns, R. Pierobon (1983-84a: 27-28) has collated further evidence from earlier excavations for Umayyad settlement at Jarash. Domestic and industrial structures, including a blacksmith's shop, were uncovered around the South Tetrapylon by the Yale-British School-ASOR Joint Excavations between 1929-1934; the presence of numerous Umayyad coins and at least one Abbasid piece in the debris of these buildings dates their use throughout the second century AH (eighth AD), if not later (Harding 1949: 19; Kraeling 1938b: 105, 109, 111-14). Pierobon also notes the late first to second century AH (seventh to eighth

AD) housing quarter built over the Oval Piazza (Harding 1949: 15-17), the small mosque discovered in 1981, and the recent identification of Jarash as an Islamic mint of the Jund al-'Urdunn. To this should be added evidence for Umayyad occupation in the Baths of Placcus and adjacent shops, where 23 "Arabic" coins were found (Fisher 1938b: 269); the Clergy House of St Theodore's church with ten "Arabic" coins (Fisher 1938b: 274-275); and Umayyad period usage of the churches (Crowfoot 1938: 172-173, 241 [Synagogue Church], 242, 244, 248-249 [John the Baptist, St George, SS Cosmas and Damianus], 254 [SS Peter and Paul]).

Recent archaeological work at Beit Ras, 'Abil (Qweilbeh) and Jadar (Umm Qeis) has recovered clear evidence for continued urban settlement after the Conquest. Excavations in Area A at Beit Ras by C.J. Lenzen have established three major pre-Crusader phases: phase V (mid 7th century - AD 750), phase IV (AD 750 - 850) and phase III (AD 950 - 1100). The area consists of adjoining vaults, identified as one of the city's markets, and a water installation in use between the late first and third centuries AH (seventh and ninth AD) (Lenzen and Knauf 1987: 32, 39-42; Lenzen, Gordon and McQuitty 1985: 156-158). Umayyad and Abbasid pottery was also identified during a survey of the nearby rural site of Khirbet al-Burz, northwest of Irbid, confirming the ongoing settlement of rural north Jordan (Lenzen, McQuitty and Rousan 1985).

At Qweilbeh, W.H. Mare has identified a strong Umayyad presence, but only limited evidence for settlement in Abbasid and Fatimid times (Mare *et al.* 1982: 40, 47-48; 1987: 217). Soundings between 1982 and 1986 in Area A on Tell Abila have uncovered building foundations dated to the Umayyad Period, but no evidence for any subsequent habitation until "late Islamic" times (Mare 1984: 40-41; 1985: 221; Mare *et al.* 1987: 206). A similar occupational history is proposed for the Byzantine church in Area D on Khirbet Umm al-'Amad, except here the "late Islamic" is missing (Mare *et al.* 1987: 209). A more complete sequence of Islamic settlement at 'Abil is suggested by the material recovered from the debris within the Khirbet Umm al-'Amad Theatre Cavea, where the Umayyad, Abbasid and Fatimid periods are all represented (Mare *et al.* 1987: 208-209).

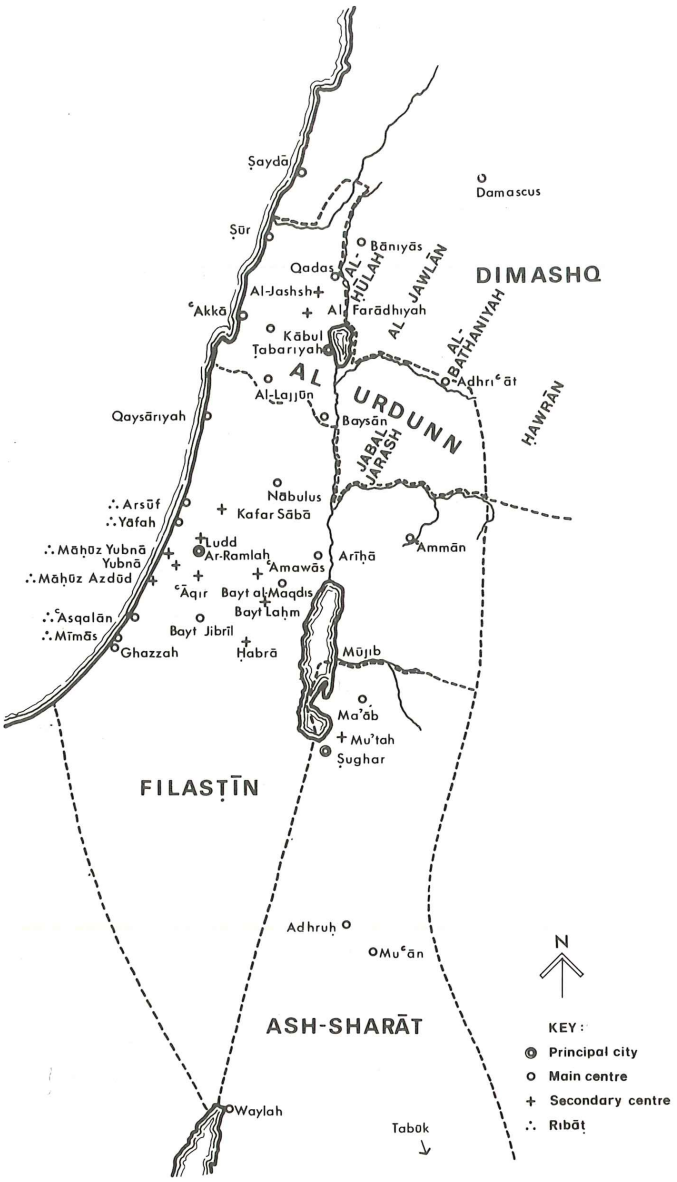
At Jadar/Umm Qeis, the excavation of the city baths by a Danish team has revealed three periods of reuse as dwellings during Umayyad times, ending with the AD 747 earthquake. Other soundings in the western part of the site indicate near-continuous occupation at Jadar after the earthquake into the Mamluk period, although the nature of this settlement is not clear (Holm-Nielsen, Nielsen and Anderson 1986: 220-229). An inscription from the Roman baths of al-Ḥammeh, located 3kms north of Jadar in Wadi al-Yarmuk, details the refurbishment of these facilities under the Caliph Mu'āwiyah in 42AH/AD662 (Hirschfeld and Solar 1981; Green and Tsafrir 1982). The benefits derived from bathing in these thermal waters were known to al-Maqdisī (de Goeje [ed] 1906: 185.7-13), although his discourse about the dismantling of the al-Ḥammeh baths suggests that they were no longer functioning at the end of the fourth century AH (tenth AD).

c) *Identifying Islamic Settlement in South Jordan*

Archaeological surveys south of Wadi al-Mujeb have usually overlooked Islamic occupation after the Conquest. J. Sauer noticed only a few Umayyad sherds in B. MacDonald's survey of 552 sites on the south bank of Wadi al-Ḥasa, and saw nothing familiar from either the Abbasid or Fatimid periods (MacDonald 1980: 179-180; 1982: 40; MacDonald *et al.* 1982: 129). Similarly S. Hart (1986: 54, 58) concluded that settlement in south Edom/ash-Sharah was only "scattered" in Islamic times after surveying an area west of Ma'an; while further south at Ḥumeima, J. Eadie (1984: 220) collected, i.e. could identify, only a "sprinkling of Umayyad sherds". S.T. Parker's *Limes Arabicus* survey, for which Sauer also read the pottery, found little evidence for earlier Islamic settlement in the east of south Jordan (Parker 1976: 28; 1986: 12), as did V. Clark (1987: 128, 135) during the *Limes* desert survey. In central Moab/Ma'ab, J.M. Miller (1979a: 49-50; 1979b: 90; again Sauer read the pottery) noted "occasional" Fatimid sherds, but makes no mention of either Umayyad or Abbasid material and occupation. Finally during a survey of the southern Ghor and Wadi 'Arabah, G. King (1985: 41-45) found evidence for Umayyad and Fatimid occupation at al-Mutraba on al-Lisan, but nothing further south. This, he suggests, could be attributable to one of two factors: Either a decline in settlement or a separate ceramic horizon for south Jordan.

Both literary and archaeological sources identify a distinct cultural tradition for south Jordan after the Islamic Conquest, while demonstrating that the settlement of the region's major sites continued well into the fourth century AH (tenth AD) (Walmsley 1987: 172-175, 182-183, 284-285). In al-Maqdisī's *al-Aqālīm*, the region south of Wadi al-Mujeb is placed into a separate geo-cultural district called ash-Sharah (FIG. 3), with Ṣughar/Zughar, Ma'ab, Ma'an, Adhruḥ, Wayla/Ayla, Tabuk and Madyan as its principal centres (de Goeje [ed] 1877: 155.2-3, 178.1-13). Works of the third century AH, notably al-Ya'qūbī (de Goeje [ed] 1892: 326.11), add 'Arandal (Gharandal) or its district of Jibal as another major locality south of Wadi al-Mujeb (Walmsley 1987: 126, 134, 284, 298; 1989b).

Al-Maqdisī's identification of a separate cultural region south of Wadi al-Mujeb finds support from recent archaeological work on two of the major sites of south Jordan. At Ayla/Aqaba, the Umayyad and Abbasid ceramics recovered by Whitcomb (1987: 261-266; 1988; 1989) during the 1986 and 1987 seasons have little in common with the north Jordan wares. Notably absent at Ayla are the diagnostic Umayyad and early Abbasid wares produced at Jarash and known from Fiḥl, Amman (Harding 1951) and numerous other sites (Sauer 1982: 330-332,



3. Southern Bilad ash-Sham in the later fourth century AH (tenth AD), according to al-Maqdisī.

Walmsley 1988: 182). Nearly all of these sites are located north of the Dead Sea and Wadi al-Mujeb. Similarly at Udhruḥ the Islamic pottery from the excavations appears unrelated to the Umayyad and Abbasid ceramics of north Jordan (Killick 1983: 125-129), a further endorsement of the cultural independence of south Jordan during the first centuries of Islam.

4) Conclusions on the Settlement History of North Jordan

The evidence from written and archaeological sources attests to the continued settlement of Fiḥl, Jarash, Beit Ras, 'Abil and Jadar into Abbasid and Fatimid times, although the nature of this occupation underwent an important transformation in response to identifiable political and economic changes. The source material identifies three major periods in the occupational history of north Jordan: Urban continuity, extending into the early Abbasid period; contraction, from the second quarter of the third century AH (ninth AD) onwards; and finally rural stability, with north Jordan settled by numerous village communities. The gradual reduction of the five urban centres into village communities is probably to be explained by the political and economic reorientation of Amman and the lands south of it with Damascus in the first two centuries of Islam, and the impact this had on communication routes in the region (Walmsley 1987: 286-288).

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Reassessing the Archaeology of Jordan of the Abbasid Period

A review of archaeological research of the Abbasid period in Jordan presents an opportunity to correct two historical misconceptions. The first is that the transfer of the political center eastward with the rise of the Abbasids and development of Baghdad made Jordan a stagnant backwater so that from A.D. 750 there was a drastic decline in population and urban settlement lasting through the Abbasid period. The second misconception is that, at the end of the period in question, the fall of the Crusader states led to a renewed link between Syria and Egypt and a new era of prosperity under the Ayyubids and Mamluks so that from *c.* 1200 there was a great increase in population and density of settlement. The correlate to these assumptions is the proposed rise of a nomadic cultural alternative during this 450 year period. Excavations and, more importantly, intensive regional surveys have been and continue to be used to demonstrate these historical "truths" by simple tautological reasoning.

Broad cyclical patterns in history and cultural evolution may be viewed with some suspicion and here indeed are counter-intuitive. Careful reading of Abbasid historical sources may easily begin to dismantle these cycles (Hamarnah, pers. com.). Where rural areas do not have the benefit of adequate historical documentation, the archaeological record holds an added evidential importance for such revisions. That archaeology has not provided these corrections is due to a number of factors: 1. There have been, and are, few specialists in Islamic archaeology; 2. treatment by non-specialists has often been neglectful (if not cavalier); 3. there has been an excessive reliance on the pioneering work of Sauer at Ḥesban; and 4. the pernicious system of the "pottery reader" has stiffled advancement in this field.

The current state of the archaeology of this period precludes any synthesis or meaningful discussion of settlement patterns. Happily though, in recent years, a combination of personnel and projects, dedicated to understanding the early Islamic period, has begun to rectify this situation and to prove the value of archaeology as an historical discipline. The purpose of this paper is to present a brief view of the background of Abbasid archaeology and to present, in a preliminary form, very recent developments which will lead to historically accurate assessments of sites and settlement patterns.

Ever Since Heshbon

Sauer's masterly presentation of the sequence of ceramics from Tell Ḥesban and their historical correlations in Jordan (1973) gives full consideration to the Islamic periods found at Ḥesban. The particular historical interpretation which Sauer applied to his archaeological data has a general currency in secondary literature; nevertheless, the broad impact of Sauer's study has meant wide-spread acceptance of these ideas among archaeologists and scholars in other fields. His analysis of the Abbasid period is concise:

"There is no literary evidence for Heshbon in the Umayyad period, but it would seem likely for the site to have been abandoned as a result of the ca. A.D. 750 'Abbasid takeover in Palestine'.

"The numismatic and literary evidence would indicate that there was probably a major occupational gap at the site between ca. A.D. 750 and ca. A.D. 1200. Only a handful of Palestinian sites have contributed published pottery from the intervening Early Islamic periods ('Abbasid, Fatimid, Seljuq-Zengid). With the Ayyubid/Mamluk pottery of Heshbon a whole new spectrum of ceramic features will need to be described." (1973: 49).

Understanding of the situation at Ḥesban was already being modified that same year, 1973, with "improved ceramic distinctions", "Abbasid glazed ware now stratigraphically identifiable", and a literary reference to post-750 occupation (Boraas and Horn 1975: 113, 138-139, 170-171; Grabar 1964). The most recent stratigraphic assessment of Ḥesban has altered the "post-Stratum 4 gap" to periods VA (750-969) and VB (969-1200) (Boraas and Geraty 1978: 16). It is hardly surprising that interpretations in a respected excavation might evolve over the years; what is disturbing is that documentation of the ceramic evidence for the reinterpretations has not been forthcoming.

Specifically the identification of Abbasid ceramics, the

primary diagnostic for archaeological dating, remained Sauer's to define. Although he categorized sites as having Abbasid components, his definition of Abbasid materials was not spelled out nor were the historical implications recast. Thus, having stated in 1982, "most major sites [and Umayyad 'castles' in the desert] were abandoned or essentially abandoned at the end of the Umayyad period," he simply lists sites in Jordan with Abbasid pottery as: Amman citadel, Ḥesban, Mount Nebo, Dhiban, and Deir 'Alla, all of which continue into the Early Fatimid period except for Mount Nebo (1982: 332-335).[1] In 1986 Sauer claimed Abbasid pottery was found only on the following sites: Ḥesban, Dhiban, Mount Nebo, and Deir 'Alla (Amman citadel, with pottery corpora available, is omitted). The same explanation is offered as in 1973, "When, with the harsh Abbasid takeover in A.D. 750, the center of Islamic civilization shifted from Syria-Palestine to Iraq, East Jordan declined rapidly. ...Most sites would seem to have been abandoned at the end of the Umayyad period, some never to be reoccupied, and some to be resettled only several centuries later in the Ayyubid and early Mamluk periods" (1986: 304).

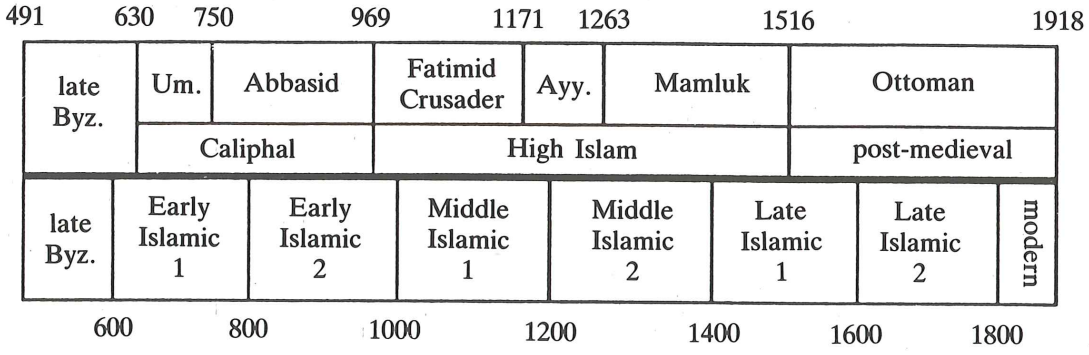
Thus the archaeological paradigm established in 1973, the sharp break in settlement in A.D. 750 and rise of nomadism/sparcity of settlement for the following 400 years, remains unchanged. Virtually every archaeologist working on the early Islamic period in Jordan has, at some time, accepted this paradigm and interpreted his evidence accordingly. Now, the weight of contradictory evidence is beginning to produce new interpretations, as noted above.

Archaeology and History

The Sauer paradigm contains a less obvious problem, one which has the effect of impairing archaeological development. This is the use of precise historical dates (usually based on political history) to define archaeological periods. Unlike more remote periods when archaeologists must be satisfied with broad centuries, more recent historic periods commonly have been defined by dates to the precise year. Most archaeologists treating the Islamic archaeology of Jordan divide periods by the chronological dates of the ruling dynasty. This results in obscurring the differences between political history and archaeology, leading to misconceptions on the parts of both historians and archaeologists.

For instance, the use of dynastic dates carries the implication that cultural change is synchronous with political change. Studies in patterns of change suggest a lag in material culture of at least two generations. Likewise, the use of dynastic names implies political and cultural influence for dynasties never directly centered in Jordan; such identifications should properly be the result of detailed research. In addition, both dynastic dates and names obscure research into regional cultural changes.

Thus a preliminary step toward clearer understanding of the Abbasid and other Islamic periods would be adoption of neutral periodization. There is little reason not to continue the archaeological practice of periods based on century divisions. The periodization presented here is heuristic; it is likely that archaeologists will concur, in the future, on other dividing points (e.g., A.D. 950) based on the results of evidence from the field.



[1]Sauer listed, in 1973, the relevant Abbasid sites in Palestine as: Khirbet al-Mafjar, Abu Ghosh, Khirbet al-Karak, ar-Ramla, Ganei-Hamat (Ṭabariyah) and Jerusalem. It is interesting that not one of these sites is Transjordanian. This present paper, as Sauer's later work, will confine attention to sites in Jordan for lack of space; obviously it will be necessary in the future to augment this study with evidence from Palestinian sites. Some preliminary information may be found in Whitcomb 1988a.

It should be noted and emphasized that, while this paper presents a critical view of Sauer's position, this should not be confounded with the respect which all archaeologists working in Jordan bear for this teacher.

While period designations in arbitrary centuries will prove more useful for discussing settlement patterns and other cultural manifestations by the archaeologist, the system does violence to the sensibilities of the historian. The Early, Middle, and Late Islamic periods proposed are descriptively awkward (as indeed are earlier archaeological designations, e.g., "Middle Bronze IIA"). Thus dynastic labels will continue but with a chronological caveat that, in the present case, "Abbasid" refers to the period A.D. 800 to 1000 and "Fatimid" encompasses A.D. 1000 to 1200.

A corollary for problems arising from dynastic dating systems may be seen in reliance on numismatic evidence. The rarity of Abbasid issues in excavations parallels known production of mints in Palestine (Qedar 1980). Except for a few issues in the early ninth century, there is no mint activity until the Tulunids (A.D. 890) and then only at Filiṣṭin (ar-Ramla?). The production of the 14 mints in Palestine under the Umayyads may parallel minting in other areas. Miles observed, concerning the rarity of Abbasid issues in southern Iran, that "it is possible that the large volume of copper struck met the needs of most communities throughout the East for several centuries" (1959: 4-5; see also Whitcomb 1985: 19-28). Factors of production, distribution and deposition must be considered when using these dated artifacts; coins, like C^{14} dates, may only confirm a chronological interpretation and can otherwise be discarded.

After Pella

Turning to historical sources and to recently discovered archaeological evidence for the Abbasid period, a convenient beginning may be found in Walmsley's detailed thesis on the administrative organization and patterns of settlement development in Filiṣṭin and al-'Urdunn (1987). Briefly, he sees an early Islamic system set up under 'Omar and lasting three centuries; this system changed, probably under the Ikhshidid hegemony beginning in 937, to reflect the fortunes of settlement dynamics in the tenth century (1987: 157). The detailed tenth century A.D. descriptions by al-Maqdisi may be his own innovative analysis or may embody the Fatimid organization. Walmsley has assembled this data, drawn from historians and geographers, into probable patterns of settlement (1987: Chapter 6, Table 15). While many will argue with his conclusions as based on too limited data, this study is a most useful heuristic position. What is very clear is that archaeological research (used to a very limited extent in this thesis) will provide fundamental new data for consideration.

The detailed report on the excavations at Pella (Fiḥl) appeared the same year as the Ḥesban ceramics (Smith 1973). Smith, carefully researching and publishing the limited Islamic materials, found elements stretching from the Abbasid through the late Mamluk (1973: 236-43). Sauer, in his review of this work, saw only a limited early Mamluk occupation (1260-1400) (1974); now it appears that Smith may have been closer to the mark. This revision stems from the recent work of Walmsley, whose excavation of Umayyad residences has produced the only clear case in Jordan of destruction from the A.D. 747/8 earthquake (McNicoll and Walmsley 1982; McNicoll *et al.* 1982). More importantly for the question of Abbasid settlement in Jordan, there are indications of continuation into this period, an hypothesis now being pursued through further excavations (Walmsley 1986).

"The delayed recognition of 'Abbasid settlement levels at Fiḥl is attributable to a number of factors. In particular there is a marked reluctance to acknowledge any permanent occupation of the site after the late Umayyad earthquake, a view which continues to find support from Smith ... Furthermore both Sydney and Wooster have overlooked the remains of the successive Islamic settlements in the centre of the tell by concentrating on the east and west ends of the mound. Finally as the 'Abbasid houses were probably demolished to make way for the Ayyubid/Mamluk village ..., the remains of this settlement are obscurred by later human activity on the tell." (Walmsley 1987: 114-115).

Elsewhere in the north of Jordan, four towns are mentioned by the Arab geographers as existing during the Abbasid period, Umm Qeis (Jadar), Qweilbeh ('Abil), Beit Ras and Jarash, (Walmsley 1987: 281-282). Each of these towns is better known as a classical site with continuation into the Byzantine and Umayyad periods. Fuller has provided documentation of these periods at 'Abil and claims an extensive Abbasid occupation (1987).[2] The archaeological evidence for Beit Ras has not yet appeared, though occupation until the beginning of the ninth century has recently been claimed (Lenzen and Knauf 1987: 41).[3] Likewise recent excavations at Umm Qeis (Jadar) indicate its occupation continued well into the Early Islamic 1 period, as recently demonstrated in bath structures and their vicinity (Holm-Nielsen *et al.* 1986; Andersen and Strange 1987).

The fourth city, Jarash, has been the focus of intensive archaeological research; the numerous excavation teams have produced a remarkable uniformity of chronological interpretation. The important exception is found in the study of Gawlikowski, in which he claims that a residential area by the South Decumanus continued well into the Abbasid period. "There is no evidence for the earthquake of 746-47 A.D. that destroyed Pella and which supposedly marked the end of Jarash as well" (1986: 115).[4] Thus the

[2]Though the forms for the Abbasid period have not been published, they include flat bases, moulded wares and turban handles, all indicative of an Early Islamic 2 period (Mare, pers. com.).

[3]An 11th century corpus of Fatimid "buff/white forms (cups, *ebriqs*, strainers)" has been noted from the site (Lenzen and Knauf 1987: 44).

[4]Gawlikowski dates these rooms near the south Decumanus by the presence in them of Abbasid coins and by the subsequent use of this area for pottery kilns associated with "Abbassid (sic) lamps, cut-ware bowls, and red-painted bowls ...buff-ware barbatino fragments and green-glazed sherds" (1986: 117). Similar pottery dated to the late ninth century, together with a Tulunid dinar, marked upper levels in the north theater (Clark 1986: 237, 239). None of this pottery has been published.

often intensive archaeological research in each of these cities has begun to produce evidence of the Early Islamic 2 period, a process impeded only by preconceptions and lack of publication of evidence. The ubiquitous Ayyubid/ Mamluk on these sites may also yield evidence of occupation in the Middle Islamic 1 period. The cycle of "gradual decline" and "renewal" may be correct but may, in part, be definitional from preconceived interpretation of artifacts.

Amman stands alone in the al-Balqa' region as a primary urban site, according to historical documentation. The city is known archaeologically from work done on the citadel (but see Northedge 1989), where the well-preserved structures are agreed to belong to the Umayyad period. Yet al-Maqdasi states that in the late tenth century "Amman lies on the border of the desert and has many villages and wheat fields around it. The al-Balqa' district, of which it is the capital, is rich in grain and flocks; it also has many streams, the waters of which work the mills. The Castle of Goliath is on the hill overhanging the city." (Le Strange 1890: 391-392). Excavations have revealed Umayyad houses (Harding 1951), though more recent excavations showed clear continuations into the Abbasid and Fatimid periods (Bennett and Northedge 1977-78; Bennett 1979; Northedge 1980). A summation of these results is available in Northedge's thesis, where clear evidence for these periods is presented (1984). Unfortunately this evidence has not yet been utilized to investigate the many Fatimid villages of this region.

Finally, Walmsley notes a series of towns in the southeast of Jordan, Ma'ab, Zughar, 'Arandel, Adhruḥ, Ayla (Aqaba), all within the region of ash-Sharah. After admitting the difficulty of identifying early Islamic pottery in this region, he states "The supposed vacuum in the settlement history of south Jordan after the Islamic conquest, a view which Sauer (1982: 331) does not question, is an archaeological fiction, created by an ignorance of the material culture from the Early Islamic, 'Abbasid and Fatimid periods in the region" (Walmsley 1987: 182-183). The evidence from the excavations at Udhruḥ has not yet appeared (Killick 1987); on the other hand, evidence of Abbasid and Fatimid materials and industries (indigo and sugar) have recently been defined at Zughar in the southern Ghor (Whitcomb n.d.b). The recent excavations at Aqaba have revealed a new site, an early Islamic town with stratified materials ranging from the pre-Umayyad through Abbasid and Fatimid (Whitcomb 1987). The ceramics of this port combine products of Jordan with imports from Egypt and Iraq, allowing external chronological controls; this corpus is available in manuscript and is appearing in a series of articles (Whitcomb 1988b; 1989a,b,c; n.d.a).

In summation, recent excavations at urban sites known from historical sources indicate no lack of Abbasid materials. The same may be expected from smaller towns and rural sites revealed through regional surveys. In direct contradiction to the earlier paradigm, Walmsley describes "the situation in the ... 'Abbasid period, during which time ash-Sham experienced a sizable net population increase on the back of a 'medieval green revolution'" (1987: 288). That surveys have not produced evidence of this follows directly from the unspecified or inaccurate ceramic diagnostics used to date sites.

Addendum: New Abbasid (and Fatimid) Ceramics

At risk of sounding trite, there are more than enough ceramics published as Umayyad and Ayyubid/Mamluk to fill in the Abbasid/Fatimid period and make it quite a respectable occupation in Jordan's history. As indicated in the chart above, the Early Islamic 2 period corresponds to the Abbasid (and Tulunid) periods in Jordan, while the Middle Islamic 1 period encompasses late Abbasid, Ikhshidid, Fatimid and Crusader hegemonies. Definition of the Early Islamic 2 diagnostics includes both those ceramics traditionally labelled "Abbasid" and elements of accepted Umayyad corpora. On the other hand, very little has been done with "Fatimid" ceramics and definition of the Middle Islamic 1 must draw heavily on the Ayyubid component of the following period. As indicated above, there is a growing corpus of published drawings and descriptions from major sites (Pella, Amman, Aqaba), as well as important smaller sites (al-Wu'eira, Khirbet Faris).[5] Compilation of these diagnostics is essential for research on settlement patterns and, on a more general level, for establishing Islamic archaeology as an accepted tool in the study of the history of Jordan.

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[5]The archaeological situation is hardly as bleak as painted in the beginning of this paper. Specific research into Islamic sites is taking place at Deir 'Alla (LaGro, pers. com.), at Khirbet Faris (Johns, McQuitty and Falkner 1989), and at Karak, Shobak and al-Wu'eira (Brown 1987; 1988; and pers. com.). The excavations at al-Ḥallabat provide another focus for Umayyad and later periods. The excavator, Ghazi Bisheh, has encouraged and assisted most of the projects and scholars mentioned in this paper.

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Pioneer Settlements over the Jordan

The area lying to the east of the Jordan River and the Dead Sea and between Ramtha in the north and Aqaba in the south is the subject of this study (FIG. 1). It has been, since time immemorial, the meeting grounds of people who crossed and recrossed it in different directions. These human waves came from near and distant lands and many from amongst them were those who settled in it. A wave that extended for nearly a thousand years can be referred to in general terms, as the Hellenistic-Roman presence in Transjordan. Historians mark it down as having started with Alexander's conquest in the fourth century B.C., but there is no doubt that the human physical presence of Hellenes in this area started some time earlier. They came as traders, men of fortune and prisoners of war. Naturally, as with all humans, some of them married women of the land and settled down.[1]

The real wave, however, came in the fourth century B.C. when the Hellenistic settlements were growing in number and strength. Like all those who preceded them, they realized that they were living in the areas that divided the desert from the sown. In 1894 George Adam Smith described their situation in a rather simplistic form, by writing about their times "when the Decapolis is formed as a Greek League to keep the Arabs out."[2] The dislike between the settled and the nomad resulting from conflicting interests, which my generation remembers well, is old indeed. At this stage it is therefore relevant and necessary to put things in the right perspective and to mention clearly what people meant when using the word "Arabs". There is no doubt it was used for nomads, who as camel herders, could bring havoc to the settled areas through their dire need for pasture land and water resources.[3] This usage was often used by Jordanians, until a few years ago, when a beduin encampment was referred to merely as "al-'Arab". It did not have anything to do with national feelings or national interests as we understand them nowadays.[4] The desire to keep the nomads out was again actively manifested in Roman times when the policy of the "Limes Arabicus" was firmly exercised towards the end of the third century A.D.[5] For the three centuries that followed both Romans and Byzantines strived to maintain a military build-up in the whole region bordering the Syrian desert. The purpose was the protection of the many settlements that lay to the west of the line that marked the extent of agricultural activity. It must have been a difficult task as frequent droughts, that sometimes continued for more than one season, caused the nomadic tribes in the southern and eastern areas to migrate in large numbers, into the settled areas in the north and the west.

In the year A.D. 614, the Persian Sassanids swept over the area in a wave that brought a great deal of suffering and devastation. The Byzantines, who rallied their forces under Heraclius, succeeded in throwing them back in A.D. 628 but within a few years were overwhelmed by the Arab armies advancing from the south under the banner of Islam. For the three hundred years that followed the countryside enjoyed what can be called a demographic peace. The nomads of the south were already dispersed in Persia and Central Asia in the east and in Egypt, the Sudan, North Africa and Andalusia in the west. The settled population in Transjordan therefore had no nomads to fight back. However they probably felt the adverse effects of living, in an outlying district, when after A.D. 750 the centre of Arab power established itself with the Abbasids, in faraway Iraq.

In the tenth century, Transjordan formed part of the kingdom of the Ikhshidis which ruled both Egypt and Syria between A.D. 934 and 969.[6] It was during this period and

[1]These migrations to and from the Middle East seem to be old indeed. The Philistines settled in the coastal strip of Palestine in the 12th century B.C. while the Phoenicians migrated to Carthage on the North African coast in the ninth century B.C.

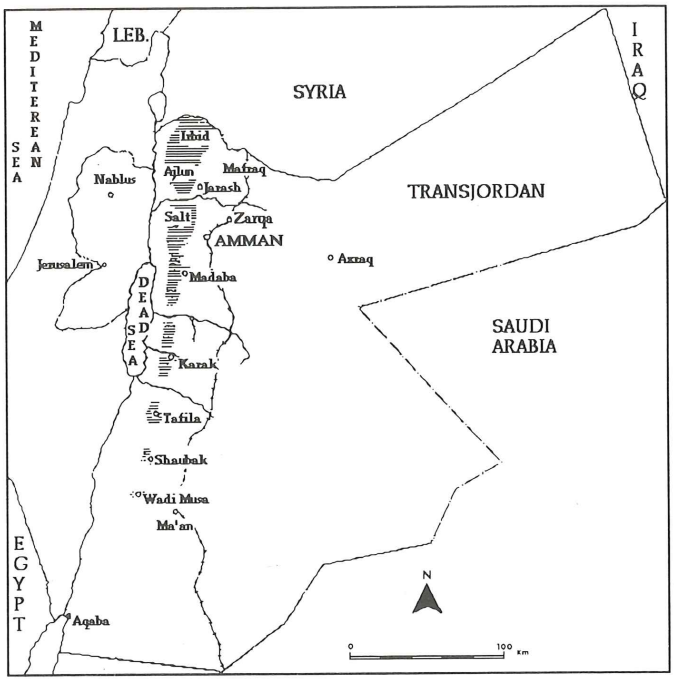
[2]G.A. Smith, *The Historical Geography of the Holy Land*, (London, 1894), p. 9.

[3]Ibn Khaldun, n.d. *Al-Muqadimah*, (Dar al-'Awdah, Beirut), p. 96.

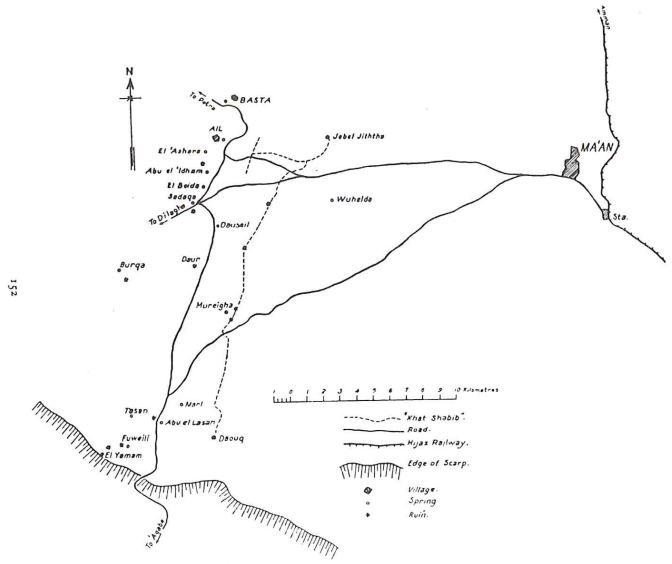
[4]A report about the beduin migrations into Bilad ash-Sham at the beginning of the 18th century is given by Doha Chatty, **'Tawasu' al-Badu fī Bilād ash-Shām wa Inḥisārahum'**, *Proceedings of the Second Symposium on the History of Bilad Ash-Sham*, pt. 1 (Damascus, 1978), pp. 403-413.

[5]S.T. Parker, *The Roman Frontier in Central Jordan*, (BAR Int. Ser. 340, Oxford, 1987).

[6]Ahmad al-Sa'id Sulciman, *Tārīkh ad-Duwal al-Islāmīyah wa Mu'jam al-'Usar al-Ḥākimah*, (Cairo, 1969), pp. 129-130.



1. Map of Jordan. Shaded areas indicate roughly those under cultivation during the eighteen nineties. The railway line between Mafraq and Ma'an became operational after 1905.



2. Map showing Khaṭṭ Shabib to the west of Ma'an. After Kirkbride, *Antiquity* 87 (Sept. 1948), p. 152.

probably just after A.D. 950 that their governor of Amman and al-Balqa' was Shabib ibn Jarir al-'Uqaili, who built a castle in the vicinity that is still known by his name in az-Zarqa. His name is also very well remembered by the Chronicles which associate him with two sites that are called Khaṭṭ Shabib. The first, an imaginary line in the area east of Amman, probably indicating to cultivators the boundary between the fields that receive enough rainfall to produce reasonable crop and those that do not. Generally it relates to the line that stretches parallel to the Hijaz Railway between az-Zarqa and Zizia. The second line was:

> "...a stone wall running for no obvious reason, across country from a point about twelve kilometers west of the town of Ma'an and terminating near the edge of the scrap, known as Nagb Eshtar".[7] (FIG. 2).

Sir Alec Kirkbride, the British Resident until 1946 and later Ambassador in Amman, was the first person to write about this stone wall. He described it as being "a single layer of rough blocks of stones laid upon the surface of the ground, over a width of about two metres, with larger blocks standing upright in the centre of the strip at more or less regular distances of about five metres. Circular arrangement of similar rough stone appear to have existed at irregular intervals and where the line crossed important tracks, there appeared to have been breaks or gates so as not to impede traffic. Although a great physical effort must have gone to build this remarkable wall, the nature of its structure indicates that it was a boundary line and not a defensive wall. All the permanent water points lie to the west of the line and so also does the cultivated land in the vicinity which is capable of raising rain irrigated crops under existing climatic conditions." Kirkbride commented that there is no evidence to confirm the date of the construction of the wall and I am not aware that studies or excavations since 1946 have given any conclusive information concerning this point. Nevertheless I am certain that whoever built it, if it was not Shabib himself,[8] was trying to keep the countryside on the fringe of the desert under his control. He wanted to save the crops so that farmers would be able to pay their taxes to his till and at the same time keep the beduins under check so that tribute could be collected from them when making use of the western lands' pasture and water resources. As already mentioned, the conflict between cultivators and nomads came to a stand still when the Arab Peace prevailed in the middle of the seventh century. The cultivation of the fields abandoned by the population of Greek origin in Bilad ash-Sham and of Persian origin in Iraq and Faris brought favourable

[7]A. Kirkbride, 'Shabib's Wall in Transjordan', *Antiquity* 87 (1948), pp. 151-154.

[8]Shabib's name has been immortalized through his mention in a poem by the famous Arab poet al-Mutanabi. It can be referred to in my collection of his poems.

conditions for growth that continued until the establishment of the Crusader Kingdoms and principalities in Bilad ash-Sham.[9] Then the agricultural strife between settlers and nomads became another aspect of the major military conflict. During the three hundred years that followed, both Ayyubid and Mamluk rule have had to live with agricultural strife since their regimes, whether in Cairo or Damascus, did not have real authority over the tribes of the peninsula. The Ottoman rule after 1516 tried to control the countryside and remove agricultural strife in the hope of collecting taxes in regular style. Therefore a fiscal census was initiated in the year 1525 which was followed by a more elaborate one in 1595/6.[10] It is indeed striking that even after eighty years of Ottoman rule, their formidable government bureaucracy was not able to make better conditions prevail for agricultural extension in the areas bordering on Badiat ash-Sham. The line of agricultural activity, as is shown in FIG. 1, has indeed shrunk westward and all the areas east of Irbid and as-Salṭ have been transformed into pastureland. The activity in al-Karak and the southern area has been so un-rewarding, tax-wise, that they were not even included in the census. It is therefore safe to assume that all the areas east of the line stretching between Irbid, Jarash, as-Salṭ, al-Karak, aṭ-Ṭafila and ash-Shawbak were no more under cultivation. This beduinization of the Transjordanian eastern districts, which lasted probably for more than four hundred years until the 1860's, was so complete that the government withdrew its forces and left the small population living in it on their own. The only time some of them came in contact with the authorities, was during the pilgrimage when the famous caravan crossed the Transjordanian countryside on its way to the holy places and two months later when it returned to Damascus.[11]

This poor state of agricultural affairs continued until the second half of the 19th century when the Ottoman Sultanate issued the Land Law of 1858 and beduin shaykhs as well as tribsemen and groups of cultivators started to acquire, by prescription or purchase, large estates of dry farming land that were known then as khirab or khrab. This process started first in the Balqa', the middle region when towards 1860 Shaykh Fandi ibn Fayiz and his son Shaykh Saṭṭam started their agricultural activity at Barazin. Probably at the same time their cousin Shaykh Rumayḥ Abu Junaib took over al-Yaduda, aṭ-Ṭunaib and Lubban and started his partnership with Ṣaliḥ Abujaber at al-Yaduda.[12] Few years afterwards, Shaykh Saṭṭam took over ten villages including Umm al-'Amad, Zizia and al-Qasṭal and distributed them to shaykhs and clans of the Bani Ṣakhr[13] when he became Shaykh al-Mashayekh of the whole tribe in 1881. Madaba was acquired in 1880 by three Christian tribes who moved out of al-Karak a year earlier and the Salṭiyih clans acquired land in the Amman area. The fields around Amman were alloted to Circassian refugees some time after their arrival in 1878. In 1884 Ibrahim Abujaber left al-Yaduda and struck a partnership with al-Ḥadid shaykhs of the Balqawiyi tribes at aj-Juwaidah and Qurayit Nafi'.[14] Afterwards the Bisharats, of Nabulsi origin, followed their uncle Ṣaliḥ Abujaber, already established at al-Yaduda and became his neighbours at Umm al-Kundum. In 1894 three clans of farmers, originally from Egypt, pooled resources and acquired from the governor of Damascus the title deed to Saḥab.[15] Towards the end of the century other families followed suit when the Nabulsis, originally from Nablus but already in as-Salṭ for some twenty years, acquired an estate in Ḥisban, and the Tuqans also originally from Nablus acquired land in Nau'r. At the same time or a little afterwards Khairo Agha Abu Qura, of Damascene origin living in as-Salṭ, acquired an estate in ar-Rajib still owned by his descendants, now known as Khair family. In al-Baniyat, a Nabulsi residing in as-Salṭ, al-Sharabi bought lands which his descendants are still farming. The Qa'wars acquired Qurayit Salim and a clan of Dababnih of as-Salṭ bought lands in Nau'r from al-'Ajarmih tribesmen.

In the north, acquiring of land was greatly encouraged by the Ottomans who by 1851 had already instated a Kaim Makam in Irbid. Probably immediately after that date, ar-Ramtha was settled by cultivators who came from the west and the Ḥauran. At the same time al-Gharaybih, whose name means those from the west, moved and settled in al-Mughayar. Years later in 1869 ar-Ramtha was sacked by nomads[16] and few families of al-Ḥuṣn headed by al-Hindawi, and his companions Halush, al-Khalil and al-Nasser, were not allowed by the authorities to stay at al-Ḥuṣn where they resided until then.[17] They moved to an-Nu'ayma and joined hands with the clans already residing in it, al-Khaṣawnih, al-Murayyan, Hamasha and al-Maumani to cultivate the fields of an-Nu'ayma and to settle the two khirab to the east, Kabar and Tumaira. The

[9]This period of instability extended for nearly two hundred years until the Crusaders were finally defeated at the Horns of Ḥiṭṭin on 4 July 1187.

[10]W.D. Hütteroth and K. Abdulfattah, *Historical Geography of Palestine, Transjordan and Southern Syria in the Late 19th Century*, (Erlangen, 1977), pp. 3, 4.

[11]Three travellers who visited Transjordan at the start of the 19th century were Seetzen, Burckhardt and Buckingham. They all confirmed that there were no agricultural settlements east of as-Salṭ.

[12]The partnership involved divison of the crop and the land after cultivation at Ṣaliḥ's expense. A document found in the Abujaber collection, 4 Jumada al-Aula 1317 A.H./A.D. 1899 stipulated that Rumaiḥ's holdings in al-Yaduda be exchanged for Ṣaliḥ's holdings lying to the east in aṭ-Ṭunaib. This transaction was concluded between Rumaiḥ and Ṣaliḥ's sons (he died in 1897) and probably some 35 years after the original partnership was started.

[13]Y.S. al-Shuwaihat al-Uzaizat, *Al-'Uzaizat in Madaba*, (Amman, 1964), p. 76.

[14]This was possible by the sale of a house that the family owned in Jerusalem for the large sum of 650 gold French Pounds. The transaction is recorded in the Registers of as-Salṭ's Islamic court on the 1 Rabi' al-Akhir 1305 A.H. which coincides with the year A.D. 1885.

[15]F.G. Peake, *Tārīkh Sharq al-Urdunn wa Qabā'iluha*, (Jerusalem, 1934), p. 352.

[16]A report about this incident was sent by Consul-General Wood from Damascus to Britain's Ambassador in Constantinople. It was dated 27 September 1869 and is in the archives of the Public Records Office in London No. FO 95/927 Syria and Palestine.

[17]The document of this act was dated 29 Rabi' al-Akhir 1286 A.H./A.D. 1869. It is now published in my book *Pioneers over the Jordan* (London, 1989).

beduin tribes acquired also a taste for land. Probably in the 1880's the Khurshan of Bani Ṣakhr acquired the villages, Buraiqa, Fa'a, and Khanaṣri all to the east of Tumaira. The Bani Khalid acquired Ḥausha and the Bani Ḥasan spread out and acquired all the villages between Jarash and al-Mafraq. New groups of Circassians and Chechen arrived as refugees and started cultivating the land in az-Zarqa, ar-Ruṣaifa and as-Sukhna towards 1900.[18]

The southern districts south of al-Wala required, on account of instability, a longer period before they were agriculturally settled. The Ottomans only managed in 1894 to send an expedition to subdue al-Karak. With a governor and a strong garrison in the town the district became better prepared for agricultural activity. It was only after 1900 therefore that al-Majali started cultivation, at some scale in villages like al-Qaṣr, al-Yaruṭ, and ar-Rabba. Al-Halasah acquired Ḥmoud at the same time while al-Zuraiqat acquired fields in ar-Rabba with al-Majali and the Madanat in Ader. The most recent village as far as settlement date is concerned is as-Smakiyih, the village of the clan of or our good and learned friend Dr. Fawzi Zayadine,[19] and their kin al-'Akashah.

A study of the different patterns of settlement during the 19th and early 20th centuries revealed that these could be divided into three broad groups. The first and most common was that resulting from a khirba being taken over by a beduin shaykh or a beduin clan and fields in it allowed to be cultivated by farmers in some form of partnership. The latter became known as *fallaḥin*. Examples of this pattern were common in the middle part of the country, especially in the khirab of the Bani Ṣakhr. The land owners normally did not render any service other than playing their role as land lords and protectors and collected between 30 and 40 percent of the crop, while the *fallaḥin*, who provided the seeds, equipment, animals and labour, were content to receive the balance after payment of all expenses. Generally the *'ushr* or one tenth of crop, which was 12.5%[20] agricultural tax, was rendered to the land lord who in most cases never paid it to the government. This is because the Ottomans were not militarily able to collect taxes in the frontier of settlement areas except after 1851 in the north, 1867 in the middle and 1894 in the south.

The second group in these settlement patterns were those entrepreneurs who moved eastward and managed to acquire land either by partnership with beduin clans or through outright purchase. They then developed their estates by providing the necessary capital to buy animals, equipment and seeds, and by hiring labourers who were called *ḥarathin* or ploughmen. In most cases, the ploughmen were hired for a season's duration, starting work at the start of ploughing in mid-October, and becoming free from this year's bondage in August the next year after the crop has been collected. Their share as a group was one quarter of the crop after deduction of the *'ushr* and farming expenses. This share, however, changed with time and became only one fifth of the crop in 1911, probably as a result of a bigger supply in the labour force, but the ploughmen, nevertheless, continued to be called *murab'iyih* meaningly those who receive a quarter of the crop as a group.[21]

The third group were clans or groups of farmers who joined hands to cultivate a certain khirba and as such became its collective owners. Probably it was groups like this one which developed, in earlier times, the Musha'a system, when fields were rotated amongst the different members of the group to insure equal opportunity and fairness. Examples of this pattern are Dayr as-S'inih,[22] west of Irbid, and an-Nu'ayma[23] east of Irbid, in the north; Saḥab[24] and Umm Quṣair in the middle; and as-Smakiyih[25] and Ḥmoud[26] in the south. Most peculiar, however, amongst these settlement operations was that carried out at Umm Quṣair, few kilometres south of Amman where a hetrogeneous group of people managed to join hands and establish themselves amongst the different clans of the Da'ja tribe with equal rights and duties. The following detailed story of this operation will give the reader an interesting example of resourcefulness and originality which was every now and then resorted to by people who had everything to gain from stability and a higher grade of security through larger numbers in their clans.[27]

Around a hundred years ago a beduin by the name of Salamah al-Ghrair was living as a member of the Da'ja tribe in az-Zarqa, 22 kilometres north of Amman. His people were originally of the Rabi'a tribe of Najd. When the tribe was attacked some 150 years earlier, an ancestor by the name of Qasim imigrated and joined the Da'ja, one of the oldest Jordanian tribes.[28] In 1891 Salamah, who must have been unhappy about the possibilities of agriculture in az-Zarqa, moved and settled at Umm Quṣair, an old site five kilometres to the south of Amman. In accordance

[18]Land was alloted to 162 families as per an Ottoman document dated 3 Ṣafar 1323 A.H./10 April A.D. 1905.

[19]Christian tribes of the southern part of Transjordan around Petra, they migrated north to al-Karak, probably in the middle of the eighteenth century after the spread of the Wahabi doctrine.

[20]The increase in the rate of *al-'ushr* tax from its original 10% to 12.5% took place gradually during the 19th century. 0.25% was added in 1878 for payment of the war indemnity to Russia. 1% was added for the creation of an agricultural bank in 1885, 0.5% was added in the following year for education. The last addition of 0.5% was applied for military purposes in 1897. There in no mention of the 0.25% difference which may have been added by tax collectors to round the figure to one eighth of the crop.

[21]The documents of the Abujaber collection confirm that the *rubi'* until 1903 was one quarter of the crop. Afterwards, probably due to a larger supply of labour, it was reduced to one fifth of the crop.

[22]G. Schumacher, *Northern 'Ajlun*, (London, 1890), p. 131. Total area of Dayr as-S'inih is 7451 dunums.

[23]The Nu'ayma document dated 1869. Total area of Nu'ayma is 34,484 dunums.

[24]R.S. Abujaber, *Pionners over the Jordan*, (London, 1989). Total area of Saḥab is 13,643 dunums.

[25]Interviews with Dr. Fawzi Zayadine in the summer of 1988. Total area of Smakiyih is 2924 dunums.

[26]A. al-Qusus, *Mudhakkarat* (Memoirs), unpublished, p. 34. Total area of Ḥmoud is 25,259 dunums.

[27]Chronicles, until fifty years ago, gave detailed reports of these alliances and affiliations. Nowadays such studies have become difficult as there are no written documents.

[28]Peake, *op. cit.*, p. 360.

with the Index Gazetteer published by the Department of Lands and Surveys in 1958, the whole area of the village was 6794 dunums or 680 hectars. The population of the village as per the census of 10 November 1979 was 3970. The growth is not a natural one because the area has industrial activity and estimates of the numbers nowadays vary between 5000 and 6000. Thanks to its proximity to Amman, Umm Quṣair has developed better than other villages during the last ten years and its original owners have done well through the sale of land at the increased prices. Probably the group was not more than three or four tents and in addition to their usual pastoral activity, they became engaged in dry farming of cereals in the plains south of Amman. The fields that this new settlement cultivated were in the domain of the Da'ja and were not until then cultivated regularly due to the shortage of manpower. Salamah, a pioneer member of the tribe was not therefore prevented from settling on the land especially that he brought with him two other clans of the Da'ja, the Millifi, who like him were originally from Najd and the al-Hamlan originally of al-'Amr of the al-Karak area. He began to welcome other settlers to join the new clan which now developed into al-Khuṣailat, the word being a plural of *khuṣaila*, which literally is the diminutive of *khuṣla* (a lock of hair). It is significant that they were given this name as evidence of the fact that everybody already knew that they were tribesmen who belonged to different tribes but were now united in one clan which is a grouping of these different people. It is on record that the Khuṣailat in 1902 were only 30 families under the leadership of Salamah al-Ghrair and all were living in and around Umm Quṣair.[29] The numbers have grown from the original ten families because within years, the three original clans have been joined by seven new ones bringing the number to ten clans in all. The seven were:[30]

1. Al-Dru' originally from Shammar of Najd while some say they are from Ḥarb of the Ḥijaz.
2. Al-Jhaish originally from Shammar of Najd while some say they are from the Gaza district.
3. Al-Sh'arat originally from Bilad ash-Sham.
4. Al-Jurban originally from aj-Jarba of Shammar.
5. Al-Muhairat, originally from the Jordanian tribe of 'Abbad while some say they are from Shammar.
6. Al-Ḥanaifih, whose origin is not known, but some say they are from Iraq.
7. Al-Ramamnih, originally from the Ramamnih clan of as-Salṭ area who migrated from their village Umm Jauzih.

Only the last clan, al-Ramamnih, bought their share of land in the village common. They bought the land from the Shubaikat, another clan of the Da'ja, sometime during the late 1890's and although cause for their migration is not known now, it probably was like many others because of tribal differences in their original abode. All the other nine clans acquired shares in the village common through tribal division of land amongst the different clans in a tribe. This system is still recognized even by the Land Settlement Department of the Jordan government, when many a time an announcement in the local press will refer to a certain parcel of property as "having attached to so and so through tribal division."

Although it is not always possible to reconstruct the history of agricultural activity in the countryside with certainty, it is reasonable to assume that in the nineteen hundreds Umm Quṣair had thirty working faddans, or one faddan per family on the average. A faddan, an agricultural operation that involved the cultivation of an area of land by a pair of oxen during the season, generally covered two hundred dunums. Half the area was under actual cultivation in a season whilst the other half was left fallow for one whole year. The crop gathered per faddan in this part of the country varied between 1000 *ṣa'* of cereals (6 tons) in medium years and 2000 *ṣa'* (12 tons) in good years. To support their takings from crop production, the farmers resorted to raising sheep and goats and it was customary for every household to have around fifty of them to produce its requirements of milk, butter, fresh meat, yogurt (*jamid*), wool and hair. The last two items were usually mixed together and used for the weaving of the *shqaq* (heavy cloth in long pieces), that gave the beduin tents of Arabia their black look.

Fortunately it has been possible to study the history of settlement of Umm Quṣair with some ease. As previously mentioned it is barely one hundred years ago that the settlement was started and this is confirmed by the fact that Major C.R. Conder, whilst carrying out his survey of Eastern Palestine in 1881 for the Committee of the Palestine Exploration Fund, had very little to say about Umm Quṣair. All he had was one sentence: "It is a small ruin, with scattered stones and foundation of houses."[31]

When mentioning the tribes or the clans of the area, he mentions the Da'ja divisions in the west of Amman, Amman and at Marj al-Ḥamam,[32] but there is no mention of the Khuṣailat in any form. This is strong evidence that the clans, which after Conder's visit and survey joined hands to form the population of the new settlement of Umm Quṣair, were really different branches or locks from different tribes. They came together with the sole purpose of protecting their golden opportunity, the ownership of land. After all the beduin proverb used so many times and on so many different occasions simply said "*'id rjalak wa ird al-ma'*" which freely translated means "count your men and then go to the water source in strength." Through larger numbers, therefore, they could defend their right to the land ownership in better form.

[29]P.A. Jaussen, *Coutumes des Arabes au pays de Moab*, (Paris, 1908), p. 402.

[30]Interviews with Mr. Muhamad Abu Rumman on 15 April, 1983 and with Haj Abd Rabbu al-Dru' on 22 September, 1988.

[31]C.R. Conder, *The Survey of Eastern Palestine*, (London, 1889), p. 250.

[32]Conder, *op. cit.*, p. 294.

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Occupation de l'espace dans le village traditionnel de 'Aima: approche ethnoarchéologique

Le village de 'Aima est situé à 12km au nord-ouest de Ṭafila et à 9km à l'ouest de la ''Route des Rois'', dans la partie sud-ouest de la Jordanie.[1]

L'implantation s'est développée sur un replat (altitude d'environ 860m) de la pente montagneuse, résultat de l'érosion et d'un glissement de terrain du Jebel Abu esh Shuqaf (altitude de 1236m, surplombant le village de 1192m). Le sous-sol est constitué de calcaire, appartenant au type de ''Wadi as-Sir'' (épaisseur 75m)[2].

Le village de 'Aima s'étend au bord du Wadi el Mashari alimenté par trois sources pérennes (Um Hamata, Marwan el Karmeh)[3] qui assurent l'irrigation des vergers et des cultures maraîchères. La région de Tafila reçoit, en moyenne, des précipitations annuelles d'environ 350mm, réparties sur 5/6 mois, et se situe dans le bioclimat méditerranéen semi-aride froid. La végétation, composée d'arbustes et de buissons, est de type ''méditerranéen non-boisé''[4].

'Aima est, aujourd'hui, composé de deux agglomérations:
- l'implantation traditionnelle, dont nous traiterons tout particulièrement ici.
- le village moderne. Les nouvelles constructions se sont installées à l'ouest de l'ancienne agglomération. Le déplacement des habitations vers l'ouest (seule direction possible)[5] s'est, tout d'abord, effectué spontanément en bordure de l'ancien village, puis plus franchement en 1972 avec le projet gouvernemental de lotissement. Le matériau de base utilisé est le béton.

Ce vieux village, d'une superficie de 8,77ha en 1953 et de 15,73ha en 1981[6], est en fait le résultat de la sédentarisation de six tribus[7]. Ces tribus seraient les fondatrices du village, mais elles ne se sont, fort probablement, pas fixées toutes en même temps. Jusqu'en 1972, il était massivement occupé, et à présent, seules 15 familles (environ 50 personnes), y vivent encore. La répartition des différentes tribus sur le terrain (FIG. 1) permet de comprendre l'organisation de l'occupation villageoise. En effet, les territoires sont délimités par des ruelles. Cette distribution de l'espace par tribu ne laissera aucune trace particulière lorsque l'agglomération sera réduite à l'état de ruines. Pour l'étude de l'évolution récente de l'occupation de l'espace dans le village de 'Aima, nous ferons appel à plusieurs sources de renseignements:

I-L'analyse architecturale des maisons, effectuée sur le terrain, a permis de définir quatre types de construction.

II- Les plans établis à partir des photographies aériennes (années 1953, 1976, 1981) et le plan de l'état en 1986 qui a été effectué sur le terrain.[8]

III- Les renseignements issus des interviews menés auprès des habitants, afin de déterminer comment se constituent les pâtés de maisons et selon quels critères.

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[1]Coordonnées: 30°53'N et 35°36'E.

[2]Cf. carte géologique du Ministère de l'énergie et des ressources minérales, carte At Tafile 3151 IV, échelle 1:50 000 (1988).

[3]Cf.Khatabaa F. (1985), p. 88.

[4]*SHAJ* II, (1985) D.M. al-Eisawi, p.52.

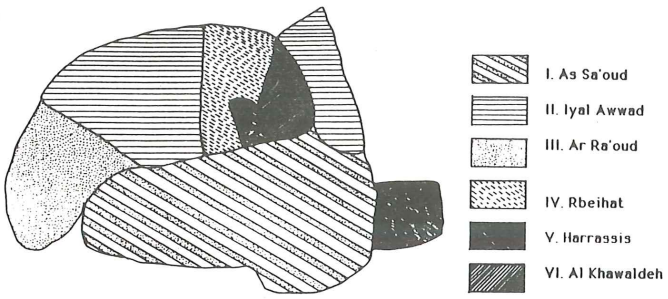
[5]A l'est et au sud, la montagne entoure le village; au nord, le terrain est en pente, vers le wadi Araba.

[6]Il s'agit des espaces bâtis ou non, composant l'agglomération ancienne. Situés à la périphérie sur des replats de la pente montagneuse, les aires de battage au nord et le cimetière au sud, sont exclus.

[7]Pour plus de détails sur les tribus (origines et composition) voir ADAJ 31 (1987) M.Biewers, Etude du village traditionnel de 'Aima, p.490-492.

[8]Nous tenons à remercier le brigadier général Rafat el Majali (Directeur du JNGC) pour nous avoir permis d'acquérir les documents qui nous étaient indispensables (photographies aériennes et cartes de la région).

Notre reconnaissance s'adresse tout particulièrement à R. Saupin qui a effectué les restitutions à partir des photographies aériennes. Nous lui devons les plans qui figurent ici.



1. 'Aima. Répartition des tribus.

I- L'analyse architecturale.

Les caractéristiques principales des différents types définis sont les suivantes:

1- le premier type (type 1a) est constitué des bâtiments les plus anciens du village. Ces maisons sont construites en pierres (moëllons bruts) non appareillées, et recouvertes d'un toit plat supporté par des arcs intérieurs.

Elle n'ont qu'une seule pièce d'habitation. Les piédroits contrebutés des arcs délimitent des espaces dans lesquels sont construits des installations: des plate formes de couchage, des enclos, des greniers, des banquettes, des étagères etc... Aucun mobilier n'y est traditionnellement utilisé.

Un second espace, accessible de la pièce principale, sert à l'engrangement de la paille et à l'entrepôt de réserves alimentaires. Les ouvertures sont rares: la porte d'entrée et des ouvertures dans la toiture pour l'aération, plus rarement des ouvertures dans les murs.

2- Ce que nous avons appelé le type intermédiaire (type Int.) est en fait une étape dans l'évolution de l'architecture. Il se situe entre le type 1a et le type 2. L'ancienne mosquée (M1) appartient à ce type et date de 1940, ce serait le plus ancien bâtiment de cette catégorie.

3- Les maisons du type 2, aux dimensions plus réduites que celles appartenant au type 1a, sont composées d'une ou plusieurs petites ''pièces-modules''. Les murs sont construits en moëllons préparès avec plus de soin et posés en lits réguliers. Un arc unique, qui prend naissance dans le mur, à 1m-1,50m du sol, soutient la toiture. Aucune installation intérieure n'y est construite, et un certain type de mobilier est nécessaire: lit, armoire... L'intérieur est éclairé et ventilé par une ou plusieurs fenêtres, munies de barreaux ou de volets.

4- Type 3. Les maisons sont bâties en béton et ont un plan qui n'est pas traditionnel. On observe une multiplication des pièces dont l'usage devient plus spécifique. Elles sont réparties, le plus couramment, sur deux étages. Le rez-de-chaussée est réservé aux animaux, s'il n'y a pas d'annexe qui leur soit propre, et à l'entrepôt des instruments agricoles etc... A l'étage se trouve l'habitation proprement dite.[9]

II- Le village: analyse des différents plans.

L'analyse des plans nous a permis de réaliser les FIG. 2 et 3 qui comptabilisent pour les périodes 1953/1976 et 1976/1981 les constructions anciennes et nouvelles, les destructions et les modifications.[10] Nous avons ainsi pu reconstituer une histoire de l'architecture du village de 'Aima.

Jusqu'en 1953, les bâtiments du type 1a et 1b sont les plus nombreux. A partir de 1953, le type 1a de construction semble abandonné (seulement 9 exceptions), ainsi que les maisons appartenant au type 1b qui datent, pour l'essentiel, d'avant 1953. Les constructions des types 2 et 3 prévalent.

L'origine des type 1b et 2 serait la construction de la mosquée en 1940 (type 1b) et de l'école en 1947 (type 2).

Les nouveaux bâtiments sont construits soit à l'emplacement de maisons abandonnées puis détruites, soit à la périphérie des quartiers. Nous avons vu que le déplacement vers l'ouest s'est effectué en deux étapes: la première est spontanée. Ensuite, avec la création du lotissement gouvernemental (1972), on construit, de préférence, à la périphérie occidentale de l'ancienne agglomération. Ces maisons ne sont pas très éloignées du centre ancien commercial, religieux et éducatif, mais très rapidement elles se trouveront au milieu des nouveaux bâtiments officiels. Dès 1973, une nouvelle école est construite à l'ouest. La mairie est déplacée en 1978 et la même année, l'ancienne mosquée est abandonnée au profit de celle bâtie derrière la mairie. En 1978/79 la dernière boutique du vieux village ferme ses portes. Ces bâtiments publics (avec la poste) sont regroupés à la périphérie ouest de l'ancienne agglomération Aucun ne se trouve dans les nouveaux quartiers, sauf l'école des filles (FIG. 4). Avec le développment de la nouvelle implantation s'opère un déplacement vers l'ouest, du centre commercial, administratif et religieux qui fait la jonction entre les deux agglomérations. (FIG. 4)

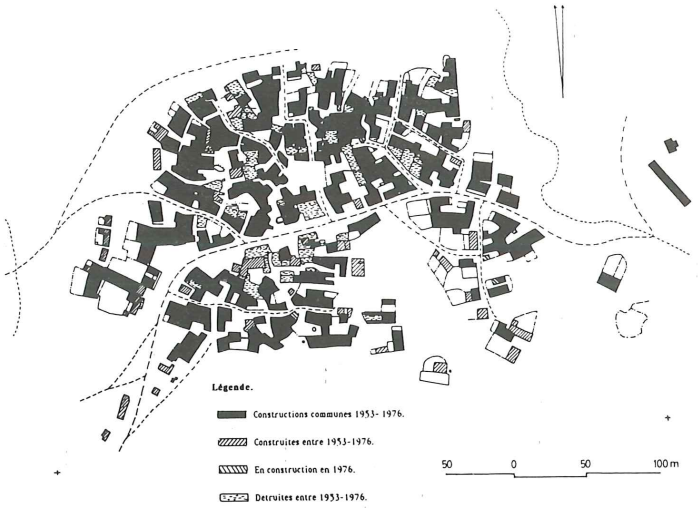
III- Constitution des pâtés de maisons.

L'espace privé dans un village traditionnel a deux composantes:

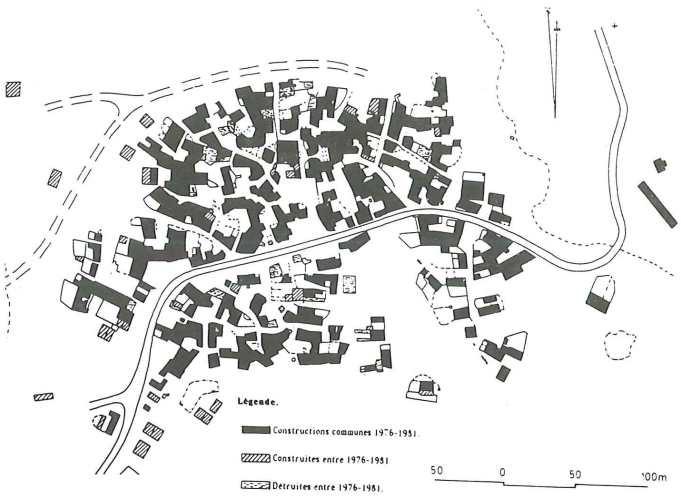
- les espaces bâtis: les maisons, les bâtiments à usage commun.
- les espaces non bâtis privés: les ruelles, les cours.

[9]Cf. M. Biewers. *ADAJ 31* (1987), p. 493 à 503.

[10]Dessin L. Vivensang à l'aide des données fournies par l'auteur.



2. 'Aima 1976.



3. 'Aima 1981.

Ces espaces privés sont les témoins de la vie du village: développement, abandon, destruction.

- Les espaces bâtis.

La FIG. 5. nous permet de constater, deux faits pour la période allant de 1953 à 1976:

Il y a éclaircissement du tissu villageois, surtout dans la partie nord. Au sud, les constructions sont érigées à la périphérie d'une zone non bâtie. Le premier phénomène s'accentue entre 1976 et 1981. Après une densification progressive du tissu villageois, dont nous avons l'aboutissement avec l'état de 1953, nous assistons au processus de démantellement de celui-ci. Deux facteurs ont joué: l'un social, l'autre économique.

Le facteur social. Il y a saturation de l'espace privé. Ces maisons du vieux village, appartenant essentiellement au type 1a, abritent des familles de 10 à 15 personnes (les parents, les grand-parents, les enfants mariés et non-mariés). Un éclatement des maisonnées s'opère. Les familles nucléaires se scindent du groupe et construisent une maison du type 1b ou 2.

Le facteur économique.

Conjointement au changement des comportements sociaux, se pose un problème économique grave dès les années 1930/40. Trop de personnes vivent sur les revenus variables d'un domaine agricole insuffisant et de plus en plus nombreux sont ceux qui partent tenter leur chance dans la capitale. L'émigration de 75% de la population a lieu dans les années 1950/70. Ceux qui restent vont s'installer dans les nouveaux quartiers de 'Aima, délaissant l'ancienne agglomération qui se vide de ses habitants. L'installation dans des maisons du type 3 est possible: moins de personnes sont à nourrir sur les revenus de la terre, et les membres de la famille installés à Amman, envoient de l'argent aux parents restés à 'Aima.

De nombreuses maisons anciennes ont ainsi été abandonnées et sont tombées en ruines. Une maison en mauvais état est une source de matériaux de construction. Le bois de la toiture, étant rare, est bien vite récupéré. Les pierres sont réutilisées pour la confection d'enclos pour les animaux, de four à pain et autres installations annexes dans le nouveau village. Certaines constructions sont ainsi rasées jusqu'au niveau du sol.[11]

Une fois le village ancien pratiquement abandonné, le tissu villageois se ''défait''. Ceci est très net dans la partie nord de 'Aima.

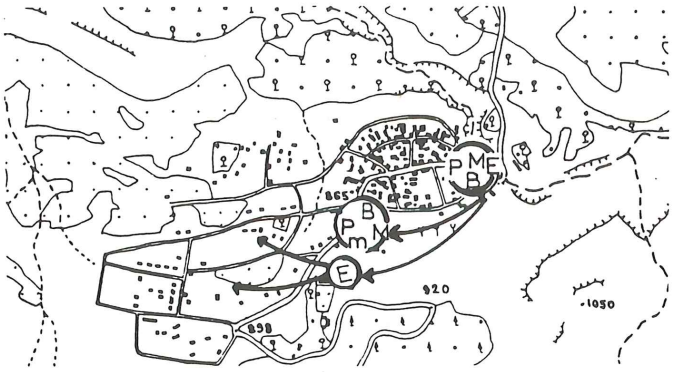
Quartiers nord.

Ces quartiers nord se sont implantés sur une petite élévation, une sorte de ''tell''. Nous employons ce terme, car nous avons la conviction que cette élévation correspond à un site occupé antérieurement. La prospection de B. MacDonald et l'analyse du matériel ont révélé la présence d'un site byzantin et d'occupations islamiques[12] que nous situons sous les quartiers nord du village.

L'étude de l'architecture nous permet d'affirmer qu'une grande partie des constructions les plus anciennes (type 1a), est regroupée sur le tell. Les tribus qui ont bâties ces maisons sont, fort probablement les premières à s'être sédentarisées à 'Aima.

[11]Nous avons assisté à une opération de ce type en 1987.

[12]Nous remercions B. MacDonald qui a bien voulu nous permettre de consulter ses documents.



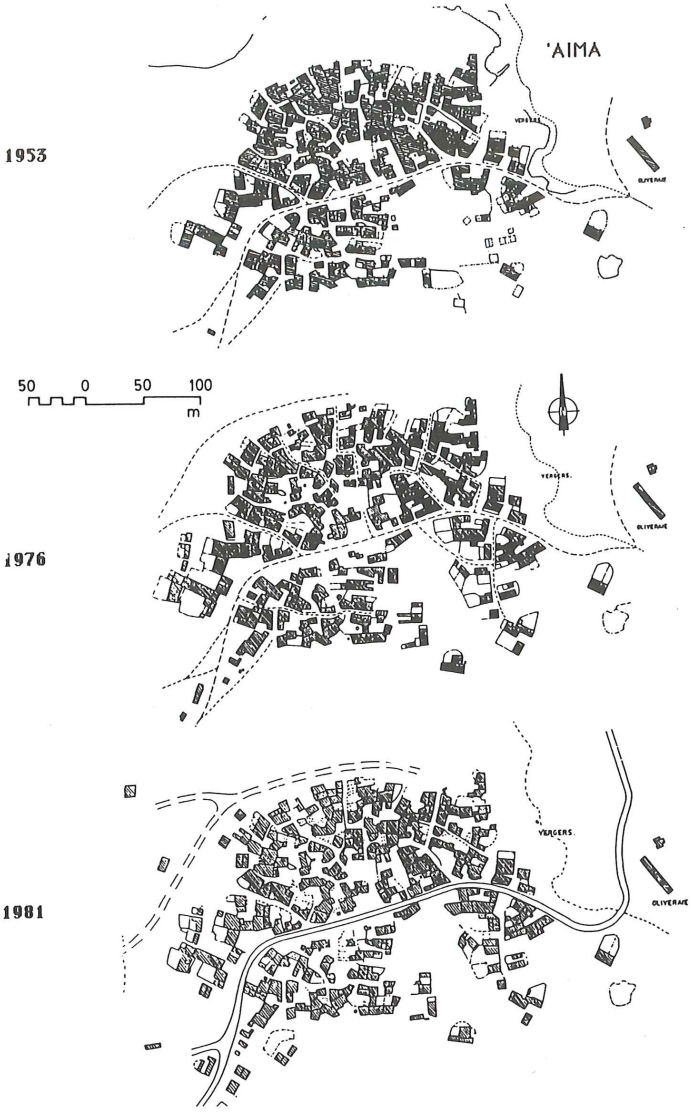
4. Déplacement des bâtiments publics.

Légende.
M mosquée
m mairie
E école
P poste
B boutiques

Quartiers sud.

Pour la partie sud de l'implantation, habitée par la tribu As Sa'oud, on distingue deux parties:
la plus ancienne au sud-ouest, constituée en grande partie de maisons du type 1a, a tendance à se clairsemer.
La partie sud-est, au contraire, semble continuer à se développer. Des maisons appartenant aux types 1b et 2 sont en cours de construction en 1953, et ce quartier continue de s'étendre durant toute la période allant jusqu'en 1981.

La tribu As Sa'oud est sans doute une des dernières à s'être installée à 'Aima. Les quartiers qu'elle occupe n'ayant pas encore atteint leur taux de saturation, leur développement se poursuit. Alors que l'ensemble de l'implantation est massivement déserté à partir des années 1950, les quartiers sud connaissent, pour quelques années encore, une croissance de la surface bâtie. Actuellement, 14 de ces maisons (sud-est du quartier As Sa'oud) sont encore occupées, contre 2 seulement dans toute la partie Nord du village ancien. D'ailleurs de façon générale, le vieux village est toujours utilisé pour y parquer les chèvres et les moutons ou y entreposer des instruments qui ne servent plus. Les maisons transformées en bergerie ont été préalablement vidées de tout matériel. Les vestiges que l'on y trouvera, quelques tessons et une bonne couche de déjections animales, ne seront représentatifs que du dernier usage fait de la maison et non pas de sa fonction première et principale (la plus longue): celle d'habitation. Dans les constructions transformées en remise, est conservé un abondant matériel de rebut.



5. Espaces privés bâtis.

Ce matériel représente une accumulation hétéroclite qui n'est pas représentative de l'équipement domestique traditionnel.

- Espaces privés non bâtis.

Considérons à présent l'évolution des espaces non bâtis privés (FIG. 6): les ruelles desservant un ilôt de maisons et les cours.
En effet, ces cours et voies de communication privées sont très importantes dans les villages traditionnels.

Dans les cours s'effectuent l'essentiel des tâches domestiques qui incombent aux femmes.

Les maisons qui sont desservies par une ruelle privée, appartiennent aux membres d'une même famille ou d'un même clan. Elles sont elles aussi utilisées fréquemment par les femmes. Dans les deux cas, le but est de soustraire les femmes au regard de personnes étrangères à la famille. Nous constatons que les destructions causées par l'abandon des quartiers nord entre 1953 et 1981 ont eu pour effet

d'entraîner le démantellement des espaces qui étaient entourés de bâtiments. Leurs limites deviennent floues. Ils ont tendance à s'étendre et ainsi perdent leur caractère privé.

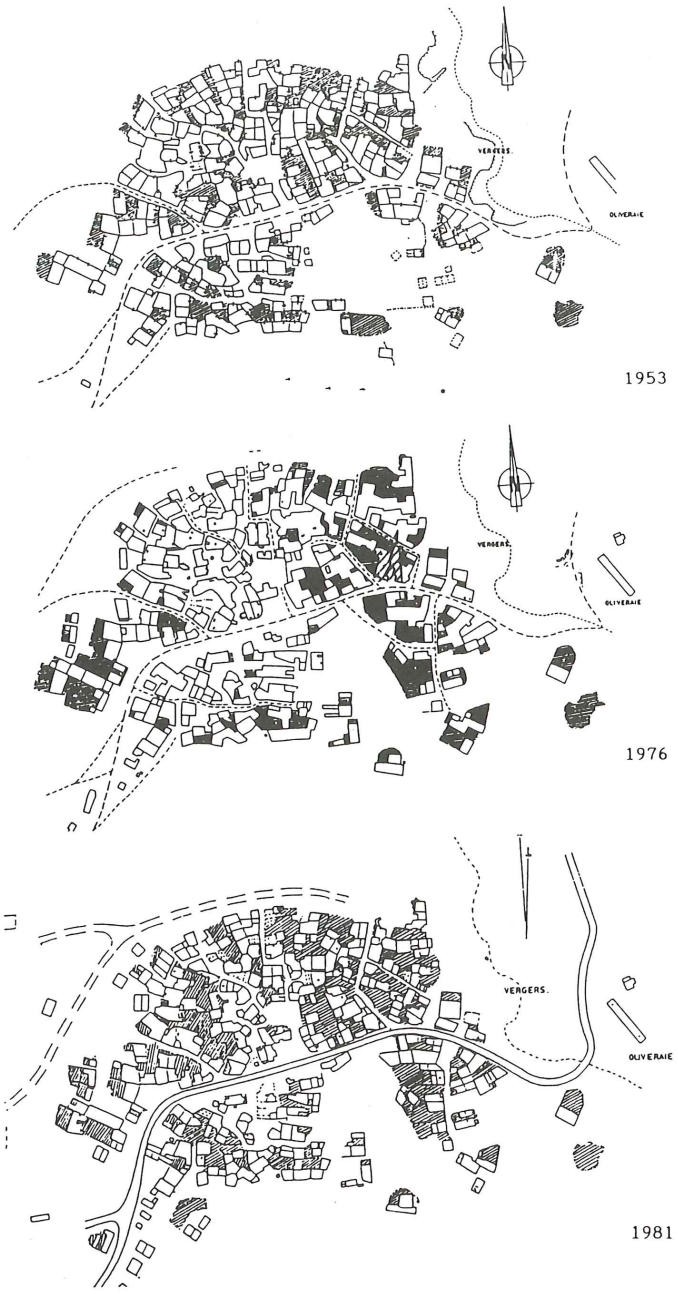
La disparition des espaces non bâtis délimités témoigne de la réduction des activités et par voie de conséquence de l'occupation humaine.

L'architecture de type agglutinant que l'on trouve dans les villages traditionnels se développe selon des règles précises.

La sédentarisation des tribus est un phénomène lent et relativement ancien en ce qui concerne 'Aima (près de 450 ans). Six tribus cohabitent dans le village, sans que nous ayons pu déterminer les raisons de ce voisinage. Il est beaucoup plus fréquent d'avoir une agglomération distincte par tribu. Le tissu villageois, dont nous avons déjà parlé, se densifie selon un processus lié aux liens familiaux. Les proches parents bâtissent leur maison à côté de celle de leur père, de leur frère ou de leur oncle. Cette nouvelle construction réutilisera un maximum de murs déjà existants. Les bâtiments sont accolés les uns aux autres, avec des murs mitoyens. Nous n'avons observé aucun mur double séparant deux maisons. Les habitations s'agglutinent les unes aux autres, petit à petit, de façon à encercler un espace/cour, dans lequel travailleront les femmes. Simultanément, d'autres membres de la famille ou du clan bâtissent des constructions à proximité, amorçant la constitution d'un nouvel ilôt. Ces pâtés de maisons compactes s'organisent soit autour d'une cour, soit le long de ruelles, privées ou non, délimitées par les constructions elles-mêmes. Si les maisons sont alignées (limite du territoire de la tribu ou du clan, par exemple) les nouvelles constructions viendront former une seconde rangée, parallèle, réservant ainsi un espace pour la circulation.

Peu d'habitation auront leur ouverture donnant sur cette voie de communication non privée qui sépare deux groupes non apparentés. Par contre, l'inverse se produit dans les cas où la ruelle dessert, exclusivement ou presque, un pâté de maisons. Par contre, on n'hésitera pas à bâtir une maison qui donne directement dans une ruelle, si celle-ci est réservée à l'usage familial ou clanique.

Le village de 'Aima est un exemple d'implantation dont l'évolution s'étale sur environ quatre siècles. De nouveaux types de construction sont introduits par les habitants eux-mêmes, lorsqu'il y a saturation de l'espace traditionnel. On assiste, alors à un déplacement spontané de l'agglomération amorcé par les villageois, vers des terres non cultivables. Si la constitution du village a été progressive, l'abandon n'est pas plus rapide. Quinze ans après le début du déplacement vers l'ouest, quelques familles habitent encore les anciennes maisons. A l'échelle du village



6. Evolution des espaces non bâtis.

ancien nous avons vu que la croissance s'arrête, mais surtout s'inverse à partir du moment où il est délaissé pour l'habitation. Nous espérons, en poursuivant l'étude des types architecturaux et leur répartition au sein des tribus, pouvoir reconstituer un stade d'évolution bien antérieur à 1953 et compléter ainsi les schémas traditionnels d'occupation de l'espace dans un village tel que 'Aima.

Remerciements.
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Discours et territoires: Deux récits de fondation pour la tribu des Bdoul

Chez les tribus bédouines la tradition orale est, actuellement, toujours utilisée et réactualisée. Dans ce registre, le récit de fondation recouvre le domaine du discours collectif sur l'origine de la tribu.

Il relève du mythe et met en jeu des éléments qui sont du domaine de l'imaginaire. Il se présente comme un élément de communication et comme un message. En tant que tel, il subit des variations et des transformations dans son contenu et dans sa forme. Par ailleurs, il est sujet à diverses interprétations et remplit, ainsi, différentes fonctions. Parmi celles-ci la légitimation d'une identité (groupe-territoire-nom) d'un ordre social, ainsi que la revendication d'une reconnaissance sociale, sont celles qui seront prises en compte ici, aux dépens de toute analyse symbolique de la représentation mythique.

A travers le cas de la tribu des Bdoul, mon propos est double: voir dans quelle mesure le récit de fondation reflète les préoccupations d'ordre social chez les bédouins, et comment la tribu tente de régler ses problèmes et présente ses revendications par l'évocation d'un récit d'origine.

LE RÉCIT DE FONDATION CHEZ LES BDOUL

Dans le sud de la Jordanie, les Bdoul forment une petite tribu bédouine. Ils relatent deux récits de fondation qui se réfèrent à l'origine de leur groupe.

Comment ces récits sont-ils liés à des situations qui relèvent d'une revendication sociale? Et, comment une petite tribu s'approprie deux récits?

La tribu des Bdoul est installée à Ḥumayma et à Pétra. Le premier est un village du début des années 70 sur les bords de l'autoroute du désert, près de 'Aqaba. Le second, Pétra, est le célèbre site archéologique et touristique, où habitaient les Bdoul jusqu'en 1985.

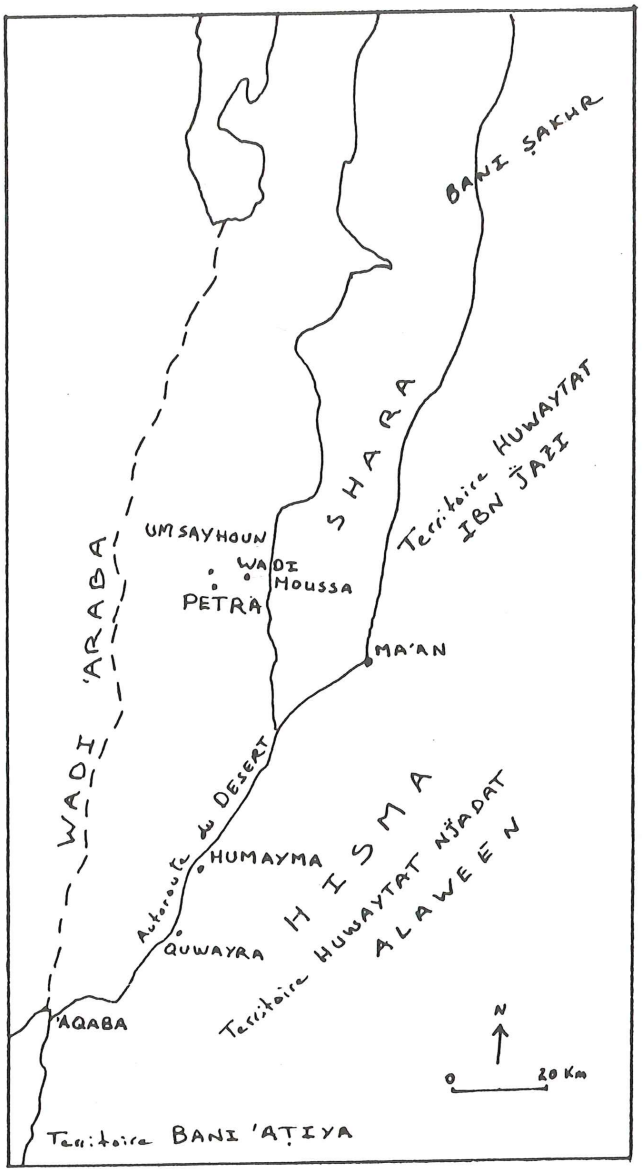
Les Bdoul et les 'Alaween

L'origine des Bdoul reste encore obscure, car nos connaissances ne remontent pas au-delà du XIXème siècle. Elles reposent sur les données issues des récits de voyageurs et des témoignages recueillis auprès des membres de la tribu. Dans les documents des voyageurs le nom des Bdoul, en tant que tribu, n'apparaît nulle part et il est difficile de leur attribuer les mentions telles que "bédouins de Pétra", "habitants de Pétra" etc... En revanche, deux noms, souvent mentionnés, montrent que l'étendue actuelle du Parc National de Pétra était subdivisée entre deux territoires tribaux. La partie orientale, avec l'entrée principale du site, se trouvait au coeur du territoire des fellaḥ Lyathneh, qui sont les occupants du village de Wadi-Moussa. La partie occidentale était inclue dans le territoire des 'Alaween. Cette bipartition est souvent évoquée par les voyageurs car elle nécessitait une double négociation pour accéder au site. Ils devaient satisfaire les exigences des Lyathneh et, une fois dépassée la limite de leur territoire, ils se trouvaient face aux 'Alaween, venus réclamer leur dû. Les voyageurs arrivaient souvent à Pétra de Nikhl à 'Aqaba, siège des 'Alaween, et escortés par des membres de cette tribu, ils entraient à Pétra par le Wadi-Ṣabra.

La tribu des 'Alaween contrôlait tout le territoire qui s'étendait de 'Aqaba à Ma'an, Pétra et le Wadi 'Araba inclus. Elle constituait une importante section des Ḥuwayṭat avec les Njadât (Ibn-Jad), qui représentaient, comme aujourd'hui, la section la plus importante (FIG. 1).

Les Bdoul sont liés aux 'Alaween, comme le montre le tableau donné par M.V.Oppenheim, en 1945, (voir FIG. 2) et les propos recueillis auprès des Bdoul eux-mêmes: "Nous sommes tous des 'Alwan", "Alwan est l'ancêtre des Ḥuwayṭât, il est notre ancêtre aussi". Pourtant, les Bdoul ne mentionnent aucune ascendance de Ḥuwayṭ ou de 'Alwan dans leur généalogie, tout comme les Ḥuwayṭât, dont la généalogie ne fait aucune mention des Bdoul.

Quelle était, alors, la nature des liens entre les



1. Extension du Territoire Tribal des Ḥuwayṭat au sud de la Jordanie

Bdoul et les 'Alaween?

Celle-ci est liée au statut que les Bdoul avaient au sein de la tribu des Ḥuwayṭat en général, et auprès des 'Alaween en particulier.

La situation actuelle et l'analyse du contexte d'évocation des récits de fondation, donnent quelques indications sur la nature des liens entre ces deux groupes.

Les Bdoul de Ḥumayma

Dans ce village, les Bdoul évoquent leur origine à travers le récit de fondation de la grande tribu des Ḥuwayṭât, (et donc des 'Alaween) à laquelle ils sont

B. Ḥuwēṭāt Ibn Nedjād (El 'Alāwīn)[15] (حويطات ابن نجاد (العلاوين)

Oberschēch: Ḥasan ibn Nedjād[14] حسن بن نجاد

Stamm	Schēch	Streifgebiet	Zeltzahl
1. El Nedjādāt النجادات	Ḥasan b. Nedjād حسن بن نجاد	Nordzipfel des Ḥesmā, zwischen el Scherāh und Ram الشراة — حسمى — ارم	150
2. El Sijāḥījīn[16] السياحين	Muḥammed el Nuchērī محمد النخيرى		100
3. El Mewasā الموسى			
4. El Ṣuwēleḥījīn الصويلحين			
5. El Ḥasāsīn الحساسين			
6. El Menādje'a المناجعة			
7. El Ḳalā'ījīn القلاعين	Helējel b. 'Oṯmān هليل بن عثمان		90
8. El Ḳedmān القدمان	'Īd el Ḳedējem عيد القديم		60
9. El Selmān السلمان	Ibrāhīm ibn Scheṭēṭ ابراهيم بن شطيط		50
10. El Cheḍōrāt الخضيرات	Za'al b. Sālem زعل بن سالم		
11. El Debūr[16] الدبور	Ḥamad el Debrī حمد الدبرى		80
12. El Bedūl[17] البدول	Ibrāhīm b. Zētūn ابراهيم بن زيتون		

2. Tableau de M.V. Oppenheim: Les Ḥuwayṭat Njadat-Alaween

rattachés, sans pour autant l'inclure dans leur généalogie.

Ce récit peut se résumer de la manière suivante:

Des hommes et un enfant, sur la route du pélerinage s'arrêtent à 'Aqaba, car l'enfant est malade. Ils le confient à une famille des Bani 'Aṭiya. Le père prend soin de l'enfant et s'attache à lui. Il décide, alors, de le garder, et dit aux hommes, venus réclamer l'enfant, que celui-ci est mort. Comme preuve, il leur montre une fausse tombe. L'enfant grandit auprès de cette famille des Bani 'Aṭiya. Un jour, les parents découvrent que leurs enfants sont rassemblés à l'intérieur d'un cercle, dessiné par cet enfant sur le sable, d'où ils n'osent pas sortir. (Un deuxième épisode est aussi souvent raconté). L'enfant inscrit son nom sur une pierre de fondation de la demeure de sa famille d'accueil. Après la mort du père, ces fils contestent la légitimité de cet enfant, et lui demandent de partir. Mais celui-ci déclare ''Je suis le seul vrai fils car mon nom est inscrit sur une pierre de cette maison''. Avec la preuve à l'appui, il est proclamé seul héritier et les fils de Bani 'Aṭiya sont, alors, obligés de quitter leur demeure et le territoire tribal. Depuis on l'appela Ḥuwayṭ -petit mur- et, il fonda la tribu des Ḥuwayṭaṭ.

(pour une analyse plus détaillée de ce récit. (Bocco, Ohannessian-Charpin 1988)

Alliance et dépendance?

Dans ce récit, la dimension économique, présente dans les versions recueillies auprès des Ḥuwayṭât, est absente dans celles présentées par les Bdoul, et inversement, l'épisode du cercle avec les enfants n'est jamais évoquée par les premiers. Peut-on alors, parler de relations d'alliance ou de dépendance par rapport à cet épisode? Ou bien, en empruntant la même métaphore: Les Bdoul sont-ils issus de l'un de ces enfants qui se trouvaient à l'intérieur du cercle. sous l'autorité de Ḥuwayṭ?

Au XIXème siècle, ces deux relations reposaient sur une hiérarchie entre les tribus qui trouvait sa réalisation politique à travers la *Khuwa* et les *Ghazou* (razzias). La première était l'impôt de protection que les tribus clientes et les sédentaires payaient à une tribu bédouine pour qu'elle les protège contre les razzias.

Alors, les Bdoul, étaient-ils dépendants, pour leur protection, des 'Alaween-Ḥuwayṭât, et leur payaient-ils la *khuwa*?

Aujourd'hui, en évoquant ce récit, les Bdoul soulignent l'intégration de leur tribu à celle des Ḥuwayṭat, bien qu'il soit difficile de cerner les bases de celle-ci. Elle a existé sous la forme de dépendance plutôt que sous celle d'une alliance, car dans ce récit, aucun épisode lié à une alliance entre les deux tribus n'est cité, et aucun élément ne permet de le déceler. Par ailleurs, le fait même de présenter ce récit aux dépens d'un récit propre, démontre une dépendance issue d'une hiérarchie entre les deux tribus. En outre, le fait de ne pas posséder un récit d'origine est propre aux petites tribus qui ne sont pas *aṣile* (noble), qui ne possèdent pas un territoire, et, qui sont sous la protection d'une tribu plus puissante.

Les Bdoul de Pétra

A Pétra, les Bdoul présentent un autre récit:

''Quelques personnes, trois à sept, sont poursuivies par des musulmans. Elles se réfugient au sommet de la montagne Umm al-Biyara, au coeur de Pétra. Cependant, restées sans vivres et sans eau, elles sont obligées de se rendre, de se convertir et d'opter pour l'Islam.

Depuis cet incident, on les surnomma Bdoul, voulant dire ''*baddalou dinahom*'': ceux qui ont échangé leur religion.

En évoquant cette conversion forcée et tardive, ce récit informe qu'à l'origine les Bdoul n'étaient pas musulmans.

Dans les récits de fondation bédouins, la provenance du personnage de l'ancêtre est toujours liée au Ḥijaz et, son appartenance à l'Islam est d'emblée une donnée. Ainsi, Il est rare qu'un récit d'origine relate une conversion.

Pétra et les Bdoul

Les Bdoul ont vécu jusqu'en 1985 à Pétra, à l'intérieur du site, dans les grottes mêmes. Depuis, ils occupent un village récent à Um-Ṣayḥoun, à 4km. Celui-ci fut construit par le gouvernement à la suite d'un projet établi pour transformer Pétra en un Parc National. Ce projet présentait le départ des Bdoul du site archéologique comme une nécessité pour la sauvegarde des monuments et pour la préservation de l'environnement.

Découvert par l'Occident au début du XIXème siècle, Pétra a été visitée par des voyageurs qui ne mentionnent pas une occupation importante du site. En effet, à cette époque, les Bdoul ne vivaient pas dans Pétra même: étant pasteur-nomades, ils se déplaçaient à sa périphérie. Au début de notre siècle, aux voyageurs succèdent les scientifiques-géographes, géologues et archéologues- ainsi que les premiers touristes.

- Le premier hôtel est construit vers 1930 et le deuxième dans les années cinquantes.
- Les premières fouilles archéologiques débutent également, vers cette époque. Grâce à leur connaissance du site, les Bdoul participent aux fouilles et aux prospections. Ils commencent aussi à s'occuper des touristes en leur servant de guides, leur vendant quelques tessons, du thé et des boissons fraîches. Ainsi, le site commence à devenir pour eux plus rentable qu'il ne l'était jusqu'alors avec ses seuls pâturages.

Cependant, cette présence étrangère, qui s'amplifie de jour en jour, est déjà perçue par les Bdoul comme une menace: une appropriation de la part des ''occidentaux'' (touristes, archéologues) du territoire de Pétra aux dépens de leur propre expropriation . En réponse à cette ''menace'' ils consolident leur présence à Pétra, à partir des années trente, soit en resserrant leur campement autour du site, soit, en installant progressivement leurs habitations à l'intérieur. Par conséquent, d'un pastoralisme-nomade, ils optent pour une économie agro-pastorale, et cultivent les terres au pied des monuments. Un mode de vie semi-nomade en résulte avec l'occupation saisonnière des grottes archéologiques.

Dans les années soixante-dix, cette situation se consolide. Le tourisme toujours florissant, devient une importante source de revenus pour le pays, mais aussi pour les Bdoul qui sont sur place. Cela leur permet de vivre presque en autarcie, considérant le tourisme comme une ressource ''naturelle'' du site. En même temps, les grottes archéologiques de Pétra, regroupées en ensembles, constituent leurs habitations principales.

Cet isolement et la vie dans les grottes sont

considérés par les autres bédouins et une majorité de Jordaniens comme un signe de retard dans un pays en voie de développement.

Dans les années quatre-vingt, toutes les planifications élaborées par le projet du Parc National (1968), se réalisent progressivement. Ainsi, le projet de déplacer les Bdoul de Pétra commence aussi à prendre forme dès 1975, par le choix de l'emplacement du futur village et la construction des structures d'habitation. Les Bdoul refusent d'abord l'idée du déplacement, ensuite, l'emplacement choisi, et finalement, ils critiquent le mode de construction des habitations.

C'est à cette époque que ce récit prend la forme d'un récit d'origine. Dans ce contexte caractérisé par la décision gouvernementale, ce récit devient un élément essentiel de leur discours de revendication territoriale et sociale.

DE LA REVENDICATION SOCIALE À LA PERTE DU TERRITOIRE

L'installation des Bdoul dans le site prend un caractère définitif et favorise leur économie. Elle permet et suscite une reconnaissance du nom Bdoul, car désormais, leur nom est toujours cité avec celui de Pétra, alors qu'au XIXème siècle, ils n'avaient pas de reconnaissance territoriale ni tribale.

Par ailleurs, la menace d'expropriation[1] se réalise et leur départ de Pétra devient inévitable. Face à cette situation, contre le projet de leur déplacement, et en tant q'une ''authentique'' tribu bédouine, les Bdoul élaborent tout un passé historique qui s'identifie à l'histoire de Pétra, et, les relie d'emblée aux Nabatéens, dont le site était la capitale. Ainsi, l'évocation de la conversion à l'Islam devient une nécessité.

Récit de fondation et généalogie mythique

Ce récit de fondation est présenté de la manière suivante:

Les généalogies actuelles de chaque lignage remontent jusqu'aux ancêtres, fondateurs du lignage. Au-dessus d'eux, nous avons la généalogie ''mythique'', représentée par ce récit qui évoque la conversion de ces ancêtres. Cette conversion tardive et forcée à l'Islam est présentée comme étant la preuve inéluctable du leur descendance nabatéenne. Ainsi, les Bdoul soulignent leur droit héréditaire, qui leur est transmis par leurs ancêtres Nabatéens, sur ce territoire de Pétra dont ils ont été expropriés et sont désormais exclus.

DE LA REVENDICATION TERRITORIALE À CELLE DES ORIGINES

Ce récit remplit une double fonction de légitimation:

- Son existence et son rôle de récit de fondation sont destinés à prouver l'origine bédouine et noble de cette petite tribu qui se trouve à la périphérie de la grande tribu des Ḥuwayṭât. Son évocation est une revendication d'un statut social, celui d'une tribu *aṣile*.

A l'inverse des Bdoul de Ḥumayma, elle diminue l'importance de leur rattachement aux Ḥuwayṭat. La possession de son propre récit donne à la tribu une importance historique, car celui-ci inscrit la tribu dans le file de l'histoire en marquant son point de départ.

- Son contenu, qui évoque des origines anté-islamiques, avec l'épisode de la conversion des ancêtres, place les Bdoul d'emblée dans la lignée des Nabatéens et souligne ainsi leur droit héréditaire sur Pétra. C'est une stratégie de revendication territoriale.

Pour conclure, je voudrais insister sur le point suivant:

A Ḥumayma, le récit de fondation des Ḥuwayṭât est évoqué par les Bdoul, comme étant le leur, pour souligner le rattachement de la tribu ''périphérique'' à la tribu ''centrale'', et pour être considérée comme membre, à part entière, de cette confédération. Loin de Pétra et des touristes, les Bdoul de Ḥumayma insistent d'abord sur leur intégration aux Ḥuwayṭât, et ce récit fait partie de leur registre de traditions et de transmissions orales[2].

Le récit de fondation des Bdoul de Pétra est d'abord destiné aux étrangers, à ceux qui sont extérieurs à la tribu des Ḥuwayṭât. Il est ensuite destiné aux bédouins et permet aux Bdoul de se présenter sinon comme des *aṣile* au moins comme une vraie tribu bédouine malgré leur économie touristique et leur habitat dans les grottes. En dernier lieu, ce récit s'adresse aux autorités pour leur présenter une revendication territoriale et sociale[3].

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[1]Je voudrais préciser qu'en parlant d' ''expropriation'' je ne voudrais pas affirmer qu'il y avait une ''appropriation'' et que les Bdoul étaient les détenteurs du territoire de Pétra. Même si ce territoire était effectivement leur territoire tribal, en Jordanie aujourd'hui, cette notion tribale, coutumière, n'a pas une réalité administrative et juridique.

[2]Cette étude fait partie d'un projet plus vaste, qui constitue ma thèse de Doctorat d'Etat, prévue pour fin 1992.

[3]Je voudrais remercier tout particulièrement le professeur O. Aurenche de ses encouragements et de m'avoir permis d'effectuer mes travaux de terrain dès 1983. Je voudrais remercier également M. M. Lavergne, directeur du C.E.R.M.O.C. 'Amman, de m'avoir accueillie dans son centre, et m'avoir permis de terminer mes travaux sur les bédouins de Pétra.

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Settlement History and Village Space in Late Ottoman Northern Jordan

Introduction

This paper aims at an understanding of the processes which regulated the history of settlement in late Ottoman northern Jordan, in a period characterized by a high degree of poulation movements and a new trend towards more intensive land-use and increasing socio-economic stratification, and how these processes were reflected on the spatial-material level, shaping what today is perceived of as traditional villages. The focus is on the environmental, socio-economic and political determinants of the settlement patterns of Umm Qeis, Shaṭana and Nabi Hud,[1] three villages sharing basic environmental and historical features which allow for the comparison of the villages' respective developments in the late 19th through the early 20th century, leading to distinctive spatial and architectural features. The sources are the oral history and material culture of these villages supplemented by accounts in European travellogues.

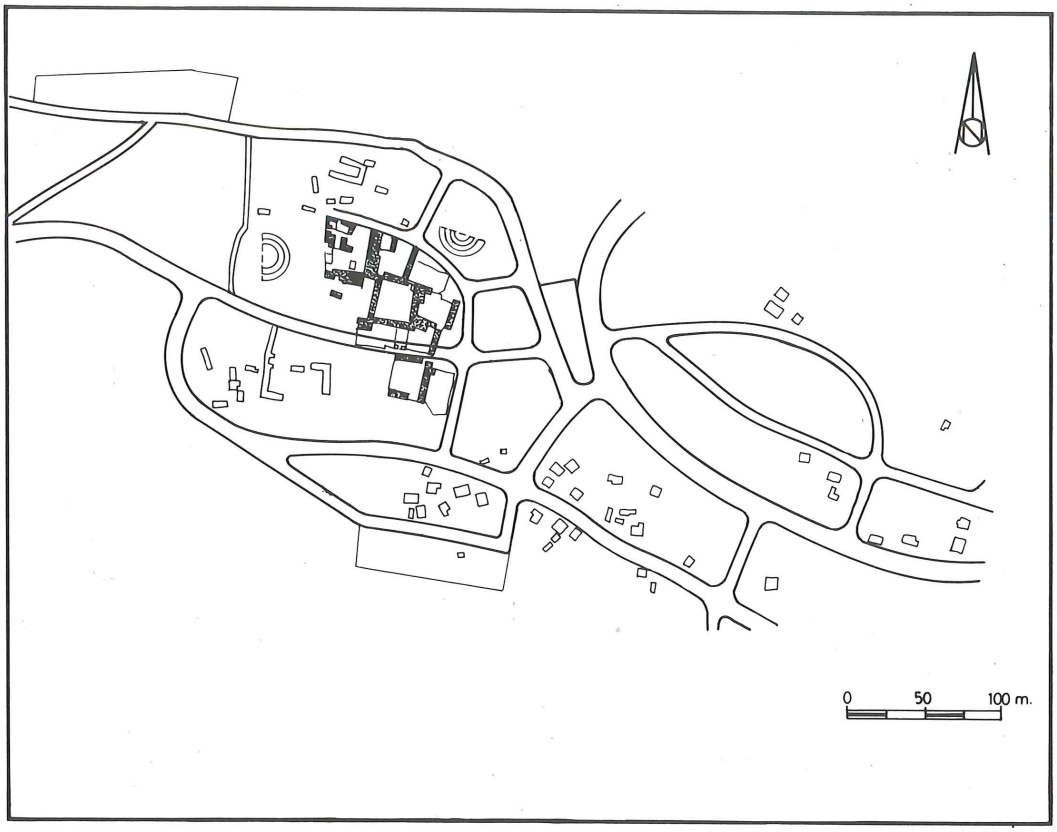
Spatial and Temporal Setting

In the centuries following the last Ottoman tax-registers in the late 16th century, many regions of Bilad ash-Sham underwent a marked shift in the pattern of land-use. The agricultural system in Jordan during the 17th through mid-19th centuries was characterized by extensive land-use and subsistence rather than market oriented economy. Due to a variety of ecological as well as political factors this low-intensity phase had ended a period of agricultural intensifications during the late Mamluk and early Ottoman periods (Mershen and Knauf 1988: 137). The flexible, mixed pastoral farming system of the late Ottoman period found its spatial expression in the mode of settlement, which often was characterized by its temporary nature of occupation. On the material level this was expressed by the preference for low-cost involving shelters, such as natural caves or simple structures made of readily available materials. On the spatial level this situation was reflected in the frequent shifting of settlement location. Oral history on the 18th and 19th centuries is a history of internal migrations, where families or tribal segments would move from one village to another in irregular intervals of several years. Such migrations were caused by social, political, economic or ecological factors. They involved movements within Palestine, Jordan and southern Syria and occurred into both directions of the Jordan river. In the late 18th and in the 19th century, families from Palestine and Syria settled in the northern highlands of Jordan which then acted as a refuge — more often from over-taxation and from blood feuds within the tribally structured social system than for fear of Bedouin raids (cf. Owen 1981; Lewis 1987; Shami forthcoming; Knauf 1987). The highlands east of the Jordan river furthermore offered arable land available for registration. The registration of farmed land was presupposed by the new land-laws enacted in 1858 within the Ottoman efforts to develop the agricultural potential of the country, and consolidate their empire. The consequences for both the social and the economic history of the country are evident: the registration of land with all the subsequent obligations could only be afforded by the wealthier people. At the same time, the gaining importance of grain export from the region to world markets through the Palestinian sea-ports promoted the investment of capital and labour into agriculture (Shami 1987). The new legislation resulted in a change in the mode of settlement which came to be of a more permanent nature again. The trend towards a more market-oriented economy and the related socio-economic processes were reflected in increased building activities and the growing prosperity of many villages.

Choice of Village Site

Such is the historical setting within which the empirical data

[1]From 1984-1988 field research on the architecture, social history and material culture of the three villages was carried out by the Institute of Archaeology and Anthropology at Yarmouk University and the Oriental Institute of Tübingen University.



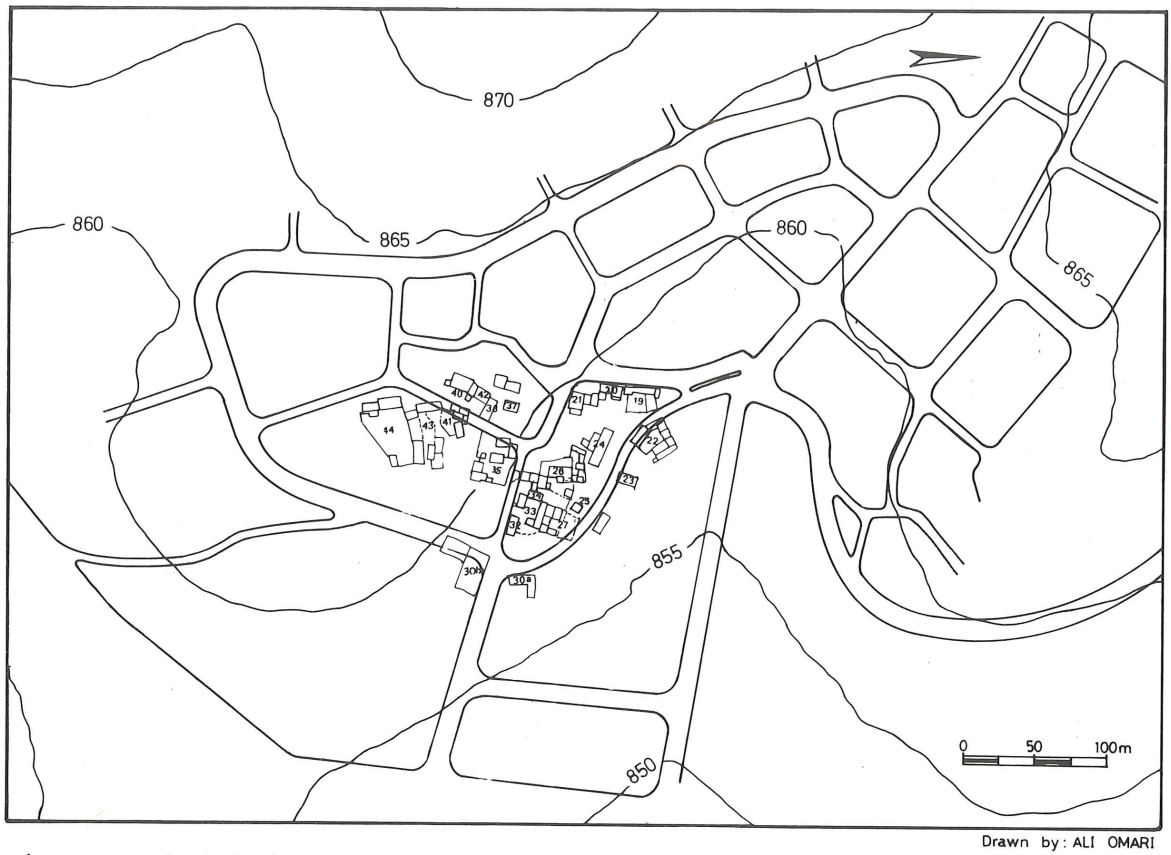
1. Sketch plan of Umm Qeis' old upper and lower quarters, based on municipality map and Mershen and Knauf 1988: FIG. 2.

on space and architecture of Umm Qeis (FIG. 1), Shaṭana (FIG. 2) and Nabi Hud (FIG. 3) shall be compared and correlated with their environmental, socio-economic and political determinants.

The three villages are located in the highlands, within an altitudinal range of *c.* 500 to 900 metres. Shaṭana is located at the hill-foot at 860m; Nabi Hud and Umm Qeis are hilltop settlements at an altitude of *c.* 700m, respectively 500m. All three sites were resettled after a period of no permanent occupation: Nabi Hud during the 18th century; Shaṭana and Umm Qeis during the 19th century. The earliest intact houses date to the mid to late 19th century.

Umm Qeis, on the road from Damascus to Tiberias and hence to the Palestinian seaports, overlooking Lake Tiberias and the Golan Heights, has been the location of a settlement of varying occupational nature since the second/third century B.C. It was resettled by families from surrounding villages during the second part of the 19th century. Prior to this, some of the families used to come to Umm Qeis seasonally in order to farm the surrounding fields. During the ploughing and harvesting seasons they lived in ancient cave tombs, huts or tents (Merrill 1881; Tristram 1866), but after completion of agricultural work they returned to their village. Their permanent settling in Umm Qeis occurred in the context of land-registration in order to confirm and legalize their rights upon the surrounding farming land. It thus provides an example of a satellite settlement on a former *"khirbeh"* (for a detailed discussion of the khirbeh problematic cf. Gerber 1985).

As evidenced by a large number of cave tombs, Shaṭana too has been the location of an antique settlement. The 1596 Ottoman tax-registers mention Shaṭana as a village of 25 households paying taxes on wheat, barley, various summercrops, vineyards, fruit trees, goats and bee hives (Hütteroth and Abdulfattah 1977: 205). Left by its population during the early 19th century (Peake 1958: 149), Shaṭana was resettled around 1860 by Christian families, the majority of which belong to a descent group who came from Damascus. From there they fled in the 18th century, because of, as oral tradition transmits, quarrels between the Christians and the Kurds. They migrated into the Ajlun mountains and settled first in 'Ain Jannah, and then in Kufrenjeh. There, it seems, they were able to integrate into the village community, after they had won the respect of the local inhabitants through an act of bravery against cattle robbers who had stolen the village herds. Later, however, blood-revenge between the Christians and a large local family of the village of 'Ibbin forced the former to leave the area. Several Christian families, most of them related through kinship, came to Shaṭana, which, as not located on a major road, was a somehow isolated location. The arable land of good quality was of limited amount, due



2. Shaṭana, southern quarter, sketch plan based upon municipality plan and drawings by Heinz Gaube.

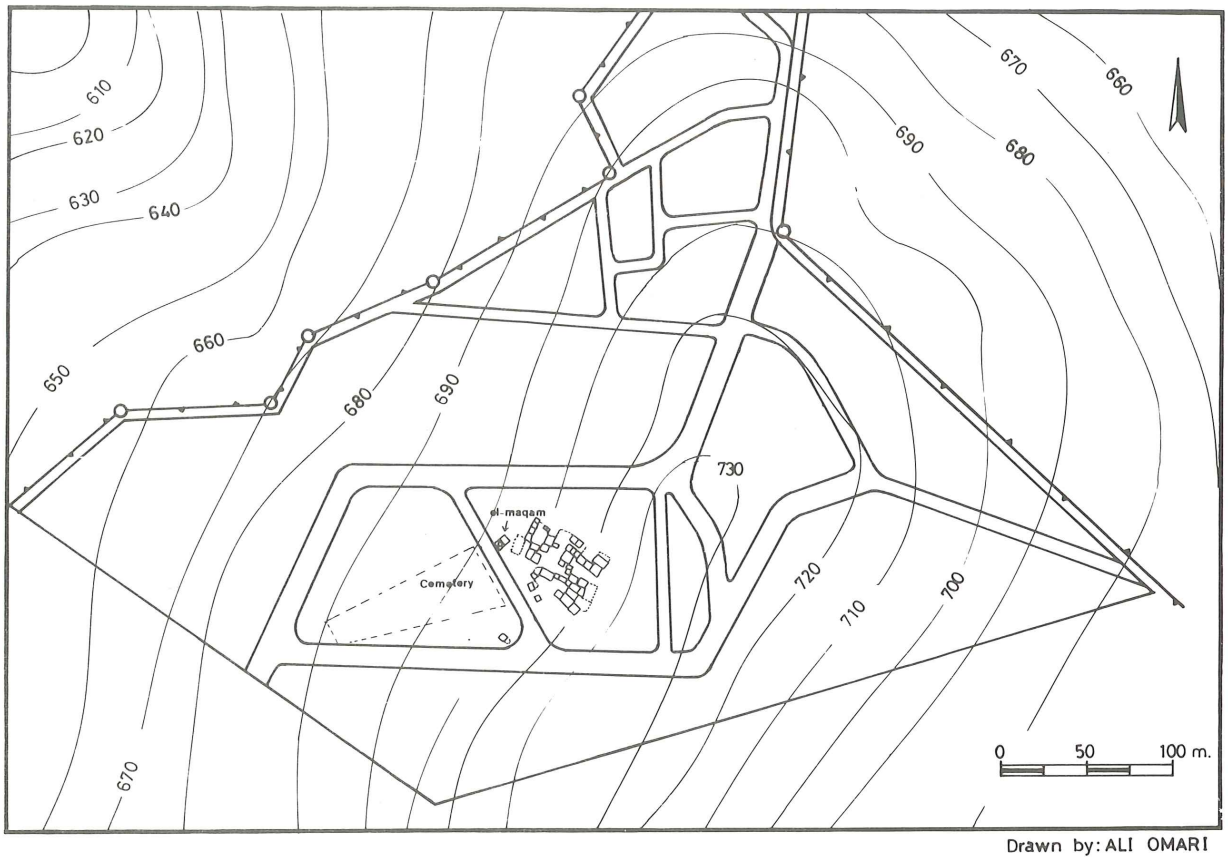
to the number of surrounding villages. But, as the families arrived to Shaṭana at a point in time when agricultural interest was growing and more intensive land-use just about to start, and as the newcomers lacked the socio-political status of the larger and well-established local families, they had to confine themselves to the land which was not claimed by anybody else and thus available for registration. The socio-political advantages of Shaṭana's location were related to its proximity to the town of al-Ḥuṣn, then a well established settlement with a strong Christian population component.

Nabi Hud, the small village on a hilltop opposite Jarash, was resettled prior to the land-legislation related developments by a Muslim family in the 18th century. The site was chosen for settlement on behalf of the sanctuary of the prophet Hud (FIG. 4). The new settlers who originated from the West Bank and had lived in the village of Jazaza for some years, settled near the sanctuary and became what might be described as its guards. In this context Schumacher's mention of Nabi Hud around 1900, as a village inhabited by "Fo'ara", i.e. here pious men (Steuernagel 1925: 137) is valuable information. Besides religious motivation, certain economic resources related to the sanctuary appearantly were a decisive factor for the establishment of the village.

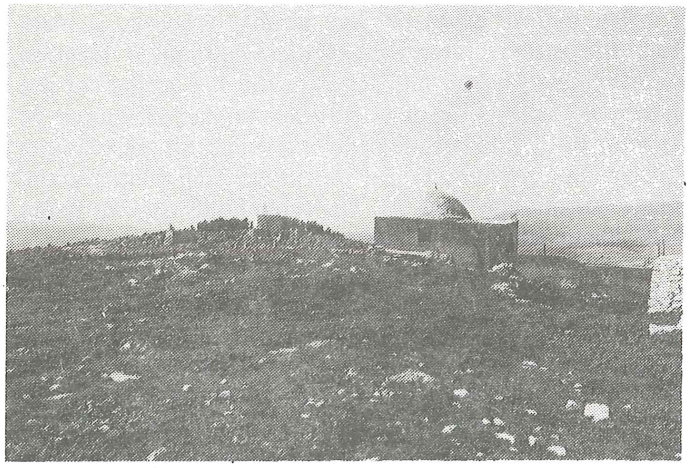
In all three villages settlement started with cave-dwelling in either natural caves or cave tombs. Whereas in Nabi Hud, the settlers later shifted their settlement location from the caves in the hill-slopes to the flat surface of the hilltop, the villagers of Shaṭana took further advantage of these caves by making them the nucleus of the developing house compounds and thus firmly integrating them into the village morphology (FIG. 5). The same holds true for Umm Qeis' lower quarter (cf. below).

Social Stratification and Settlement Patterns

The considerably differing social history of the discussed villages laid the basis for their developing spatial layout and growth. In Umm Qeis, the socio-economic stratification of the community into landowners and cultivators (Shami 1987) was reflected in the vertical stratification of dwelling space from hill summit to foot: whereas the cultivators inhabited quarters in the east and south-east of the tell with smaller houses of two or three rooms, built from roughly cut limestone, with simple beam roof constructions and no central courtyards, the landowners lived on the tell. Here a dense cluster of large house compounds around central courtyards developed. The houses were built from hewn black basalt and white limestone. The characteristic construction features were the cross-vaulted, double-arched and even domed rooms, as well as an upper storey on two houses. With only one street running through the quarter,



3. Nabi Hud, sketch plan of the old quarter, based upon electricity plan and drawings by Heinz Gaube.

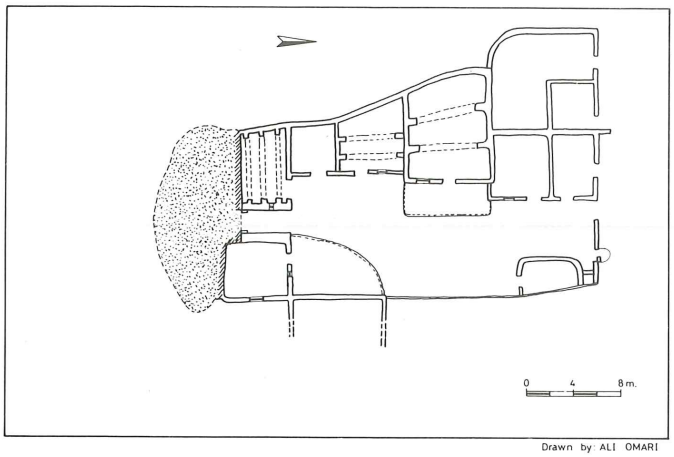


4. Sanctuary of Nabi Hud and adjoining cemetery. Photo. Y. Zubi.

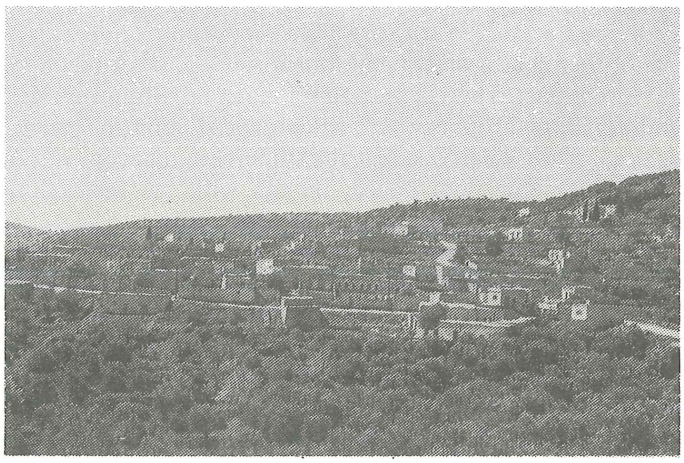
the high and sometimes reinforced walls with few openings of the landowners' quarter is of a rather fortified appearance. In fact, only in this quarter was there wealth from agricultural and grain trading activities which might have needed protection, more probably from the landless, than from the Bedouins.

In both Shaṭana and Nabi Hud, little spatial diversity as a reflection of socio-economic stratification is observable. In Shaṭana the pattern of settlement is along kinship lines, with each of the three large families occupying a quarter together with the smaller families allied to them through landownership. The latter families had settled in the village at a later stage and as co-believers were given shares of land by the already settled clans. Stratification in Shaṭana did not give rise to a splitting of the community into landowners and cultivators, but on a limited scale led to different sizes of landholdings in the early 20th century. The limited extent of arable land, the location and the communal cohesion of the religious minority, might have accounted for the lesser degree of socio-economic stratification, and in turn the more homogeneous appearance of the village. Built in terraces on two hill slopes, it consists of several dense clusters of house compounds (FIG. 6), smaller than in Umm Qeis' upper quarter, but partly also arranged around central courtyards. The building material is white limestone with mud-plaster for the old houses. Almost all older rooms are double-arched. A large number of devices to hide people and properties, especially caves, but also hidden cisterns inside of rooms, reflected people's fear of violence through Ottoman tax-collectors and soldiers, often mentioned in the oral history of the village.

The spatial development in Nabi Hud was that of a



5. Shaṭana, sketch plan of house compound 26a with integrated natural cave based upon drawing by Heinz Gaube.



6. Shaṭana, general view of the southern quarter. Photo. Y. Zubi.

village with almost no socio-economic stratification on any substantial level until the late 19th century, as the village was inhabited by only one clan. The village developed concentrically around an open central space, north of the sanctuary, the only building in the village that might be called impressive. The three agglomerations of house compounds were built from roughly cut limestone. Only the door- and corner-stones of the older buildings are of a larger and hewn quality. The amount of open space, which in rare instances only might be designated as enclosed courtyards, gives the village a rather open appearance. The strictly subsistence oriented pastoral and farming economy, with occasional revenues from the visitors to the sanctuary and cemetery, implied that there was little material wealth in need of protection from theft. The "holyness" of the sanctuary, furthermore, provided a secure storage facility, from where nobody would have dared to steal.

In the three villages the development of the individual compounds up to their greatest extension took place in several building phases over two or more generations. Spatial extension was neccesitated by either family growth or socio-economic causes.

Functional Division of Space and Change of Room Functions

The main spatial division in the villages' house compounds is the one between space for people and space for animals. Human space again is subdivided into a private and a public sphere, designated as *"maḍafa"*, the room for the reception of guests. Further subdivision of the private space into living, bed- and workrooms and kitchens is only a recent development. Prior to this, the multifunctional unit was the so-called *"sakan"*, i.e. dwelling room, where different activities within the realm of domestic economy took place, where meals were taken and where people slept. In Umm Qeis' upper quarter the number of *sakan* rooms in proportion to other space is much greater than in Shaṭana or Nabi Hud. It is a reflection of the prevailing family structure with extended households, where two or more generations lived in one compound, and most men were married to more than one wife. Each wife had her own room, where she and her children would live. If further division of *sakan* rooms took place in Umm Qeis, it was seasonal rather than functional: into a winter-room and a more airy summer-room. The *sakan* in this social context was a woman's room. Men, on the other hand, did not have their own *sakan*; the place where they would gather was the *maḍafa*, the functions of which thus exceeded the litteral meaning of the term. In the *maḍafa* the men of a compound would spend their time, often take their meals or sleep there. With changing family structures around the middle of the 20th century, the functions of *sakan* and *maḍafa* started to change: with monogamous marriages prevailing, the *sakan* lost its character as the room of a certain wife and became the living room for the whole family. Once the *sakan* ceased to be a solely female domain, the *maḍafa* lost some of its former functions and came closer to what the term designates: a guest room.

The architectural correlates of rooms in Umm Qeis which were built as *sakan* rooms were transversal double-arches and in some cases cross-vaults. The correlates of rooms built as *maḍafa* rooms were cross-vaults or domes. Stables usually were constructed as double-arched rooms, unless very small and supported by wooden beams only. Whereas the latter construction did not demand the skills of a professional mason, the arched and particularly the cross-vaulted or domed rooms required the work of professional masons who were brought from Palestine. The expenses related with the construction of cross-vaults, explain why they were limited to the *maḍafa* and to some *sakan* rooms, and that their construction was esteemed a matter of prestige.

The smaller house compounds of Shaṭana consist of a

courtyard, one to two *sakan* rooms, one to two stables and eventually a *maḍafa*. In case that two *sakan* rooms exist, one of them has usually been transformed into a kitchen in the recent past. The *sakan* rooms are arched, often very big multifunctional rooms with a wide range of built-in storage devices. They clearly reflect the underlying concept of an all-purpose one-room house, though with the restriction that animals were excluded from this room.

A true all-purpose one-room house has been the characteristic dwelling unit in Nabi Hud until the late 19th century. Until then, the houses of the village consisted of only one room with an open space around it. These rooms were small, and the reed and mud roofs were supported by wooden beams. No arched rooms were known in Nabi Hud at that period. The one-room houses were inhabited by extended households comprising two to three generations, as well as the animals owned by the family. The non-existence of transversal arches, which in other settlements usually provided a means of interior spatial division, resulted in the lack of any material remnants of spatial divisions.

House compounds around courtyards in both Umm Qeis and Shaṭana developed over several years and then eventually split up into two or more units by the buildings of dividing walls through the courtyard. In Shaṭana this used to occur at an earlier stage in the history of a compound than it was the case in Umm Qeis. Thus, the development of larger units never reached the spatial extent of house compounds in Umm Qeis. Only in the latter village did the economic conditions allow the big landowning families to support extended households of forty and more persons.

The history of individual large house compounds in Umm Qeis reveals great flexibility in the function of rooms. It even seems that the spatial functions of individual rooms underwent a continuous process of change. *Sakan* rooms which were in a bad state of repair often were turned into stables and storage rooms, as new *sakan* rooms were constructed. A compound might thus feature a large number of rooms with the constructional and interior attributes of *sakan* rooms, while only a small number of them is actually used as such. Stables often became storage rooms; *maḍafa* rooms became *sakan* rooms, and even stables sometimes were transformed into *maḍafa* rooms, due to their location far off the living rooms. The comparison of data on functional change and addition of rooms of several house compounds in Umm Qeis over some decades reveals certain patterns determined by socio-economic variables. These are related to different trends in the socio-economic development of the settlement. In the early 20th century, when property was not split up yet, and when some families were gaining in economic importance and social status, the upper quarter saw a considerable rise in the number of both *maḍafa* rooms and stables for working and transport animals. The total amount of dwelling space likewise increased during this period, whereas it decreased in proportion to the amount of space allocated to economic and social activities. The factual individualization of landownership in the late 1930's with the subsequent splitting up of the big landholdings in the course of inheritance and land sales, set an end to this development. Stable space drastically started to decrease once Umm Qeis had lost its importance in grain trade, since the late 1940's.

The high amount of space allocated to stables in proportion to dwelling space remained a more stable feature in the case of Shaṭana, where not only transport and working animals, but also the sheep and goat herds were kept in stables overnight. Unlike Umm Qeis, where the herds were herded by employed shepherds at several hours distance from the village, in Shaṭana, where the villagers very much relied upon pastoralism and the secondary products of the animals, the sheep and goat herds were an integral part of daily life.

Concluding Remarks

Division of space, room functions and the change of spatial functions were shown to be related to social and economic determinants: the changing function of *sakan* rooms in Umm Qeis was the result of changing family structures; economic determinants are apparent in the mutual interaction between developments in subsistence strategy and in dwelling complexes. The one-room dwelling as multi-purpose and multi-generation dwelling unit disappeared in response to the shift towards more intensive forms of production, with the related greater extent of division of labour, the privatization of property and the impact of urban social structures, resulting in a decrease in the size of domestic units.

The observations on Umm Qeis, Shaṭana and Nabi Hud reveal the emergence of particular settlement patterns in late Ottoman northern Jordan, which are related to a community's subsistence strategy and social structure. The spatial and material correlates of socio-economic, political and ideological factors belong to a defined historical horizon, and are not to be generalized. Yet, such features as the flexibility in the use of space and the multi-functionality of rooms would be of importance to archaeological contexts and should figure on interpretive checklists, as they might provide key stones for the decoding of a given archaeological record.

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19th Century Circassian Settlements in Jordan

Recent research has shown that Ottoman society in the nineteenth century was characterized by great changes in settlement patterns. The political and economic upheavals undergone by the Ottoman Empire led to far-reaching changes in the fabric of society, giving rise to new types of settlements as well as changes in the relations between existing groups. One of the characteristics of this period also appears to be the increase in migration within the Empire as well as across its boundaries. A reconstruction of the impact of such migrations awaits more detailed regional historical-geographical studies along the lines of Abu Jaber (1989), Lewis (1987) and Marfoe (1980). Case-studies of particular groups can also help clarify the emergent configurations of population and settlement that took shape in the last century and which continue to inform the social structures of today. Since an in-migrating group always faces the problem of finding a niche within the structures and established relationships of its new context, the study of such migrations and settlements clarifies not only cultural and social structural features of the immigrant group but also of the host society.

This paper presents the main features of Circassian settlement in Jordan in an attempt to understand the specific historical conjuncture at which the Circassians settled in this area and which, to a large extent, determined their future role and position.* Circassian emigration from the Caucasus starting in 1864 will be briefly described, and then the process of settlement and incorporation into Jordanian society will be examined. The study of this case also illustrates an important aspect of the period, that of Ottoman state policy towards settlement and immigration.

The Circassians: From the Caucasus to Bilad ash-Sham

The Circassians are one of the indigenous peoples of the north-west Caucasus and call themselves *Adyge* ("Men"), a name that appears in historical sources as early as the fifth century A.D. (Sarkisyanz 1961). The earliest full account, from the 16th century, describes a group speaking one language but split into various dialect-groups such as the Kaberdey, Shapsoug, Bjedoug, Abzakh and others. Each group inhabited distinct, though contiguous, regions and were split into clans, phratries, and in some cases into highly-stratified princedoms (Allen 1970). The name *Adyge* designated the widest unit of self-identification of these groups.

The main factor that shaped Circassian society in the 18th and 19th centuries, and led to its eventual diaspora, together with other Caucasian peoples such as the Chechen who also formed settlements in Jordan, was the protracted competition between the Ottoman Empire and the Russian Empire over the control of the Caucasus and the Black Sea region which led this area to become a buffer zone between these two great powers (Baddeley 1908). The Russian policy of dispersing Circassians and settling Cossacks in their place, led to a wide-based participation in the war by the various Circassian groups. The nineteenth century witnessed a complex set of local alliances and conflicts as well as Ottoman, French and British intervention (see Baddeley 1908; Bell 1840; Berkok 1958; Shami 1982). However, the military confrontation with the Russians was hopelessly unequal. The final Russo-Circassian battle was fought in May 1864 and the process of emigration began.

A. The Emigration Process

The Circassian migration must be seen as part of the Ottoman policy at that time, of encouraging immigration into Ottoman domains, both to overcome its shortage of manpower and also to increase its Moslem population in turbulant regions (Karpat 1972). The deportation of people from the Caucasus had already begun in 1856, and in 1860 the Russians had negotiated a treaty with the Ottomans, whereby the latter agreed to accept 40,000 to 50,000 Circassian immigrants (Karpat 1972). The process gathered momentum due to continuing Russian policies of dispersal, exile and expulsion, in addition to Ottoman inducements, religious considerations and economic factors (see Shami 1982; Traho 1956).[1] About 1.1 million Circassians eventually arrived and settled in Ottoman lands (Karpat 1972),

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[1]Also cf.Başbakanlik Archives, Cevdet Dahiliye I #3097 (1215H/1790AD) and Cevdet Dahiliye II #9935 (1243H/1818AD) for the earlier role of Circassian nobility in obtaining military manpower for the Ottomans from the Caucasus.

and oral traditions recall in song and poetry those who perished in ships that caught fire at sea and died from disease and exposure in overcrowded ports while awaiting resettlement.

The first area of resettlement was the Balkans where, in 1864, about 175,000 Caucasians were settled (Eren 1966). After the 1877 Russo-Ottoman war, these areas too were lost to the Ottomans and in that year alone 50,000 Circassians left the area, together with other Moslem groups, and were sent to Syria (Eren 1966). Consequently, the Ottoman Empire was subjected to large-scale immigration from two directions — from the Caucasus starting in 1860, and from the Balkans, starting in 1877. This flow of immigrants soon necessitated new state policies.

In 1860, the government established the "Immigration Bureau" with a large staff and budget, in order to organize favorable conditions to receive the immigrants (Eren 1966). Buildings were rented in Istanbul and barracks were built to house the newcomers. The various provinces designated to receive the immigrants were given instructions to allocate them free land, building materials and to exempt them from most forms of taxation (Eren 1966). Soon, however, the number of immigrants overwhelmed both the facilites provided by the Bureau, as well as the capacity of the provinces to absorb them. One disgruntled official in the southern Turkish port of Antalya reported that 9100 Caucasian immigrants had arrived even though he had earlier informed the Bureau that the province could only absorb 1500.[2] Reports and letters of provincial authorities show that the influx of immigrants was so sudden and fast that families became separated from one another and officials could not document from where each group was coming. As the provinces became unable to handle the settlement process, more and more immigrants tended to drift towards the cities, where they remained idle in coffee-houses.[3]

B. The Syrian Province in the Late 19th Century

The basic issue that emerges about Ottoman immigration policy, especially after 1877, is the overriding concern of the state with agriculture. Thus the Circassians, as well as the other migrating groups, were sent to grain-producing areas of the Empire. When existing villages no longer could absorb the immigrants, the provincial officials were instructed to forbid any movement towards cities and to build new villages, complete with mosque and school, wherever arable and empty lands could be found (Eren 1966).

State concern with agriculture and rural settlement was not a new one since, even before this period, peasants had been penalized for leaving their land, and from the 17th century on, efforts had been made to settle the nomads of Anatolia and Syria and to engage them in agriculture (Swedenburg 1980). The latter part of the 19th century, however, saw a renewed concern due to a congruence of interrelated factors: the loss of the Balkans which was the main agricultural region of the Empire (Karpat 1972), the changing role of the region in the world economy resulting in the rapid commercialization of agriculture and the penetration of European capitalist interests, and the attempts of the Ottoman state to re-assert its dominance in the Syrian province and to curtail the power of local officials (Ma'oz 1968; Owen 1981; Swedenburg 1980).

Among the concrete manifestations of this *Tanzimat* period, was land reform measures aiming at extending settled agriculture, the establishment of commercial routes and railways controlled by the central state rather than the local population, and administrative changes including the appointment of Syrian advisors to the Sultan (Baer 1969; Ma'oz 1968; Swedenburg 1980). As recent studies have begun to show, it was not only the Circassians who were settled by the Ottomans with the purpose of establishing firmer state control over agricultural production and taxation but also the Druze (Lewis 1987), the Kurds, Armenians and Assyrians (Swedenburg 1980), and a number of nomadic and semi-nomadic bedouin groups (Abu Jaber 1989; Lewis 1987). Furthermore, the land code of 1858 laws led to changes in land-use systems including the creation of new villages and the permanent settlement of areas that had previously been farmed sporadically (Baer 1969; Lewis 1987; Shami 1987; 1989).

The Circassians were settled primarily in the Aleppo region, the Golan Heights, in the Amman-Balqa' region, and in the Tiberias region of Palestine. Although the policy was clear, the actual process of settlement was often disorganized. The only branch of the Immigration Bureau was in Aleppo, and was overwhelmed by the number of immigrants (Eren 1966). At best, the Bureau seems to have provided transportation, located the immigrants on state (miri) lands, allocated them some money, and then left them to fend for themselves. Many immigrants waited years until settlement and often tried to go back to Anatolia.[4]

Circassian Settlement in Jordan

In the area that was to become Jordan, various Circassian settlements began to slowly take shape. The in-coming groups varied in size and were led by those who had arranged for their departure from the Caucasus, or around whom they had clustered during their wait at the Ottoman ports. Some groups appear to have first come by boat to the Palestinian coast while others came through Damascus after spending some years in Anatolia.

A group of Shapsug were the first to arrive in 1876-8, and settled in the site of present-day Amman making their first

[2]Başbakanlik Archives, İrade 93990 (1308H/1883AD).

[3]Başbakanlik Archives, Ayniyat Defteri, #1139 (1290H/1873AD).

[4]Syrian Ottoman Archives, Ayniyat: Süriye-Beyrüt 906, (1290-1294H).

dwellings in the caves and ruins around the Roman Theatre. The Kabardey followed in 1880-1885 and settled upstream from the former group, and also established the village of Jarash. The Bjedug and Abzakh and more Shapsug, coming in 1880-1901 settled in Wadi as-Seer and Na'ur. After 1900 more Kabardey settled in Ṣweileḥ, Zarqa and Ruṣeifeh. The very last large group of immigrants were also Kabardey and arrived around 1906-7 and settled in Amman, a little to the south of the Shapsug. They were called "muhajirin", or immigrants, by their "settled" compatriots, and that neighborhood of Amman is still known by that name. At present, the two groups are still occasionally referred to in Circassian as *Yerlij* (old inhabitants) and *Yerlij'a* (new inhabitants). At the same time as this last group, the Chechen also arrived and settled in Zarqa, Ṣweileḥ, and Azraq and Sukhneh in the north. Much of the areas the Ottomans allotted for Circassian settlement in Jordan, although uninhabited, were the summer watering grounds of the surrounding Bedouin tribes (Hacker 1960). The nearest offical Ottoman presence was in the town of Salṭ and the region was mainly the stronghold of large nomadic and semi-nomadic Bedouin tribes. The changes in Ottoman rural policy described above had already led to a major increase in conflict between nomads and peasantry. The Bedouins had lost access to the central plains of Palestine as well as control of the trade caravans, and therefore began harrassing the peasantry (Ma'oz 1968; Swedenburg 1980). At the same time, peasants were being heavily taxed by the state and the new land-code stipulated that land left uncultivated for more than three years would be confiscated (Baer 1969). Therefore they could no longer afford their traditional means of self-protection, that is withdrawal into the mountains or to towns to escape Bedouin encroachment (Swedenburg 1980).

With Circassian settlement, the Bedouins were now also being denied grazing land. Since what the Ottoman government considered state land, and hence available for settlement, the Bedouins considered tribal land, clashes were bound to happen between them and the new settlers. According to some informants, at first the Bedouins were taken aback by the sudden appearence of a people who looked and spoke so differently. Also, the Circassians did not wish to fight their fellow-Muslims. Soon, however, conflict arose over water and pasturage land. Furthermore, the Circassians refused to enter into the indigenous peasant/bedouin relationship of paying protection money. Due to this, oral history records that fights mostly occurred around harvest time. The Circassians were able to hold their own against Bedouin attacks, and also sometimes received help from the small Ottoman gendarmerie at Salṭ (Hacker 1960). A kind of mutual respect for each other's prowess seems to have grown out of these clashes and soon a pact of friendship was conducted between the large and powerful tribe of Bani Ṣakhr, and the Amman Circassians (Mufti 1962).

The Circassian Community at the Turn of the Century

Estimating the number of the initial Circassian immigrants is difficult. Informants say that there were about 5000 in all. A study based on tabulating family names shows 233 families in Amman; 64 in Wadi as-Seer; 52 in Na'ur; 41 in Ṣweileḥ; 63 in Jarash; and 24 in Ruṣeifeh (Haghanduqa 1982). Since Zarqa was settled by families who moved from the other villages, the same families would be found there. These 477 families were extended families, and remnants of clans. Therefore if one took the very conservative estimate of 10 persons per family, this would indicate a population of about 4770, of which 2330 lived in Amman. Supporting this, an Ottoman report from 1901 states that there were 400 *hanes* in Amman at the time (Salname: Suriye 1317H). These figures tally well with estimates of the Amman population in the 1920's as being between 3000 - 5000 (Hacker 1960), especially since there was an influx of Arabs into Amman by that time. Thus one could roughly state the Circassian population up until World War I as being in the neighborhood of five to six thousand people.

By the turn of the century Amman had grown, an Ottoman gendarmerie post had been established and Arab shop-keepers and merchants from Salṭ, Nablus and Damascus had moved in, at first renting rooms and houses from the Circassians. In addition, Circassians were transporting to Jerusalem, in their distinctive two-wheeled carts, the barley cultivated by Bedouins (Hacker 1960). Similar processes were taking place in the other Circassian villages in Jordan. Gradually the Circassians became integrated into local economic structures by being drawn into the network of internal trade controlled by merchants from towns and cities such as Nablus and Damascus.

In each Circassian settlement there were neighborhood leaders, each with his guest-house, which was the place for the men of the community to gather, discuss community affairs, mediate disputes, plan defences, and also to reminisce about the Caucasus and recount legends and folk tales. Although these local leaders regulated the affairs of the community, their resources were limited. Serious disputes had to be taken to Damascus, as did requests for aid, schools and mosques. In general, the stories recounted from that period illustrate that officials at Damascus were not very reponsive to these requests, showing that local-level leaders had little power or influence with the Ottoman government.

The situation changed with the building of the Ḥijaz Railway in 1905. The railway was an important step in the attempts of the Ottomans to extend and centralize their power in the outlying provinces of the empire. The railway passed though Amman, the major Circassian settlement, and threatened an important source of income that the Bedouins had made through extracting protection money from the passing trade caravans. The Bedouins began to systematically attack the railway. Circassians were hired both to work in building the railway line and in guarding it from attack. This provided an opportunity for wage labor

for the Circassians, and also attracted a number of Circassians from different parts of the Empire who, for one reason or another, had not been successful in their first location of settlement. The railway track became the boundary between the Circassians and the Bedouins. It also became the dividing line between the Ottoman domain and that of "lawlessness". As one person put it: "If a man killed another (in Amman) he would cross the railway". Beyond the railway Bedouin territory began, where the Ottoman officials would not venture.

According to oral history, it was at this time that the official distribution and registration of farming land to the Circassians took place. Every *hane* of up to five persons was allocated 60 donums and larger ones were allocated up to 80 donums. The distribution was carried out by the local level leaders under the supervision of a Circassian offical from Damascus.

These changes led to an increasing differentiation within the Circassian community. First of all, due to the railway, Amman gained importance over the other villages. Also the formalization of land ownership led to the emergence of economic inequalities. These inequalities were due, in addition to the usual vissititudes of a peasant economy, to the fact that some who worked on the railroad could afford to buy more land than they were allotted while others chose, or were forced, to rely solely on their income from the railroad and sell their land. In addition, each settlement now was appointed a Mukhtar and an Imam which consolidated the power, as well as the wealth, of some local-level leaders. There was also some scope, though very limited, to obtain positions in the Ottoman bureaucracy. Those who were literate in Turkish and Arabic could be appointed as governers of provinces and sub-provinces and a government position began to be an important avenue for leadership. Some families began to send their sons to Al-Azhar in Cairo, or to schools in Damascus and these families began to rise in social status and wealth.

Conclusion

These, briefly, were the main features of the Circassian community in the first decades of the century just before the geo-political context changed completely and a different set of factors began to operate. Initially, the social structure of each settlement in Bilad ash-Sham was determined by the specific conditions of its locality. In addition to the nature of Ottoman rule and state policies, the prevailing economic conditions shaped the relations that the Circassians established with the indigenous groups. Within the Circassian community cultural concepts of leadership, family, group solidarity and conflict influenced the type of social order that the Circassians attempted to establish,[5] hence also affecting their relationship with the other groups in the region. After the turn of the century, economic and political changes affected the Circassian community as it did the whole of the population. Increasing opportunities of government employment and education led to more access to the Ottoman administration and at the same time to contact with Arab Nationalist ideas and links with nationalist movements in Damascus. By 1921, when the state of Jordan was established, the Circassian community was no longer an implanted immigrant group but one integrated into the local population and polity.

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[5]This important aspect could not be elaborated in this paper due to limitations of space. See Shami (1982) for an extended discussion.

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الوجه الظهر



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التي أنجزت عام ١٩٨٠ على أثر تنفيذ المشروع السياحي الأردني. ويتضمن وجه هذا الفلس ثلاث دوائر متداخلة متكررة ومتحدة في المركز ظهرت في الطوق. أما في مركز الوجه فقد بدا ثلاثة سطور أفقية مكتوبة بخط كوفي بسيط نصها «لا إله إلا الله وحده». بينما اشتمل الظهر على كتابة في الطوق ظهرت بشكل دائري وباستدارة الفلس وقد جاءت بعكس اتجاه عقارب الساعة نصها «بسم الله ضرب هذا الفلس بجرش». نقشت هذه الكتابة بين دائرتين متداخلتين ومتحدتين في المركز. أما مركز الظهر فقد احتوى ثلاث كلمات مكتوبة بخط كوفي أيضاً وبشكل أفقي جاءت في ثلاثة سطور نصها «محمد رسول الله». يعلو هذه الكتابة وفوق كلمة «محمد» في المركز نجمة خماسية الأطراف. هذا الفلس محفوظ في متحف الآثار الأردني في عمان وهو مكسور من أحد أطرافه.

أما النموذج الثاني فيمثله فلس آخر من ضرب جرش تم العثور عليه بموجب الحفريات التي قامت بها بعثة فرنسية عام ١٩٨٤ أثناء انجازها مشروع اعمار جرش. هذا الفلس ما زال بحوزة البعثة الفرنسية العاملة في جرش. وقد سمحت لي تلك البعثة، مشكورة، بالإطلاع عليه وتصويره من أجل الدراسة. وهو يشبه النموذج الأول ما عدا حجمه فقد جاء أصغر قليلاً من حجم النموذج الأول، وأما النموذج الثالث ويمثله أيضاً فلس واحد. وهذا الفلس الأخير الذي وجد في منطقة السوق التجاري القديم في مدينة جرش على أثر الحفريات التي أجرتها البعثة الأسبانية عام ١٩٨٣، كما أخبرتني السيدة أمينة المتحف، جاءت كتاباته غير واضحة وخاصة مكان الضرب.

بدا هذا الفلس غريباً عن النموذجين الأول والثاني من حيث الشكل والزخارف فعلى الوجه وفي الطوق ظهرت كتابة في معظمها غير مقروء، أما الواضح منها فهو مكتوب بخط كوفي نصه «بسم ... ضرب ...». وقد جاءت الكلمتان بعكس اتجاه عقارب الساعة. كما جاء مكانها في الطوق من حيث بداية حروف الكلمات ونهايتها مختلفاً كذلك عن نظيره في النماذج المتقدمة. احتل مركز الوجه كتابة نصها «لا إله إلا الله وحده». أما الظهر وفي الطوق فقد بدا بقايا كتابة بخط كوفي، محصورة بين دائرتين متحدتي المركز، نص المقروء منها «بسم الله ضرب هذا الفلس ...» وقد جاءت بعكس اتجاه عقارب الساعة. أما المركز فقد ظهر به كتابة نصها «محمد رسول الله». أغلب الظن أن المكان المحو والذي كان مخصصاً لتكملة النص المعتاد كتب فيه ليس فقط اسم دار الضرب وإنما تاريخه أيضاً وكما يبدو من اتساع الجزء المحو أنه يستوعب هذه التكملة وبسهولة. ومن المعروف أن الفلوس الأموية كانت متعددة الأنواع فمنها فلوس مغفلة لا تحمل اسماً ولا مكان ضرب ولا تاريخاً ومنها فلوس مغفلة مصورة وفلوس أخرى مؤرخة وعليها مكان الضرب في آن واحد وكذلك الفلوس المعرفة التي تحمل اسم أمير المؤمنين أو لقبه كما تذكر أحياناً اسم المشرف على السك. والأخيرة أكثر الفلوس الأموية فائدة لما تحويه من معلومات متنوعة(٢٢).

هذه النماذج الثلاثة بالإضافة لما كتبه النبراوي عن فلوس جرش في العصر الإسلامي تثبت بالدليل الأثري والذي لا يقبل الطعن على أن جرش كانت مدينة ضرب في العصر الأموي. كما تمثل أيضاً إضافة جديدة في مجال الفلوس الإسلامية من جرش بصورة خاصة والفلوس العربية الإسلامية بوجه عام.

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(٢٢) عبدالرحمن محمد فهمي : **فجر السكة العربية**. القاهرة : ١٩٦٥، ص ٢٤٥ ـ ٢٤٦.
محمد أبوالفرج العش : المرجع السابق، ص ٥٤.

ويده اليسرى تقبض عليه كذلك. احتوت هذه المجموعة فلساً يخالفها بوجود حرفين ظهرا على هذا النحو "CY" تحت المدرجات الأربع[١٤] مما قد يوحي بأن هذا الفلس كان قد ضرب في بيسان أولاً ثم أعيد ضربه في عمان بدليل أن هذين الحرفين يكونان جزءاً من اسم بيسان "CKYθOΠO∧HC".

أما المجموعة الثانية وعددها خمسة فلوس فهي لا تكاد تختلف عن سابقتها كثيراً الا بوجود مكان دار الضرب «عمان» على وجه العملة من جهة اليسار وتقرأ من أسفل إلى أعلى. كما جاءت شهادة التوحيد «لا إله إلا الله محمد رسول الله» هنا بعكس اتجاه عقارب الساعة أحياناً ومع اتجاه عقارب الساعة أحياناً أخرى شأن اتجاه الكتابة في المجموعة الأولى، بينما جاءت النجمة الثمانية الأطراف هنا على يمين المدرجات الأربع وذلك على عكس وضعها في فلوس المجموعة الأولى.

ومن خلال دراسة القالب النقدي للمجموعة الأولى والثانية فقد تبين أن الوجه في الأولى قد تم ضربه بثمان قوالب مختلفة بينما تم ضرب الظهر بسبع قوالب مختلفة. كما تبين أيضاً أن الوجه في المجموعة الثانية كان قد تم ضربه بأربع قوالب مختلفة بالوقت الذي تم ضرب الظهر بثلاث قوالب مختلفة. ودراسة القالب تفيد في تقدير حجم الثروة النقدية التي كانت مطروحة في الأسواق في وقت معين وذلك باحصاء قوالب السك من خلال العملة ذاتها خاصة وأن المصادر المكتوبة لم تهتم إلا نادراً بهذا المجال[١٥].

هل أصدرت دار الضرب في عمان عملة عربية إسلامية خالصة من التأثيرات البيزنطية ؟، في مقال كتبه رأفت النبراوي بعنوان «فلوس عمان وجرش في العصر الإسلامي» أشار إلى ثلاثة فلوس كاملة التعريب بالإضافة إلى فلس رابع يعود لفترة حكم الخليفة هارون الرشيد (١٧٠ ـ ١٩٣ هـ/ ٧٨٦ ـ ٨٠٨ م) وكلها من ضرب عمان[١٦]. وثمة فلس آخر نشره سمير شما وردت عبارة على الظهر نصها «ضرب هذا الفلس بعمان»[١٧]. كما أشار Northedge إلى مجموعة من العملات النحاسية تم العثور عليها في موقع القلعة في عمان ولكن دونما اشارة إلى دار الضرب. ترجع هذه المجموعة إلى مرحلة التعريب الكامل. وهي بالتالي وبالرغم من اختلافها عن نظيرتها السابقة من مجموعة الفلوس من السوق الرومانية المشار إليها، الا أنها، على أغلب الحالات قد تكون من ضرب عمان وذلك بسبب الدلائل الواضحة للاستيطان الأموي المكثف[١٨]. وهناك ضرب آخر من الفلوس الصادرة من دار الضرب في عمان وقد بدا ظهره مزيناً بزهرة الزنبق[١٩].

أما الأردن بحدوده الحالية فان دار الضرب في عمان لم تكن هي الوحيدة فيها أبان العصر الأموي بل كان هناك داراً أخرى في جرش كما دلت على ذلك المكتشفات الأثرية الجديدة علماً بأن هذه الدار لم تذكرها المصادر التاريخية والجغرافية.

لم تحظ دار الضرب في جرش باهتمام علماء النميات المحدثين وذلك لندرة ما وجد فيها من عملات، اللهم الا الفلس الذي ظهر نتيجة للحفرية التي أجراها عاصم البرغوثي. وكان هذا الفلس من الطراز البيزنطي / العربي فقد ظهرت كلمة «جرش» وعلى الوجهين باللغة اليونانية كما ظهرت كلمة «طيب» وعلى الوجهين كذلك باللغة العربية[٢٠]. هذا فضلاً عما كتبه كل من Walmsley, Bowsher, Bellinger عن عملة جرش من نفس الطراز[٢١].

نقوم هنا بهذا البحث، ولأول مرة، بنشر ثلاث نماذج من الفلوس من ضرب جرش وهي من الطراز العربي الإسلامي الخالص تم ترتيبها في اللوحة بحيث ظهر الوجه إلى اليمين والظهر إلى اليسار لكل منها وقد ظهرت صورة الفلوس هنا بحجم مضاعف، النموذج الأول يمثله فلس عثر عليه عرضياً. كما أخبرتني السيدة عائدة نغوي، أمينة متحف آثار جرش آنذاك، وذلك أثناء عمليات تنظيف المجاري الرومانية القديمة

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(١٤) نفس المرجع السابق. ص ١٤ شكل ٢ رقم ٨.

(١٥) A. Ehrenkreutz, 'Early Islamic Output, A Preliminary Inquiry in the Methodology and Application of the "Coin-die Count" Method', *Journal of the Economic and Social History of the Orient*, 9-10, (1966-67), pp. 213-241.
S. Sarī, *A Critical Analysis of a Mamluk Hoard from Karak*, Ph.D. Dissertation, University of Michigan, Ann Arbor, (1986), pp. 444-447.

(١٦) رأفت النبراوي : فلوس عمان وجرش في صدر الإسلام. **اليرموك للمسكوكات** المجلد ١ العدد ١ (١٩٨٩)، ص ١٩ ـ ٢٠.

(١٧) سمير شما : **النقود الإسلامية التي ضربت في فلسطين**. دمشق : ١٩٨٠، ص ٨٦.

(١٨) A. Northedge, *Qal'at 'Ammān in the Early Islamic Period*. Ph. D. Dissertation, School of Oriental and African Studies, London (1984), p. 262.

(١٩) ورد مثل هذا الضرب في مقال كتبه Michael Bates بعنوان "Coinage of Umayyad Syria" وقدمه إلى المؤتمر الرابع لتاريخ بلاد الشام المنعقد في عمان في الفترة ما بين ٢٤ ـ ٢٩ تشرين أول ١٩٨٧.

(٢٠) سمير شما : المرجع السابق، ص ٩٠.

(٢١) A. Bellinger, Coins from Jarash 1928-1934, *American Numismatic Society Notes and Monographs*, No. 81, (New York, 1938).
J. Bowsher, 'The Coins', in F. Zayadine (ed), *Jerash Archaeological Project I*, (Amman, 1986), pp. 255-261.
A. Walmsley, *idem*.

الطراز البيزنطي / الإسلامي. وتفسير ذلك هو أن العرب قبل الإسلام كانوا وثنيين متعددي الالهة يؤمنون بالخرافات والشعوذة ويمارسون طقوساً دينية وعبادات شتى مما جعل المؤرخين يطلقون على تلك الفترة بالجاهلية حيث لم يكن القوم على علم بطبيعة المعبود الحقيقية. ولما اعتنق العرب الدين الإسلامي وقامت الدولة الإسلامية بدأت الكلمات والعبارات ذات الصبغة العربية الإسلامية بالظهور على العملة مثل عبارات التوحيد والتهليل والتكبير. كان ذلك ابتداء من عهد الخليفة عمر بن الخطاب (١٣ ـ ٢٣ هـ/ ٦٣٤ ـ ٦٤٤ م) والذي يمثل عهده، بحق، الخطوات الأولى في مسيرة مرحلة التعريب واسلامية العملة إلى أن تحررت كاملاً من التبعية البيزنطية والفارسية في عهد الخليفة الأموي عبدالملك بن مروان (٦٥ ـ ٨٦ هـ/ ٦٨٥ ـ ٧٠٥ م)[٦]. ومنذ ذلك الحين لم يعد يظهر على العملة الإسلامية بجميع فئاتها، الدينار والدرهم والفلس، صور أباطرة البيزنطيين أو شعائر المسيحية وذلك فيما يتعلق بالدينار والفلس، كما لم يعد يظهر كذلك صور الملوك الفرس على الدراهم العربية الإسلامية[٧].

لم يقتصر التعريب على اختفاء الصور والشعارات غير العربية الإسلامية فحسب وإنما صاحبه أيضاً اختفاء الكتابة على العملة بحروف وكلمات لاتينية أو فهلوية حيث حلت محلها، وبفعل عامل السيادة والإستقلالية، كلمات بحروف عربية خالصة وبالخط الكوفي[٨].

ولما كان التعامل يتم بالنظام النقدي المزدوج «الدينار والدرهم» فان تعريبهما، وفي الغالب، كان قد حصل بنفس الفترة[٩]. أما الفلوس النحاسية والتي من الأرجح ما كان يتم اصدارها محلياً وتستخدم لشراء المحقرات من الأعمال والحاجات البيئية البسيطة فان تعريبها، غالباً، لم يتزامن مع تعريب كل من الدينار والدرهم وإنما جاء في مرحلة زمنية لاحقة. وقد تبين، حتى الان، ان أقدم فلس معرب يرجع بتاريخه إلى سنة ٨٥ للهجرة/ ٧٠٥ ـ ٧٠٦ م[١٠]. وان دور الضرب قد ظهرت لأول مرة على الفلوس الإسلامية في السنة ذاتها (٨٥ هـ)[١١].

لتسهيل دراسة الفلوس النحاسية من السوق الرومانية في عمان فقد رأينا تقسيمها إلى قسمين رئيسين هما :

المجموعة الأولى : وعددها اثنى عشر فلساً وفيها ظهرت دار الضرب «عمان» على وجه العملة من جهة اليمين. نقشت الكتابات على وجه[١٢] هذه المجموعة بخط كوفي واضح ومتقن حيث ظهرت في الطوق وقد أخذت شكلاً دائرياً باستدارة الفلس. ولا غرابة في وضوح الكتابة ودقتها سيما وأن هذه الفلوس، وكما تنص الكتابة، ترجع إلى زمن الخليفة عبدالملك بن مروان صاحب أحسن قرار في تاريخ النقد العربي الإسلامي. جاءت الكتابة على الوجه، وفي الطوق، باتجاه عقارب الساعة ونصها «لا إله إلا الله وحده محمد رسول الله». هذا مع ملاحظة أن كلمة «وحده» تظهر أحياناً وتختفي أحياناً أخرى وذلك أما بسبب تآكل حافات الفلس أو بسبب زخرفة القالب عند الضرب. أما مركز الوجه فقد اشتمل على مدرجات أربع يعلوها عمود قائم ينتهي أعلاه بشكل كرة وحول العمود القائم من أعلى توجد دائرة. برز على يسار المدرجات الأربع وبجانب الدرجة الرابعة من أعلى نجمة ثمانية الأطراف وقعت بين المدرجات وبين الكتابة الدائرية. أما على يمين المدرجات فقد برز اسم دار الضرب «عمان». تقرأ كلمة «عمان» هنا من أعلى إلى أسفل أما الظهر في هذه المجموعة فيلاحظ أن الطوق ظهرت فيه كتابة باتجاه عقارب الساعة نصها «عبدالله عبدالملك أمير المؤمنين» بينما ظهر على أحد هذه الفلوس وفي الطوق كذلك كتابة نصها «لا إله إلا الله محمد رسول الله»[١٣]. أما مركز الظهر فقد اشتمل على صورة الخليفة عبدالملك بن مروان واقفاً بزيه العربي الفضفاض ومرتدياً فوق رأسه كوفية. وقد مثل الخليفة وهو يمسك بيمناه سيفاً

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(٦) تقي الدين المقريزي : **شذور العقود في ذكر النقود**، الطبعة الخامسة تحقيق محمد السيد بحر العلوم، النجف : ١٩٦٧، ص ١١ ـ ١٦.

(٧) البلاذري : **فتوح البلدان**، تحقيق رضوان محمد رضوان، بيروت : ١٩٧٨، ص ٤٥١ ـ ٤٥٦.
الماوردي : **الأحكام السلطانية والولايات الدينية**، الطبعة الثانية، القاهرة : ١٩٦٦، ص ١٥٤ ـ ١٥٦.

(٨) البلاذري : المرجع السابق والصفحة.

(٩) ضياء الدين الريس : **الخراج والنظم المالية**. الطبعة الرابعة. القاهرة : ١٩٧٧. ص ٣٦.
محمد أبو الفرج العش : **النقود العربية الإسلامية المحفوظة في متحف قطر الوطني**. الدوحة : ١٩٨٤، ص ٢٤.

(١٠) A. Ehrenkreutz, *"Money"*, *Handbuch der Orientalistik, Erste Abteilung*, Band Co, Abshnitt, Teil 1, (1977), p. 20.

(١١) محمد باقر الحسيني : مدن الضرب على النقود الإسلامية. **المسكوكات** العدد ٧ (١٩٧٦)، ص ١٠٥.

(١٢) أبومحمد الحسن بن أحمد الهمداني : **كتاب الجوهرتين العتيقتين** المائعتين من الصفراء والبيضاء. تحقيق Christopher Toll، ابسالا : ١٩٦٨، ص ٣٤٥.
J. Bacharach and H. 'Awad, 'The Problem of the Obverse and the Reverse in Islamic Numismatics', *The Numismatic Chronicle*, (1973), pp. 184-190.

(١٣) عدنان الحديدي : نفس المرجع السابق، ص ١٣ شكل ١ رقم ٨.

دور الضرب الأموية في الأردن

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يهدف هذا البحث إلى التعرف على دور الضرب التي كانت عاملة في الأردن خلال العصر الأموي في ضوء التنقيبات الأثرية التي جرت فيه. ويعود لتلك التنقيبات الفضل الأكبر في اكتشاف دور ضرب جديدة لم تشملها المصادر الجغرافية والتاريخية وذلك من خلال قطع العملة المكتشفة والتي نقش على جسمها أحياناً اسم دار الضرب.

كان الاستيطان الأموي في الأردن قوياً وفي مواقع متعددة، وقد اختلف حجم الاستيطان بتلك المواقع كما اختلفت طبيعة المادة الأثرية التي ترجع إلى الفترة عينها بصورة تشير إلى أن الوجود الأموي في الأردن قد لازمه وجود حضاري متميز. يشهد على ذلك القصور والحمامات والمساجد المنتشرة في الأردن والتي أرجعها علماء الآثار المستشرقون منهم والعرب المسلمون إلى الفترة الأموية[١]. هذا فضلاً عن الآثار الأخرى كالفخار[٢] وقطع العملة التي جاءت من دار الضرب في كل من عمان وجرش[٣].

ودار الضرب في عمان كانت تصدر عملات نحاسية منذ العهد الروماني ثم توقفت عن نشاطها في عمليات سك العملة طيلة فترة الحكم البيزنطي واستمرت مهملة حتى بعث الفتح الاسلامي فيها الحياة من جديد في مستهل القرن السابع الميلادي.

واصلت دار الضرب نشاطها في سك العملة ومما يؤكد هذا القول هو أن مديرية الآثار الأردنية العامة كانت قد اكتشفت في ساحة السوق الرومانية في وسط مدينة عمان بين عامي ١٩٦٥ ـ ١٩٦٧ مجموعة من الفلوس النحاسية من ضرب عمان وهي الآن من مقتنيات متحف الآثار الأردني. بلغ مجموع القطع النحاسية سبعة عشر فلساً، وهي أول عملات أموية يتم الكشف عنها في طبقة سكنية في عمان وتعود إلى زمن المرحلة الإنتقالية من حيث الطراز[٤]. هذا الطراز من العملة الإسلامية مصطلح عليه عند علماء النميّات باسم الطراز البيزنطي / العربي[٥]. وهو الطراز الذي سبق مرحلة التعريب الإسلامي الكامل. وقد جمع هذا الطراز في أسلوبه ومميزاته بعض خصائص ومواصفات العملة البيزنطية المتمثلة في الصليب المحوّر والمدرجات كما نشاهده على الدنانير والفلوس، وخصائص ومواصفات العملة الفارسية ممثلة في معبد النار والحارسين كما نشاهده على الدراهم، هذا من جهة، وبين المأثورات والشعارات العربية الإسلامية كالشهادتين واسم الخليفة ولقبه «أمير المؤمنين» من جهة ثانية.

يبدو أن تسمية هذا الطراز بالبيزنطي / العربي قد جاءت بعيدة عن الواقع اذ من الأجدر أن يطلق عليه اصطلاح

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(١) K. Creswell, *A Short Account of Early Muslim Architecture*, (Beirut, 1958), pp. 84-107; 124-144.
G. Bisheh, 'Excavations of Qasr al-Hallabat', *Annual of the Department of Antiquities of Jordan* 24 (1980), pp. 69-77.
غازي بيشه : «قصير عمرة»، **الفكر العربي**، السنة التاسعة، العدد ٥٢ (آب ١٩٨٨)، ص ٢٥٩ ـ ٢٦٤.
فريد الشافعي : **العمارة العربية في مصر الإسلامية**. القاهرة : ١٩٧٠، ص ١٠٧ ـ ١٠٩.
فواز طوقان : القصور الأموية الصحراوية لماذا ابتنيت ؟ **حولية دائرة الآثار الأردنية** العدد ١٤ (١٩٦٩)، ص ٤ ـ ١٣.

(٢) J. Sauer, 'The Pottery of Jordan in the Early Islamic Period, pp. 329-337 in A. Hadidi (ed), *Studies in the History and Archaeology of Jordan I.* (Amman, 1982).

(٣) عدنان الحديدي : فلوس نحاسية أموية من عمان، **حولية دائرة الآثار الأردنية العدد ٢٠** (١٩٧٥)، ص ٩ ـ ١٤.
A. Walmsley, *The Administrative Structure and Urban Geography of the Jund of Filasṭīn and the Jund of al-Urdunn*. Ph.D. Dissertation, University of Sydney, (1987), pp. 147-151.

(٤) J. Walker, *A Catalogue of the Arab-Byzantine and Post-Reform* Umayyad Coins, (London: British Museum, 1956), p. 15.
G. Miles, 'The Earliest Arab Gold Coinage', *The American Numismatic Society Museum* Notes 13, (New York, 1967), p. 207.
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الرقم	اسم المكان	اسم القبيلة	الآلـــه	ارقام النقوش
٥٥	م ل ح	-	-	LP 217
٥٦	م ن ع ت	حظى	-	CNSI 1
٥٧	ن ب ك ي ت	-	-	LP 1019
٥٨	ن ت ج	عمره	-	CNSI 628
٥٩	ن ج د	-	-	CNSI 381
٦٠	ن ج (م)	-	-	CIS 278
٦١	ن د ي	سيب	اللات	WH 77
٦٢	ن ر	-	-	WH 1258,3559 A.
٦٣	ن ف ر ي ت	-	-	WH 741
٦٤	ن ع م ن	-	-	CIS 2849
٦٥	ن م ر ت	-	-	CIS 241,3878,LP 540,675
٦٦	ن و ف	-	اللات	CIS 1152,4220
٦٧	ن و ى	-	-	CIS 3345,WH 298

الرقم	اسم المكان	اسم القبيلة	الآلـــه	ارقام النقوش
٢٦	خ ف ج	-	ذو الشرى	WH 171
٢٧	د ب	-	-	ISB 95, WH 18, SIJ 851
٢٨	راس	-	ذو الشرى	LP 1135
٢٩	رأى	-	-	LP 712
٣٠	رأى ج م ل	-	اللات	LP 435,436
٣١	رأى ذ ك ر	-	بعل سمين	LP 258
٣٢	رأى م ل ح	-	-	CIS 3230
٣٣	رأ(ى)ع ق ب ت	-	-	WH 1016,CIS 3818,4305,SIJ 724
٣٤	رس	-	-	LP 438
٣٥	ر ق ل	-	-	CIS 4276
٣٦	رم	-	اللات	CIS 742,WH 7996
٣٧	ر ه ى	-	-	CIS 2405
٣٨	روث	-	-	CIS 112
٣٩	س ر ت	-	اللات	WH 177;cf.CIS 3531
٤٠	س ع ع	عبيشه	بعل سمين	CNSI 424
٤١	س ف ى	-	-	WH 2700
٤٢	س م و ى /نسبه	-	-	LP 653,1014
٤٣	ص ر ح	أتى	اللات	يوسف ٥٥
٤٤	ص م ك ن	-	-	CIS 4233
٤٥	ع ر إل	-	اللات	WH 2255;١ ناجي
٤٦	ع ر ى/نسبه	-	-	LP 276
٤٧	غ و ث	-	-	CIS 742
٤٨	ف س ل ت	ضيف	بعل سمين	WH 2042
٤٩	ق ص ر ن ق أ ت	-	-	LP 653
٥٠	ك ب ب	-	-	CIS 230,WH 2911
٥١	ت ج (ت)	ضيف	-	WH 1025,SIJ 462
٥٢	ل ر	عمره	اللات وذو الشرى	CIS 2947
٥٣	م د ن ت	جعبر	اللات	CIS 240,2836,4332
٥٤	م ط ل	-	-	CIS 2160

كشف بأسماء المواقع

الرقم	اسم المكان	اسم القبيلة	الآلـــه	ارقام النقوش
١	أ ب ل ت	قمر	-	CIS 1039, 1868
٢	أرض	-	رضى	WH 54161,440,641a,SIJ 716
٣	(أ) ر ض ت ض ف	-	بعت سمين	CIS 3661
٤	أ(ف) ل س	رفأة	رضى	WH 149
٥	ب ت / ب ع ل س م ن	نغبر	-	LP 350
٦	ب ت ر	شداده, نغبر	-	CIS 3194, 2577
٧	ب ج ت	-	-	يوسف عبد الله ١٢٣
٨	ب ر ك ت	-	اللات	WH 423,465a,289,622,1765,3424
٩	ب ر ك ت/ن و ي	-	-	WH 298
١٠	ب ص ر [ي]	-	اللات	CIS 4448,51J 78
١١	ت د م ر	ضيف،أصر	اللات,بعل,رضى	CIS 663, 1649, 1665, LP 717, WH 2833a,
١٢	ت م و ي نسبة الى تيماء	-	اللات	LP82, 1195
١٣	ج و	-	-	LP4
١٤	ح ب س	-	اللات	CIS 1871
١٥	ح د ل	-	-	CIS 406
١٦	ح ر ت / ح رر	-	اللات	CIS 3131, CNSI 107, 727, WH 7361
١٧	ح رت/ ت ب ل	-	-	WH 179
١٨	ح ر ت/ خ ف ج	-	-	ISB 113
١٩	ح ر ت ي / نسبة للحيرة	-	-	WH 424, 2987
٢٠	ح ر ق ي/ نسبة	-	-	LP 760
٢١	ح رن	-	شيع القوم	CIS 216, 2021, WH 161, 238, 402, 3289
٢٣	ح و ر ن	-	-	WH 3049
٢٣	ح س ي	-	اللات	LP 161, 162, CIS 3875
٢٤	ح و[ي]	-	اللات	CIS 1871, LP 602
٢٥	خ دد	-	ذو الشرى	SIJ 127

تبعد أكثر من ٣٥ كم إلى الجنوب الشرقي من دمشق (CIS 216) وأن المقصود ب (ح و ر ن) منطقة حوران المعروفة أو وادي حوران الذي يقع على الحدود السورية العراقية كما تجدر الاشارة إلى أن (ح ورن) وردت كإسم لقبيلة صفوية أيضاً (الروسان ١٩٨٧ : ٣٠٢).

حـــرّان

١ ـ "لعوذ بن أسد وانتظر سامك من حرّان" (CIS 216).

٢ ـ "بن نعم بن حارثة وأشرق من حرّان [في شهر نيسان]" (CIS 2021).

٣ ـ "لعوذ بن عوذ بن غيث وسافر وحدى من حرّان فيا شيع القوم سلام" (WH 238).

حـــوران

١ ـ "هذه الدار لإله بن عواد وأمضى الصيف بالحره وطرد الخيل من حوران سنة [ ]" (WH 3049).

وإذا كان وينت وهاردنج قد وهما حين عدا (ح ر ن، ح و ر ن) كتابة واحدة لحوران في النقوش الصفوية فإنه لم يحالفهما الصواب أيضاً حين ذكرا بأن (غ ي ل، WH 3428) (هـ م ,WH 189) (هـ س هـ و ت،WH 2016) (ب خ م ت، WH 1771) (ح ول، WH 2006) من أسماء الأماكن الصفوية، ذلك أن (ح ول) تعني حول في النقش المشار اليه، وأن (هـ م) والواو في بداية الكلمة التي تليها عبارة عن ضمير الجمع الغائب المتصل بكلمة ملح التي سبقت (هـ م) كما أن الترجمة الأقرب للدقة هي : "وورد بملحهم بركه" وليس "وورد بملح هم وبركه" كما يعتقد وينت وهاردنج، وما الواو في نهاية الضمير المتصل سوى واو الجماعة وإذا كان هذا مخالفة ظاهرية لقواعد الإملاء العربية التي نعرفها فعلينا أن نتذكر بأن تاريخ هذه النقوش يعود إلى الفترة الواقعة بين القرن الأول ق.م والقرن الثالث الميلادي.

أما كلمة (ب خ م ت) فيكفي القول بأن قراءة النقش التي ترد فيه غير مؤكدة، والوقوع في مثل هذه التفسيرات ليس مقصوراً على وينت وهاردنج، فقد وقع فيه ليتمان واكستوبي وكلارك وغيرهم وحتى الترجمات التي وضعتها لبعض النقوش الصفوية الواردة في هذا البحث هي ترجمات تقريبية فقراءة النقوش الصفوية وترجمتها ليست بالبساطة التي تبدو للباحث منذ الوهلة الأولى، إذ من المعلوم أنه لا يوجد فواصل بين الكلمات وأن الحروف تكتب منفصلة ولا يوجد بينها حركات قصيرة أو طويلة بل أن حروف المدّ واللين لا تكتب في هذه النقوش وكل هذه الأمور تجعل من القراءة والترجمة أمراً بالغ الصعوبة، ويزداد الأمر صعوبة عندما يتعلق بالأفعال التي تتردد غالباً في سياق متشابه فعلى الرغم من كثرة ورودها في النقوش فأن الأمثلة الجديدة لا تقدم لنا مساعدة تذكر في سبيل تفسيرها.

وإذا كان الباحث في النقوش يجد صعوبة في التمييز بين أسماء الأماكن والقبائل في مثل بركة، النماره والحرّة، فأنه لا بدّ من الاشارة هنا لصعوبة التعرف على أسماء مثل (ر هـ ى، CIS 742)، (ن ب ط، WH 158)، (ح و ل ت، WH 153) وهل المقصود بهذه الأسماء شعوب نسبت لمكان كما هي الحال في (ر هـ ى) والتي قد تكون إلى الرّها التي نشأت فيها مملكة عربية منذ القرن الثاني ق.م واستمرت حتى منتصف القرن الثاني الميلادي (إحسان عباس ١٩٩٠: ١١٣ ـ ١١٧) أو حائل التي كانت تسمى قديماً بالرها، خاصة وأن (ر هـ ى) و (ن ب ط) يردان غالباً في نفس النقش (CIS 2670). أمّا نبط في النقوش الصفوية فأنها غالباً ما تعنى الدولة النبطية أو جزءاً من الشعب النبطي، والأمر أكثر تعقيداً بالنسبة لحوله التي لا يعرف حتى الآن فيما إذا كانت اسم لمنطقة أو دويلة سكتت عنها المصادر التاريخية وذكرها الصفويون في نقوشهم.

ومهما يكن من شيء فأن أسماء الأماكن الواردة في النقوش جزء مهم من الإرث الحضاري الضخم الذي خلفه لنا الأجداد كما وأن دراستها دراسة متكاملة تقوم على مقارنة الإسم بالنقوش المكتشفة في الجزيرة وبلاد الشام وعرض ذلك الإسم على المصادر الكلاسيكية والعربية مع الاستعانة بالخرائط الحديثة سيساعد ذلك كله في الوصول إلى إخراج معجم للجغرافيا التاريخية لمنطقة شمال غرب الجزيرة العربية لأنه ضرورة ملحة عند الباحثين والمهتمين بدراسة تاريخ جزيرة العرب وبلاد الشام.

المختصرات :

CIS	Ryckmans 1950
CNSI	Clark 1979
Ja	Jamme 1962
ISB	Oxtoby 1968
LP	Littmann 1943
LTS	Littmann 1940
SIJ	Winnett 1959
WH	Winnet and Harding 1978

الأنباط تكريماً لإلهه شيع القوم الذي لا يشرب الخمر، وتركه في تدمر بعد أن دون فيه بأنه فارس نبطي يعمل في الجيش التدمري، حيث خدم عدد من الأنباط بعد سقوط دولتهم كفرسان في الجيش التدمري.

وإذا كانت النقوش الصفوية تعكس لنا رغبة كاتبيها بالاستقرار أو التردد على أمكنة بعينها من خلال قول بعضهم بأنه عاد (لهذا) المكان سنة بعد سنة، "لأوسان بن قصيه (هذا) البناء عاماً بعد عام" (Oxtoby 2) وإذا كانت النقوش تتحدث عن وجود الأبنية عندهم (WH 967) فاننا لنجد كاتبيها يفرقون بين البيت الذي كانوا يسكنون به "لضس بن علك هذا البيت" (Oxtoby 20) والبيت الذي كان مخصصاً للعبادة (LP 350) وإضافة لهذا فإنهم قد اهتموا بذكر الأماكن التي تكثر فيها المياه فقالوا بأنهم وردوا البرك (WH 289) وعيون الماء التي سموها النميرة (CIS 523) والآبار العادية "ج و" (LP4).

النميـــرة

١ ـ "لخالده بن نافع بن فتاش بن ودل بن كبيسه (هذه) العين" (LP 138).

٢ ـ "لإله بن بأخيه بن تراب وورد العين (النميره) بكيس ملح" (CIS 523).

٣ ـ "لمالك بن أتم بن اله ورعى المغرى وورد العين (النميره) فيا بعل سمين اغثه بالأمطار" (CIS 2803).

٤ ـ "ورعى الضأن وورد العين (النميره) فياللات وجد عويذ سلام" (CIS 3143).

ولعل النقش الخامس يظهر بوضوح أن المقصود بالنميره في هذه النقوش هو عين الماء حيث استعمل الفعل "نهل" بمعنى شرب.

٥ ـ "لخالص بن متى بن عدى ونهل من العين (النميره) فياللات سلام من الأعداء" (CIS 4355).

النمـاره

أمّا النماره الواقعة إلى الجنوب الغربي من جبل الدروز والتي وجد فيها شاهد قبر امريء القيس بن عمرو ملك العرب كلها والمؤرخ بسنة ٣٢٨ م فأنها قد ذكرت في النقوش الصفوية أيضاً.

١ ـ "لقين إبل بن قحش ورحل من النماره" (CIS 241).

٢ ـ "لحلم بن غادر وذهب للنماره" (CIS 3878).

٣ ـ "لعوذ بن سائب بن عوذان ورحل من النماره" (LP 675).

كما وردت النمره (ن م ر ت) بنفس الكتابة التي تعني اسم المكان أو عين الماء. كاسم قبيلة صفوية في النقوش (الروسان ١٩٨٧ : Harding 1969: 18;٣٦٧).

بل إن كاتبي هذه النقوش قد ميزوا تمييزاً واضحاً من خلال النص بين أسماء الأماكن التي تتشابه كتابة وتتباين دلالة كالرحبة اسم المكان المعروف في قولهم.

١ ـ "سنت أخذ هذه الأرض و س هـ ب (ح) م في غرب الرحبة" (CIS 223).

٢ ـ "لحنين ونزل الرحبة سنت قتل آل حامد" (CIS 1320).

والرحبة التي تطلق على كل أرض منبسطة في واد، حيث يحدد ذلك مجيء الفعل رعى قبل الرحبة في كثير من النقوش ومن الأمثلة على ذلك.

١ ـ "لمروى ورعى (هذه) الرحبة" (Clark 35).

٢ ـ "لعرس بن رغس ورعى (هذه) الرحبة" (WH 745).

وقد ميز كاتبو النقوش الصفوية من خلال الأفعال بين البركة، وهي قرية على بعد ٤٠ كم إلى الشمال من بصرى وبين بركة الماء، حيث كانت برك الماء احدى المصادر الرئيسية لتأمين المياه لسكان المدن والقرى، فأضافوا اسم البركة لإسم المكان الذي وجدت به في مثل بركة نوى، ونوى مدينة أثرية هامة، ازدهرت في القرون الميلادية الأولى والقرن الأول ق.م.

بركـــه

١ ـ "لسامك بن جمـل وأمضى السيف (في) بركـة" (WH 423).

٢ ـ "لدؤل بن إمرؤ إيل وقيّظ بركة" (WH 289).

وغيرها من النقوش.

بركة نوى

١ ـ "لوسم إيل بن يعمر بن عاشق وقيّظ بركة نوى سنة [ ]" (WH 298).

وعلى الرغم من اعتقاد كل من وينت وهاردنج (Winnett and Harding 1978: 436) بأن (ح و ر ن) كتابة مخطوءه زيدت فيها الواو، اذ الأصل في رأيهما أن تكتب (ح ر ن) تعني حوران كما قالا، فلإنني أعتقد بأن المقصود ب (ح ر ن) في النقوش الصفوية أمّا حرّان المدينة الأثرية المعروفة في المصادر الكلاسيكية والعربية أو أنها حرّان العواميد التي لا

الصفويين قد عرفوا البثنيه كما عرفوا اللجاه وحوران، فإذا كانت (حرتا) أو حيره الغساسنه مزدهرة منذ أيام الصفويين، فأن اسم المكان (ح ر ت) الوارد في النقوش الصفوية قد يعنى الحرّه أو حيرة المناذرة أو حيرة الغساسنة.

ومن الجدير بالذكر هنا أن وينت وهاردنج قد فطنا بأن هذه النقوش الثلاثة تشير إلى اسم مكان ولكنهما لم يفطنا إلى الحيرة (Winnett and Harding 1978: 112)، كما أن كاتبي النقوش الثلاثة السابقة لم ينتسبوا لقبائلهم ولم يهتموا بذكر سلسلة النسب الطويلة أو يتضرعوا للآلهه الصفويه المعروفه شأنهم في ذلك شأن من ذكروا الحرّه في نقوشهم.

ويقودنا البحث في أسماء الأماكن وعلاقة القبائل الصفوية بها للقول بأن قبيلة ضيف كانت على صلة وثيقة بتدمر وغيرها من الأماكن المعروفة آنذاك مثل س ر ت (WH 117)، ف س ل ت (WH 2042)، ق ص ي (CIS 1757)، هـ م د ن ت (WH 1698, 1725B)، إضافة لامتلاكها لأرض خاصة بها، أرض ضيف (CIS 3661)، كما سكنت أو احتلت أرضاً لم تكن لها وهو ما يفهم من النقش المؤرخ بسنة حلّ آل ضيف اللجاه (WH 1025) فإذا كانت لضيف ارض خاصة بها فأن انتشار الكتابات التي دونها أبناؤها يشير إلى أنهم سكنوا في شمال شرق الأردن في الرويشد، وادي راجل، الصفاوي وجاوه وفي جنوب سوريا في كل من الزالف، سيس، وادي غرز، قبر ناصر والنماره (الروسان ١٩٨٧: ٣٢٨). ويبدو أن المنطقة الأولى أكثر ملائمة للرعي والتجاره وأن المناطق الواقعة في جنوب سوريا أكثر ملائمة للعمران والزراعة، وهو يدفعنا إلى القول بأن قبيلة ضيف كانت تمضي الشتاء والربيع في الصحراء لتعود في فصل الصيف للمناطق الخصبة في حوران أو أنها قبيلة كبيرة هذا إذا لم تكن تحالفاً قبلياً ضم العديد من القبائل حيث تباينت مصادر معيشة أبنائها فيما بين الرعي، التجارة ولربما الزراعة أيضاً، فكانت قبيلة ضيف لذلك قوة لها دور في الحياة الاقتصادية والسياسية في المنطقة فهيأت هذه الأمور لكثير من أفرادها تعلم القراءة والكتابة اذ نلمس ذلك من خلال كثرة النقوش التي تركوها وراءهم والتي تزيد على خمسين نقشاً منشوراً حتى الآن، ولعل استقرار اقتصادهم الذي ادى لتعلم كثير منهم للقراءة والكتابة وتملك الأرض، كان بسبب اتصالهم بتدمر وغيرها من الحواضر المهمة في زمانهم، كما دفعهم للتعبد لآلهة تدمرية هي اللات وبعل بالاضافة لالههم الخاص بهم (جد ضيف)، ومن الجدير بالذكر هنا أن باقي القبائل الصفوية وعلى الرغم من ذكر أبنائها للأماكن التي ترددوا عليها، لا توجد من بينها قبيلة واحدة تقارب قبيلة ضيف في عدد الأماكن التي ذكرت في نقوشها، على الرغم من أن قبائلاً صفويه أخرى قد شاركت قبيلة ضيف في أماكن سكناها، حيث شاركتها قبائل أشلل، جعبر بالسكن في منطقة الرويشد وجبل سيس ووادي غرز والنماره (الروسان ١٩٨٧ : ٢٦٧)، كما شاركتها قبيلة رفأه في السكنى بمنطقة الرويشد ووادي مقاط والنماره (الروسان ١٩٨٧ : ٣١٩). وقد أرخ أحد أفراد قبيلة جعبر نقشه بالسنه التي سكنت فيها ضيف اللجاه (WH 1025) كما ذكر أحد أفراد قبيلة رفأه أفلس (WH 149) في نقش كتبه في منطقة الرويشد، وهما المكانان الوحيدان اللذان ذكرا في كتابات هاتين القبيلتين، بل أن قبيلة عويذ التي كتب ابناؤها ما يزيد على ثلاثين نقشاً لم يذكروا في كتاباتهم هذه من الأماكن سوى الصحراء (LP 325) وقد كانت هذه القبيلة من القوة والمنعه بالقدر الذي جعلها تتمرد على الأنباط (CIS 4) والرومان (CIS 1292) وتحاربت قبائل مثل باعد (CIS 2577) وصبح (Harding 1951: 3)، وانتشرت كتابات ابنائها فيما بين تدمر وحوران والرويشد. ويظهر من خلال أسماء المواقع الواردة في هذا البحث، أن عدد الأماكن التي انتسب من ذكروها لقبائلهم لا يزيد على العشرين موقعاً، بينما يصل عدد الأماكن الواردة في النقوش الصفويه إلى أضعاف هذا العدد، إلّا أن كاتبيها لم ينتسبوا لقبائل معينة، ولم يهتموا في كثير من الأحيان بذكر أنسابهم حيث اكتفوا بذكر جد واحد أو اثنين في نقوشهم، وهو الأمر الذي يتجلى بصورة واضحة في النقوش الصفوية التي توسل فيها كتابها للاله (رضى) على وجه الخصوص، وهو ثاني الآلهة تردداً في النقوش الصفوية بعد اللات، كما انتسب بعضهم لتيماء (LP 82,1195) السماوة (LP 635,1014)، الحريقة (LP 760)، ع ر ال (LP 276). كما نسبوا بعض امتعتهم للأماكن التي اشتهرت أو صنعت بها مثل الخيام المصنوعة بالنبك.

"لساري بن بنان (هذه) الخيمة النبكية (وهذه) الدار" (LP 1019).

ويبدو أن بعضاً ممن كتبوا نقوشاً صفوية وانتسبوا فيها لمكان أو شعب معروف في تلك الحقبة من التاريخ قد كانوا تجاراً يتعاملون مع الصفويين، أو أنهم انتقلوا للمنطقة الصفوية بسبب حروب حدثت لشعوبهم أو لأمور شخصية دفعتهم للعيش مع الصفويين حيث تعلموا خطهم وكتبوا به نقوشهم التي انتسبوا فيها لأماكنهم وشعوبهم الأصلية تمييزاً لأنفسهم عن أبناء القبائل الصفوية ورغبة منهم في المحافظة على هويتهم الخاصة، وهو أمر كثير الحدوث في التاريخ وعليه عدد من الأدلة النقشية المنشورة إلّا أن أشهرها ذلك النقش التدمري الذي كتبه واحد من الفرسان

٣ ـ "لجمم بن أنعم بن أذينه بن قادم وسكن الصحراء سنت حجزه بعل سمين (في) المدينة ـ ـ ـ" (CIS 1240).

٤ ـ "لمغير بن أوس بن زبنى بن أوس من قبيلة جعبر وسافر سنت برح أقصى المدينة فيا اللات (امنحيه) ابلا غنيمه من الأعداء" (CIS 4332).

ويلاحظ أن الذين كانوا يسمون بصرى بالمدينة هم من أبناء قبائل ضيف وجعبر وأنهم قد تضرعوا بشكل عام للالهة اللات كي تحميهم من الأعداء كما ذكروا آلهتهم الخاصة بهم مثل جد ضيف وذو الشرى، بل أن صاحب النقش الأخير قد طلب من اللات أن تساعده في الحصول على ابل من أعدائه على سبيل الغنيمة، فهل كان هؤلاء الأعداء الذين يطلب كاتبو النقوش من آلهتهم السلامة منهم، هم الفرس المذيين كما يرى معظم الباحثين (Littmann 1903; Winnett 1959; Oxtoby 1968; Knauf 1984; etc.) حين اعتقدوا بأن هذه النقوش تشير لوجود حرب بين الفرس والروم في بصرى، أم أنهم التدمريون الذين ظن ديفيد غراف (Graf 1989) بأنهم احتلوا بصرى إبان ثورة زنوبيا على الرومان.

سيـــع

لم يثبت إلى الآن بأن كانت سيع مدينة عادية كباقي المدن المعروفة آنذاك، وإنما كانت مدينة مقدسة تكثر فيها المعابد، حيث بنى فيها الأنباط إلى جانب معابد أخرى معبداً ضخماً للاله بعل سمين في النصف الثاني من القرن الأول قبل الميلاد، كما بنى فيها الرومان معابد أخرى ابان الفترة الرومانية (Winning 1940; 1984: 31-38 Nr.24-26)، وقد عرف الصفويون سيع أثناء تعبدهم وحجهم لبعل سمين (Littmann 1901; Dentzer 1985: 67) غير أن اسم سيع لم يرد سوى مرّة واحدة في النقوش الصفوية.

١ ـ "لأوس بن أوس من قبيلة عبيشة وتمرد على (أ ل رم) فيا بعل سمين اله سيع سلام" (CNSI 424).

وإذا كانت قبيلة عبيشة واحدة من القبائل التي يشك بانتمائها للقبائل الصفوية لأن أفرادها قد كتبوا نقوشاً بالنبطية واليونانية (Graf 1978) فان أفراداً من قبيلة نغبر الصفوية قد حجوا لهذا الاله.

١ ـ "لعزهم بن ..... من قبيلة نغبر (ل) سنت حج بيت بعل سمين" (LP 350).

حيث يؤكد هذا النقش بأن الصفويين قد أطلقوا لفظ "البيت" على معبد بعل سمين، تماماً كعرب الجاهلية الذي أطلقوا اسم البيت على الكعبة، هذا وان بعض النقوش الصفوية لتؤكد ممارسة من كتبوها لعادة الذبح للآلهة خاصة يثع وبعل سمين (LTS 24-26).

الحـــرّه

يظهر من خلال كثرة عدد النقوش التي وجدت في الحرّة الأردنية ـ السورية بأن الصفويين كانوا يعتبرون الحرّة من بين الأماكن المحببة والمفضلة عندهم، وقد ذكروها في كتاباتهم باسم الحرّه مطلقه أو مضافة لاسم آخر في عدد من النقوش.

١ ـ "لشنيف بن عقرب بن ضباعه بن لبأ بن العويذ وارتحل ليرعى في الحرّه" (CIS 3131).

٢ ـ "لجوعان بن سعد بن ك ت ل بن ضبعان وربّع الصحراء فالحرّه" (NSI 107).

وإذا كانت حرار العرب كثيرة ولها تسميات مختلفة في أيامنا هذه، فان الصفويين قد ميزوا بين تلك الحرار أيضاً فسّموا لنا حرّه تابل وحرّه خافج.

١ ـ "لنداء بن ذلّ بن ربّان (وغنم) هذه البكره من معن في حرة تابل" (WH 179).

٢ ـ "لعمدان بن سعد بن دارس وربّع حرّه خافج" (ISB 113).

الحيـــره

لم يذكر أحد من الباحثين في النقوش الصفوية بأن الحيره قد وردت كاسم مكان في النقوش وذلك على الرغم من اكتشاف عدد من النقوش الصفوية في جنوب غرب العراق (عادل ناجي ١٩٦٢ ;Harding 1951) ومن ذكرهم لأسماء أماكن مشهورة كانت على علاقة بالحيره خلال فترة ازدهار الكتابة الصفوية كتدمر وبصرى ويبدو أن السبب في ذلك عائد لفهم العلماء بأن (ح ر ت) التي تتردد في النقوش لا تعني سوى الحرّه التي عاش معظم الصفويين فيها، إلّا أن الصفويين قد نسبوا على ما يبدو أشخاصاً للحيره فقالوا حيرتي وفي الفصحى حيري للحرّه لقالوا حرّى وذلك في النقشين الآتيين :

١ ـ "لشارقه الحيرتي (هذا) الجمل" (WH 424).

٢ ـ "لدخن بن شارقه الحيرتي" (WH 2987).

كما يذكر كاتب أحد النقوش بأنه توجه للحيره.

٣ ـ "لقين بن يتع بن عون ايل وتوجه للحيره" (WH 736).

ومعلوم أن إحدى المدن المهمة أيام الغساسنة كانت تسمى في المصادر السريانية (حرتا) وأنها تقع بمنطقة البثنيه، النقره حالياً (احسان عباس ١٩٩٠ : ١٢٨) ولا نشك بأن

الأقل (احسان عباس ١٩٩٠ : ٩٦ ـ ١٠٧). وقد تردد اسم تدمر في ست نقوش صفوية كتب اثنين منها أفراد ينتمون لقبيلة ضيف وتضرعا في نهاية النقشين للات وبعل، بعد أن ذكرا بأنهما ذهبا لتدمر.

١ ـ "لاسد بن خالص بن نعمان من قبيلة ضيف وسافر إلى تدمر فيا بعل سلام" (CIS 1649).

٢ ـ "لتيم الله بن جهم بن عوذ بن تيم ..... بن ضيف وسار إلى تدمر فياللات ويا بعل سلام ..." (CIS 1665).

أما كاتب النقش الثالث فينتمي إلى قبيلة اصر، وقد ذكر بأنه ذهب إلى تدمر أيضاً وتضرع في نهاية النقش للالهة اللات لتمنحه السلامة.

٣ ـ "لهانيء بن مانعة بن لقيط بن اثع بن شبر من قبيلة اصر وسار إلى تدمر" (CIS 1664).

وإذا كان كاتب النقش الرابع الذي لم يذكر لنا قبيلته يشترك مع سابقيه في القول بأنه زار تدمر فأن كاتب النقش الخامس يروي لنا بأنه عاد من تدمر.

٤ ـ "لعجل بن اويس بن صاعد وارتحل لتدمر فياللات سلام" (CIS 663).

٥ ـ "لعم بن شامت بن غانم بن انعم وأتى من تدمر فياللات سلام" (LP 717).

ويلاحظ من خلال هذه النقوش القصيرة بأن كاتبيها لم يذكروا لنا سبب زيارتهم لتدمر أو ترددهم عليها كأن يكون ذلك لارتباط بعض القبائل الصفوية بتدمر تجارياً أو سياسياً، خاصة وأن الآلهة التي تضرعوا اليها في هذه النقوش الهة تعبّد لها التدمريون أثناء ازدهار دولتهم، ولكن كاتب النقش السادس يروي بأنه ورد تدمر صباحاً وقتل شخصاً يدعى المالك بن افتنيّ، وقد تضرع هو الآخر للإله "رضى" الذي عبد في تدمر أيضاً.

٦ ـ "لعمران بن وفيق وصبّح تدمر فقتل المالك بن افتنيّ بن حارض فيا رضى سلام" (WH 2833A).

ويبدو أن العلاقة بين التدمريين وسكان الحّره كانت علاقة وطيدة إذ وجد العلماء عشرات النقوش الصفوية التي كتبها أفراد ينتمون لقبائل عويذ، ماعس والنماره حول تدمر كما وجدت نقوش صفوية في الصالحية ميناء التدمريين على الفرات (Torrey 1931; 1932) وقد تم اكتشاف نقش كتب بالتدمرية والصفوية في تدمر نفسها ولم ينشر بعد (Graf 1989: 158) هذا بالاضافة لنقوش تدمرية وجدت في منطقة الرويشد بالأردن (Oxtoby 1962: 102; Winnett and Harding 1978: 90).

من هنا يتبين لنا بأن أفراداً من قبائل اصر، ضيف، عويذ ماعس، النماره كانوا على علاقة بتدمر ابّان فترة ازدهارها أو بعد ذلك، ويبدو أن طبيعة هذه العلاقة كانت طبيعة ولاء وتبعية، ذلك لأن كاتبي هذه النقوش قد تضرعوا لآلهة تدمرية ولم يتضرعوا لآلهتهم الخاصة كجد ضيف، جد عويذ أو الآلهة التي اشتركوا في عبادتها مع الأنباط كشيع القوم وذي الشرى، ولعل علاقات تجارية قد ربطت بين التدمريين والصفويين خاصة وأن كثيراً من طرق القوافل قد انتقلت عن البتراء بعد سقوطها إلى مدينة تدمر مما دفع التجار إلى المرور بالصحراء الشرقية الممتدة بين حائل وتدمر وذلك مروراً بمناطق انتشار الصفويين في الحرّة فراراً من دفع الرسوم الباهظة التي فرضها الرومان على بضائعهم.

بصـــرى

تعود شهرة بصرى الشام التي بنيت في منطقة زارعية خصبة تتوافر فيها المياه، لوقوعها على الطريق التجاري الذي يربط الجزيرة العربية ببلاد الشام، فقد كانت واحدة من المدن النبطية المهمة في حوران منذ نهاية القرن الثاني قبل الميلاد، ثم ازدادت ازدهاراً أيام رب ايل الثاني (Wenning 1987: 42) وقد بلغت أوج ازدهارها عندما أصبحت عاصمة للمقاطعة العربية للروم منذ عام ١٠٦م، لذا فأنه ليس غريباً أن يشير اليها الصفويون في كتاباتهم، خاصة وأن معظم نقوشهم قد اكتشفت في مناطق حوارن وجبل الدروز والحرّة المحيطة بهما وقد ورد اسم بصرى في نقشين منشورين هما :

١ ـ "لحاور بن ع م ف ن بن أذينه ورجع بغنيمته سنت حرب هـ م ذ ي آل رم ببصرى [ـ ـ ـ]" (CIS 4448).

٢ ـ "لناتي بن خازن وتمرد على رم سنت أتى هـ م ذي بصرى فيا اللات سلام" (SIJ 78). كما يعتقد كثير من الباحثين بأن الصفويين كانو يطلقون اسم "المدينة" على بصرى (Winnett and Harding 1978: 272; Knauf 1984; Graf 1989: 152) فإذا كانت (هـ م دن ت) هي التسمية الثانية لبصرى عند الصفويين فأنها ترد في خمس نقوش صفوية أخرى هي :

١ ـ "لصبح بن رميان بن أميه (بن) شمال من قبيلة ضيف وولد المعزي سنت نجّى قيصر (الجيش الروماني) المدينة فيا اللات أحميه من الأعداء، واشتاق لأخيه غير ايل فياذا الشرى سلام" (WH 1698B).

٢ ـ "لمالك بن رميان بنت صبح بن شامت وولد المعزى سنت نجّى قيصر (الجيش الروماني) المدينة فياجد ضيف سلّم من الأعداء" (WH 1725B).

الأماكن والقبائل من خلال النقوش الصفوية

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لم يول أحد من الباحثين في النقوش الشمالية أسماء الأماكن وعلاقة القبائل العربية بها قبل الاسلام أية دراسة مستقلة، بل اقتصروا على ذكرها أثناء نشرهم للنقوش وتسجيلها ضمن فهارس أسماء الاعلام، رغم وجود العديد من الأماكن في النقوش وتصريح كاتبيها بأنهم زاروا هذا المكان أو ذاك أو عاشوا فيه، أو أنه تعرض للاعتداء أو الغزو، على أن بعض الدارسين قد فطن لأهمية مثل هذه الدراسة، فأشار إلى ذلك إشارة عابرة مثل لانكستر هاردنج الذي قال بأنه استثنى أسماء الأماكن من فهرسه الكبير للأسماء (Harding 1971: 928)، وهو بهذه العبارة القصيرة يفصح عن اهتمامه بأسماء الأماكن، ذلك الاهتمام الذي دفعه لأن يفرد هو وونيت فهرساً بسيطاً للأماكن التي وردت في النقوش الصفوية التي نشراها عام ١٩٧٨ (Winnett and Harding 1978: 627)، ومن الجدير بالذكر هنا أن دراسة أسماء الأماكن في الكتابات السامية بشكل عام قد حظيت في الفترة التي تلت ظهور أطلس توبنجن بالعديد من الدراسات كالدراسة التي قام بها الدكتور عبدالله الشيبه لأسماء الأماكن في النقوش العربية الجنوبية (AL-Scheiba 1982) ودراسة أسماء الأماكن في بلاد الشام التي اجراها الدكتور عبدالله الحلو (AL-Hilou 1986) وذلك لأهمية مثل هذه الدراسات عند الباحثين في التاريخ والآثار إذا ما أرادوا وضع خريطة أثرية تبين التجمعات العمرانية والسكانية، وأماكن الحضارات التي سادت ثم بادت، كما أنها تساعدهم في معرفة العلاقات التجارية والسياسية بين شعوب المنطقة، ذلك أن ورود اسم مكان معين في نقوش حضارات مختلفة أو متعاقبة يجعلنا نقدر أهمية ذلك المكان من خلال الفترات الزمنية التي ازدهر فيها وعلاقاته بالأمم المجاورة، ولعل خير مثال على هذا، قرية ذات كاهل (الفاو حالياً والتي تقع في وسط الجزيرة العربية) وقد ذكرت قرية في النقوش العربية الجنوبية أكثر من مره (Ja 576, 660, 665) وانظر (الروسان ١٩٨٩)، فكان ورودها في نقوش المسند دافعاً للعلماء والباحثين في تاريخ وآثار الجزيرة العربية للبحث والتنقيب عنها، إلى أن جاء الدكتور عبدالرحمن الانصاري على رأس فريق من علماء الآثار والنقوش حيث أجرى عدة حفريات أثرية في المنطقة السكنية والمقابر (الانصاري ١٩٨٢) فتسنى له بذلك الكشف عن مدينة عربية ازدهرت قبيل الميلاد وفي القرون الميلادية الأولى من خلال الطريق التجاري ولكونها دولة حاجزة عاشت على أطراف دول جنوب الجزيرة العربية وإن كانت بعض دول جنوب الجزيرة تُغير عليها بين الحين والآخر، وهي بذلك تشبه دويلات الغساسنة والمناذره في الشمال (يوسف عبدالله ١٩٨٧).

ويوضح لنا المثال السابق أهمية دراسة أسماء الأماكن التي ترد في النقوش العربية الشمالية، خاصة وأن حضارة الصفويين لا تزال يكتنفها كثير من الغموض، إذ لا نعرف حتى اليوم عن تاريخهم إلا شذرات متفرقة في نقوشهم المنشورة والتي تزيد على اثني عشر الف نقش ولكنها لا تذكر إلّا أحداثاً فردية أو أحداثاً عامة وقعت لهم أو لجيرانهم كسنة حرب النبط أو سنة الثلج وما شابه ذلك من تواريخ، كما أننا نجهل المكان الذي تعلم فيه أصحاب هذه النقوش الكتابة والقراءة، ولا نعلم عن تكوينهم السياسي أو الدولة التي كانوا ينتمون اليها شيئاً حتى وقتنا الحاضر، غير أن بعض نقوشهم تشير إلى ترددهم على الأماكن المزدهرة إبان القرون الميلادية الأولى أو قبيل الميلاد ومن بين هذه الأماكن:

تدمـــر

أصبحت تدمر مدينة تجارية هامة بعد أن سقطت سوريا وشمال غرب الجزيرة العربية في يد الرومان عندما استولوا على البتراء في عام ١٠٦ م، فتم لهم بذلك السيطرة على طرق القوافل القديمة التي تحول قسم منها إلى تدمر مروراً بصحراء شمال الجزيرة العربية وبادية الشام إلى تدمر بدلاً من الطريق القديمة. وقد عرفت تدمر منذ أيام الأشوريين كما كانت في طريقها للازدهار منذ نهاية القرن الأول ق.م على

الفهـرس

١ ـ الأماكن والقبائل من خلال النقوش الصفوية.
فـواز الخريشـــة .....

٢ ـ دور الضرب الأموية في الأردن.
صـالح ســـاري .....

لجنة الاشراف العلمي:

الدكتور صفوان التل ـ المدير العام
الدكتور غازي بيشة
الدكتور فوزي زيادين
الدكتورة خيرية عمرو
الآنسة منى زغلول ـ أمينة سر اللجنة

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الإشراف على التصميم والإخراج : الآنسة منى زغلول

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دراسات
في
تاريخ وآثار
الأردن

المجلد الرابع

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