

## The Archaeology of Jordan: Achievements and Charting the Future

### Introduction

After nearly two centuries of activity, the archaeological community in Jordan has reached a new maturity. At the beginning of the 19th century, the discovery of the Mesha *stèle* stimulated archaeological awareness amongst the local inhabitants and the wider community. From this date, activities and exploration expanded in both scope and expertise. Following the establishment of the Kingdom of Jordan, local and visiting international teams began discovering ancient sites throughout the country. The Department of Antiquities was established in 1924 as part of the Department of Antiquities of Palestine. George Horsfield was appointed the first Inspector of Antiquities and carried out preliminary excavations, clearance and restoration work at Jarash and Petra. In 1928 an autonomous department was set up with Rida Tawfiq as Director.

While many of the first archaeologists who worked in Jordan may have been motivated by particular religious beliefs, the discipline has moved away from historical particularism and the narrow focus of earlier research. The research of today is multi-disciplinary involving geomorphology, geology, archeobotany, archaeozoology, anthropology and uses theory from many other subjects, e.g. geography and Central Place Theory; economics and Chaos Theory. Jordanian archaeology remains rooted in the humanities but the application of science, e.g. analysis of materials is growing in importance as the establishment of the archaeo-metric department at the Institute of Archaeology and Anthropology, Yarmouk University, testifies. Simultaneously, technological advances such as ground-penetrating radar, computerised Geographical Information Systems, satellite imaging, and electronic archives have begun to be used. Thematic problems, e.g. the archaeology of a landscape over time, are replacing site-specific studies, e.g. the Mādabā Plains Project, Bāb adh-Dhrā', Wādī Faynān and Tall Nimrīn Project. Other themes include the investigation of the social and cultural changes brought about by the advent of animal and plant domestication in both, the arid and fertile zones; the characteristics of the eastern frontier of the Roman Empire;

the nature of the transition between the Late Byzantine-Early Islamic periods.

With the establishment of many permanent schools and institutions of archaeological research in Jordan, especially after the occupation of the West Bank by the Israelis, the archaeological picture changed entirely. The establishment of American, British, French, German and Italian centers as well as new Jordanian departments of archaeology within Jordanian universities has made Jordan one of the most active and attractive places to conduct archaeological research. This flurry of activity and interest coincides with the Jordanian government's growing concern for Cultural Resource Management as the challenge of the growth in tourism and the infrastructural development, e.g. the construction of major new roads, affect the heritage of the country. In recognition of the needs of tourism, major international projects at sites like Jarash, Petra, 'Ammān, and Mādabā have been initiated.

### Department of Antiquities

Since its establishment and under the provisions of the Antiquities Law, officials of the Department of Antiquities of Jordan have been authorized to compile and publish a list of protected archaeological sites in the country and set recognized standards for the conduct of the archaeological work. The Department is responsible for every aspect of archaeological work in Jordan. It has also conducted and participated in many excavations and has carried out several archaeological surveys. The list of its activities for the past five years alone is impressive.

### Publications

A multitude of publications bearing directly or indirectly on the archaeology of Jordan has appeared over the years. These include final and preliminary reports on the results of excavations and surveys, monographs including excavation reports, period- and site-specific studies. The publication of the *Annual of the Department of Antiquities (ADAJ)*, now totalling 41 volumes, summarizing current research has become the most important reference tool for

the study of Jordanian archaeology. The series enables readers to enjoy the fruits of scholars' planned research over the years, and to share their conclusions, their achievements, their problems, and their doubts. The size of *ADAJ* has grown from 50 pages to over 500 since it began publication in 1951. Similarly, the Department has greatly expanded the library of Jordanian publications by producing six volumes (to date) of the *Studies in the History and Archaeology of Jordan*. These are proceedings of a series of triennial international conferences on the History and Archaeology of Jordan initiated by HRH Prince al-Hassan to promote active research in this field and to encourage dialogue between scholars from different countries. The conferences and volumes represent a variety of studies and are a new and important chapter in the history and archaeology, not only of Jordan, but also of the Near East. The archaeological, geographical, sociological, epigraphic, philological, and anthropological studies are completely original and complementary to the "traditional, well-known" history of the Levant. The volumes of the past six conferences are extremely interesting because they address specific issues and introduce a wealth of new ideas. Topics vary, some on Jordan in general, others about one region, or one site, or about a well-defined chronological period. The volumes complement *ADAJ* as an important resource for studying Jordan's archaeology. Together, the two series enrich our understanding of Jordan and its role in the story of Middle Eastern civilization.

While Jordan can boast several reference works besides the conference proceedings, e.g. the encyclopedic *Bibliography and Gazetteer of the Archaeology of Jordan*, compiled by D. Homès-Frederiq and Basil Hennessey in 1986 and the volume on the *Archaeology of Jordan* in preparation and edited by R. Adams, P. Bienkowski and B. Macdonald, these do not include the historiography of Jordanian archaeology. There is a place for recording the development of Jordanian archaeology, its institutions and its challenges which are unique to Jordan. The publications mentioned above are in English and yet there is a real need for such a publication to be accessible to a public beyond the scholarly community. This means that, like *ADAJ*, portions of it should be in Arabic and other portions in at least one other language. Here again is another area where the Department of Antiquities, the Departments at the University of Jordan, Yarmouk and other universities, and the international institutes might cooperate to the mutual advantage of all. It may be time to produce an Encyclopedia of the Archaeology of Jordan.

### JADIS

One of the greatest achievements of Department of Antiquities in recent years has been the development of a computerised system for the registration of all archaeolog-

ical sites in the country. It is called JADIS, an acronym for the "Jordan Antiquities Database and Inventory System." By using this computerized system, any interested party is able to enter the map coordinates of any area in Jordan and get an immediate listing of the antiquities sites in the area. However, like all systems this program needs constant upgrading to include new data and information as more archaeology comes to light.

### Conservation

The Department of Antiquities is keen to protect and conserve the country's antiquities. For many years, the Department has not had a team of professional archaeological conservators. Moreover, conservation and restoration is neither well defined by a Code of Practice nor protected by law. While not every site will require conservation, i.e. the back-filling of a Neolithic or non-touristic site may make more sense than consolidating its walls, there is a growing problem with sites comprising visually attractive architecture and architectural decoration: foreign teams are permitted to excavate without the presence of conservator/restorer. To address this urgent need for preservation, the Department seeks assistance from a number of parties. Since Petra is the prime site for conservation, a center of stone restoration has been established at the site with the help of the German Government. The aim is to train personnel, to deliver and install most of the required equipment, and to assess the current situation. The use of computer-aided design has been very successful. After extensive trials, restoration of Petra's architectural treasures are on their way. In addition to conserving the great edifices of Petra, the Department of Antiquities and ACOR have been cooperating fully in restoring and publishing the very delicate papyrus scrolls of Petra. The quantity of readable texts in the charred papyrus scrolls excavated from the Byzantine church at Petra in December 1993 has been a treasure-trove of information about life in Petra in the mid-sixth century AD. Conservation work and unfolding of the fragments of papyrus scrolls was completed in May, 1995, by a team from Finland. A total of 152 scrolls have been identified. Over 100 meters of scrolls averaging some 30 centimeters wide have been unraveled to reveal documentary texts written by different scribes using a variety of cursive and formal scripts. As opposed to earlier times when Petra's wealth was generated by long-distance Oriental trade, the archives indicate that land ownership was the backbone of Byzantine Petra's society. Traditional Nabataean names appear among the more common Christian, pagan, Greek, and Roman (Latin) names. The scrolls are significant for several reasons: they are the only papyrus rolls discovered in Jordan, and they represent the largest group of written material from antiquities found in modern Jordan.

## Local Institutions

### *Jordan University*

The Department of Archaeology at Jordan University was the first scientific research center to be established in the country. It teaches archaeology at two levels: the undergraduate and the graduate. Since its establishment in 1962, many students have graduated with BA and MA degrees. Today, faculty members at Yarmouk, Mu'ta, and other institutions hold degrees from the Department at Jordan University. The University Museum, although it has a teaching structure, serves to promote archaeology within the University community at large. The Department has conducted several major archaeological excavations, among them Tall al-Mazār, Jarash, Petra, Rujm al-Kursi, and al-Maqaşş. It also conducted, with others, surveys of the Jordan Valley and the three reservoir dam sites in Wādī al-'Arab and on the az-Zarqā' and al-Yarmūk Rivers. The Department has a highly developed policy on Jordanian field archaeology that places emphasis on multi-disciplinary research. Almost every archaeological expedition now contains scholars from other disciplines such as architects, botanists, historians, geomorphologists, anthropologists, hydrologists, metallurgists, epigraphers—in fact, anyone who might contribute to a fuller understanding of Jordan's past. In the newest excavation of Jordan University at Tall Nimrīn, the project followed exactly this approach.

### *The Institute of Archaeology and Anthropology at Yarmouk University*

The Institute of Archaeology and Anthropology was established in 1984 with the aim of promoting interdisciplinary research and greater public awareness of the heritage of Jordan and the Arab World. In the field of anthropology, the Institute carried out an extensive study of the Jordan Valley, focusing on the changes in the Valley's infrastructure, its built-up environment, and its demographic and economic characteristics. In the field of epigraphy, several projects have collected epigraphic material from the Jordanian desert, Ghadir al-Mallāh, and Bi'r al-Ghuşayn. Also, many archaeological activities have been launched, some jointly with international teams. The list is impressive: excavations at al-Kharrāna, Abū Thawāb, Saḥāb, Yaşıla, Dawḥala/ Nu'ayma, 'Ayn Rāḥūb, Khirbat az-Zayraqūn, Baṣṭa, 'Ayn Ghazāl, Wādī Shu'ayb, Abū Ḥāmid, Khirbat adh-Dhariḥ, and Dayr 'Allā. The Museum of Jordanian Heritage at Yarmouk University is one of its kind.

## International Institutions

By their presence and activity, the international institutions sustain long-term research projects in Jordan. The American, British, French, German, Italian and Span-

ish governments maintain a permanent presence in Jordan both with the aim of facilitating the academic work of their own nationals, but also and increasingly to encourage and stimulate joint projects which address both academic issues and more practical issues of heritage management, site presentation and conservation. These institutes are an integral part of scholarly life in Jordan. The financial resources spent on their activities indicate the willingness of their home countries to participate in the exploration and preservation of Jordan's cultural heritage.

## New Techniques

### *Science and Archaeology*

The methodology of archaeological research has been developed greatly in the last decades thanks to statistical and computer sciences. Geophysical techniques used in sub-surface mapping have included seismic refraction, ground-penetrating radar, and electromagnetic induction. These methods of investigation are used by scholars working in Jordan, yet not on a large scale. However, they do indicate rapid scientific growth in archaeological activities. Optically-stimulated luminescence dating is used for establishing a chronology of soil landscapes and for providing a time-frame for the deposition of aeolian sand sheets. It is rewarding for those working in Jordan to benefit from the aerial photographic archive compiled by David Kennedy. The use of satellite imagery archaeology constituted much of the research and topics presented in the 6th conference of the History and Archaeology of Jordan which was received with great appreciation. The advantages of satellite imagery over traditional aerial photography is evident, not only because this imagery is captured in an electronic format, but also because of the possibility of it being recorded as multi-spectral data. Such data is different in its detail and is often in very narrow wavelengths, including some that are invisible to the human eye and beyond the sensitivity range of the film. Though satellite imagery still needs improvement in terms of ground resolution in order to be applied with success to problems of site location and settlement pattern analyses, it is hoped that these obstacles will be overcome.

### *Recording*

Today, most if not all archaeological projects in Jordan use computer-assisted recording systems in the field. These include electronic databases, digitized photos, and digitized drawings, to mention only the more obvious types of information. Movement in this direction is needed not only to facilitate record keeping and excavation, but also in order to establish permanent interactive databases that may be more easily coordinated and integrated with other and future projects. The harsh physical and climatic conditions that often prevail at Jordanian sites some-

times makes the use of electronic equipment more difficult than one would desire, but the emergence of new technologies dictate that this challenge be met. However, as more and more teams from Jordan and other nations utilize electronic recording and imaging systems, there is need for establishing standards. Stated otherwise, it would be extremely useful if standardized systems could be developed that would enable and facilitate sharing of information across sites and projects. The varieties and rapid changes in technology, as well as the varying needs of diverse projects, however, make this difficult and a dream that must be sought in the future.

#### *Dissemination of Archaeological Information*

A logical step beyond electronic recording and imaging is electronic dissemination of archaeological information. Again, rapid changes in technology pose a challenge, but one that can be met. Various modes of dissemination are being tested and used by projects in Jordan. However, paper or hard-copy publications and archives will always remain an important part of archaeology everywhere, not just in Jordan. These may be supplemented if not superseded by use of the Internet, on the one hand, and CD-Rom distribution, on the other hand. In short, the two methods may effectively be used together.

It may be noted that dissemination on the Internet is forcing a change in our thinking about issues such as the role of the individual scholar; the proprietary rights of project directors; and the nature of archaeological archives. In subtle ways, universally accessible modes of communication are bringing home the fact that Jordan's archaeological data, even after excavation by international teams, belongs in and belongs to Jordan.

Publishing on the Web means that data will not only be presented in a stable and final form associated with print media, but also that the actual databases from any project may be used interactively and in perpetuity by scholars other than a project's directors. This interactive usage is changing Jordanian archaeology and is enabling project directors to increase their dialogue with other scholars who now have immediate access to their excavation records. And, as mentioned above, it is clarifying the fact that information from Jordan belongs to and must be accessible to the people of Jordan. Distances become insignificant, and projects led by non-Jordanians can no longer argue either that, for certain kinds of information, they need to retain the materials outside Jordan, or that the information should be exclusively theirs for long periods of time. (Alison's comments: at the moment with the Antiquities law, it is my understanding that the documentary archive belongs to the project director while the material/ finds archive belongs to Jordan although some part of it may be on loan for analysis or as a result of "division". Are "division objects" still the property of Jordan al-

though they may be on permanent loan?) It is important, therefore, that the electronic publications do not merely present information but also allow others to use it in their own research and that project directors do not restrict access to the electronic archive. Historically, Jordan has always welcomed others to share in our heritage. Others must do the same. Recording and disseminating Jordan's archaeological information electronically, we would hope, will assist us in achieving our common goal.

A problem that electronic publishing presents, in addition to standardization, is the nature of the archaeological archive—both electronic and traditional. This is a serious problem that Jordanian archaeology, like that in other regions, will have to face as Jordan becomes more engaged in the electronic world. Maintaining Web servers is at this time expensive and not completely trouble-free. Agencies that are dedicated to archaeology should begin to develop repositories for electronic archaeological archives that would be maintained and upgraded in perpetuity by the sponsoring agency. Here is an area where again the cooperation of the Department of Antiquities and the various national and international institutes can play a decisive leading and continuing role.

#### **Charting the Future**

Despite the great accomplishments in the field of excavation, publication, scientific advancement, and technology in Jordan's archaeology, the increase in clandestine excavations or tomb-robbing as it is more popularly known, is difficult to stem. Coupled with the rising demand for antiquities and uncontrolled building activities are socio-economic factors such as the 1988 economic recession and the Gulf War with its associated negative effects on the economy of Jordan, which have led to the desperate chancing of and digging for income. However, closer cooperation between the Department of Antiquities and Public Security bodies in the last two years has reduced the scale of such excavations, although it has not eliminated the practice. Other factors effecting the cultural heritage are agricultural expansion, urban development and rapid population growth. All these present a real challenge to the bodies responsible for protecting our national heritage. In view of this grim account, is there any hope for Jordan's past to be preserved and saved?

#### **Public Education and Museums**

Greater public awareness and education offers significant solutions to this challenge. At the moment the general public know little about Jordan's past and the meaning of the surviving heritage. An awareness campaign could encompass general articles, television/radio campaigns, popular site presentation and additions to the national education curriculum. There is a vacuum in all of these areas which is partially filled by the publications and radio se-

ries by Rami Khouri produced in English. In a recent move by the Friends of Archaeology society, a modest effort has been planned to address this problem through a television campaign. Lectures and information sessions on archaeology must be scheduled to translate course subjects into appropriate children's stories, replacing traditional term papers. Not only children are in need of layman's information, but also adults need books and popular magazines in Arabic on Near Eastern archaeology. Since the closure of the publication of the popular Arab Museum Magazine hardly any such publication can be found. Books and popular magazines in Arabic are needed to fill an information void by providing well-illustrated booklets on major Jordanian sites and their value in the present. They should be informative even at the pictorial level. The textual information should be brief enough to provide parents with a background story for the pictures. Essential aspects of protection and preservation should be considered, in an effort to raise public consciousness, based on the careful exposition of the true purpose of excavated information. Exhibitions and popular events are necessary, including television coverage in a series entitled "Heritage of Jordan." Active site protection programs coupled with public information campaigns hold the best promise for improving the frightening local

situation today.

The museums in Jordan do not reflect its rich heritage. The most recent concept of museums and museum exhibitions is not yet generally applied although there is recognition that there is a need to reach out to the public and particularly school-children. This led some dedicated citizens to launch a successful campaign for building a National Museum. The Greater Amman Municipality has signed a loan agreement with the Japanese government. Part of this loan will be used for building a new National Museum in Rās al-'Ayn, ideally situated in the center of 'Ammān, to attract citizens and tourists. The training of suitably qualified museum curators is the next priority. Directing public awareness towards protecting and preserving the national heritage can be achieved through museum programs. A small and well-informed museum leading from the ethnographic present to the archaeological past of the town and region will add information and understanding to an already treasured place. No one can live without a memory to form their identity

As I think we would all agree, the archaeology of Jordan has to be saved, cherished and protected, if Jordan and the Jordanians are going to preserve any evidence of their past, their history, and their development.