THE INSCRIPTIONS AND ROCK-DRAWINGS OF THE JAWA AREA: A PRELIMINARY REPORT ON THE FIRST SEASON OF FIELD-WORK OF THE CORPUS OF THE INSCRIPTIONS OF JORDAN PROJECT

by M.C.A. Macdonald with a contribution by Ann Searight Macdonald

Some years ago Professor Mahmud al-Ghul first put forward the idea of attempting a complete epigraphical survey of Jordan. The first steps towards realising this proposal were taken in 1978, when, at a series of meetings between Professor Ghul, Dr. Adnan Hadidi the Director-General of Antiquities, Dr. Fawzi Zayadine, Mr. Gerald Lankester Harding and myself, the first firm plans for this Project were laid. It was decided that it should be a joint venture of the Department of Antiquities and the Centre for Jordanian Studies, of Yarmouk University, and I was asked to organise and direct it.

It is obviously impossible to make an accurate estimate of the number of inscriptions and rock-drawings in Jordan since relatively few areas of the country have been searched. However, the amount of material already discovered in those regions suggests that Jordan's epigraphic heritage is extremely rich and that the number of inscriptions alone almost certainly runs into the tens of thousands. The need for such a Project is, therefore, obvious, but the logistics of accomplishing it are somewhat daunting. Not only is the amount of material to be handled enormous, but possibly 80% of it is in the desert areas which are often difficult of access.

Based on the material already discovered it is possible to give a very rough estimate of the relative quantities of the different types of inscription in Jordan. Expressed as percentages this would be as follows: 65% Safaitic and Thamudic, 15% Arabic, 10% Greek, 3% Nabataean and 7% other (e.g. Latin, Syriac, Palmyrene, South Arabian, Aramaic, Hebrew, etc.). Of the total, about 80% are graffiti, most of which are to be found in the desert regions, and 20% monumental inscriptions.

Another problem stems from the fact

that many of the inscriptions already published from Jordan (as from many other areas) were originally recorded in what, by modern standards, might be considered a somewhat unsystematic manner. This is not intended as a slur on the magnificent efforts of the pioneers, to whom we owe our very awareness of Jordan's rich epigraphic heritage, but is a reflection of the increasing sophistication of the field of which their efforts laid the foundations. The case of the rock-drawings is even worse. Very little work has been done on Jordan's rock-art and those drawings which have been recorded have almost always been treated merely as adjuncts to inscriptions. Indeed, many people have been astonished to learn that there is a large body of rock-art in Jordan.

Taking all these factors into account, I suggested the following basic principles for the Project:

- 1). that it cover the whole country, working systematically from east to west, square kilometre by square kilometre. This will obviously be an undertaking of several decades;
- 2). that the survey of each area be as complete and comprehensive as possible: i.e. it would record all the inscriptions, rock-drawings and wusûm (tribal marks) found and would be so organised as to minimise the chances of missing anything;
- 3). that every find be recorded with the greatest accuracy and the maximum of information and, especially, that its provenance be recorded as exactly as possible. This is something which, particularly in the case of the North Arabian inscriptions, has very rarely been done before and which, with full photographic coverage of every find, is of fundamental importance to the study

of these texts;

4). Since the ultimate aim of the Project is the publication of a *Corpus*, it should be concerned both with new texts and with those already published. Wherever possible, the re-recording of these latter in a full and accurate manner, should be considered as important as the gathering of new material.

These proposals were accepted and it was further decided that the publication should be in two parts. The results of each season's work should be made available as quickly as possible in the form of a *Répertoire*. The final publication, at the end of the Project, will be the *Corpus* itself.

The translation of these proposals into concrete action necessarily involved the devising of a new methodology. It seemed advisable to test these new techniques in a "pilot-scheme" in a limited and clearly defined area, so that the "teething problems" could be sorted out and any necessary adaptations made without interfering with the main Project. The results of this "pilot-scheme" would then be published in a separate work. For the reasons outlined below, the area around the site of Jawa, near H5, was chosen for this scheme.

The ancient site of Jawa¹ lies on the Wadi Râjil, approximately half-way along its course between Jebal Druze and Azraq. Its position is 120796 on sheet 3454 IV of the 1:50,000 maps of Jordan. At this point in its course, Wadi Rajil becomes a deep ravine for some two kilometres upstream and a similar distance downstream of the site. Jawa lies in the heart of the harra, the wilderness of basalt boulders so graphically described by many travellers². Inhospitable though this region appears, it has been the

home of bedouin tribes from time immemorial. Equally, the Wadi Râjil has been used as a route by travellers for millenia. Both these groups have left their inscriptions and their drawings in great profusion on the rocks of the Wadi and the surrounding area.

I had already worked in this area, with Dr. Helms in 1975 and 1976, and with my wife in 1978, and knew that it would be rewarding both in the quantity and the variety of the material we would find. Moreover, Professor F.V. Winnett's 1951 expedition had visited the area downstream of the site and had recorded over 400 Safaitic and 100 Arabic inscriptions3. It was also an area with well-defined limits, both geographically and in terms of the material to be found there, and yet it had a variety of topographical features on which to try out our methods of searching. Thus, in the diversity of its material, its mixture of new and previously published texts and its topographical variety, it was a microcosm of what we might expect to find in our later work.

The Project's first field-season at Jawa lasted from 14th. May to 12th. August 1981. We are most grateful to the Director-General of Antiquities, Dr. Adnan Hadidi, for granting us permission to work in the area and for extending our permit for a third month. I should also like to thank Dr. Ghazi Bisheh and Dr. Fawzi Zayadine, the Assistant Directors of Antiquities, for their great interest in the Project's work and the very considerable help they gave us.

The bulk of the finance and most of the equipment and transport were provided by the Yarmouk University, through the Centre for Jordanian Studies. I should like to express our great gratitude to the

^{1.} For this site see S.W. Helms: Jawa, Lost City of the Black Desert (Methuen, London, 1981). For its location and the area in which we were to work see figs. 1-2 of this report. I am most grateful to Mrs. Balderstone for drawing these maps and plans.

See Plate L 1 and, for example, Yâqût: Mu'jam al-Buldân (Leipzig 1866-1873) II, p. 247 and N. Glueck: Explorations in Eastern Palestine IV, Part 1, p. 30f. (Annual of the American Schools of Oriental Research, vols. 25-28, 1951) who

described it as "an excellent setting for Dante's *Inferno*".

^{3.} See F.V. Winnett: Safaitic Inscriptions from Jordan (Toronto, 1957) and D.C. Baramki: al-nuqûs al-'arabiyya fî al-bâdiyya al-sûriyya (Al-Abhâth, vol. 17, 1964, pp. 317-346). Only some of the Arabic inscriptions from Jawa were published in this work. The expedition also recorded some Greek inscriptions at Jawa but these were never published. I am most grateful to Professor Winnett for this information.

University Authorities and, in particular, to Professor Mahmud al-Ghul, director of the Centre and founder of the Project, and to Dr. Mu'awiyah Ibrahim, Dean of Humanities and Science, for their constant help and support at every stage of the Project's work.

The Engineering Departments of the Yarmouk University and the Jordan University lent us surveying equipment and the British Institute at Amman for Archaeology and History lent us surveying and camp equipment. To all these we are most grateful.

Our work at Jawa would have been impossible without the enormous kindness and assistance of the Jordanian Army. They provided us with a field-kitchen, with water, often with food, and with tents, as well as helping us set up and strike camp. Whenever we encountered difficulties they were ready with help and proved the friendliest and most hospitable of neighbours in the desert. In particular I should like to thank General 'Abd al-Hafiz al-Sayyid, General Shafiq 'Ajeilat, General Mahmud al-Tarawnah, General Fawzi 'Abeidan, Major Muhammad Jamal, Major Muhammad Sirhan, Major Salih Abu Darwish and the officers and men of the 5th. Battalion Prince Talal of Tank

Bridgade 99 al-Shahid Wasfi Tall. We are also very grateful to the Army's Surveying Corps who repeatedly brought their extensive knowledge and sophisticated equipment to help us with some of our mapping problems.

Apart from myself, the staff, in alphabetical order, was as follows: Dr. Sabri 'Abbadi (Department of Antiquities Representative for the third month), who generously gave us the benefit of his expertise in semitic onomastics; Mrs. Susan Balderstone, to whose skill and hard work we owe the system of fixed points outlined below and all the surveying and planning; Mr. Chris Clarke made detailed analyses of a selection of the most important and/or representative rock-drawings and was extremely helpful in a great many aspects of the survey; to Miss Geraldine King fell most of the searching for and recording of the inscriptions, particularly after I badly sprained my ankle, and it is largely due to her meticulous and unstinting hard work that so much was found and recorded; Mrs. Ann Searight Macdonald worked with tremendous care and dedication providing the comprehensive aspect of the rock-art survey (see her report below); the considerable part played by Mr.

'Isa Madi Departments of Antiquities.

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Fig. 1. A: Map of Jordan showing general position of Jawa.

B: Map of the H5 area showing position of Jawa more exactly.

Representative for the first two months) will be described below, but I should mention here that his tireless efforts and good-humoured flexibility contributed greatly to the success of the season. To all these I am exceedingly grateful for their extremely hard work, so willingly given, and their great dedication under often very trying conditions. The team was completed by Mr. Fayyez Tarawnah who helped with the administration, two drivers, Abu Samir and Abu Muhammad from the Yarmouk University, and our cook Hasan Sherif Hasan.

In this first field-season we were attempting to test a new method of finding and recording inscriptions and rock-drawings. As so often, this grew partly out of techniques already tried and partly from needs which had become apparent. It was to fulfil the latter, as described in the basic principles outlined above, that the new method was developed.

As a first step I had arranged for the relevant sections of the 1:50,000 maps of Jordan (the largest scale maps available for this area) to be enlarged to a scale of 1:10,000. I would like to thank Jordan's National Geographical Centre and, in particular its Director, Colonel Rif at Majali and its Assistant Director Major Ghazi Fayyez, for doing this for us. From these enlargements Mrs. Susan Balderstone and Mrs. Ann Searight Macdonald traced off the features of the area which concerned us. Although, of course, this enlargement of the map gave us no more detail than was on the original, it gave us the makings of a large scale map, with the basic topographical features and contour lines, to which could be added more detailed information as well as the locations of the various finds.

The limits of our area were defined to the east and the west by 'Ain Jawa⁴ and a "Waterfall" in Wadi Râjil respectively. This covers roughly four kilometres in which the wadi runs through a rather dramatic gorge. To the north the area is defined by a ridge, running parallel with the wadi, down the southern slopes of which runs a tributary wadi. Only to the south was the area not so clearly defined, though a natural border of sorts is apparent in the change in the quality of the basalt from the smooth to the sponge-like, which is unsuitable for inscribing. Along this southern boundary, therefore, we drew an artificially straight line to include the "wadi Jawa" i.e. the wadi dammed by the ancient inhabitants of the site (see Helms, *op. cit.* fig. 13, p.30).

Once the area to be covered had been defined. Mrs. Balderstone devised a simple and very effective method of recording the location of finds. This consisted of placing a network of fixed points (marked on the ground by cairns) over the area, so that, wherever an inscription or drawing was found, we could take bearings to two of these points to fix its exact position. The fixed points were marked on Mrs. Balderstone's plan, drawn at a scale of 1:2,500, on which the positions of each day's finds were then plotted. The increase of scale from 1:10,000 for this plan was necessary to give enough space to plot all the locations and also to make it possible to increase the accuracy of the plotting of the positions from 10 metres on the ground to 2.5 metres.

One of the problems posed by previous expeditions (again particularly in Safaitic, which more than any other branch of epigraphy is beset with topographical problems) is that of the distribution of the inscriptions. Almost all previous expeditions have moved from landmark to landmark (rocky outcrops, cairns, etc.) recording the inscriptions they found there and only rarely seeking them elsewhere. An extreme example of the distortions which such a method can produce may be seen in W.G. Oxtoby's statement⁶ that "at

^{4.} Near the intersection of the 341 north-south and 194 east-west grid lines (Palestine grid) on the map in fig. 2.

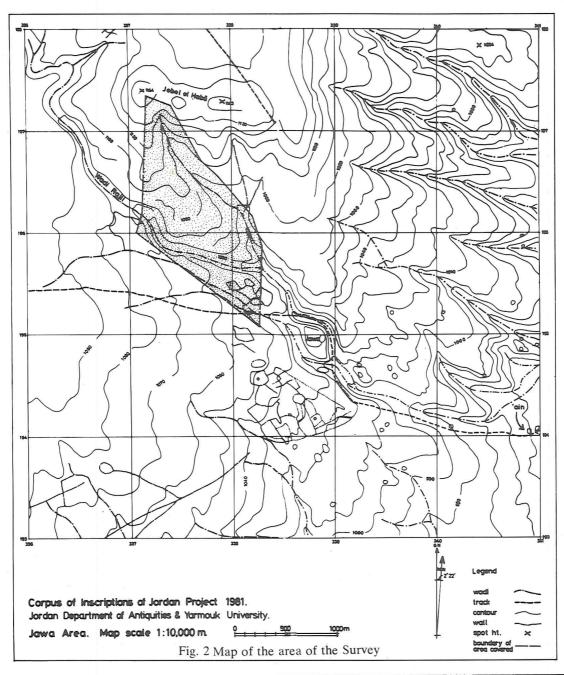
^{5.} This waterfall (see Plate L 2) marks the point at which the wadi, from being relatively shallow, plunges into a gorge. It is, of course, dry most of

the year, though when we arrived in May there was still a large pool of water at its foot to which the bedu were bringing their flocks.

^{6.} W.G. Oxtody: Some Inscriptions of the Safaitic Bedouin (New Haven, 1968, p. 1)

most... cairns and only occasionally elsewhere are found inscriptions scratched on the stones in Safaitic". This is quite patently not true. Not only is the basalt desert full of cairns, only some of which bear any inscribed stones at all, but also Safaitic inscriptions can be found in almost any part of the area where the basalt is suitable for inscribing. To link them only with cairns implies a severe limitation on the uses the Safaitic authors made of their literacy as well as limiting the building of cairns more or less to the Safaitic period. For neither of these implications have we

the slightest evidence. Such a statement could only be made in the first place because Oxtoby, misled by the false distribution patterns produced by previous expeditions, believed that "to gain further information about the Safaitic tribes one's method is to explore the desert for additional cairns". From my previous field-work I was convinced that such a "method" was extremely dangerous. For not only did it result in the loss of a great many texts which did not happen to be on convenient landmarks, but it encouraged such false assumptions as those just quoted.



The only solution appeared to be to take a manageable area and search it as thoroughly as humanly possible for inscriptions and drawings. To understand the extent of such an undertaking it must be remembered that this area is covered by millions of basalt stones and boulders (see Pl. L 1) any one of which may be inscribed on any face, including that on the ground. Moreover, lichen is extremely common all over this area and often obscures part or all of an inscription⁸. Finally, as anyone who has worked in this area will know, many inscriptions and drawings are virtually invisible in all but the light at one short time of day.

Faced with such obstacles it was obviously impossible to achieve absolute comprehensiveness—for instance, to have turned over every stone would have increased the length of the Project by several hundred years! However, granted these limitations, I think we may claim to have recorded the vast majority of the inscriptions and drawings of the area in which we were working.

The method I devised to cope with these problems was very simple, if rather time-consuming. It consisted of dividing our area into small sub-areas and systematically "sweeping" over each of these—i.e. a line of people, in groups of two or three, roughly ten metres apart, walking slowly across the area, five metres forward, then walking towards each other, then together walking five metres forward before walking away from each other and moving five metres forward again (see diagram in fig. 3).

By this method no stone was more than five metres away from one of the searchers, and, since these looked constantly from side to side, the stones were scanned from two directions. It was also convenient since it could be used by as many or as few people as were available and could even be adapted for use by a single searcher.

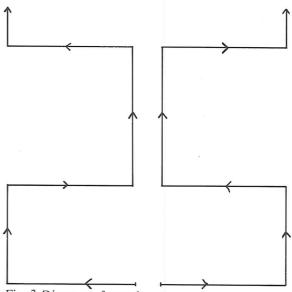


Fig. 3 Diagram of search pattern.

This method worked very well in open tracts of country, but it obviously had to be modified to deal with certain topographical features such as the wadi gorge. We treated the latter in its three component parts, i.e. the two banks and the wadi bed. Each of these was swept separately, each bank being swept "vertically" by climbing up and down along the length of the section dealt with. Large outcrops also called for particular treatment and we walked all over and around these making sure that every face of every rock, as well as all the loose stones, was examined. In certain places where there were large concentrations of inscriptions and drawings, such as the Waterfall, (See Pl. L 2), Mrs. Balderstone made a plan at a scale of 1:200 in order to show the positions of each find more clearly.

The value of this method was shown throughout the survey by the discovery of large numbers of inscriptions, drawings and wusûm scattered over the area on individual rocks in the "sea" of otherwise uninscribed basalt. Except by the merest accident, none of this material would have been discovered using the traditional methods.

^{8.} The lichen can be cleaned off fairly easily with water and a scrubbing brush. However, the acids in the lichen have usually eaten into the stone making those portions which have been covered

difficult to read.

The practical application and adaptation of this method was largely the work of Miss Geraldine King, to whom the Project is deeply indebted.

On making an "isolated" find of this kind, the person who discovered it would detach himself or herself from the "sweep" line, which would then re-form and carry on. If a group of texts was found then the whole line would stop to record it.

The procedure, on making a find, was to take bearings with a prismatic compass to two of the fixed points in order to record its position. We would then note whether it was on a loose stone or fixed boulder and, if the latter, which face it was on; its relationship, if any, to structures or natural features and to any other drawings, inscriptions or wusûm; whether the inscribed surface was roughly horizontal, vertical or sloping; the type of basalt and any relevant imperfections; whether lichen had to be removed to reveal part of the text; the shade of the patina10; the technique used to inscribe it10, and any other relevant details. This done, a hand copy was made and the find was photographed in blackand-white and colour (slides). Where it was helpful to do so, photographs were also taken of the inscribed rock in its topographical context. Thus for every find we were recording a great deal of information which in the past has almost always been neglected. The techniques for recording rock-art, which are necessarily somewhat different from those used for inscriptions, are discussed by Mrs. Ann Searight Macdonald in her section on the rock-art.

The disadvantage of this method is that it is very slow. Using it we covered an area of approximately two square kilometres this season. This is partly, of course, because we were experimenting with new techniques and finding solutions for new problems, as well as working with a very small team. It is to be expected that as

the techniques become more routine there will be an increase in speed. Nevertheless, it is perhaps significant that while we recorded 1219 items in three months, Professor Winnett's expedition to Jawa in 1951 recorded over 500 inscriptions in two days!

The section covered this season was the most westerly of our area, shaded on the plan (see fig. 2). This runs from the Waterfall in Wadi Râjil to the junction with a tributary wadi, about half a kilometre upstream of the site, and takes in a large tract of land north of the Waterfall, including the whole course of the tributary wadi. This area had never been visited by epigraphists until I started exploring it in 1975 while working with Dr. Helms on his excavations at Jawa. All the finds were therefore unpublished with the exception of a handful of the rock-drawings which were included in Dr. Helms' reports and book12.

Since the aim of the Project was a comprehensive survey, we recorded everything that we found inscriptions of all types and periods, rock-drawings and wusûm. Of the 1219 items found this season 576 were inscriptions, 500 rock-drawings and 143 were wusûm. When it is remembered that all this was found in an area of approximately two square kilometres, one realises the extraordinary density of the material in this area. Since the rock-art is discussed by Mrs. Searight Macdonald, I shall confine myself to describing some of the finds of inscriptions and wusûm as well as some of the Project's other activities.

As was to be expected, the vast majority of the inscriptions we found were Safaitic (495). This more than doubles the number of these texts known from the Jawa area¹³. As usual the largest contribution of

^{10.} See Appendix A for further details.

^{11.} This figure includes the Arabic and Greek texts as well as the Safaitic.

^{12.} S.W. Helms, op. cit. figs. 2, 9, 10, 12,16, Plate 8 and pp. 27-30 and L.-A. Hunt: Appendix A in S.W. Helms: Jawa Excavations 1974: A Preliminary Report, (Levant vol. VIII, 1976 pp. 24-29 and figs. 17-20). This Appendix also includes brief notes on some of the inscriptions. The so-called "Jawa Rider", which I published in Appendix G of S.W. Helms op. cit. (1981),

comes from the area downstream of the site, which we hope to cover in a later season.

^{13.} Professor Winnett published 429 in Safaitic Inscriptions from Jordan (see note 3) Nos. 243-672; I published 4 more in Safaitic Inscriptions in the Amman Museum and Other Collections I (Annual of the Department of Antiquities of Jordan, vol. 23, 1979, pp. 101-119) Nos 1-4; and another 3 in Appendix G to S.W. Helms: op. cit. (1981) pp. 257-258.

these inscriptions is to our knowledge of the Safaitic onomasticon. However, this is by no means their only interest. We have, for instance, two long genealogies going back to the eponymous ancestors of the two great Safaitic tribal confederations, Df and 'wd, genealogies of fifteen and twelve generations respectively. The former is important because it is the first example of this genealogy being taken to four generations above Df. It also provides a previously unknown branch to the Df family-tree. The 'wd pedigree is equally important since it too provides a new section to the known 'wd genealogy. Moreover, it seems likely that it provides evidence for the subdivision of the great 'wd confederation. One of the problems in Safaitic epigraphy has been that the same word, 'l, is used in the inscriptions for all social units, thus making it extremely difficult to distinguish between tribes, sub-tribes, clans and families¹⁴. However, this text contains a small clue to the solution of the problem since it suggests that one of the 'ls, the d'f, was in fact a sub-tribe of 'wd. From this basis it may well be possible to find other such divisions.

As well as these texts from the two great confederations, we also found a number of inscriptions by members of the tribes of hzy and hly which appear to have been local to the H5-Jawa area¹⁵. The 'mrt tribe¹⁶ is also represented by a short but

14. See G. Lankester Harding: *The Safaitic Tribes* (Al-Abhâth, vol. 22, 1969), pp. 3-5.

elegant text in the square script.

From both the names and the prayers we have evidence of the worship of all three of the so-called "Daughters of Allah"17. Allat, though as usual by far the most popular deity in the prayers, does not appear in any of our theophoric names. On the other hand, the evidence for al-'uzzâ and Manât is confined to names (mr'h'zy18 and the new name 'hmnt). We also have one of the relatively rare invocations of Allah in these texts. Deities known from Nabataean, Dushares and shai al-gawm, are also invoked in the forms dsr and s'ham respectively, as well as rdw (Palmyrene 'Arsu), b'Ismn and yt'. Thus a good selection of the North Arabian pantheon is represented.

Several new words and phrases occur in these texts: e.g. wsm in the phrase wwjd wsm 'mh f nj' where it presumably means some form of personal mark rather than "tattoo"; str used as a verb; stt = sty "to winter" (cf. gzz for gzy^{19}); and an interesting variant of the 'wrld y'wr curse, viz. wmn y'wr ly'wr, i.e. wa-man yu'awwiru liyu'awwar, "and whoever effaces [the inscription] let him be blinded".

It was particularly exciting to find a group of Thamudic inscriptions at Jawa. They belong to Winnett's "B" or "Najdi' Thamudic which is generally found south of a line between Teima and Ha'il²⁰. Thus

^{15.} For Hzy see G. Lankester Harding: The Cairn of Hani' (Annual of the Department of Antiquities of Jordan vol. 2, 1953, pp. 8-56) p. 14 and Nos. 105, 162; F.V. Winnett: op. cit., Nos. 295, 319, 320, 323, 342b, 348, 349, 361, 455, 909; Macdonald: Safaitic Inscriptions... No. 1. There is also one occurrence in a text of doubtful provenance see M.C.A. Macdonald and G. Lankester Harding: More Safaitic Texts from Jordan (Annual of the Department of Antiquities of Jordan, Vol. 21, 1976, pp. 119-130) No. 7. For Hly, see Harding: The Cairn of Hani' Nos. 106, 131, 132; and Macdonald: Safaitic Inscriptions... No. 16 (no provenance).

See M.C.A. Macdonald: Safaitic Inscriptions in the Amman Museum and Other Collections II (Annual of the Department of Antiquities of Jordan vol. 24, 1980, pp. 185-208), pp. 185-186; and J.T. Milik: La Tribu des Bani

^{&#}x27;Amrat en Jordanie de l'Époque Grècque et Romaine, (same volume, pp. 41-54), p. 47.

^{17.} Qur'an: 53: 19-21.

^{18.} See F.V. Winnett and G. Lankester Harding: *Inscriptions from Fifty Safaitic Cairns* (Toronto, 1978), Nos. 1777 and 3820 and cf. *mr*''zy in Nos. 621 and 627.

^{19.} See A.F.L. Beeston: Review of Winnett and Harding *op. cit.* (Antiquaries Journal, 1980) p. 134

^{20.} See F.V. Winnett: A Study of the Lihyanite and Thamudic Inscriptions, (Toronto, 1937), p. 28 and map on Pl. IX. However, for exceptions see F.V. Winnett and W.L. Reed: Ancient Records from North Arabia (Toronto, 1970) Thamudic inscriptions 3-5 and 25-27 from the area of al-Jawf and G. Lankester Harding: Some Thamudic Inscriptions from the Hashimite Kingdom of the Jordan (Leiden, 1952) Nos. 509-512 from a wadi west of Kilwa. I am particularly grateful to Professor Winnett for his very considerable help on these texts.

Jawa is the furthest north by several hundred kilometres that texts of this type have been discovered. Moreover, one of the texts is quite long by Thamudic standards (27 letters) and is particularly interesting since it is one of the rare texts by a woman and seems to imply that she was a stranger (a slave?) working for the inhabitants of this area. All the texts are remarkable for the South Arabian form of the letters, 'b,h,s,k.

The 63 Arabic inscriptions which we found ranged from dated Kufic texts of the first years of the 'Abbasid period²¹ to the graffiti of the modern bedu. For, with the educational programmes of the Jordanian government, the bedu are now increasingly literate and are again recording their names and thoughts on the rocks of the harra. The main interest of these modern graffiti is onomastic. Littmann has shown that "quite a number of [Safaitic names] are still used by the Bedawin and the Druses of the Hauran region" and that "some of these names are quite rare in classical Arabic, some are not known there are all".22 Thus we hope to build up a list of modern bedu names from the area to compare with those in the earlier texts. In this we complement the recording of modern texts by questioning the bedu so that the resulting list can be as complete and accurate as possible. Several of the modern texts, however, have a more than merely onomastic interest. Three, for instance, were scratched in "mirror-writing", i.e. were written from left to right. Does this represent a severe case of dyslexia or merely joie de vivre?! Many of the dates are also written backwards, i.e. from right to left, thus 1791 for 1964. However, this is

probably to be explained as an attempt by the author to write the date as he would say it, i.e. starting with the thousands rather than the units.

The Kufic and the mediaeval and early

yawm al-hamîs!

The majority of the 13 Greek inscriptions were found in and around a shallow bay in the "south" bank of Wadi Râjil close to the Waterfall. They consist mostly of names and these, as might be expected, are a mixture of Graeco-Latin and Semitic, e.g. Πετρος, Παυλος, Ηλιοδο θος, - Αμερος Γαδονος, Αβγαφος. liberal sprinkling of crosses suggests a Byzantine date for these texts, as do two brief Christian prayers²⁴. There are several Safaitic inscriptions written vertically among these Greek texts and at least one of them must, by its position, be later than its Greek neighbour²⁵. The authors were presumably Byzantine soldiers or travellers using Wadi Râjil as a convenient route and taking what shelter they could in this bay. Ironically, only fifty metres away on the Waterfall itself, a Safaitic author records that he fled from Roman (or Byzantine) territory (nfr mn rm).

^{21.} One is dated 140 A.H. (= A.D. 757/8) and another 150 A.H. (= A.D. 767/8).

^{22.} E. Littmann: Safaitic Inscriptions, (being Publications of the Princeton University Archaeological Expeditions to Syria in 1904-1905 and 1909, Division IV, Section C, Leiden, 1943) pp. xxvii-xxviii; and see also E. Littmann: Beduinen- und Drusen-Namen aus dem Haurân-Gebiet (Nachrichten von der Königlichen Gesellschaft der Wissenchaften zu Göttingen, Phil.-Hist. Klasse, 1921, pp. 1-20).

^{23.} See Appendix A.

^{24.} I am most grateful to Dr. Fawzi Zayadine for his

extensive work on these inscriptions in the field. I should also like to thank Dr. Pierre-Louis Gatier of the Corpus des Inscriptions Grecques et Latines de Jordanie (Institut F. Courby,

Université Lyon). The two Corpus Projects are working in close co-operation. The dating to the Byzantine period has already been suggested by Professor C. Mango (see L.A. Hunt in Levant, vol. VIII, 1976, p. 25, note 7).

^{25.} Patina comparisons (see Appendix A) were not possible in this bay because most of the surfaces were encrusted with mud and lime which had prevented normal patination.

We recorded both the ancient and the modern wusûm of the Jawa area. This aspect of the survey was carried out, for the most part, by Mr. 'Isa Madi of the Department of Antiquities to whom we are most grateful. Not only did he record the wusûm engraved on the rocks, but he also questioned the local bedu on the tribal marks now in use in the surrounding area and recorded these for comparison. Relatively little work has been done on the wusûm of the Syrian desert²⁶, so it is hoped that this collection, together with the additional information recorded by Mr. Madi, will form a useful basis for further work.

Mr. Madi was also largely responsible for another aspect of the survey's work: that of recording the traditions and dialect of the local bedu. With the advent of education, radio and television, and increased personal contact with the settled population, the traditional way of life is rapidly disappearing and the local dialects are becoming submerged in what is almost a "standard received" Arabic. The traditions and the dialects are not only interesting in themselves but, like the names, may well provide clues to the interpretation of the Safaitic texts.

From what has been said, and from what follows, it will be apparent that the survey recorded a very wide variety of material during this field-season. We hope to return to the area in late April 1982, for three months, to continue the Project's work and further refine the techniques with which we experimented this season.

THE ROCK-ART SURVEY OF THE JAWA AREA, 1981 by: Ann Searight Macdonald

This aspect of the Corpus of the Inscriptions of Jordan Project's survey was carried out by Mr. Chris Clarke and myself. While I made the comprehensive survey, i.e. recording every drawing found, Mr.

Clarke selected pieces of particular interest for special study. This required the taking of lengthy notes, as well as a careful study of the methods of engraving, with detail photographs. The surfaces chosen included those on which several periods of drawing had been superimposed, and those of particular artistic or historical interest.

During surveys in Oman and Saudi Arabia, Mr. Clarke had successfully made a series of tracings of large surfaces bearing rock-drawings, and he hoped to produce similar results from some of the Jawa material. The surfaces were broken and very uneven, so the sheets of acetate used had to be small (approximately 35 x 25 cms.) and overlapping. Rolls of acetate were also used, cut to appropriate lengths. All these tracings are then retraced onto large sheets before being reduced for publication.

After the information on location, environment, patina, etc.²⁷ had been recorded, the surfaces had then to be washed and a preliminary note made of the best lighting for photography. This was often difficult to predict, especially for the darker patinas, and it was frequently necessary to return at different times of day to take photographs in different lights, using red or amber filters.

Careful sketches were also made of every drawing, and these will be particularly helpful with the later work on photographs.

An interesting feature of the rock-art was the variety of fauna represented. Inevitably camels predominate, but there were also cattle, sheep, goats (including ibex), oryx, gazelle, cervids and ostrich. Many of these are not easy to identify precisely, particularly if one allows for artistic licence and the difficulties of drawing on basalt. However, it is hoped that zoologists and palaeontologists may be able to assist in the identification of some of them.

The presence of cattle is significant,

^{26.} For the most extensive collection of wusûm from this area and a description of previous work and the problems, see H. Field: Camel Brands and Graffiti from Iraq, Syria, Jordan, Iran, and

Arabia (Supplement to the Journal of the American Oriental Society No. 15, 1952) particularly chapter 2 by H.A. Winkler.

^{27.} See p. 7 above and Appendix A.

since it suggests that the environment of the Jawa area must, at the time they were drawn, have been radically different from its present aridity. Even allowing for the sophisticated hydrological systems (which S.W. Helms suggests the inhabitants of Jawa created in the late 4th. millenium²⁸), it is difficult to imagine sufficient grazing being generated for more than a handful of cattle. The number of drawings, however, suggests a fairly sizeable bovine population. On the other hand, it should not be forgotten that the herding of cattle is mentioned in some of the Safaitic inscriptions from al-Hifneh, in the Wadi al-Sham (southern Syria), which, from the description, has a somewhat similar environment to that of the Wadi Râjil near Jawa²⁹. It would therefore appear that even as late as the Roman and Byzantine periods parts of the *harra* could support cattle.

The human figures represented are usually involved in hunting or herding. Amongst these are scenes showing confrontations with carnivores, probably wolves and lions. The former are sometimes represented with a herd of sheep/goats and a group of humans; the lions are either alone or with a single human.

Whilst the scenes involving men, flocks and carnivores tended to be drawn as stick figures, the cattle had their bodies and limbs carefully shaped in profile, outlined or infilled with pecking. It has been suggested that any spaces in the infilling were meant to indicate piebald markings, a characteristic only of domestic cattle. The heads of the cattle are always drawn as if from above, showing both horns in their circular sweep.

One of the most distinctive and common designs connected with humans was the large 'comb' head-dress (see Fig. 4). This consists of a horizontal line from which depend anything from 4 to 10 vertical strokes; the body and legs of a human protrude centrally below the tines. These 'combs' have been likened ³⁰ to the

Almost certainly from a much later period were some smaller and more intricate designs, scratched on single stones on the slopes above Wadi Rajil. Associated with a Safaitic inscription was one depicting a hunting scene with camel riders using spears and nets (?) against a large ungulate (oryx?). Three others show horsemen wielding spears.

Some of the drawings of camels should also be dated to this later period, since they are mentioned in accompanying inscriptions. On the whole, however, comparatively few of the approximately 500 drawings found this year were associated with texts, and even fewer of the latter refer to the drawings.

Among the many enigmatic patterns hammered on the rocks were irregular circles, sometimes connected to each other, which have been tentatively described as enclosures (S.W. Helms: *Jawa...*, Pl. 14), while some long meandering lines and loops still seem to be meaningless.

Representations of vehicles were scarce — not surprising in such terrain. Two drawings of possible chariots or carts were found, one discovered by chance outside our survey area. Both are simple in form, having each two cross-barred (spoked) wheels connected by a 'T' bar. Neither had human figures associated, but one was attached to an animal by the vertical of the 'T' (cf. E. Anati: L'Art Rupestre, Negev et Sinai, Paris, 1979, pp. 52, 56 ff and two unnumbered plates from "la Grotte des chars", one of which is reproduced on the back cover).

However, it was also exciting to find one example of the latest period in the rock-art sequence, and in wheeled vehicles in particular — a very carefully executed Toyota pick-up!

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schematic 'vultures with headless corpses' on the wall-paintings of Çatal Hüyük in Turkey, which are of a similar date to that given by Dr. Helms to the primary settlement at Jawa.

^{28.} See S.W. Helms, *op. cit.*, *passim*. On the other hand, the number of drawings of a "bucranium" symbol might suggest that the cattle had a cultic significance.

^{29.} See E. Littmann: Safaitic Inscriptions..., p. 1 and

nos. 90, 155 and 159. I am most grateful to Michael Macdonald for this information.

^{30.} See L.A. Hunt, *op. cit.*, p. 26 and S.W. Helms, *op. cit.* p. 30.

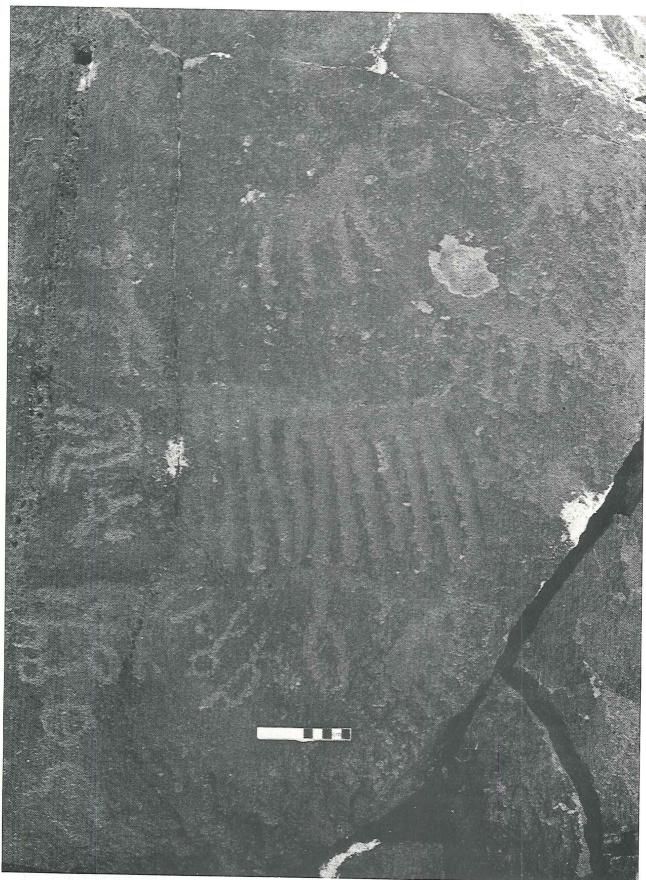


Fig.4. Drawings of human figures with "comb" head_dresses

APPENDIX A

THE STUDY OF ENGRAVING TECHNIQUES AND PATINA

Some years ago, Mr. Lankester Harding and I suggested³¹ that the methods of engraving these inscriptions and drawings should be thoroughly studied by someone with experience and knowledge of cutting inscriptions on stone. Accordingly, this season, I asked Mr. Brian Bowen who, among his many other talents, is a professional stone-engraver, to come to Jawa and study the techniques of engraving. He very kindly agreed to this and I should like to thank him for his great help. Mr. Bowen identified a considerable number of different techniques, as well as the different types of engraving instrument used, and his report on these will appear in the final publication. However, while in the field, he taught the rest of the team how to recognise the different techniques so that we could record these details for every find.

A word should also be said about patina. For those unfamiliar with the basalt desert, I should explain that the natural colour of basalt is not black but light grey. The black is a patina caused by the action of the atmosphere on the chemicals in the stone. The patina forms more or less slowly, dependent on the degree of exposure to the elements, particularly wind and water. Thus a rock in an exposed position will be perfectly black on all visible surfaces and yet the portion underground will still be the natural light-grey.

This patina is a fairly thin crust on the stone. Scratching or hammering the rock, if done firmly enough, can break through this veneer to the light-grey rock below. The immediate effect of this is an apparently white mark which shows up very clearly against the surrounding black. This is almost certainly one of the attractions of

basalt as a medium for engraving³². Over the years this mark will itself gradually patinate through yellow, orange and red to the black of the surrounding rock.

However, while hammering will almost always produce this "white" effect, it is possible to scratch the rock without piercing the patina completely. Depending on the depth of the scratch, the effect of this will be an orange or red line against the black, i.e. an effect which is often indistinguishable from that of long patination. A dramatic example of this was found this season on a boulder on the top of a ridge in the northern section of our area. It bore two inscriptions, one with a dark orange patina and the other slightly lighter. The darker one was a hammered Safaitic inscription and the other a finely and shallowly scratched Arabic text dated

Thus, though at first sight patina might seem a convenient means of dating (at least relatively) the inscriptions and drawings, there are, in fact, so many variables that it has to be treated with great caution. Occasionally, one may be able to establish a relative chronology for the engravings on one face of one rock, but even here the depth and thickness of the individual lines must be taken into account.

Nevertheless, it seemed worth recording as much detailed information as possible on the patina, partly for the purposes of comparison between items on the same surface and partly in the hope that, when enough information has been gathered, more use can be made of patination differences than is possible at present^{3,3}

^{31.} M.C.A. Macdonald and G. Lankester Harding, op. cit., pp. 119-120.

^{32.} W.G. Oxtoby, op.cit., p. 3, obviously misunderstands this since he assumes that the

patinated text is clearer than the newly inscribed

^{33.} The present remarks may show an advance in knowledge from those of W.G. Oxtoby, *op. cit.*, p. 3.

APPENDIX B

INCIDENTAL FINDS

While we were working at Jawa, the army and the local bedu would from time to time report to us the presence of inscriptions in the surrounding area. We are most grateful to them for this, especially since two of these reports resulted in our making very exciting discoveries. These will be described briefly in this Appendix. Since they are outside the limits of the survey itself they will be published either in a separate monograph or as appendices to the final report on the Jawa survey.

- 1. We were told of inscriptions at an outcrop very close to the Jordanian-Syrian border. Having obtained permission from headquarters, a sergeant from the nearest army camp took us there to investigate. We found a Nabataean graffito and some interesting Safaitic texts. Among the latter was one which Miss King and I recognised as being the first known example of a Safaitic "A.B.C.", i.e the Safaitic alphabet written out. The order does not appear to resemble that of any other semitic alphabet. It is not, of course, possible to know whether this order is conventional or merely idiosyncratic until we find another example.
- 2. The same sergeant took us to see what he called an "inscribed cave" in the neighbourhood. When we reached it we found that it was a rock-cut family tomb of the Roman type containing several

sarcophagi cut into the living rock. On each of these was an inscription in the Safaitic square script, giving the dead man's name and patronymic. Around three of the walls, just below the ceiling, was a beautifully carved Nabataean inscription³⁴, in the classic script of the first century A.D., which tells us that the tomb was built by one hlyf br 'wsw, or hlf bn's as he appears in one of the Safaitic inscriptions, for "the sons of 'wsw", i.e. his brothers whose names appear in the Safaitic texts on the other sarchophagi.

Although the tomb had obviously been open for a long time and all the sarcrophagi had been very thoroughly robbed, the implications of this find could be very far-reaching. It is, after all, the first time Safaitic inscriptions have been found in a "monumental" context and it is particularly interesting, therefore, that they are in the "square script" 35. Moreover, the bilingual aspect of the find is also interesting and is a dramatic example of Cantineau's axiom "il faut se représenter le nabatéen comme une langue savante, à coté d'une vulgaire: l'arabe". Dr. Fawzi Zayadine and I plan to excavate in and around this cave in the near future. This will be combined with a thorough search of the area for other such tombs, some of which may still be undisturbed.

M.C.A. Macdonald.

^{34.} I am most grateful to Dr. Fawzi Zayadine for his reading and description of this Nabataean text.

^{35.} See M.C.A. Macdonald: Safaitic Inscriptions in the Amman Museum and Other Collections II (cited in note 16), p. 185.