

THE FIFTH SEASON OF THE 'AQABA
MA'AN SURVEY 1984

by
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Introduction

The 1984 Season of the 'Aqaba-Ma'an Archaeological and Epigraphic Survey was successfully completed during March and April under the auspices of the Department of Antiquities of the Hashemite Kingdom of Jordan. The survey was again funded by the Queen Elizabeth II Fellowships and the Australian Research Grants scheme of the Australian Department of Science and Technology.

This year Mr. Michael Bannigan, Deputy Accountant of the University of Sydney was responsible for photography and assisted with general field work. Mr. Richard Morgan, whose position Mr. Bannigan filled this year, has retained his link with the project by preparing a geographical summary of the Southern Section of the Survey Area and assisting with the preparation of the gazateer and map of the historical geography of the area between 'Aqaba and Ma'an. Miss Geraldine King,

of the Centre for Jordanian Studies at the Yarmouk University, once again was a source of great encouragement and help with the epigraphic aspects of the Survey.

Once again the British Institute at Amman for Archaeology and History provided accommodation and research facilities while its new Director, Dr. Andrew Garrard, gave much appreciated support and guidance. Dr. Garrard has assisted with the lithic analysis included in this year's report. Mrs. Ina Kehrberg has undertaken the lithic and pottery analysis and drawing. However, the Director takes full responsibility for all final comments and publication of all aspects of the survey. Mr. Nabil Baqa'in was again appointed as Department Representative to the Survey.

During the survey this year a large area was traversed from Mudawwara across the old Edomite escarpment and south to Wadi Sabit and Wadi edh-Dhiqa. Over 5,000 kms. were covered and the following sites identified and visited:

Mudawwara
W. Marmak
W, Makmi
Abu Suwwaneh
Şaraġ
Teleilat Aš-Şahm
Huşn 'Ameira
Teleilat 'Umeira wa 'Amar
Debabat Aš-Şahm
Teleilat Mahatat Mudawwara
Jebel Al Ghal
W. Fassu'a
Qalat Fassu'a
W. Al-Laḥmar
Ras al-Fars
Kh. al-Ḥaṣwa
W. Birat al-Batra
Ras Kaur el Jama
Kh. al-Naṣara
Kh. al-Qirana
Kh. al-Hadab

Teleilat M. ar-Ramleh
W. Dhiqa
El Ghal (see also Jebel el Ghal)
W. Um Ṭeleya'
W. Muheish
W. Şabit
Jebel Um el Hashim
Jebel el Qaus
Jebel Sureibit
Jebel el-Kara
Jebel Astar
Jebel Um Ish
Jebel er-Ratwa
Wadi Yutm el Umran
'Ain el Hashim
W. el Yutm
Jebel Tutim
'Ain Tutim
W. Dawiqa
W. en-Nasifa
Jebel Atra

Although weather conditions, in terms of strong cold winds and dust storms, made survey work difficult (and petrol supply at Mudawwara was hard to obtain), several new pre-history sites were identified and new epigraphic evidence recorded (Fig. 1: Preliminary Map 1984 'Aqaba-Ma'an Survey). A sweep along the Edomite escarpment from Qal'at Fassu'a to Ras en-Naqb established a preliminary survey of this strategic area. The escarpment overlooks the area stretching south to Wadi Ram and 'Aqaba and provides evidence of a large number of sites from a range of periods. Of particular interest are the epigraphic sites in the Wadi Birat al-Batra area and the area around Ras Kaur el Jama. It would seem that these sites are indicative of the human occupation of the heights and vantage points above the Hisma and the caravan trade routes fanning out to Arabia and the Red Sea. The water sources and grazing characteristics of the area make it a valued retreat for pastoral nomads seeking relief from the heat of the summer months further south. The Thamudic epigraphy suggests that it was an area of some significance for the Roman and Late Roman Saracen indigenes.

The Preliminary Map of this year's work will form the basis of a more detailed cartographic study of the historical geography of the area. A computer-based gazateer is also in preparation and is designed to show the archaeological and epigraphic significance of all the toponyms, hydronyms and oronyms registered therein.

The Physical Environment: Southern Section of the Survey Area

As a result of the exploration and survey work of the past five years the survey area has been divided into three topographic units:¹ the *escarpment* which

forms the major change in topography, separating the Ma'an Plateau from the Hisma depression; the *inselbergs* fringing the escarpment and predominating in the southern part of the area; and the *Qa'* unit which forms the basin of the Hisma depression.

The area to the east of 'Aqaba and south of the *Qa'* unit is of tremendous geomorphic significance. Predominated by *inselbergs* this area forms the drain of the Hisma depression and the groundwater and subterranean runoff flow out of the *Qa'* unit through this feature. As one moves east from 'Aqaba the twisted and folded intrusion zone morphology gives way to the sheer sided sedimentary remnants and deeply gorged *awdiyah*. Once east of Wadi edh Dhiqa the desert floor starts to lift through low terraced terrain to over 1000 m. where plateaux and tableland topography dominates.

Wadi Um Sahm, 60 km. east of 'Aqaba, can be described similarly to features of the Ras en Naqb escarpment. Its appearance resembles that of Wadi Hafir. It opens out into a *Qa'* unit sweeping south-east towards Mudawwara.

Mudawwara, not only sits near the border between Jordan and Saudi Arabia, but is close to the boundary of the *Qa'* unit and the aeolian plains. The eastern plains are dominated by desolate shifting sands where little geology is exposed.

The Wadi Yutm fold block has been affected by upthrusts and severe distortion because it verges on the lower end of the rift valley. The exposed rocks are sometimes described as part of the *katazone* and are generally of Pre-Cambrian age. Granodiorites and metamorphosed sediments are intruded by dykes from differing intrusion phases that are post-plutonics, -folding and -consolidation. In the Wadi edh Dhiqa area these older *Katazone* rocks are overlain with partly marine, partly lacustrine

¹ W. Jobling and R.V.H. Morgan, Some Aspects of Geomorphology, Climate and Epigraphy

'Aqaba-Ma'an Survey 1982-83, *Liber Annuus*, XXXIII (1983) p. 396-398.

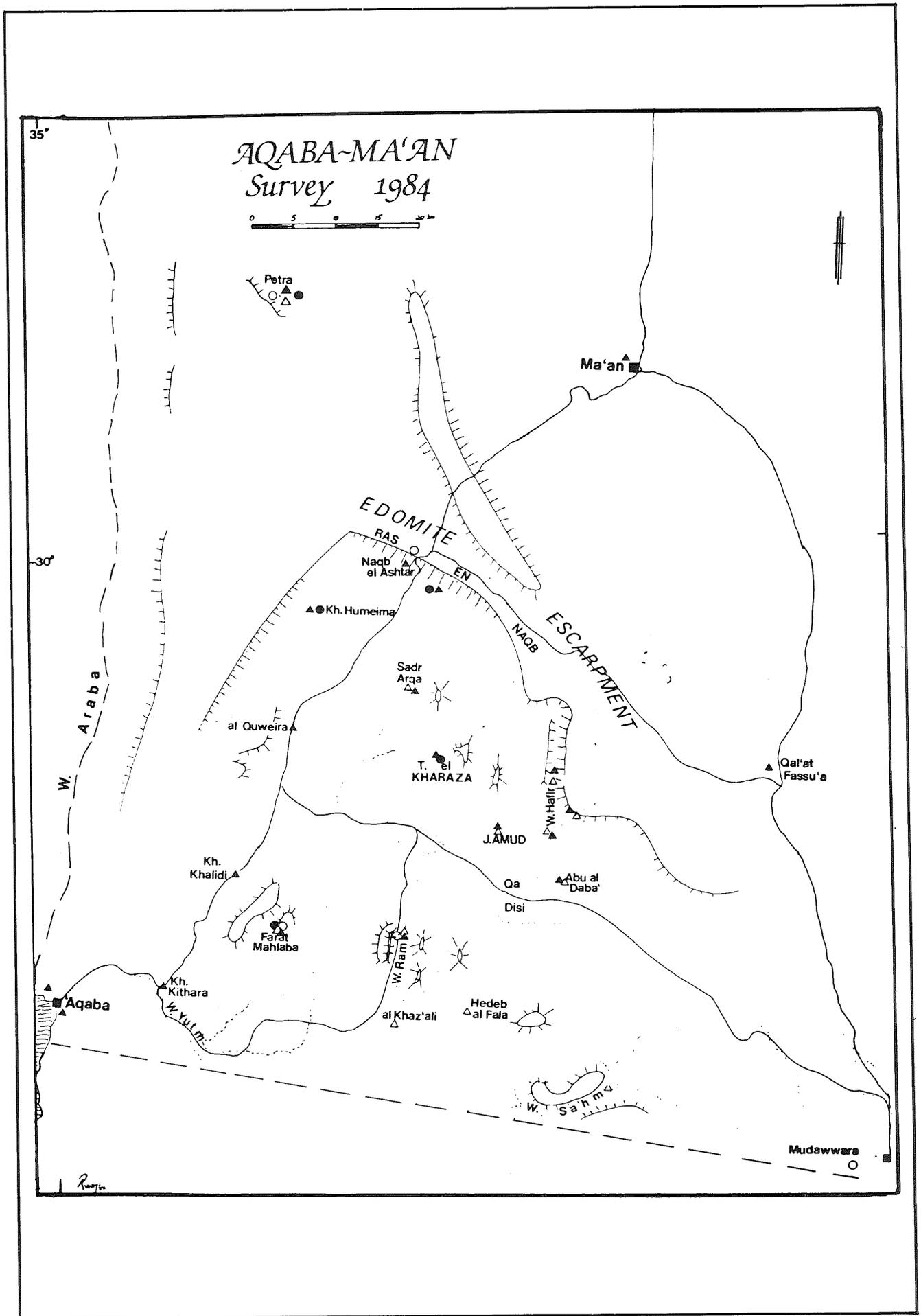


Fig. 1: Preliminary Map: 'Aqaba-Ma'an Survey 1984

sediments of the lower Palaeozoic.

The Wadi edh Dhiqa area is more or less a basin unit which drains back into the Wadi Yutm gorge. It is not dominated by Qa^c topography because of its well drained nature. It is dominated by aeolian deposits but in places is well-overgrown with hardy desert plants. This area forms a vital crossroad where an encampment to its north-east could watch over a wide open expanse that a majority of trade routes had to cross. Many new epigraphic sites were located here during the 1984 Survey. It is planned to seek permission to continue the exploration and survey of these *awdiyah* in the near future, in a sixth season of the °Aqaba-Ma'an archaeological and epigraphic survey.

The Jebel Um Sahn plateau is deeply dissected by the numerous *awdiyah* which drain this area to the north and the east. The *awdiyah* that flow during runoff-producing storms feed, in turn, the natural and man-made catchments that eventually flow, usually subterraneously, to the Qa^c unit (e.g., El-Ghal Qa^c and Abu Suwwaneh Qa^c and Agricultural Station).

The Sahn plateau gives way to the flatter and relatively open plains of the Mudawwara area. Occasionally sandstone massifs stand above the shifting sands but nothing as striking as the *inselberg* units to the west and north-west. Early prehistory sites occur in this area while epigraphic sites become less frequent. This suggests a palaeo-ecological and environment formula with specific diachronic variations. Water is scarcer in this area than in the Qa^c, *inselberg* or escarpment units and the modern settler has had to penetrate deep in the palaeozoic sediments to tap the water table (e.g., along Wadi el Muheis).

North of Mudawwara, along the Hejaz Railway, the terrain develops gradually into the escarpment unit, but with a poorly developed terrace to the Ma'an plateau. Resistant strata form highs and lows due to the weathering of the well developed and poorly developed consolidation matrices within each sedimentation layer. This

weathering has been going on for a long time and together with the higher surface aridity of the area, contrasts sharply with the areas to the west of Sahl Abu Suwwaneh and el Ghal. Thus the areas to the east of a line running North-South through Abu Suwwaneh appear to have been hostile or unable to support a density of human occupation similar to that in the more favourable and protected areas to the West.

The southern part of the survey area can be considered as three zones of topographic interest. These topographic and physical factors have affected the occupation of man in the past and continue to do so today. The Wadi edh Dhiqa and Wadi el Muheis zone fits well into the pattern of trade routes and presents probably the most favourable way geomorphologically and in practical terms.

Climatic Observations

As in previous seasons attention has focussed on evidence for diachronic weather patterns and comparison with contemporary climatic and ecological conditions. It is tentatively suggested that with respect to climatic variations in the °Aqaba-Ma'an area over the last 5,000 years it is worth noting the inferences of Neuman and Sigrist.² In general terms they outline a cycle of climatic changes. From ca. 2,500 B.C., when it seems, settlements in the Middle East were being abandoned, annual rainfall was decreasing to about 2,200 B.C., when there was an intense drought. This drought situation influenced the environment until about 850 B.C. when a more moist climate prevailed. Until Roman times this more favourable climate influenced the growth of forest and an increase of man's activity throughout the Middle East. This parallels with the European climate for that period.

The °Aqaba-Ma'an survey area falls into the middle latitudes. More precisely between 29° and 30°. In global terms this would be similar to central and south-

² J. Neumann and R.M. Sigrist, Harvest Dates in Ancient Mesopotamia as Possible Indicators of

Climatic Variations, *Climatic Change*, I, 1978, p. 239-252.

ern China, central and southern USA and North Africa. In some instances it can favourably be paralleled with central Australia. Both Adelaide and Sydney lie in the vicinity of 31°/32° south in the global context.

R. V. H. Morgan has generated a preliminary generalised time: climate chart (Fig. 2). This time-line attempts to show the perceived relative rainfall against time. From our own findings and the evidence of other authors the general pattern of climatic change can be reconstructed as the model shows. The times of favourable climate, those with higher rainfall, are paralleled with times of greatest occupation. Knowledge of the monsoonal patterns also influenced man's impact on the area. When monsoons were prevalent, and better rainfall resulted, sea routes were exploited for trade and piracy. These patterns are reflected in the contemporary accounts and archaeological evidence.³

In general it can be postulated that a cyclic pattern of climate may exist for the area. It must be noted, however, that a more detailed study of the climatology and extrapolation of the figures is required to support the theory of a cyclic weather pattern.

Epigraphy and Rock Art⁴

As in previous years the epigraphic aspect of the survey was of primary interest. A good range of Thamudic and one new short Nabataean inscription were located, recorded and photographed. A computer-based repertoire of all the inscriptions of the 'Aqaba-Ma'an an Archaeological and Epigraphic Survey is in preparation and will be published separately.

Meanwhile the following is a brief representative selection of some of these new inscriptions:

Plate No. XLI: 1
AM84/48/28-29 *Khirbet al-Haşwa* (on the Edomite escarpment)

1 'swr

By 'swr

The name 'swr is attested in North Arabian (*HIn* p. 47). It occurs frequently in the Wadi Ram area (*T.I.J.* 31A, 115 etc.)

Plate No. XLI: 2

AM84/54/11 *Wadi edh-Dhiqa*

Situated to the south of Wadi Ram this panel is typical of a concentration of inscriptions and drawings on the *inselbergs* of the area through which tracks seem to have passed south to 'Aqaba via Wadi Yutim and to the south east via Wadi Sahn.

The panel is topped by a well drawn Nabataean inscription:

1. šlm 'lw br yḥy'

Peace 'lw son of yḥy'

The lexeme šlm, usually translated "Peace", marks the beginning of a common pattern, or formula, well attested in Nabataean inscriptions of a similar provenance *Cantineau* II, p. 150; *Qedem* 6, 211 et passim; W. J. Jobling, *ADAJ*, XXV, 1982, p. 203).

The proper name 'lw occurs at Mada'in Saleh (al-Hijr), He 341 (*Cantineau* II, p. 130).

The proper name yḥy' is a tentative reading.⁵ The second grapheme in the name yḥy', while clear enough, may reflect the interaction of the author's idiosyncratic style with the sandstone medium. The name yḥy' also occurs at Mada'in Saleh (al-Hijr) (*Cantineau* II, p. 103).

The rest of the inscriptions (Nos. 2-11) on this panel are in the later Thamudic E script and reflect an interesting variety of styles and subject matter:

2. l m'l

By m'l

The name m'l in this form is new; the form m'l is well attested in North Arabian with a questioned form m'l also noted (*HIn* p. 440). It is possible that this may form a compound name of two elements: the nominal element m (*HIn* p. 434) and the theophoric element 'l (cf. *HIn* p. 63 where the etymology "covenant" anger,

³ G. W. Bowersock, *Roman Arabia*, London, 1983, p. 21.

⁴ See List of Abbreviations

⁵ The director is obliged to the Abbe J. Starcky for his advice and guidance with this inscription.

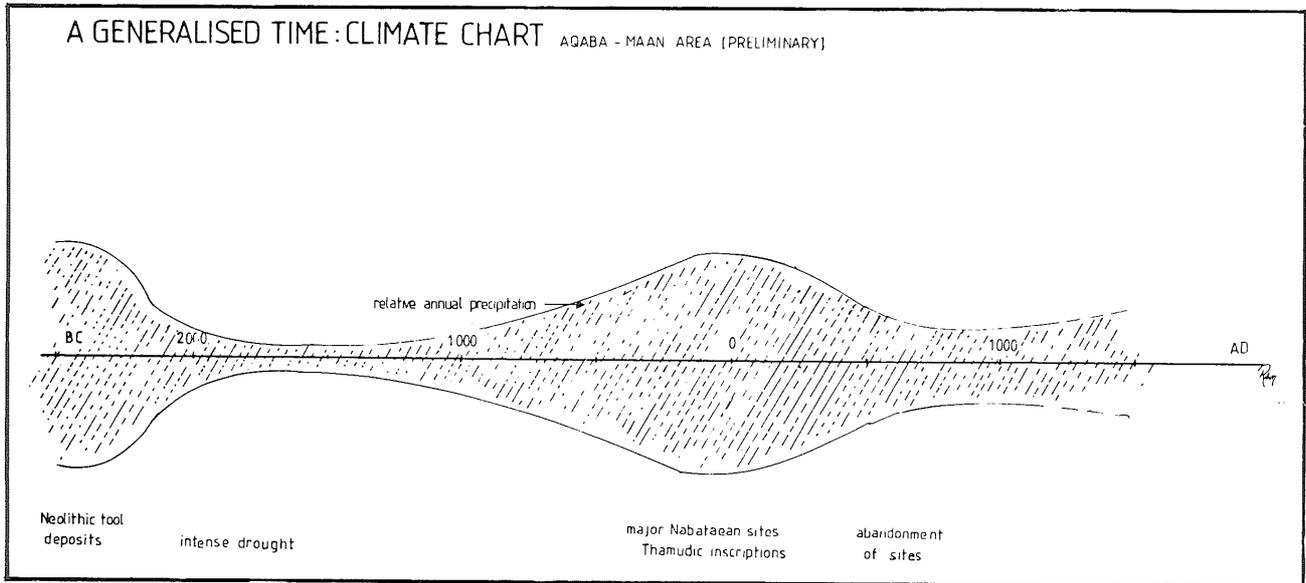


Fig. 2: A Generalised Time: Climate Chart (Preliminary)

faith etc. is suggested).

3. *l dll*

By *dll*

The name *dll* occurs in Safaitic and Thamudic (*HIn* p. 242). An occurrence is noted on a large rock face to the south of Wadi Ram at Wjih el Qattar (*T.I.J.* 30).

4. *l qršm*

By *qršm*

The name *qršm* occurs in North Arabian (*HIn* p. 480). An occurrence of this name has been noted by Harding in the Wadi Ram area at 'Ain el wejihat (*T.I.J.* 275).

5. *l kb't bn 'mr*

By *kb't* son of *'mr*

The reading of the grapheme of the first name is problematical. The name *kb't* is attested in Minaean and the form *kb'* occurs in Safaitic (*HIn* p. 213).

6. *l bršt bn š'dt*

By *bršt* son of *š'dt*

The name *bršt* may be a new occurrence. However the former *brš* occurs in Thamudic (*HIn* p. 101). The root *brš* is attested in the earlier Semitic languages and seems to refer to the *Juniperus phoenicea* (von Soden, *AH* I. p. 139; *B.D.B.* p. 141, cf. *K.B.* p. 148). In later Arabic this root has a wide range of meanings, amongst them the *Datura stramonium*, thorn-apple (*Hava* p. 29 & *Lanne* p. 188).

The name *š'dt* is attested in Thamudic (see *HIn* p. 372). It occurs to the south of

Wadi Ram at 'Ain Abu Nekhelleh (*T.I.J.* 67).

7. *l 'srk bn zd'l*

By *'srk* son of *zd'l*

There would appear to be an unrelated hammering before the *lam auctoris*. The *lam auctoris* may be considered to be poorly formed, however it should be noted that it compares favourably with the *lam* in the final name *zd'l*.

The name *'srk* occurs in Safaitic (*HIn* p. 44).

The name *zd'l* occurs in Safaitic and may be a theophoric Genitive Compound name formed from the junction of *zyd* (*HIn* p. 304) with the theophoric element *'l* (*HIn* p. 296).

8. *l 'qm*

By *'qm*

The name *'qm* may be new, though the Proper Name *'qwm* which is attested in North Arabian may be related to an understanding of the formation and meaning of this name (*HIn* p. 61).

It is possible that the initial *alif* is a prosthetic vowel whose function is to assist with the formation of the Proper Name form from the root *qm* or *qwm* (*Moscatti*, p. 59 & p. 80).

9. *ftht bn 'sk mt*

ftht son of *'sk* has died

This inscription and the following one (No. 10), are difficult to read with certainty because to their right are weathered inscriptions and drawings which may be

related. The signs in front of the inscription appear to be a drawing of an ibex and two dogs. The name *ftht* is attested in Thamudic (see *HIn.* p. 461), and occurs within the Wadi Ram (*T.I.J.* p. 142, 343).

The name *sk* is at this stage only a tentative reading, and as such would appear to be new.

Overall the pattern of this sentence is somewhat perplexing, as is its relationship to the next inscription.

10. *l tm'l*

By *tm'l*

The name *tm'l* is attested in North Arabian (*HIn.* p. 137).

11. *l mrt bn m t*

By *mrt* son of *m t*

The name *mrt* is well attested in North Arabian (*HIn.* p. 437). The name *m't* is new, though the forms *m'* and *my* may be related to its formation (*HIn.* p. 434 & 442).

Plate No. XLII: 1

AM84/56/7 *Wadi edh-Dhiqa*

This particular panel which is composed of a humanoid figure, which is inscribed with a prayer, is surrounded by *bovidae* and *capridae*. This panel is situated above a large natural shelf on the wall of an extensive overhang. To the left of this panel and running along the base of the overhang at ground level there are the remains of other badly weathered panels which appear to have contained drawings of similar animals. The overhang itself is situated in a highly walled *wadi* close to the head of the Wadi edh-Dhiqa complex. Around the overhang, and extending out into the *wadi* bed there are the remains of barrages and simple stone wall enclosures. The site appears to have had a long history of usage up to the present day. The overhang is still enclosed by the remains of a series of low stone walls.

The central figure, which is humanoid

in shape, is inscribed with the following prayer:

h. trsm s'd htf w'ly w'd w gdd

O, *trsm* help *htf* and *ly* and *d* and *gdd*

The first twelve and the last seven graphemes are reasonably clear. The inscription would appear to be a prayer for aid addressed to the North Arabian astral deity *trsm* (*ARNA*, p. 72). This would appear to be the first example of the veneration of this deity in the *Qqaba-Ma'an* area. It is tempting to speculate that both the icon and the inscription may shed light on the identity of the ancient Arabian stone idols at nearby *Risqeh*.⁶

The name *htf* occurs in North Arabian (*HIn.* p. 176).

The name *ly* is very well attested in the pre-Islamic onomasticon (*HIn.* p. 433).

The name *d* is also well attested in North Arabian (*HIn.* p. 408).

The name *gdd* occurs in Safaitic (*HIn.* p. 154).

The veneration of the deity *trsm* by the Ancient Semites has a considerable historical pedigree. The prominence of the Saracen veneration of the astral deity *trsm* and the association of this name with that of the Morning and Evening Star, Venus, is well attested in both the Sinai and Southern Palestine. Elusa in Southern Palestine was an important cult centre for the Saracen veneration of Venus.⁷ The deity is variously represented from place to place and a variety of animals was often deemed sacred to the deity. It may be coincidental, but those occurring on this panel were also known to be sacred to *trsm* in other areas. It may be that the bovids and cervids in this instance were considered sacred to *trsm* in this area and that their fecundity was the object of the prayer (*s'd*) ascribed to the deity. Thus both the idol with its inscription and the panels of the surrounding animals may be

⁶ See D. Kirkbride, *Ancient Arabian Ancestor Idols*, *Archaeology*, 22, No. 2, (1969) p. 116-121, and No. 3, p. 188-195.

⁷ A. J. Wilkinson, *Jerusalem Pilgrims Before the Crusades*, London, 1977, p. 156.
B. P. Mayerson, *The City of Elusa in the Literary*

Sources of the Fourth-Sixth Centuries, *I.E.J.*, Vol. 33, No. 3-4 (1983) p. 247.

C. J. C. Migne (ed.), *Patrologia Latina*, Vol. 23, Col. 42: 27.

D. Manolis Papatomopoulos, *Graeco-Arabica*, Volume III, Athens, 1984, p. 203-205.

considered to reflect the pastoral aspect of the regional economy.

Plate No. XLII: 2

AM84/52/30 Panel 1 Wadi edh-Dhiqa

This panel and the next one (AM84/52/MB) occur side by side as can be seen from the overlap in the photography. Together these panels are part of a very large rock face which is close to a series of rock falls and a large rock shelter which appears to have an extensive history of human occupancy.

1. *l ʿbd bn whblh bn skl*

By ʿbd son of whblh son of skl

The name ʿbd is well attested in North Arabian and frequently occurs as the first element in Genitive Compound names (*HIn.* p. 397).

The name *whblh* is attested in North Arabian (*HIn.* p. 652-653). It is a compound name and contains the theophoric element *lh*.

The name *skl* occurs in Thamudic and Qatabanian (*HIn.* p. 313). It is well attested in the Wadi Ram area (*T.I.J.* 345, 364, 394, 484).

2. *l mnʿt bn mrʿtd bn mnʿt bn ʿfšy*

By mnʿt son of mrʿtd son of mnʿt son of ʿfšy

The name *mnʿt* occurs in North Arabian (*HIn.* p. 569).

The name *mrʿtd* is new, though the name *mrtđ* is attested in North and South Arabian (*HIn.* p. 358).

The name ʿfšy occurs in North and South Arabian (*HIn.* p. 59). It is interesting to note the occurrence of papponymy as attested by the place of the name *mnʿt* in this inscription.

Plate No. XLII. 2

AM84/52/MB Panel 2 Wadi edh-Dhiqa

Situated to the left of Panel 1, this panel contains a range of epigraphic and

glyphic material which is of considerable interest for the human occupation and ecology of this area in Southern Jordan. There are five Thamudic inscriptions of which Nos. 1, 2 & 5 may be by the same hand.

1. *l whblh bn hnlh bn ḥbb bn rṯc*

By whblh son of hnlh son of ḥbb son of rṯc

The name *whblh* is well attested in North Arabian (*HIn.* p. 652-653). It is a compound name and contains the theophoric element *lh* which also occurs in the names *hnlh* and *škmlh* which occur on this panel.

The name *hnlh* is new, though the name *hn* is attested in North Arabian and occurs frequently in compound names (*HIn.* p. 625). As noted above the theophoric element *lh* occurs in this name.

The name *ḥbb* occurs in both North and South Arabian, and is also attested as a frequently occurring component in compound Proper Names (*HIn.* p. 172). This name occurs frequently in the inscriptions on this panel.

The name *rṯc* is new, though the Proper Name *rṯt* is attested in Thamudic (*HIn.* p. 270).⁸

2. *l ḥbb bn bnlh bn ḥbb w dkr dšr skmlh w ḥbb kṯṯ*

By ḥbb son of bnlh son of ḥbb, and may DŠR

remember škmlh, and ḥbb inscribed (it)

This is an interesting inscription because of its length, content and association with other inscriptions on the same panel. It is possible that it is composed of two inscriptions, the prayer to DŠR being added later. This would explain the logic of the final phrase: *w ḥbb kṯṯ*: and ḥbb wrote (it).

⁸ However, if the value of the second grapheme is to be read as ḡim then this would give the name *rḡc* (see E.A. Knauf, *ZDPV* Vol. 96, 1980, p. 170, footnote no. 22), and see reference to proposed phonetic status of these graphemes in E.A. Knauf, *Sudsafaitisch, ADAJ*, XXVII (1983) p. 587-596. The root *rḡc* is well attested in later classical Arabic and is a sememe which could be

associated with the meaning or etymology of the Proper Name *rḡc* (see *Hava.* p. 242, Lane, p. 1037). This root also has a wide frequency of occurrence in the other early pre-Islamic languages where isoglosses reflect a relatively common range of meanings (see *B. D. B.* p. 920-921, *K.B.* p. 874).

As it stands in its present form this inscription is composed of three phrases respectively introduced by particles which are distinctive phrase markers. The first phrase, introduced by the *lam auctoris* marker is,

l ḥbb bn bnlh bn ḥbb

By ḥbb son of bnlh son of ḥbb,

This phrase, which contains the Proper Names *ḥbb* and *bnlh* discussed above, is further evidence for the frequently recurring practice of papponomy in North Arabia.⁹

The second phrase is introduced by the particle marker *waw*:

w dkr dšr škmlh,

and may DŠR remember škmlh,

This phrase is a prayer to the god Dušares (*T.I.J.* 502 & 299). The deity is asked to hold in remembrance (*dkr*) *škmlh*. Whether such remembrance is for good or ill we are not told in this inscription. Similar petitions using the form *dkrt* and addressed to the goddess *Allāt* occur in the Wadi Ram area (*T.I.J.* 45, 58, 156, 170, 481, 489, 506, 520, 521). In these instances the wellbeing or benefit of the person, or persons, mentioned may have been inferred. On this occasion the prayer may have been offered on the occasion of the birth of a new member of the family (i.e., *škmlh*). However this remains a matter for speculation and further research. The compound name *škmlh*, with the theophoric element *lh*, is new, though the Proper Name *škm* is attested in Safaitic (*HIn* p. 354). Again it is noted that the theophoric element *lh* is common to other names on this panel (viz. *whblh* and *hnlh*).

The third phrase is introduced by the particle marker *waw*:

w ḥbb ktt

and ḥbb inscribed (it).

This phrase is typical of a formula frequently found in north Arabian and usually associated with a rock drawing or a prayer. As such it may be appropriate to designate it a signature phrase. As noted above its present position and the variations in the style and execution of the script may suggest that the prayer to which it is

appended was drawn some time after the inscribing of the first phrase. On the other hand, it may be that the mention of only one name (i.e., without the genealogy) presupposes the genealogy of the first phrase and as such was added as a post-script. The form *ktt* is frequently used in similar signature phrases in the Wadi Ram area (*T.I.J.* 124, 251, 299, 393, 424). It is worth noting that the natural rock face on which the last two phrases are written is somewhat uneven and provides a difficult medium. This may account for the more cramped style of the script in the last two phrases. However the syntax of the inscription still requires further analysis and comparison with similar statements.

3. *l 'rš*

By 'rš

The name 'rš is quite well attested in North Arabian (*HIn* p. 37). This signature may relate to the drawings just below it at the top of the panel.

4. *l tḥs bn qbbt*

By tḥs son of qbbt

The style and execution of the script of this inscription appears to be in contrast with the longer inscriptions Nos. 1, 2, and 5.

The name *tḥs* is new. However following the suggestion that the first grapheme may be read as a *ḡim* this would give the name *ḡḥs*.¹⁰

The name *qbbt* is new though the Proper Name *qbb* occurs in Thamudic and Sabaeen (*HIn* p. 474).

5. *l whblh bn hnlh bn ḥbb bn rt^c
b[]*

By whblh son of hnlh son of ḥbb son of rt^c son?

This inscription duplicates the genealogy of the first inscription on the panel (see above). It would appear that there was an addition to the genealogy, however. This seems to have been erased. While the reason for this erasure is unknown it is tempting to speculate that the new addition may have been the name of a member of the descent group who subsequently died or was struck off, or out of, the genealogy for some misdemeanour.

⁹ See W. J. Jobling, *L.A.*, XXXIII (1983), p. 399.

¹⁰ See footnote 7.

6. *l k^b*

B *k^b*

The name *k^b* is attested in Safaitic (*HIn.* p. 500). This name also occurs in the *Kitab al-Asnam* where it is associated with idol worship and the Ka^bah in Mecca.¹¹

A preliminary multivariate statistical analysis of the Rock Art of the Wadi edh-Dhiqa panels (AM84/52/30 & AM84/52/MB) has been completed by Mr. Christopher Morgan at the University of Sydney. This graphic data was analysed on a microcomputer using programmes prepared by Professor R.V.S. Wright.

Using six models of analysis an attempt has been made to hypothesize about the character and origins of this data. Based on the evidence of multivariate analysis, it has been concluded that the groupings of figures on these panels are not random and that correlation exists between zonation based on style and based on figure types represented and their abundance in each zone. It is hypothesized that the majority of the artwork in different zones represents the work of artists operating under the two conditions of difference in style and difference in scenes being portrayed. It is envisaged that the recording and cataloguing of Rock Art sites such as this in the ^oAqaba-Ma^{an} area will provide a chronology based on style and content. From this it may then be possible to extrapolate parameters relevant to phases of the history of human occupation and the function of this relationship to the paleo-ecology of the area.

Plate No. XLIII: 2

AM84/45/33 *Abu Suwwana*

This Thamudic inscription occurs with a group of highly stylized human figures in a small overhang on a small *inselberg* at Abu Suwwana which is quite close to the S.S.E. of Qa^c Disi and close to al-Ghal.

The hunting scene which occurs on the same panel is similar in style and execution to much of the "Thamudic Art" identified

further south in Saudi Arabia.¹²

l m^l bn mrt

By *m^l* son of *mrt*

The name *m^l* is attested in Safaitic (*HIn.* p. 434). The name would appear to be of the nominal sentence type and composed of the element *m* which may be construed as predicate of the theophoric element *l*.

The name *mrt* occurs in North and South Arabian (*HIn.* p. 437). This name appears to be related to the form *mr* (*HIn.* p. 437).

Lithics

This year exploration and survey work around Mudawwara, which is in the south eastern sector of the ^oAqaba-Ma^{an} area, succeeded in identifying a number of new lithic sites. Several of the sites which are to the east of Ma^{an}-Mudawwara road occur within the context of extensive remains of large stone circles and cairns which are usually situated around small (*Qi^{an}*) or depressions that appear to have held water from time to time.

A good example of these lithic sites and occupation situations is Teleilat Mehatat Mudawwara (Pl. XLIV: 1). Situated close to a number of small (*Qi^{an}*) this site has extensive surface evidence of lithic industry. Chert and quartzite artefacts, and a variety of fan and side scrapers were amongst the surface finds. Found *in situ* were several very large shallow flakes (up to 0.17 m. x 0.10 m.) on tabular chert, with prepared platforms and cortex still attached to the exterior surface (Pl. XLIV: 2). Close by these shallow flakes, which were probably utilized as fan scrapers, was also found a polished basalt axe (Pl. XLII: 1).

Preliminary study of the surface collections of lithic remains suggests that this area was occupied to some degree in the late Neolithic and Chalcolithic periods.

¹¹ Nabih Amin Faris (trans.;, *The Book of Idols (Kitab Al-Asnam)*, Princeton, 1952, p. 38-40.

¹² P.J. Parr et al., Preliminary Report on the Second

Phase of the Northern Province Survey, 1397/1977, *ATLAL*, Vol. 2 (1398 A.H.-1978 A.D.) p. 47-49.

Pottery Analysis

Some pottery sherds were found at Wadi Marmuk. A preliminary analysis of these sherds by Mr. Stephen Hart of the British Institute suggests the presence of Chalcolithic/Early Bronze I and Roman only.

Conclusion

The broad spectrum of geomorphological evidence as well as archaeological and epigraphic evidence of the human occupation of these areas reflects physical, cultural and linguistic parameters within significant synchronic and diachronic dimensions. The cultural development and variability reflected therein contributes substantially to the exploration and elucidation of both the definition of early and later forms of the pastoralism which seems to have characterised the occupation of these areas and contributes to the investigation of the various phases of the non-urban and non- (or at least quasi-) agricultural activities of inhabitants of the pre-Islamic periods.

As the studies of Dauphin (1980)¹³ and Parker (1976)¹⁴ have also shown with regard to the later (Roman-Byzantine) periods, there is substantial evidence for a high period of human occupation and activity in the areas which are just to the west, and indeed are part of the same geographical complex, of the 1984 survey area.

While much more field work remains to be done with regard to the refining and definition of the topography, climate and biotic communities of the ʿAqaba-Maʿan area, in general the evidence from this season's survey is a contribution to the

elucidation of the history of the human occupation of this eastern sector of the ʿAqaba-Maʿan area.

This season brings to a conclusion the initial phase of the research programme which was concerned with exploration and survey of the area. This season also marks the beginning of the second phase of the research programme which is concerned with in-depth field studies of the epigraphic and rock art remains of the area.

In this regard it may be noted that H.D. Juli¹⁵ has drawn attention to the extent to which historical trends and theoretical assumptions in Ancient Near Eastern studies have tended to limit research on pastoralism; especially nomadic pastoralism as an economic activity with a specialised ecological and material adaptation. It is suggested that further to Juli's research, which focussed on Chalcolithic pastoralism in the Negev of Palestine, and the limited ethnographic data of the Negev Bedouin and the useful archaeological model of pastoralism which this study generated,¹⁶ the two widely separated phases of the Late Neolithic and Safaitic-Thamudic occupation of the non-urban domains in the Ancient Near East have also to be considered.

In particular it is argued that further research into the Safaitic and Thamudic inscriptions and their sociolinguistic and ethnographic significance may provide valuable contributions for the model of pastoralism generated by Juli and the research and conclusions of A.M. Rowton¹⁷ (1973) generally.

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¹³ C. Dauphin, Mosaic pavements as an index of prosperity and fashion, *Levant*, Vol. XII (1980) p. 112-134.

¹⁴ S. Thomas Parker, Archaeological Survey of the Limes Arabicus: A Preliminary Report, *ADAJ*, XXI (1976), p. 19-25.

¹⁵ H.D. Juli, *Ancient Herders of the Negev: A Study in Pastoral Archaeology*, University Micro-

films, Ann Arbor Michigan, 1978.

¹⁶ H.D. Juli, *op. cit.*, p. 289.

¹⁷ M.B. Rowton, Urban Autonomy in a Nomadic Environment, *JNES*, Vol. 32, No. 1 & 2, 1973, p. 201-215.

M.B. Rowton, Autonomy and Nomadism in Western Asia, *Orientalia*, 42, Fasc. 1-2, 1973, p. 247-258.

Abbreviations

- AM:** °Aqaba-Ma'an
- ARNA** F.V. Winnett & W.L. Reed, *Ancient Records from North Arabia*, Univ. Toronto Press, 1970
- B.D.B.** F. Brown, S.R. Driver & C.A. Briggs, *A Hebrew and English Lexicon*, Oxford, 1907 (corrected impression 1962)
- Cantineau** J. Cantineau, *Le Nabatéen*, Paris, 1930, Vols. I & II
- Hava** J.G. Hava, *Al-Faraid, Arabic-English Dictionary*, Beirut, 1970
- HIn** G. Lankester Harding, *An Index and Concordance of Pre-Islamic Arabian Names & Inscriptions*, Toronto, 1971
- K.B.** L. Koehler & W. Baumgartner, *Lexicon in Veteris Testamenti Libros*, Leiden, 1953 et *Supplementum ad Lexicon in Veteris Testamenti Libros*, Leiden, 1958
- Lane** E.W. Lane, *An Arabic-English Dictionary*, 8 Vols., London, 1863-1893
- Moscatti** S. Moscati et al, *An Introduction to the Comparative Grammar of the Semitic Languages*, Weisbaden, 1969
- Qedem** A Negev, The Inscriptions of Wadi Haggog, Sinai, *Qedem* Vol. 6, Jerusalem 1977
- T.I.J.** G. L. Harding and E. Littmann, *Some Thamudic Inscriptions from the Hashemite Kingdom of Jordan*, Leiden, 1952.
- ZDPV** *Zeitschrift des deutschen Palästina-Vereins*