

CHAPTER 10

A SURVEY AT HATNUB

by

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10.1 Introduction

In 1977 and 1980, the Egypt Exploration Society expedition to el-Amarna devoted some time to a brief examination of the ancient Hatnub alabaster quarry. Several triangulations were made in the area near the so-called Old Kingdom quarry and a few of the stone huts were photographed and drawn in elevation (cf. Figure 10.5). This preliminary work indicated that there was potential for a full-scale study of the area. A first season of survey was therefore undertaken by the present writer, in conjunction with the Egypt Exploration Society 1985 expedition to el-Amarna. [1] The aims of the survey were the production of a 1:1000 plan of the settlement adjacent to quarry P (Figure 10.3) and the general study of the surrounding area, with a view to further survey work.

Alabaster is a versatile and attractive stone, valued consistently by Egyptians since pre-dynastic times. [2] In the First Dynasty tomb of Aha, at Saqqara, over 90% of the stone funerary vessels were of alabaster, and, nearly two thousand years later, the tomb of Tutankhamun contained seventy-nine vessels, of which all but three were alabaster. It is a relatively soft stone, with many uses, ranging from the paving and lining of buildings [3] to the creation of colossal statues, like that of Thuthotep (Newberry 1894: 17-26), and the making of receptacles, particularly unguent vessels. [4] The earliest textual reference to alabaster (*šs*) is at the beginning of the 4th Dynasty. The words *bit* and *šs* are both used to refer to alabaster during the Old Kingdom, but by the Middle Kingdom *šs* is the word most commonly used.

There seem to have been several basic areas in Egypt which, at one time or another, supplied the ancient demand for alabaster. A recent description of a modern alabaster workshop in Luxor (Hester and Heizer 1981) lists the various ancient and modern sources of alabaster in Egypt. The most important quarries (including Hatnub) were in a ninety mile zone, on both sides of the Nile, roughly

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- [1] The 1985 Hatnub Survey was financed by a generous grant from the Cambridge University Thomas Mulvey Fund.
- [2] Throughout this study the word "alabaster" refers to Egyptian alabaster or calcite, which is a crystalline form of calcium carbonate, rather than to true alabaster which is calcium sulphate (gypsum).
- [3] In the Fourth Dynasty, it was used to line a chamber in the Valley Temple of Khafre, and in the 19th Dynasty for a sanctuary of a temple of Rameses II at Abydos. Lucas (1962: 59) lists many other examples.
- [4] Lucas (1962: 421) points out that 16% of all ancient Egyptian stone vessels were made of alabaster, making it the third most frequent material.

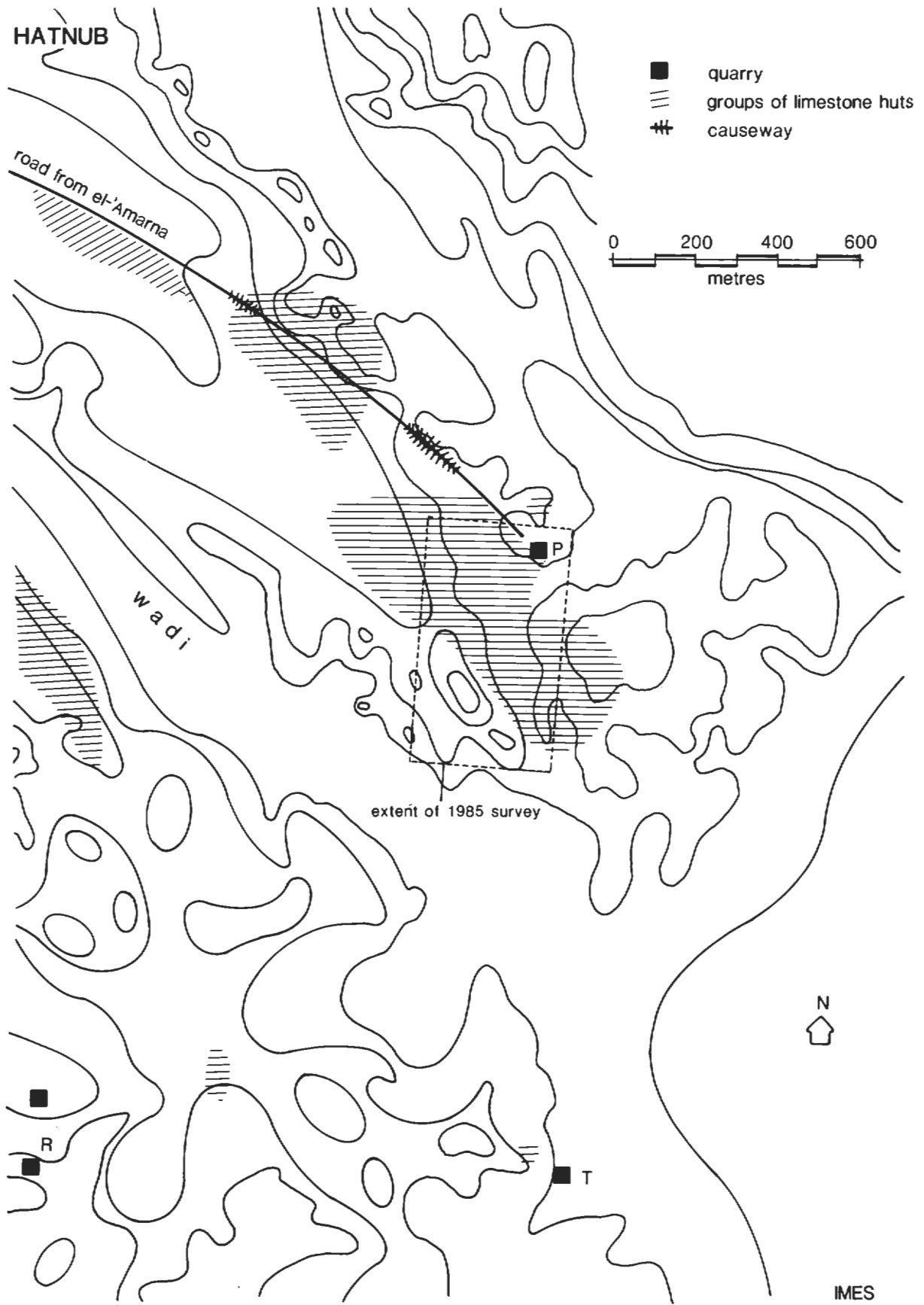


Figure 10.1. A revised version of Timme's map of the Hatnub region (Timme 1917: Blatt 8), showing quarrying zones P, R and T.

between the modern towns of Minia and Assiut. [5] The second most important area must have been Wadi Gerrawi, near Helwan, which was first discovered by Schweinfurth (1922: 228ff.) and described in detail by Erman (1885) and D. and R. Klemm (1980: 123-5). Wadi Gerrawi, like Hatnub, is connected to the Nile valley by a quarry-road which, according to Erman (1885: 623) is still visible in places. There are stone huts for the quarry-workers, as at Hatnub, but these are said to have been about an hour's journey from the actual quarries. [6]

There is a great deal of evidence for the existence of temporary settlements of workers at Wadi Gerrawi, Wadi Hammamat, Sinai and many other mines and quarries in Egypt. The structures associated with the alabaster quarries of Hatnub were no doubt only occupied intermittently, as expeditions came and went, over the course of centuries. But the clusters of huts and sherds, scattered over an area of several square kilometres, are deserving of careful analysis, since they complement the numerous inscriptions and graffiti in recreating the daily life and organization of Egyptian quarrying expeditions. The settlement at Hatnub constitutes the physical adaptation of the ancient Egyptians to a hostile and unfamiliar environment, many miles from the safety of the Nile valley.

10.2 The location and geographical context of Hatnub

The alabaster quarries of Hatnub lie in the Eastern Desert, some eighteen kilometres south-east of the el-Amarna plain. The site consists of three quarrying zones, labelled P, R and T by Petrie (cf. Figure 10.1). In 1891, Newberry visited the so-called Old Kingdom quarry (P) [7] later described by Petrie as "an open circular pit with vertical sides, about 200 feet across and 50 feet deep." Surrounded by huge spoil-heaps of alabaster chips, and entered by a sloping passage from the north, it lies in a slight depression, with an ancient road stretching off to the north-west, and large numbers of limestone huts to the west and south-west. The area of settlement, appertaining to quarry P, sprawls over the undulating terrain between the quarry road and the broad wadi to the south-west. The quarry itself was probably originally a subterranean excavation but the roof seems to have fallen in at a relatively early stage in its use. A small cairn (labelled "G" on Figure 10.3), west of the entrance, signals the position of the quarry for some distance, and, just below it, a small set of steps has been carved out of the entrance wall. The walls of quarry P are covered with incised inscriptions and ink graffiti which chronicle its exploitation from Khufu to the New Kingdom.

[5] Two other important quarries in this area are described by Petrie, Weigall and Hume. Petrie (1894: 4) mentions a Nineteenth Dynasty quarry at el-Amarna, while Weigall (1911: 176) and Hume (1912: 72) describe the early Eighteenth Dynasty quarry at Wadi Assiut.

[6] A major difference between Hatnub and Wadi Gerrawi is the existence of a huge dam near the quarries at Wadi Gerrawi and apparently dating to the early Old Kingdom. Mackay (1915) describes both dam and quarry in some detail, and a series of fourteen structures in the vicinity of the dam were recently excavated by Dreyer and Jaritz (1983) on behalf of the Leichtweiss-Institut für Wasserbau.

[7] Until Newberry's discovery, the location of Hatnub had, as Fraser points out (1894: 74), been "generally and apparently wrongly supposed to be the alabaster quarries which lie in the eastern hills near Asyût". Cf. also James (1982: 148).



Figure 10.2. Quarry P at Hatnub, from the south.

The R quarrying zone (cf. section 10.8), situated about two kilometres south-west of P, beyond the wadi, was discovered by Fraser (1894: 76-77) who described its location as the south-west corner of "a sort of basin in the hills with an outlet on its western side leading into the great Darb el Amarani, the principal pass in the hills here." There are two quarries in this area; one is a shallow pit with no inscriptions, the other is a subterranean development containing a few inscriptions of the Middle Kingdom. The T area, indicated on Timme's map and described by Petrie as simply another set of quarries containing no inscriptions, was visited during the 1985 survey. The main T quarry, a circular pit smaller and deeper than the unscribed R quarry (in which a large nodule of alabaster still remains unquarried), contained a few New Kingdom sherds. A smaller quarry, nearby, was located in close association with a cluster of stone huts and some sherds of the Old Kingdom. This whole area is at present the focus of a modern "quarrying" operation which is gradually transporting away the larger chips of alabaster from the ancient spoil-heaps.

The inscriptions and graffiti in quarries P and R provide not only chronological evidence (cf. section 10.7) but also a large amount of information

Survey at Hatnub

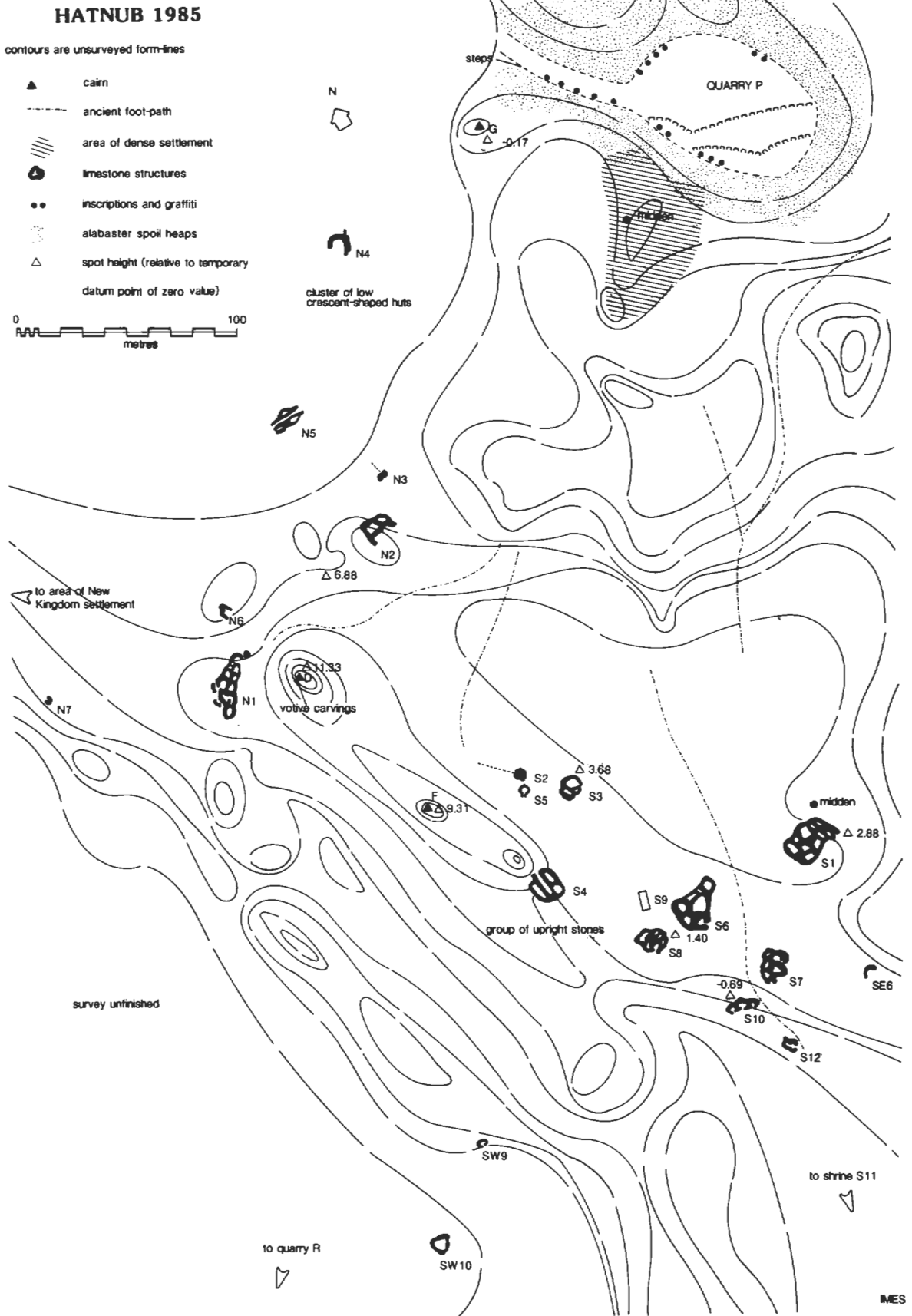


Figure 10.3. A plan of part of the settlement south-west of quarry P, based on triangulations and sketch-plans made January-February 1985.

about the organization of alabaster-quarrying expeditions. This epigraphic evidence at Hatnub itself is supplemented by the depiction of the transportation of Thuthotep's colossus at Deir el-Bersheh (cf. Newberry, 1894: I, Plates XII and XV), [8] and the inscription of Weni, from Abydos (cf. Sethe, 1903: 98-110). Weni describes an expedition to quarry a large offering-stone which is perhaps to be identified with inscription VI at Hatnub (Anthes, 1928: 14), dated to the reign of Merenre. The predominance of published epigraphic evidence from Hatnub, in contrast with a dearth of archaeological data, was the primary motivation for the 1985 survey of Hatnub.

10.3 The aims and scope of the 1985 survey

Just over three weeks of fieldwork were accomplished at Hatnub, between 21 January and 12 February, 1985. The expedition benefited greatly from the loan of a Topcon "Guppy" EDM theodolite, which was used, in conjunction with a conventional Topcon theodolite, to triangulate and traverse across an area immediately south-west of quarry P.

The principal aims of the 1985 season were the mapping and photographing of some thirty huts, scattered across an area of several thousand square metres. [9] Each hut was given an alpha-numeric label referring to its geographical location and the order in which it was added to the 1985 survey sheet. Thus, structure S1 was the first of the southern group of huts to be examined, while N7 was the most recently studied hut in the northern group, nearer to quarry P.

A base-line was set up, running roughly east-west, across the flat ground just north of cairns D and F. The huts S1 to S16 and N1 to N7 were plotted on the map, at a scale of 1:1000, by triangulating with the two theodolites from points A and C, at either end of the base line (cf. Figure 10.3). Each hut was recorded individually on a "feature sheet", including a sketch-plan, dimensions and a basic description (including any associated artefacts). It was therefore possible to indicate the shape of each structure as it was plotted on the map.

A large zone of concentrated settlement (the extent of which is indicated by hatching in Figure 10.3) just south of quarry P must date to a period well after the initial exploitation of the quarry since it is built partly on top of the extensive alabaster spoil-heaps. This area, including clusters of stone structures and patches of organic debris, will be planned at a larger scale in a future season. Its density and its proximity to the quarry sharply differentiate it from the surrounding scattered settlement, suggesting that it may have

[8] The unprovenanced stele published by Goedicke (1959) is perhaps an account of the Thuthotep expedition.

[9] Subsequent general reconnaissance of the rest of the settlement, to the north and west, indicated that the area planned in the 1985 season included less than a fifth of the total number of stone-built huts and wind-shelters at Hatnub.

served some specific function, perhaps as an administrative centre. [10]

Almost all of the huts in this area, south-west of the quarry, are multi-camerate, with the numbers of rooms varying from two to nine. If each room or single crescent-shaped shelter is assumed to have been the sleeping place of one man, [11] the huts shown in Figure 10.3 would probably have accommodated about seventy men. Huts SW10, S11 and SE5 represent the southern limits of the quarry P settlement, therefore future seasons of survey at Hatnub will extend north-westwards, along the western side of the ancient road.

10.4 The ancient quarry road

Quarry P is linked with the el-ʿAmarna plain by a long road, (cf. Figure 10.4) marked at intervals by cairns, which is still clearly visible for almost all of its length, and actually forms the basis of the modern route between the village of el-Hagg Qandil and Hatnub.

The road is first clearly visible south-east of Kom el-Nana, but it must originally have led all the way westwards to the Nile, terminating in some form of harbour. Several Middle Kingdom inscriptions at Deir el-Bersheh and Hatnub itself refer to individuals as *nb-Ṭrti*. Kessler (1981: 98) suggests that the "columns of men from east and west" who are said to have conveyed the colossal statue of Thuthotep from Hatnub to Deir el-Bersheh must have come from the region of *Ṭrti*. [12] The determinative of *Ṭrti* points to a mountainous region on the east bank, which Kessler identifies as the north-west end of the Hatnub quarry road. The excavations at el-ʿAmarna, however, have yielded no traces of such a settlement which, if it existed, would certainly now lie beneath the cultivation.

The Hatnub road ascends the scarp face of the eastern high desert and passes eastwards across undulating terrain, with the aid of occasional embankments. At a point only seven kilometres from the quarries, the ancient route encounters a deep, wide wadi. This obstacle has been overcome by piling up rocks and boulders to create a causeway with a maximum height of five metres, neatly bridging the gap. Fraser (1894) points out that "there are two finished batters, one within the other", therefore it seems that at some point in the

[10] It appears that other mining settlements were also characterised by this pattern of a concentrated settlement surrounded by scattered huts. At the Wadi el-Hudi mines, the scattered huts of sites "14", "15" and "12" contrast with a dense habitation zone at site "9" (only one hundred metres from a major amethyst mine), described by Fakhry (1952) as a Twelfth Dynasty fort. At the turquoise mines of Wadi Maghara, Petrie (1906) describes not only a group of about 125 huts on a hill opposite the mine, but also a smaller group of larger huts with thicker walls, down in the valley, which he suggests were occupied by leaders of the expeditions. Thomas (1909: 110) mentions that "some of the [mining] towns are composed of groups of huts, in others they lie scattered along the wadi edge, some have stone wall enclosures and watch towers...It has been surmised that scattered huts are relics of the Arab occupation while the grouped ones belong to Ptolemaic and other slave-working ages". For stone huts of Pharaonic periods in the Wadi Hammamat, see Debono (1951) 79-81.

[11] Anthes (1928: 5) writes of "kleine Hütten... dass ein Mann zusammengekauert darin liegen kann."

[12] Badawy (1963) suggests that the depiction of the transportation of Thuthotep's colossus by sledge represents only the last stage of the journey, when the alluvial flood plain had been reached. This helps to explain the apparent pouring of water in front of the sledge (which has often been interpreted as a form of libation) since "the scene is an alluvial soil and well-wetted mud is certainly an excellent lubricated medium for sliding".



Figure 10.4. A section of the main quarry road, near quarry P.

history of the road's use, the embankment must have been enlarged.

The journey from el- α Amarna to Hatnub can be accomplished, on foot, in about three hours; but the time taken by ancient quarrying expeditions would have no doubt been considerably longer, due to the carrying of tools, provisions and water (on the outward journey) and occasionally large, perhaps undressed, blocks of alabaster (on the return). [13] It is thus not surprising that there are many groups of way-side huts between the aforementioned embankment and quarry P.

The first group of way-side huts, on the north side of the road, occurs soon after the large embankment and consists of about twenty crescent-shaped structures, with associated scatters of Old Kingdom sherds and alabaster chips. About two kilometres further on, the second group, which is on both sides of the road, consists of about twenty huts to the south (including two very well preserved clusters of two and three rooms respectively), and twelve to the north, all in close association with Old Kingdom sherds and alabaster chips. The third, and largest, group of huts occurs just before the point at which the ancient road branches (with the main route heading towards quarry P, while a

[13] There is ample evidence for the use of large numbers of asses on other expeditions (e.g. Sinai, Toshka and Wadi el-Hudi; cf. Seyfried 1981: 219-220; Simpson 1963: 52-53). If they were used at Hatnub this might have reduced the journey time slightly.

secondary path [14] follows the wide wadi between quarries P and R leading eventually to quarry T). There are, at this point, about thirty-six huts to the north of the road (mostly crescent-shaped, but occasionally consisting of two or three rooms), and about twenty to the south. The reason for this proliferation of settlement may be the fact that this is the section of the road which runs closest to another major ancient road leading off eastwards, further into the desert. [15] The space between the two roads would therefore have been a convenient stopping off point for quarry-workers using both routes.

The way-side huts would, altogether, have sheltered at least a hundred workmen, but since they would presumably not all have been occupied simultaneously, they probably indicate individual expedition parties of only twenty or thirty workers. Such figures would be well below the personnel numbers given in the quarry inscriptions (cf. Anthes 1928) or in the depiction of the transport of Thuthotep's colossus. On the other hand, it is worth remembering not only that many expedition members might have slept without any shelter, but also that the inscriptional evidence relates no doubt to the more ambitious expeditions, whereas the archaeological remains may bear witness to more frequent small-scale forays, in search of the material for vessels and ornaments.

A few metres further on towards the quarry, the outlying huts of the main quarry P settlement begin to appear, gradually becoming more densely concentrated in the final approach to the quarry. The 1985 survey included the examination of the final stretch of this road, as it passes through the settlement. As Timme's map shows, the road slowly ascends towards the high ground around quarry P, eventually reaching a small plateau overlooking the large wadi to the south-west (beyond which lies quarry R). At this point the road is visible only as a scatter of limestone fragments and alabaster chips, since the smooth terrain requires little modification for ease of transport. [16] At the south-western edge of the plateau, the ground rises a little, before plunging down into the wadi. Along this ridge are about fifteen huts but the area claims particular attention by the presence of three very large cairns.

Between the two south-easternmost cairns, another roadway is indicated by alignments of stones, heading off south-westwards. This route is built up by embankments as it descends the side of the wadi, but seems to peter out before reaching the wadi-floor. It may represent the beginning of a road leading from the quarry P settlement to quarry R, or, alternatively, it may be just a link with the southern branch of the main quarry road.

The main road slopes south-eastwards, from the plateau, into a shallow depression, just before quarry P, and here it is again built up into a long and

[14] This secondary route is described by Petrie (1894: Plate XXXIV) as an "Arab Road". Timme (1917: 41, Bl. 8) also shows the road on his plan, describing it as "ein Fusspfad...nach den kleinen Steinbrüchen".

[15] On Timme's plan (1917: Blatt 8), this road is labelled "Südlicher Steinbruchweg" and shown running parallel to the Hatnub road until a few kilometres from Hatnub, whence it carries on eastwards, away from the alabaster quarries.

[16] There were, however, the remains of a *zir*-emplacement, on the western side of the road, at this point.

impressive causeway [17] until it finally climbs up into the area adjacent to the quarry. At this point, several crescent-shaped huts, on either side of the road, contain masses of alabaster chips; this area may have been the scene of rough dressing, before the alabaster blocks began their journey north-westwards towards el-ʿAmarna.

10.5 The structure and patterning of the stone huts near quarry P

The walls of the stone huts are made up of large un-worked limestone boulders, the spaces being packed with smaller stones and grit (cf. Figure 10.5, showing an elevation drawing of walls in structure N1). Many walls are still preserved to a height of well over a metre, and it is fortunate that the inhospitality and isolation of the site have combined to minimise human disturbance of the ancient structures and associated artefacts.

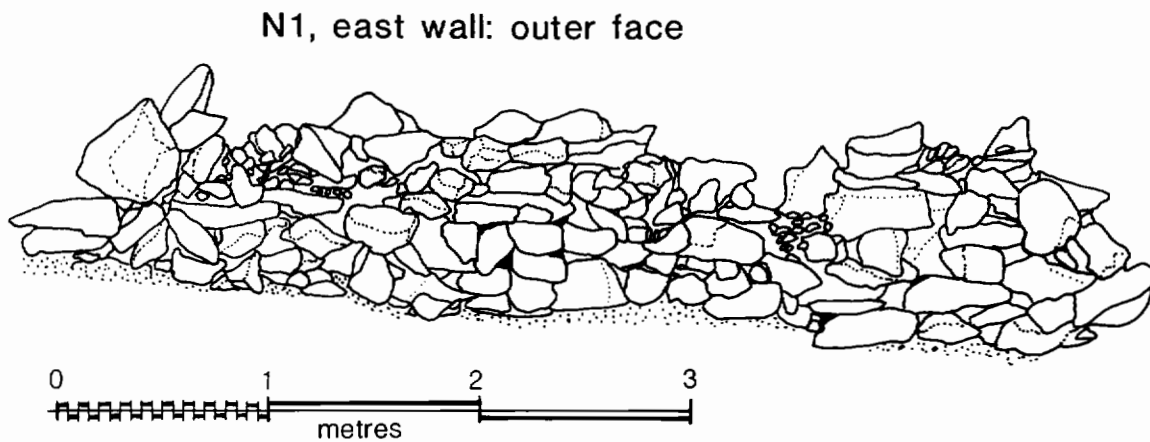


Figure 10.5. Elevation drawing of part of the walls of hut-cluster N1, near quarry P (original by M. Jones).

Several pottery vessels are to be found almost complete and *in situ*; while the surface scatters of alabaster chips, sherds and occasional flints and basalt chips hold out great potential as far as the analysis of their spatial distribution is concerned. The mapping of the huts at Hatnub is only the first stage in a process through which the living-conditions and organization of the quarry-workers can be deduced from the debris left by a succession of seasonal occupations. The huts themselves cannot be dated, but the patterning of the sherds should indicate the localisation of settlement at different times in the history of the quarry's exploitation.

There are several types of structure at Hatnub, ranging from the simple crescent-shaped wind-shelter (like those along the road from el-ʿAmarna), with only enough space for a single person to crouch or lie, to the many-roomed structures which could often have accommodated eight or nine workers (such

[17] This last causeway is nearly 11 metres wide and reaches a maximum height of 1.7 metres, on the north side.

as S1 and N1 cf. Figure 10.6).

STRUCTURE N1

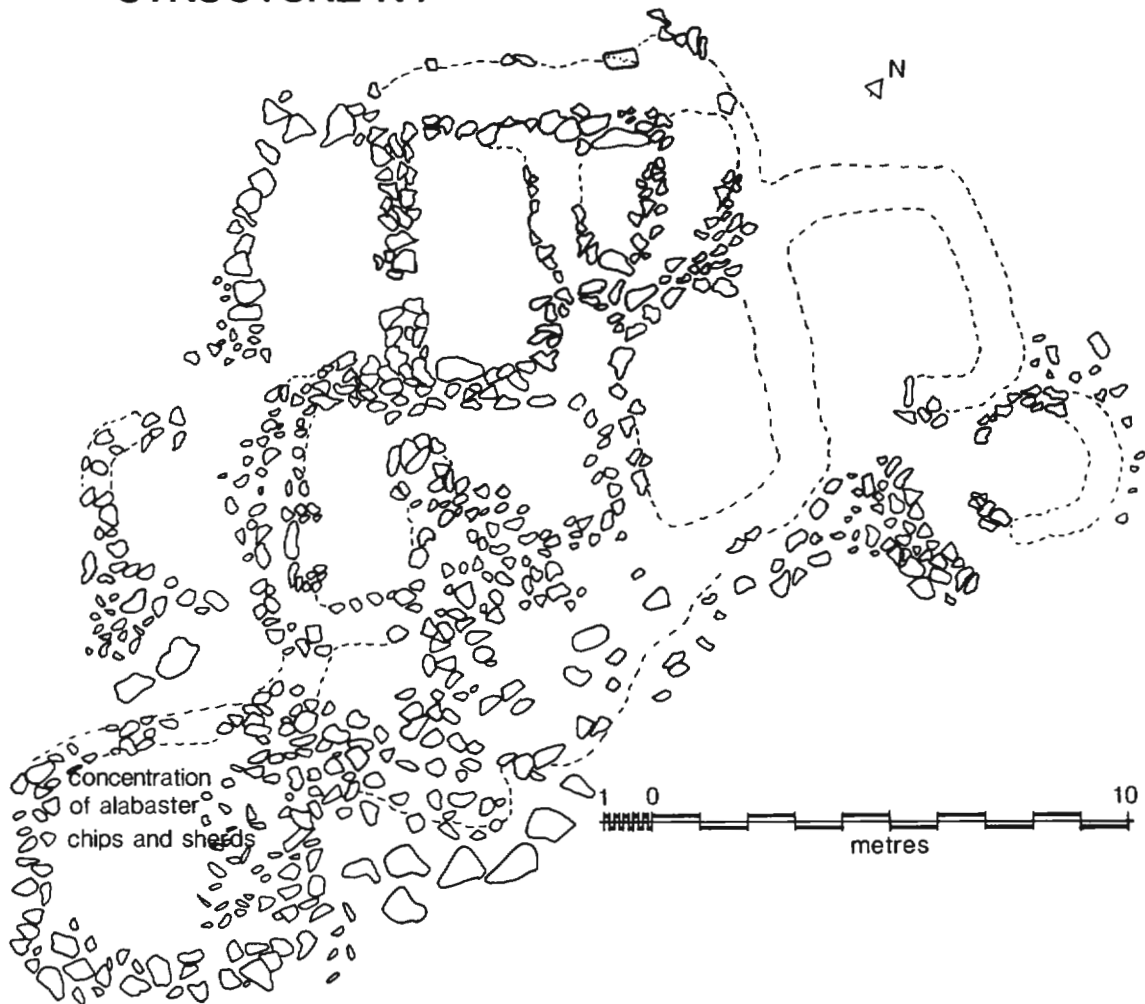


Figure 10.6. Plan of hut-cluster N1 (original by M. Jones and M. Lehner).

The surface concentrations of chips and sherds suggest that some rooms may have been used for working rather than sleeping. There are also, in addition to the proper huts, many circular patches of ground (up to two metres in diameter) which have been cleared of stones and may represent either the remains of low shelters or, more likely, small working areas.

The feature labelled S1 (cf. Figure 10.3) is one of the most intriguing areas in the southern zone of settlement planned in 1985, since it appears to be a virtually self-contained area of habitation, consisting of areas for sleeping, working and rubbish deposition. The main structure, a circular cluster of nine rooms, with walls varying from only a few centimetres to over a metre, is located near the southern end of the plateau north of cairns F and G. About three metres north of the structure is an area of very low stone alignments, forming the outlines of four oval spaces, which, judging from thick piles of alabaster debitage, constituted a stone-working area. Adjacent to this area, about a

metre to the north, is a low midden heap, consisting of sand, limestone pebbles, Old Kingdom sherds, alabaster chips and ash. The whole feature is perhaps to be interpreted as the temporary quarters of a gang of *ḥrtyw-nṯr* (stone-masons) or *msw-ḥt* (stone-cutters/lapidaries).

10.6 The personnel at Hatnub

It is clear that the organisation of expeditions must have varied considerably from one place to another, depending on the particular geographical and economic factors. However, the combined information from inscriptions at Sinai (Černý 1955; Seyfried 1981: 153-239), Wadi Hammamat (Cuyat and Montet 1912-13; Goyon 1957; Seyfried 1981: 241-285), Wadi el-Hudi (Fakhry 1952; Sadek 1980; Seyfried 1981: 5-151), Toshka (Engelbach and Rowe 1938) and other such sites may be used as a context within which the Hatnub evidence can be more clearly understood. The bronze tool from Toshka (Rowe 1938), inscribed with a description of a work-gang, is one of the clearest indications of the systematization of quarrying labour into various fixed groups. There is a strong possibility that the distribution of huts and the varying numbers of rooms may represent the material manifestation of such organisation.

At Sinai, Petrie (1906: 110) calculated that the expeditions included twenty-five different types of government officials, eleven types of specialized local mining officials, eight types of artisans and nine types of labourers (and see Seyfried 1981: 188-220). Similarly, at Wadi el-Hudi, Sadek (1980) and Seyfried (1981: 122-131) outline a complex hierarchy, involving various types of labourers, specialized artisans and gang-controllers, in addition to the more unusual expedition members such as lector-priests, ship-masters and dog-handlers, and a similar picture is true for the Wadi Hammamat (Seyfried 1981: 259-269). The Hatnub inscriptions and graffiti also contain many references to high officials and the common labourers and recruits, but most of the evidence relates to the expedition leaders, rather than to the actual quarry-workers.

Some texts, however, at least suggest the basic numbers involved. Graffito 1 (dated to the time of Teti) describes the sending of 300 "men [of the best] who are in the palace" and 60 "men of the *smḥ*-ship", while the stele published by Goedicke (1959), from the time of Sesostris III, mentions 1080 *ikwy* (quarry-men), 360 "artists", and an unknown number of "necropolis workers". Graffiti 4 and 5 (from the time of Pepi) refer to expeditions of 1000 and 100 *rmṯ* (people) respectively. Graffiti 6 and 9 (dating to the First Intermediate Period) both mention expeditions of 1600 men.

The general reconnaissance of the settlement area around quarry P suggests that, if each crescent-shaped hut or room within a cluster accommodated only one man, then the number of quarry-workers who could have occupied all the available structures at one time would have been probably no more than 300. Considering the ready availability of limestone building material it seems, on the one hand, highly likely that the number of structures can be directly equated with the number of workers and, on the other hand, highly unlikely that any crowding of more than one man to a room could have occurred.

It is possible that the work of actually quarrying the alabaster was carried out by a small group of fifty to a hundred men, who would have occupied the various huts at the site. The greater man-power suggested by the texts may have been only mobilised for the purpose of actually transporting the stone.

10.7 The chronology of the site

The history of human activities at Hatnub has always rested primarily on the dates in the stelae and graffiti from quarries P and R. Blackden and Fraser (1892) published much of this epigraphic evidence soon after the quarries' discovery, but the fullest publication to date is that of Rudolf Anthes (1928), who lists fifteen inscriptions and fifty-two graffiti, printing facsimiles of each, as well as copies and translations. He also provides various indices which allow cross-reference with the work of Blackden and Fraser. Since Anthes' work, several fragments of unprovenanced Middle Kingdom stelae, evidently deriving from Hatnub and relating to quarrying expeditions, have been published (Grdseloff 1951; Simpson 1958, 1961; Goedicke 1959; Posener 1968).

The large-scale incised texts of Khufu, in quarry P, give the earliest date for this quarry, which also bears many inscriptions of the First Intermediate Period and the Middle Kingdom. Quarry R contains only three items of graffiti and two inscriptions, all dating to the Middle Kingdom (except graffito 52, perhaps of the Hyksos period).

The weight of the epigraphic evidence led Simpson (1977) to state that "the lack of texts from the New Kingdom and later indicates that quarrying must have shifted to other locations in the vicinity at the end of the Middle Kingdom". This chronology has always been apparently substantiated by the ceramic evidence, since the sherds scattered around quarry P and the nearest group of huts consist almost totally of Old Kingdom types (the only exceptions being a few Late Dynastic varieties, attesting to a much later phase of activity). Newberry, in 1892, found an alabaster quarry (labelled L by Petrie, 1894: 4, Plate XXXIV) north-west of the el-Amarnaplain, containing the names of Rameses II and Merenptah, but there appeared to be no known alabaster quarry for the Amarna Period, despite the frequent use of alabaster in the city of Akhetaten. [18]

However, the examination of the P quarry settlement in 1985 has resulted in the discovery of a large concentration of New Kingdom occupation, several hundred metres north-west of the quarry. Beyond feature N7 (Figure 10.3) the ground rises gradually towards structures W1 and W2, which lie on a small plateau. To the west of W1 and W2 is a small wadi accommodating several structures, ranging from indistinct crescent-shaped huts to a well-preserved cluster of four large rooms (labelled W10 and photographed, Figure 10.7, but as yet unplanned). These huts all contain Old Kingdom sherds, but a cluster of four rooms, about fifty metres north-west, contains five wheelmade New Kingdom bodysherds. [19] Several other huts in the vicinity are associated with

[18] In the cliff opposite the alabaster quarries of Wadi Assiut, according to Weigall (1911), the cartouche of queen Ahmose-Nerfertari is carved. The Assiut quarries therefore seem to have been in use at the beginning of the Eighteenth Dynasty.

[19] The New Kingdom sherd identifications were made by Pamela Rose.



Figure 10.7. Structure W10; a well-preserved cluster of huts, south-east of the area of New Kingdom occupation. The scaled pole is 2.5 metres long.

New Kingdom sherds, some containing a mixture of Old and New Kingdom types (e.g. the cluster labelled W8). Finally, there is a large group of some twenty to thirty crescent-shaped structures, to the west and north-west of a prominent knoll, associated solely with New Kingdom sherds. This whole area of settlement (several hundred square metres) constitutes a separate zone of New Kingdom activity. The additional discovery of a single painted sherd, of New Kingdom date, on the spoil heaps by quarry P (as well as numerous New Kingdom sherds at quarries R and T) seems to confirm that there were at least limited quarrying operations at Hatnub, during the Eighteenth Dynasty. A closer examination of the ceramic evidence, in future seasons at Hatnub, may determine the amount of specifically Amarna Period activity.

The archaeological evidence is also strengthened by the existence of two relevant items of inscriptional evidence. Firstly, inscription XIV, carved into the north wall of quarry P and reading "chief of the sculptors (*ḥry-snh*) of the lord of the two lands: *3ni* ", was considered by Anthes (1928) to be of New Kingdom date (on the basis of the title *ḥry-snh* and the use of an unusual sign in place

of the *mꜣꜥ ḥrw* phrase). Secondly, there is a stone heart-scarab (Museum no.5993) at Turin Museum, of apparently unknown provenance but clearly dating from the time of Akhenaten (Wiedemann 1895: 155-6). It is inscribed with a *ḥtp dī nsw pꜣ.ītn ꜥnh* formula, as well as the name and titles of its owner, "Apy, chief of works (*ḥry-kꜣwtj*) at Hatnub". Apy is a common name during the Amarna Period, constituting six entries in Hari's *Répertoire onomastique amarnien* (1976), and there has been some speculation as to the possible identification of the Turin Apy with the Apy of Tomb 10 at el-Amarna, although there is no mention of Hatnub in the latter's titles. [20]

Although the inscriptions give no indication of the scale of New Kingdom operations at Hatnub, it should eventually be possible to reach some estimate by comparing the quantities of sherds with those deposited during the preceding periods. The archaeological evidence certainly indicates more prolonged activity than the single *in situ* inscription might suggest.

The interest of the New Kingdom zone of occupation is further augmented by the possibility that some form of limestone quarrying may have been taking place in an open area scattered with limestone blocks, between the New Kingdom huts and the northern slope of the knoll which they encircle. The area obviously requires closer examination but preliminary investigation during the 1985 survey revealed the existence of at least two large roughly-carved blocks of stone (Figure 10.8), as well as sufficient debris to indicate the small-scale removal of quantities of fine limestone.

10.8 The R quarries and associated settlement

Timme's description and mapping of the Hatnub quarries (1917) clearly records the existence of a settlement south-west of quarry P, but the 1985 survey has demonstrated that a further zone of huts (at least forty) lies on the far side of the wadi, between quarries R and P. These huts are mainly of the single crescent-shaped type and they are, if anything, even more widely dispersed than those near quarry P (probably because this area is dotted with several small alabaster quarries, as well as the large R quarries).

The pair of R quarries, Anthes' "kleine Steinbrüche", lie in a narrow side valley. One quarry is subterranean at its entrance but exposed to the sky further in, where the roof has collapsed (cf. Anthes 1928: Tafel 2). At its entrance it is about ten metres wide, and it extends into the rock-face for about fifty metres. Fraser (1894) mentions that there were twenty-eight painted graffiti on the walls of the quarry (as well as inscriptions XII and XIII), but only three of these are legible (Graffiti 50, 51 and 52), the rest being visible now only as the depictions of men and offering-tables. The second R quarry is a shallow pit, in the floor of the valley, bearing no inscriptions.

[20] A third, and perhaps more tenuous piece of epigraphic evidence is to be found in the great Speos Artemidos inscription of Hatshepsut (Gardiner, 1946: 47), in which reference is made to the construction of a temple with gates of "alabaster of Hatnub". Harris (1981: 77) argues that "the phrase *n ḥwt-nbw* must at this period [i.e. the New Kingdom] be a designation of quality rather than provenance." However, Harris' only reason for making this statement is that he has been led to believe that Hatnub was not quarried during the New Kingdom - the argument is therefore circular.



Figure 10.8. Block of limestone in the area of possible surface quarrying.

There is no dense concentration of settlement beside the two R quarries, although Old Kingdom sherds were found in the quarries themselves and a scattering of New Kingdom sherds in the immediate vicinity. About two hundred metres north of the quarries (towards quarry P) is a single hut of unusual construction. A roughly circular hollow has been scooped out of the ground-surface and the rim built up by piles of grit and boulders. A short distance further north is a row of four similarly constructed huts, containing some New Kingdom and Late Dynastic pottery.

10.9 Religion at Hatnub

The religious life of the quarry-workers at Hatnub has left little to compare with the impressive multi-period temple at Serabit el-Qadim. [21] However, the archaeological remains at Hatnub do include several features which are

[21] Although many inscriptions from Hatnub, Wadi el-Hudi, Sinai and Wadi Hammamat refer to priests as members of expeditions.

probably explicable only as forms of religious expression. The peak on which cairn D is perched is carved with a series of model flights of steps (Figures 10.9 and 10.10), first noted by Petrie (1894: 4). If the carvings are contemporaneous with the stone huts, it is possible that they constituted elements of the quarry-workers' religion. A few of these votive carvings are within oval frames, perhaps to be interpreted as the outlines of feet. [22]



Figure 10.9. The carved model steps, on a peak near quarry P, with cairn above, looking east.

There are, however, also a series of limestone structures which might be described as "shrines", scattered throughout the quarry P settlement. These shrine-like structures are perhaps best understood as elaborate versions of the configurations of upright stones which occur in at least two main groups at

[22] Laszlo Castiglione (1967, 1971, 1974) has examined, in some detail, the sculptured and relief representations of the "Serapis-foot"; it is possible that the oval carvings at Hatnub are related to this use of the foot as a cultic symbol. Castiglione particularly refers to the "göttliche Fussspur" in Graeco-Roman Egypt. Carvings of feet and sandals also occur among the rock-drawings in Nubia (corpus numbers Aa17-33) cf. Hellström (1970).



Figure 10.10. A group of the carved model steps.

Hatnub. One group of single slabs (supported by other stones at their bases) occupies a level area between structure S15 and the southernmost group of huts. A second, and more extensive, group of upright stones is situated on the other side of the large wadi, on high ground, some distance north of the two R quarries.

Petrie (1906: 63-4) describes a diverse system of upright stones scattered near the mines at Serabit el Qadim, often "along the ridges of the hills, or an edge of a precipice, or any other striking position". He notes that C.T. Currelly also found numerous upright stones near Mount Sinai and he considers the phenomenon to be a cultic borrowing from Syria-Palestine. The evidence from Hatnub, and other quarries, suggests that the upright stones may have been simply characteristic of miners and quarry-workers temporarily deposited in a barren landscape where the rearrangement of stones was (and is) practically the only means of creative expression. However, just as the stones at Serabit el-Qadim take on greater significance through their association with the temples, so the upright stones at Hatnub must be considered in association with

the votive carvings and possible “shrines”.

Structure S2,



Figure 10.11 Shrine S2 and adjoining structure S5, seen from cairn F.

the most impressive of these “shrines” (cf. Figure 10.11), is located, perhaps significantly, less than one hundred metres from the peak with carved steps. Shrine S2 is a small, roofed building, with a square entrance and a long approach path, lined with stones on either side. At the far end of the approach path, marked by two larger stones, a footpath has been worn away, leading off northwards to quarry P. There is too little space inside the structure for it to have been a human habitation - it was therefore interpreted by Fraser as an oven, although the lack of ashes or bread-moulds makes this suggestion unlikely. It might more probably be interpreted as a kind of altar within which offerings were placed. Shrine S2 was photographed by Timme (1917: Abb.40), who describes it simply as a “well-preserved stone hut - dolmen - with an approach path”.

Structure N3 (cf. Figure 10.3) consists of a cairn of stones almost two metres in diameter (smaller than S2), with a stone-lined path leading up to it. Again, a footpath has been worn away, leading from the approach path down to a crescent-shaped hut to the north-east. This structure lies only about one hundred metres from the area of dense settlement by quarry P.

Structure N7 (cf. Figure 10.3), located in a large open space, about one hundred metres west of cairn G, is a simple dolmen-shaped structure (1.25 metres wide), made up of limestone boulders and slabs. There is no evidence of an approach path, but its isolation and apparent unsuitability for habitation are both good reasons for considering its function to be similar to those of S2 and



Figure 10.12. Shrine S11, at the southern edge of the quarry P settlement, seen from the north.

Shrine S11 consists of a set of three (possibly four) structures, each of which is a low cairn with stone-lined approach path (Figure 10.12). This feature is again isolated, lying about 150 metres south of the southern edge of the quarry P settlement. The location, halfway down the slope into the valley between quarries P and R, is at the foot of a knoll surmounted by a large cairn. The S11 “shrines” radiate out from the direction of the cairn, and a footpath leads up along the edge of the slope, skirting the northernmost edge of hut S7 and heading off northwards (passing to the east of S2) towards the dense settlement beside quarry P.

Finally, a pair of stone-built structures (as yet unplanned and unlabelled), similar to those at S11, are located beside the three large cairns which lie at the point where a secondary quarry road branches off from the main route, close to quarry P (cf. section 10.4).

10.10 Conclusions

The 1985 survey at Hatnub has clearly demonstrated that the quarry inscriptions can be reinterpreted and augmented by the study of the archaeological remains. The 1:1000 plan of the section of settlement nearest to quarry P (Figure 10.3) shows a series of structures whose size and patterning can begin to indicate the organization of the expedition personnel (although a full-scale interpretation can only proceed when a larger area has been mapped). The general examination of the surrounding archaeological remains has shown that the exploitation of Hatnub alabaster continued into the Eighteenth Dynasty, at all four of the larger quarries. The study of the shrine-like structures indicates a rudimentary religious aspect of life at Hatnub; and the description of the various quarry roads helps to reconstruct the practicalities of transporting the stone for eighteen kilometres across the desert.

Gradually, the survey can recreate the details of the quarry-workers' uncomfortable existence, to complement the bravado of the texts on the quarry walls.

10.11 Acknowledgements

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10.12 Appendix: a note on New Kingdom sherds from Hatnub by Pamela Rose

During two days spent at Hatnub looking at the surface pottery, 27 groups of post-Old Kingdom sherds were noted. These were recognised initially by the presence of entirely wheelmade body and base sherds amongst them, [23] and closer examination showed that some of the pieces were comparable to those coming from the excavations at the Workmen's Village, el-'Amarna. In many cases, however, the sherds were so weathered that it was not possible to make any definite identification as to shape and date, except to assign them to the New Kingdom or later, or to tell whether all the sherds in a single cluster were from the same vessel. The heavy weathering of the pottery also made it difficult to determine how far sherds from a single vessel had spread.

The first two clusters of surface sherds noted came from structures within the wadi (see section 10.7), and consisted of siltware body sherds in one group, and the neck, shoulder, and handle of a cream slipped amphora in the other. The rest of the clusters came from an area of quarrying activity near a large knoll. The most common identifiable form amongst these was a siltware jar, unslipped, with a short, flaring rim (*AR* I: 137, Group 18) fragments of which

[23] Fully wheelmade vessels are not found until the New Kingdom (Bourriau 1981:15-16).

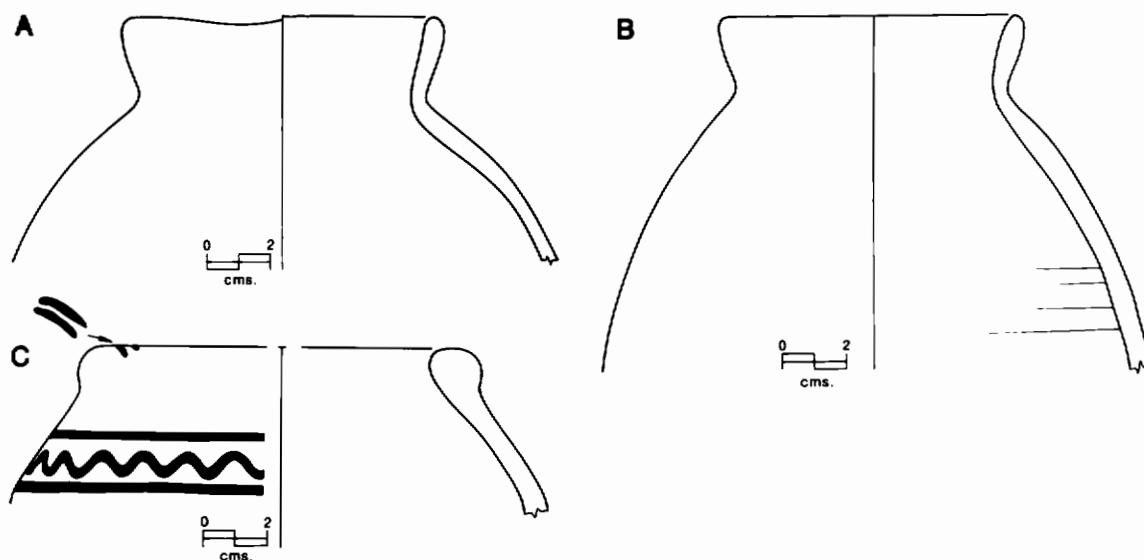


Figure 10.13. Fragments of three pottery vessels from Hatnub.

occurred in 7 of the clusters (Figure 10.13 A & B). Presumably many of the unslipped body sherds were from these vessels. Red-slipped siltware body sherds, and fragments of rims, necks and shoulders in 4 groups indicate the presence of biconical jars (*AR I*: 137, Group 17). Blue painted siltware sherds were present in 6 clusters, but there was no indication as to the original vessel form(s). The remaining vessel types are all of marl clay, and almost all of Amarna fabric- type III.2 or related fabrics (*AR II*: 136). All these sherds are cream-slipped, and may originally have been burnished. They come from amphorae of various shapes, since both vertical and horizontal handles are represented, and one large rim sherd is from a vessel of Amarna type XVII.10 (*COA I*: Pl. LIII, no. LXXVI/228). A single decorated sherd from the vicinity of the main quarry (Figure 10.13 C) is also of New Kingdom date, and can be compared with a type known from Deir el-Medina (Nagel 1938: Plate VI, type VIII, nos. K.2.93 and 94). The context in which these were found was dated to the Nineteenth Dynasty.

It is interesting to note that no open forms were recognised amongst the sherds at Hatnub; the vessels in use consisted of small and medium-sized siltware jars, and amphorae. This emphasis on closed forms can probably be explained by the need for water containers in such an inhospitable environment. The group 18 jars are especially interesting, since the form is by no means common at the Workmen's Village. [24] They may perhaps be considered as "standard issue" for the workmen employed at Hatnub.

[24] Concentrations of this type have, however, been noted around the Great Temple during surface sherd surveys carried out during the 1985 season.

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