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BALLS HEAD: THE EXCAVATION OF A PORT JACKSON ROCK SHELTER

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Plates 17-21. Figures 1-5.

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Balls Head is a small headland reserve jutting into the north side of Port Jackson west of the Harbour Bridge (Sydney sheet, map No. SI 56-5 grid ref. 420818). It has preserved its bushland appearance and been comparatively little interfered with. Vegetation consists of a mixture of indigenous and introduced trees and shrubs; grassy areas are maintained for the benefit of picnickers. Bedrock is Hawkesbury sandstone, with frequent outcroppings, particularly where the headland slopes steeply down to the Harbour. These outcroppings are in the form of both smooth, steep-sided or flat slabs and the characteristically weathered small rock shelters typical of the Sydney area. Many of the slabs are decorated with Aboriginal rock engravings and axe-grinding grooves, and some of the shelters bear rock paintings and hand stencils (Campbell 1899: 14, 17; Miles 1964: 343). There is not a great deal of other Aboriginal occupation evidence apart from the site under consideration, and thin open shell middens which may be detected beneath some of the grassed-over areas.

The rock shelter forming the subject of this paper is approximately 65 feet above mean water-level, of a north-easterly aspect (plate 17). It is not large: about 35 feet long, 7 feet from the drip-line to the back wall of the shelter, and 6 feet from ground surface to underside of overhang are its maximum dimensions (figs 1 and 2). Occupational deposit stretches from the back of the shelter, out beyond the drip-line for about 10 feet, where it then begins sloping downwards in a steep talus. There are faint hand stencils on the rear wall of the shelter and the roof is blackened, perhaps from the fires of the original occupants. The deposit consists of compacted shell midden, looser disturbed material, and less compacted midden. Its maximum depth is 2 feet 9 inches.

EXCAVATION

The original excavation was carried out under the direction of Mr Douglas Miles (then Assistant Curator in Anthropology, Australian Museum; now of the Department of Anthropology, University of Sydney), in April, 1964 (Miles, 1964). The discovery of a human skeleton in the deposit excited great public interest.

Two trenches were excavated, to which I shall refer as Trench I and Trench II, the latter being the more easterly (fig. 1). Deposit was removed in areas 2 feet square in 4-inch spits, and passed through sieves of 3/16-inch mesh. Trench I on completion extended 10 feet by 4 feet; Trench II, 6 feet by 4 feet, each with its long axis perpendicular to the rear wall of the shelter. The burial was found in Trench I.

In January, 1970, I visited the site, accompanied by Mr Miles, who indicated the area of the 1964 excavations. These had been backfilled after excavation, but yellow sand had been used as fill to make re-location of the trenches easier. With the help of Mrs Jan Smith (Assistant in the Department of Anthropology, Australian Museum), Miss Kathleen Pope (formerly Assistant in the Department of Anthropology, Australian Museum) and Mr Peter Callaghan (Department of Archaeology, University

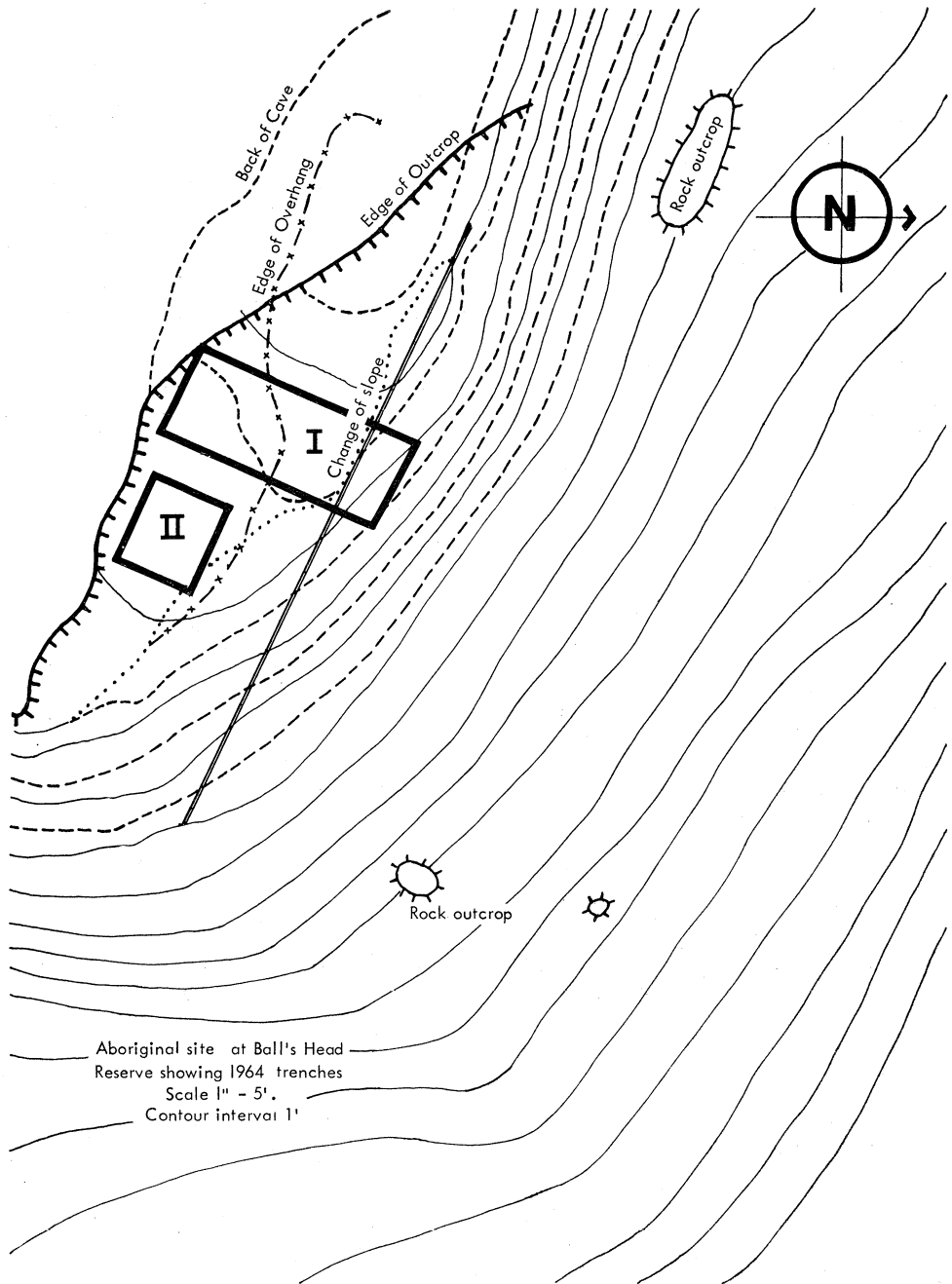
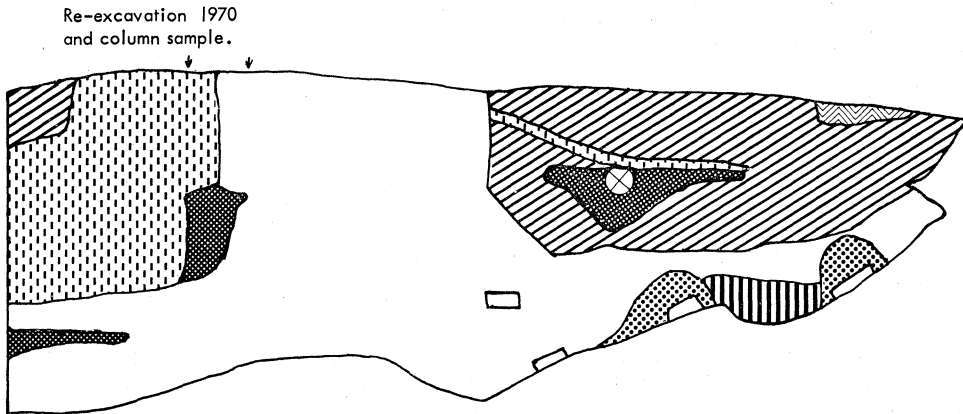
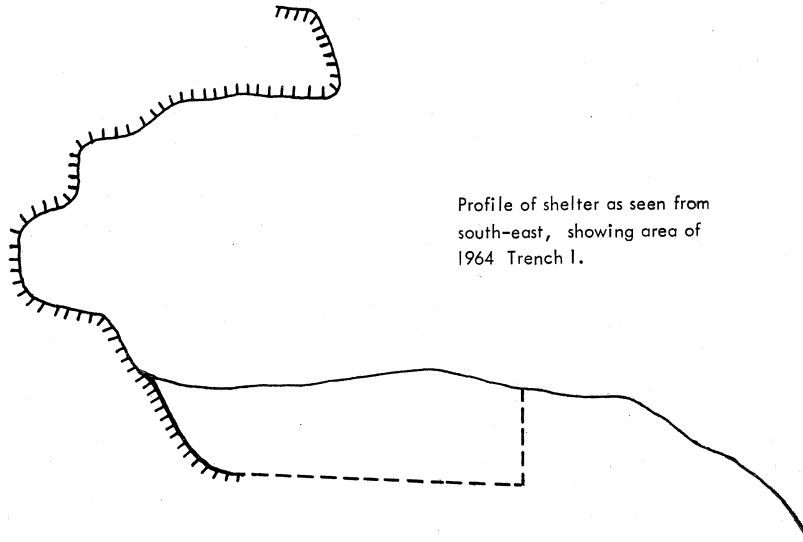











Figure 1



EASTERN SECTION OF 1964 TRENCH I.

- | | | | |
|---|--|---|---|
|  | 1. Dark soil with shell fragments |  | 5. Decayed white sandstone |
|  | 2. Ash-grey compacted midden, much shell |  | 6. Dark soil, no shell visible |
|  | 3. Black soil with shell |  | 7. Yellow sand |
|  | 4. Orange earth with traces of darker (black) soil |  | Position of cranial portion of human skeleton |
| | |  | Natural rock (exfoliated sandstone) |

Figures 2 (above) and 3 (below)

of Sydney), the 1964 Trench I was shovelled out to enable the section to be clearly visible. A small area, 1 foot by 2 feet, was excavated off the east face, thus exposed, for closer inspection of the stratigraphy, and a column 6 inches by 10 inches was removed to obtain a sample of the molluscan food remains. The whole area was then refilled.

STRATIGRAPHY (plate 18)

Fig. 3 is a diagrammatic representation of the eastern face of Trench I. Towards the front of the shelter (i.e., at the northern end) the deposit consists of strongly compacted shell in an ashy-grey matrix, which would result from many fires. McCarthy, in an unpublished review of the Sydney ethnography, says in reference to the use of rock shelters that "the fireplace was in the outer part of the cave" (McCarthy n.d.: 43; Bradley 1786-92: 103). I interpret this area of deposit as undisturbed. Beneath the midden stratum is a layer of orange sand, presumably weathered bedrock; this covers the bedrock itself. Most noticeable in the section is the profile of a large pit, over 2 feet wide and at least 18 inches deep. This would result from digging down into the lower orange sand through the midden, then refilling the lot. It is not an Aboriginal excavation to provide more living room, as such a feature would not have been immediately refilled, but would contain stratified midden material, as at Curracurang (Megaw 1966: 6, fig. 3). Pieces of modern bottle glass were found at the bottom of this pit. It was certainly not part of the 1964 excavation, and is best explained as the result of either vandalism or, perhaps, an early 20th century unpublished archaeological search for skeletons. The 1912 pickaxing of "Skeleton Cave", Inscription Point, Kurnell, in search of skeletal material, is an instance (Megaw 1968b: 17). The Balls Head burial (see below) appears to have been disturbed by this pit, which also truncates sharply a thin lens of ashy, compacted midden stretching from the southern margin of the pit towards the back of the shelter. This lens occurs in a thicker layer of looser, dark-brown material which contains less shell than the ashy midden. A segment of black earth containing shell occurs beneath the lens. A cross indicates the position of the cranial part of the skeleton: partly in the lens, partly in the darker soil. Further towards the back of the shelter the dark-brown material predominates, becoming perhaps looser towards the rear wall. Very close to the rear wall, in the top few inches of deposit, is a band of yellow sand. This may result from the 1964 backfilling, but it runs parallel to the back wall for at least 6 inches beyond the limits of the 1964 trench. It is highly possible that this back portion of the deposit has been also somewhat disturbed, but not to the depth of the orange sand.

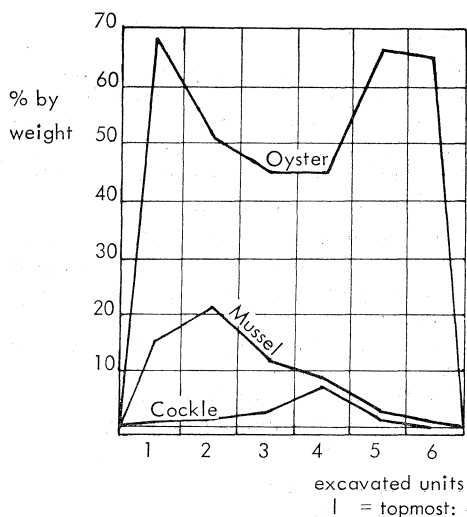
It was not possible to re-excavate Trench II. From inspection of photographs and field notes, I would guess that the rearmost 2 feet are possibly undisturbed. North of this, Trench II is intersected by the disturbance pit, and it seems safest to regard the northernmost 6 feet as disturbed.

DIETARY EVIDENCE

Apart from shellfish, food remains are extremely scanty. The only bones present besides human skeletal material are fragments of pig and other mammal from the surface, and about five extremely tiny fragments. These are unidentifiable except for one tooth and a dorsal spine of a fish. Mr Barry Goldman (Research Assistant, Australian Museum) thinks the former may be bream and the latter leatherjacket. The only other piece of identifiable non-human bone is a macropod incisor, discussed below.

A shell sample was removed in a column (see above). The shells from each spit were sorted into species and weighed. Species were identified by Mr Phil Coleman (Technical Assistant, Australian Museum), whom I thank also for his helpful comments. The predominant food mollusc by weight was the rock oyster *Crassostrea commercialis* (Iredale and Roughley), and it was predominant throughout the site's occupation.

The next most important was the hairy mussel *Trichomya hirsuta* (Lamarck), which showed an increasing importance from the bottom up. The Sydney cockle *Anadara trapezia* (Deshayes), on the other hand, while never as important a food source as the others, showed a reverse tendency to *Trichomya*, increasing in proportion towards the bottom of the deposit (Fig. 4: graph showing respective weight percentages). Bearing in mind the usual caveats about column samples (Ambrose 1967: 177, 182, 183 and *passim*; Lampert 1966: 98), it is interesting to note that the Sydney cockle is now virtually extinct in Port Jackson; perhaps as its numbers decreased, mussels came to be more heavily relied on. The larger blue-black edible mussel, *Mytilus planulatus* (Lamarck), not one specimen of which could be identified in the Balls Head deposit, is now abundant in the Harbour and in the foreshore area below the site, at least on European structures. It has been thought by zoologists that the large edible mussel, so similar to that of the Old World, was a European introduction (Miss Elizabeth Pope, Curator of Worms and Echinoderms, Australian Museum: personal communication). This would explain the Balls Head situation, but is shown to be false by the occurrence of *Mytilus planulatus* (or *edulis* Linn.) in a definitely pre-European context at the midden site of Durras North (Lampert 1966: 89).



Results of column sample showing relative importance through time of *Crassostrea commercialis* (oyster), *Trichomya hirsuta* (mussel) and *Anadara trapezia* (cockle).

Figure 4

Another species, the large mud oyster *Ostrea angasi* Sowerby, is represented by a few shells; it, also, is effectively extinct in Port Jackson. No specimens occurred in the column sample, but were found in other parts of undisturbed midden deposit, all from more than 12 inches below the surface—the same point at which Sydney cockles begin to decline.

For other species present, see appendix.

No artefacts of shell could be detected. A single operculum of *Turbo* (*Ninella*) *torquata* Gmelin, the turban shell, was found. This mollusc occurs generally on the open rocky shore and is the usual raw material for shell fish-hooks (Lampert 1966: 113).

ARTEFACTS

The total number of stone artefacts excavated is 450. This comprises 42 implements, 2 cores, 4 "fabricators" (scaler cores: J. P. White 1968) and 402 waste flakes. Implements types are: microliths 13; thumbnail scrapers 2; other scrapers 9;

miscellaneous secondary working 6; utilized flakes 12. One of the 9 scrapers is made on an artefact previously used as a fabricator/scalar core: this would bring the core total to 7 (fig. 5).

The most numerous and interesting of the implements are the microliths (as defined by Glover and Lampert 1969: 225). Ten of these are of geometric form: 2 trapezes, 5 segments, 2 crescents, 1 triangle (fig. 5; McCarthy 1967: 41-2 and fig. 25). The triangle has been modified on the margin opposing the two backed margins, adding weight to the suggestion that this was the utilized edge. One other microlith is broken; one is of amorphous shape. One only approximates the asymmetric form of the classic Sydney-South Coast "Bondi Point". Glover's criterion for distinguishing geometric microliths from other backed forms, such as Bondi Points, is that the former have a length/breadth ratio of less than 2:1, the latter one of more than or equal to 2:1 (Glover 1967: 419). This has the advantage of being more objective than a purely morphological assessment, and applied to the Balls Head sample (complete specimens only) gives the following results:

L:B ratio range:	1.1-1.4:1	1.5-1.9:1	2.0-3.0:1
Number of specimens:	5	5	2
L:B ratio total range: 1.1-3.0:1 mean: 1.6:1			

Of the two microliths with length:breadth ratio over 2:1, one is the asymmetric backed blade mentioned above, the other is a "segment" (2.1:1). However, I continue to include the latter in the geometric microlith category, as morphologically it is clearly not an asymmetric backed blade (fig. 5), thus facilitating comparison with other Sydney sites. In any case, a comparison of the above figures with those cited by Glover (1967: 424) shows we are here dealing with an unusual suite.

Two problems are raised by this microlithic component. Firstly, this is a most unusual suite for the Sydney region in particular. The usual ratio is a predominance of asymmetric backed blades with a subordinate number of geometric forms (McCarthy 1943: 132-3; McCarthy 1948: 7, 11-12; McCarthy 1964: table 3; Wade 1967: 37; R.V.S. Wright, Department of Anthropology, University of Sydney, for Smith's Creek and Murramurra Creek: personal communication). That this reversal of a more usual norm at Balls Head is not necessarily due to the smallness of the sample is shown by a comparison with the Connel's Point site where, of an equally small sample, the microlithic component is:

Elouera 1; Bondi Points 4; crescent 1; miscellaneous backed 4 (Wade *loc. cit.*) Or: 1 geometric form to 9 others; whereas Balls Head has 10 geometric forms to 3 others, morphologically. I tested the significance of these figures with a Chi-squared test (using Yates' correction for a small sample), with the result that $X^2 = 13.002$ which with one degree of freedom gives a probability of less than 0.001; that is, there is less than one possibility in a thousand that the predominance of geometric forms at Balls Head is due to chance. As against all this, however, Glover comments on the result of a factor analysis of material from Curraurang:

Terms such as Bondi Point, crescent, triangle and point were shown to be useless for organizing the implements into distinct types based on the characteristic patterns of a number of attributes. They are better seen as a single but rather variable group . . . (Glover 1969: 46).

The second problem is that the microlithic tool kit known from other well-stratified sites in the area usually gives way to fabricators/scalar cores, *Elouera* in some cases, and greater numbers of undifferentiated small flakes as the major types found (Wade 1967: 37; Megaw 1968a: 326-8; Hume 1965: 22, 24; McCarthy 1948: 11-12). The change-over for the Sydney region dates to approximately 1,000 years ago (Megaw 1966: 12; Megaw 1968a: 328). At the Balls Head site vertical distribution of implement types appears to be undifferentiated; microliths occur from the surface to the bottom of the deposit. Six occur in the top 12 inches; the rest below 12 inches. Given the disturbed nature of the site, this may not be significant. In the part of the site which I would regard as positively undisturbed—the front

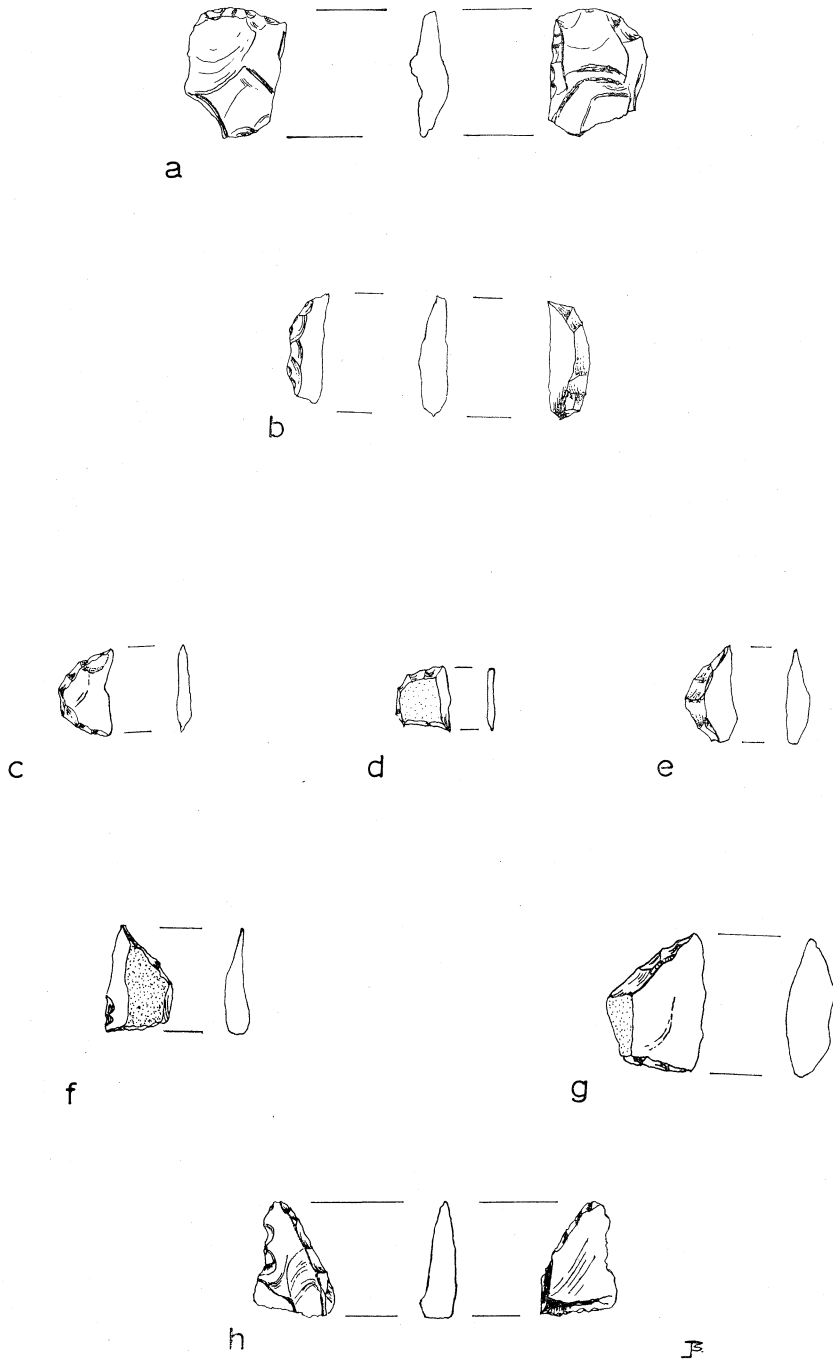


Figure 5.—Stone Artefact Types (about two-thirds natural size): a, fabricator made on a scraper; b, asymmetric backed blade; c-h, geometric microliths

portion with ashy, compacted midden—no microliths occur. One fabricator/scalar core was found here, between 8 and 12 inches below the surface. The rear portion of Trench II, which may be tentatively regarded as undisturbed, has microliths as follows: one between 8 and 12 inches; 6 below 12 inches; and a fabricator/scalar core in the top 4 inches. The other microliths occurred in areas very likely to have been disturbed (the rear of Trench I, further forward in Trench II). Two fabricators/scalar cores were found in the region of the disturbance pit, also the scraper/fabricator. Hence the site is not necessarily an exception in terms of sequence of stone implements through time.

There, is, however, a very marked horizontal distribution within the site: all microliths occurred towards the rear of the shelter: 11 in the rearmost 2 feet of both trenches, two between 2 and 4 feet from the rear wall in Trench II. Six are in a possibly undisturbed context. There is also a difference in the artefact totals. For the following figures, "Back" = the rearmost 4 feet of Trench II plus the rearmost 2 feet of Trench I (the area of the microliths): "Front" = the rest of the site excavated

	<i>Microliths</i>	<i>Scrapers</i>	<i>T' nail Scr.</i>	<i>Misc.</i>	<i>Utilized</i>	<i>Cores</i>
<i>Front:</i>	0	7	1	4	8	4
<i>Back:</i>	13	2	1	2	4	2
	—	—	—	—	—	—
	13	9	2	6	12	6
	<i>Implements</i>	<i>Waste</i>	<i>Implements as % of waste + implements</i>			
<i>Front:</i>	20	132	15.2%			
<i>Back:</i>	22	264	8.3%			
	—	—				
	42	396				

(The second table excludes 6 primary flakes in a bag of which the 1964 label has decayed: these have obviously been excavated but their exact provenance cannot be determined).

Did more industrial activity take place in the rear of the shelter? The two ratios implements: waste are not of greatly significant difference statistically; $X^2 = 3.523$, so, with one degree of freedom, $p =$ between 0.10 and 0.50. However, as percentages the differences may be of some significance technologically: 15.2% is much higher than usual when stone is being flaked *in situ*, whereas 8.3% is closer to the norm. Moreover, the area of Back is 24 square feet; that of Front is 40 square feet. Average depths of deposit are Front: 2 feet; Back: 18 inches, giving volumes of Front: 80 cubic feet and Back: 36 cubic feet. Total artefact counts are Back: 288 and Front: 156. Therefore densities work out at: Front, 1.95 artefacts per cubic foot; Back: 8 artefacts per cubic foot. Hence, I would conclude that less industrial activity did in fact take place in the front of the shelter, where perhaps stone tools were used with greater frequency; and microliths are found in the back of the shelter because they were made there. Perhaps they were not used at the site at all; could the absence of mammalian food remains be related to this? Most of the implements from the front of the shelter are those which are generally regarded as being used in the manufacture of other, usually wooden, tools, namely scrapers and utilized flakes. At Balls Head it may be that flaking of stone was carried on in the rear of the shelter because the ground was flatter, and it was out of the way of cooking, eating and the making of non-stone implements.

Artefacts of European origin included some heavily patinated, thick pieces of glass, some possibly flaked, and some lumps of melted lead in conjunction with very small spherical pellets of lead. The glass occurred in the top 4 inches of the front undisturbed midden and may indicate that the site was inhabited by Aborigines into

early colonial days. The lead comes from more disturbed areas. Some larger pieces are obviously fishing sinkers of quite modern type; however, Mr Miles suggests that the small balls and lumps may represent musket shot being manufactured within the shelter itself.

THE BURIAL (plates 18, 19, 20, 21)

Miles' original statement that the burial was found to be in a pit is arguable (Miles 1964: 345). The major pit visible in the section is later in time than the burial, and indeed appears to have disturbed it. The darker stratigraphic unit in which the skeleton was resting may represent a shallow pit, or may be a soil discoloration due to the presence of the body itself. No obvious grave goods were found, but in the vicinity of the maxilla was a lower incisor of a juvenile macropod, sub-family Potoroinae (identified by Mr B. J. Marlow, Curator of Mammals, Australian Museum). Examination of this tooth under a microscope revealed traces of a dark material which may possibly be a vegetable gum. I interpret it as a decoration worn by the deceased in the head region, either stuck in the hair or on a necklace. The burial is that of a female (see below); McCarthy refers to Phillip, who "did not see any head ornaments on the Botany Bay women". However, he also quotes Govett, who "stated that the hair of the women whom he saw was shorter than that of the men, and that the wives of 'chiefs' attached kangaroo teeth in a band, stuck on with black wax, all around their head". Also, necklets and circlets utilizing macropod (and other) teeth were worn by Sydney women (McCarthy n.d. 162-3; Britton (ed.) 1892: 132; Govett 1836: 218).

The human remains are not in a good state of preservation, and the long bones visible in plates 19 and 20 are now missing from the Museum, although an extensive search was made for them. The skeleton was examined in the field by Mr Alan Thorne (Department of Anatomy, University of Sydney), who recalls that it was somewhat disturbed. Mr Peter Thompson (Australian Institute of Aboriginal Studies) examined the photographs and fragments still remaining, and makes the following comments:

All measurements of teeth, jaws and other bones suggest a small individual, almost certainly female. Wear of the teeth is considerably advanced, suggesting an age in excess of 30 years. Sub-nasal prognathism and advanced tooth wear suggest that it is an Aboriginal skull.

Bones remaining are: maxilla and part of frontal bones; mandible; all teeth; some hand and foot bones; a piece of rib; right and left leg bones and various fragments. Visible in plates 19, 20, and 21 are the right arm bones. Mr Thompson suggests these are somewhat disarranged but not seriously disturbed. Drawings and photographs suggest that the body was oriented east-west with the cranium to the east—that is, crosswise across Trench I. However, if they were lying in a more or less undisturbed position and the rest of the bones were disturbed by the large pit, this must mean that the body was lying face-down, on its stomach, a most unusual position. The legs would have stretched out in an opposite direction to Trench II; a left patella (knee bone) fragment in the top 4 inches of Trench II suggests further disturbance.

Miles also suggests (a) that the burial may have been a cremation, and (b) the presence of "post holes" may indicate a kind of canopy or platform over the body or on which it rested (Miles 1964: 345). Mr Thompson finds no evidence whatever of burning on the human skeletal remains. The post holes appear to me to be leached-out tree-roots; large trees occur on the periphery of the deposit and roots are numerous within it. Furthermore, those discussed by Miles are in the yellow sand in Trench II so are unlikely to have been associated with the burial.

Mrs Betty Hiatt, who is currently working on Australian burial customs (as an M.A. thesis topic for the Department of Anthropology, University of Sydney), comments *in litt.* that for the Sydney area "there is historical evidence to suggest that corpses were (either) abandoned, buried (or) cremated" (see also B. Hiatt, 1969). The Balls Head burial would appear to have been either interred or abandoned, more probably the former. There are no comparable modern excavations of burials within

Port Jackson, but Mr Peter Thompson and myself have examined all skeletal material in the Australian Museum from a Port Jackson locality or nearby (excluding material from south of Tom Uglys Point). Most of these were excavated or discovered in the late 19th or early 20th century. Given such limitations it was obviously impossible to determine whether each was an interment or abandonment, but it *was* possible to ascertain whether any had been cremated. Mr Thompson assigned an approximate age and sex to each. Of a sample of 20 or more (some represented more than one individual from a single locality, often mixed together), not one showed any sign of having been burnt. Six were juveniles, 1 a teenager, 13 were mature. Of the latter, 7 were probably female, 5 probably male, 1 possibly male. Seven came from rock shelters, the rest from either open foreshore midden sites or merely listed localities (e.g., "Port Jackson", "Harbord" etc.). This is not a large sample but, firstly, shows a reasonable cross-section of age and sex and, secondly, demonstrates that burial in a living area was not unusual. Mrs Hiatt remarks that though "there is no really good archaeological evidence for cremation . . . this is not surprising, given the nature of the custom and the fact that it was probably performed away from living areas". Thus the Balls Head burial, while not a cremation, is a fairly typical Port Jackson inhumation.

CONCLUSIONS

The following points may be noted:

1. Not much food was eaten at the Balls Head rock shelter apart from shellfish (and presumably unpreserved vegetable foods);
2. There are quite a large number of stone implements;
3. Of these, a surprisingly high proportion are microliths of geometric form;
4. A burial contained in the deposit is of a mature Aboriginal female, unexceptional except for its position, which may be due to the fact that:
5. The deposit is exceedingly disturbed.

The first point is interesting in view of the abundant historical observations of Aborigines fishing in Port Jackson (Lawrence 1968: 139-55). Such skeletal remains as are preserved are in a sufficiently good state of preservation to suggest that if others were once there they have not simply decayed. The large amounts of shell in the front and undisturbed part of the deposit would provide a good environment for the preservation of other faunal remains.

At the Chicago symposium on hunter-gatherers, Deetz remarked on the "peculiar difference between the evidence of hunting and the evidence of gathering in terms of what is preserved" (1968: 282); and other participants likewise deplored the lack of "archaeological visibility of food-gatherers" (Binford *et al.* 1968: 285-7). However, this is not always so. The symposium also agreed that the collecting of shellfish should, as an activity, be placed in the category of gathering, rather than fishing (Lee 1968: 41; Suttles 1968: 61n.). Hence any shell midden displays a high degree of archaeological visibility of food-gatherers—which is to say, women. In most areas of Aboriginal Australia, it is the women who gather the shellfish (B. Hiatt 1970; Basedow 1935: 76; L.R. Hiatt 1965: 3, 25; Roth 1901: 7; Thomson 1949: 21; Wells 1963: 127; C. White 1969: 2-3; Lawrence 1968: 158, 176). However, for the Sydney region Lawrence notes three historically observed instances of men collecting shellfish (1968: 43). In two of these cases, intensive gathering need not necessarily be indicated: Cook's account (Beaglehole ed. 1955: 311) describes men gathering shellfish from their canoes, and Hunter (1793: 63) saw men diving into the surf for shellfish. Neither method would seem to provide the reliable bulk of shellfish meat ensured by the more methodical on-foot gathering by women; indeed, the latter method would be inapplicable within the Harbour. I suggest that the bulk of molluscan remains preserved in the Balls Head shelter is most likely the fruit of women's gathering activities.

Binford and Binford draw a distinction between "maintenance" and "extractive" types of hunter-gatherer sites (1966: 268-9). While one may have reservations about such a neat dichotomy, it is tempting to envisage the Balls Head shelter as a predominantly maintenance site, where hunting gear was manufactured and repaired while people subsisted on the easily gathered shellfish. As the use and manufacture of stone implements are generally the preserve of Aboriginal men, we may perhaps conclude that at Balls Head women extracted while men maintained.

APPENDIX: Shellfish species present in deposit

Identified by Mr Phil Coleman, Technical Assistant, Australian Museum

Crassostrea commercialis (Iredale and Roughley), the rock oyster.
Trichomya hirsuta (Lamarck), the hairy mussel.
Anadara trapezia (Deshayes), the Sydney cockle.
Ostrea angasi Sowerby, the mud oyster.
Siphonaria sp.; *Notoacmea* sp. poss. *flammea mimula* Iredale, limpets.
Bembicium melanostoma (Gmelin).
Prothalotia comlessei Iredale.
Cacozeliana lacettina (Gould).
Velacumantis australis (Quoy and Gaimard), the Australian mud whelk).
Austrocochlea concamerata Wood, periwinkle.
Pyrene sp.
 chitons sp.
 possibly *Venerupis* sp.
 possibly *Chioneryx candioicles* (Lamarck).
Endodont sp., land snails.
Galeolaria sp., fragments, the limy tube worm (identified by Miss E. Pope, Curator of Worms, Australian Museum).

None of these (except the first four) are likely to have been a food source of any importance, and were probably brought to the site attached to other shells. The following did not occur in the column sample but probably provided an intermittent food source, occurring singly in other parts of the deposit:

Pyrasmus ebinus Bruguiere, the Hercules club whelk.
Chama jukei Reeve (used to be *fibula*), the southern chama.

The general similarity of this list to the sample from the Gynea Bay site will be noted (McMichael in Megaw and Wright 1966: 47).

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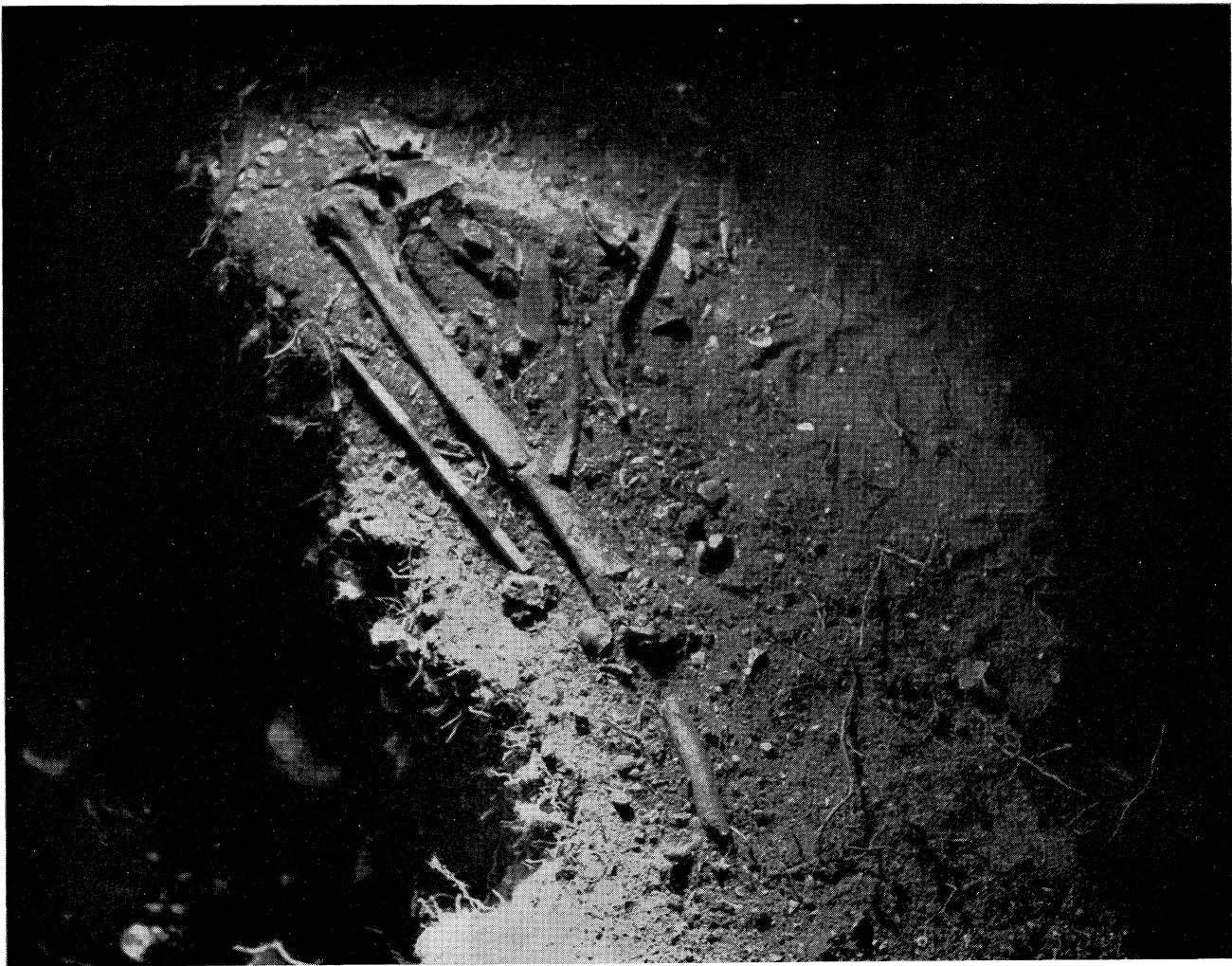
Balls Head rock shelter, general view from east



Trench I from west: skeletal material *in situ* to right of disturbance pit; compacted shell midden on left (scale in feet)



Right arm bones of skeleton *in situ*



Right arm bones of skeleton *in situ*



A third view of the right arm bones of the skeleton *in situ*