

## ARCHAEOLOGICAL RESEARCH IN THE NORTHERN MOLUCCAS; INTERIM RESULTS, 1991 FIELD SEASON

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*This report presents interim results from archaeological fieldwork in the northern Moluccas, on the islands of Kayoa, Halmahera and Morotai. Results span from the preceramic of about 10,000 (perhaps 40,000) years ago, through a phase of early red-slipped pottery and marsupial extinction about 3500 years ago, into the Early Metal Phase of the last millennium. Research is still continuing.*

The research reported here was carried out in December 1990 and January 1991 (see Acknowledgements). The contents of this report have already been published in the proceedings of the Lapita conference held in Nouméa in 1992 (Bellwood 1992), and are here presented again with only minor modification for the benefit of those Southeast Asian researchers who would be unlikely to consult Lapita publications.

Prior to the fieldwork the island of Halmahera and its satellites offered four major questions to researchers in prehistory;

1. The date and source of initial Pleistocene settlement
2. The role played by the region in the Austronesian settlement of the Pacific
3. The nature of the interaction between the two major ethnolinguistic population groups of the region - Papuan and Austronesian - during the past 4000 years
4. The history of the spice trade with China, India and the West.

These questions will not be discussed at length here (but for some discussion of topic 2 see Bellwood 1992). The results presented are mainly relevant for the first three topics, and the issue of the spice trade in the Moluccas has not yet been approached in the field. Five sites were test-excavated (Figure 1).

### UATTAMDI ROCKSHELTER.

This 11 by 8 m shelter is cut into the lowest of the three coral limestone raised terraces which fringe western Kayoa. It lies about 1 km northwest of Guruapin village. The

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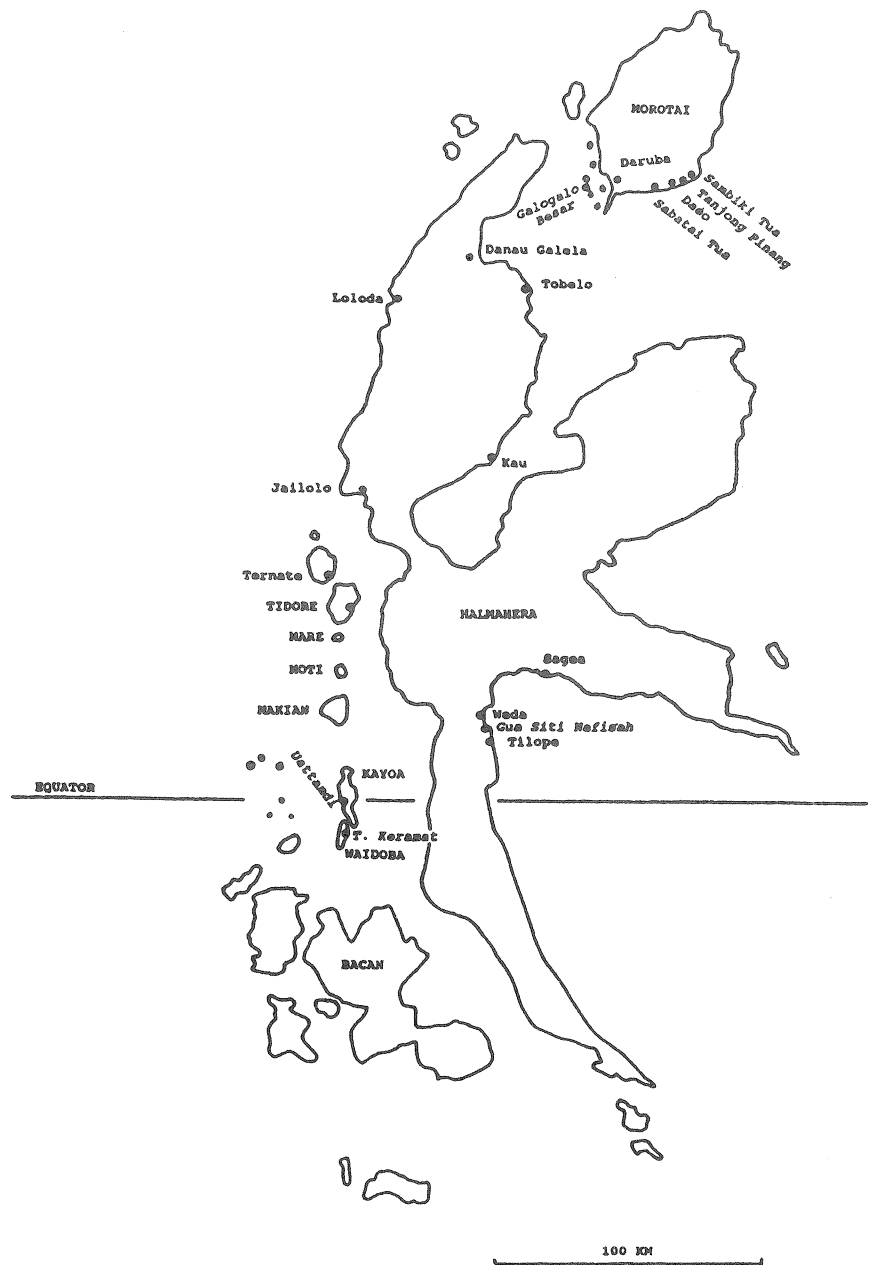


FIGURE 1: MAP OF THE NORTHERN MOLUCCAS SHOWING SITES EXCAVATED IN 1991

excavations eventually encompassed a trench 6 m long by 1 m wide through the centre of the shelter, with about 1.20 m of archaeological stratigraphy. Basically, two archaeological periods are represented, with an intervening stratigraphic zone between them represented by a layer of pumice and beach sand. The radiocarbon dates (below) indicate that this intervening zone represents about 1500 years of virtual non-occupation of the site.

The later deposit, above the beach sand layer, produced corroded and undateable Chinese copper cash and the broken remains of Early Metal Phase jar burials, perhaps two or more, with cranial remains (including shovel-shaped incisors), lots of monochrome glass beads, an excellent incised and carinated accessory vessel (Figure 2) and fragments of iron. This assemblage is similar to those of the Early Metal Phase from Leang Buidane in Talaud (Bellwood 1981) and Agop Atas in Sabah (Bellwood 1988). Three radiocarbon dates on charcoal are relevant to it (Table 1): ANU 7772 at  $900 \pm 100$  BP; ANU 7773 at  $1190 \pm 70$  BP; and ANU 7774 at  $380 \pm 190$  BP (the latter probably results from disturbance through the upper layer of the site). Bones of dog and rat occur in this upper level.

ANU No.	Context*	Date**	Material	Comments
7772	Uattamdi 25 cm	$900 \pm 100$	charcoal pieces	Chinese coins, jar burials
7773	Uattamdi 30 cm	$1190 \pm 70$	charcoal pieces	Chinese coins, jar burials
7774	Uattamdi 45 cm	$390 \pm 190$	charcoal pieces	disturbance?
7775	Uattamdi 65 cm	$2610 \pm 170$	hearth charcoal	red-slipped pottery
7776	Uattamdi 120 cm	$3440 \pm 110$	marine shell	red-slipped pottery
7778	T. Pinang 10 cm	$3390 \pm 70$	marine shell	probably preceramic
7779	T. Pinang 30 cm	$4090 \pm 70$	marine shell	preceramic
7780	T. Pinang 35 cm	$4720 \pm 70$	marine shell	preceramic
7781	T. Pinang 55 cm	$5390 \pm 70$	marine shell	preceramic
7782	T. Pinang 70 cm	$8860 \pm 110$	marine shell	preceramic
7783	T. Pinang 100 cm	$37510$ (+650/-600)	marine shell	human presence uncertain
7784	Sambiki Tua 20 cm	$720 \pm 180$	charcoal	pottery workshop
7785	Siti Nafisah 10 cm	$2540 \pm 70$	marine shell	pottery
7786	Siti Nafisah 15 cm	$3410 \pm 70$	marine shell	upper preceramic
7787	Siti Nafisah 30 cm	$4690 \pm 120$	marine shell	preceramic midden
7788	Siti Nafisah 55 cm	$4890 \pm 70$	marine shell	preceramic midden
7789	Siti Nafisah 65 cm	$5120 \pm 100$	marine shell	preceramic midden
7790	Siti Nafisah midden	$1870 \pm 80$	marine shell	red-slipped, incised pottery

\* Depths below surface; these are considered the most useful measurements for this interim report. Full stratigraphic details of the excavations will be presented elsewhere.

\*\* All dates are uncalibrated years BP and use the Libby half-life (as sent to me by the ANU laboratory).

TABLE 1: RADIOCARBON DATES FROM THE NORTHERN MOLUCCAS

The lowest deposit of Uattamdi, however, beneath the beach sand interruption, is more interesting. This is about 70 cms thick, has no metal or glass, and produced the following artefact classes:

Plain or red slipped pottery, like that deposited after 4500 BP in the shelter of Leang Tuwo Mane'e in Talaud (Bellwood 1976; 1981). This pottery is quite thin (average body sherd thickness 3-4 mm) and virtually all vessels were red-slipped around their upper portions and rims (Figure 3). Some vessels appear to have had red-painted stripes, as also at Leang Tuwo Mane'e. Globular vessels with restricted necks and open bowls are the main forms. Fragments of flask necks also occurred. Some rims at the top of this lowest deposit have lip notching (the earlier ones do not). Apart from red-slip there is virtually no other surface decoration.

Large quantities of marine shell and animal bone, together with many hearths with volcanic cooking stones. The bones include those of *Phalanger ornatus*, a Halmahera endemic species and the only species identified so far from this level.

A flaked and ground stone adze with a lenticular cross-section (Figure 4A), plus lots of adze chips and one edge-ground limestone adze (Figure 4B).

Shell disc beads, bracelets, spoons/scrapers, knives and lots of worked pearl shell (but no certain fishhooks).

A few bone points and stone flakes of different materials, but no obsidian.

The base of this lowest layer dates to 3440±110 BP (ANU 7776) on small marine bivalves found firmly stratified within a hearth. ANU 7775, 2610±70 BP, dates a hearth 55 cms higher in the stratigraphy and 15 cms below the top of the lower cultural layer, which can therefore be dated overall to between c.3500 and 2500 uncal BP. Uattamdi contains no preceramic deposits and it is possible that the small island of Kayoa was not inhabited permanently until agricultural populations entered the area.

#### TANJUNG PINANG SHELTER, SOUTHERN MOROTAI

This site differs from the last, and also from Gua Siti Nafisah (below), in that it is within the region of northern Halmahera occupied by speakers of Papuan languages. The shelter covers about 8 by 4 m and its base is situated about 8 m above sea level. A trench of 3 by 1 m was excavated within it. Archaeological layers were only 1 m deep, but encompassed both ceramic and preceramic contexts. Pottery with simple impressed or incised designs is confined to the top of the deposit (down to 25 cm). This pottery resembles that excavated from the Sambiki Mosque site nearby and there dated to c.700 BP (see below), and is different from the Uattamdi lower deposit pottery, not only in surface decoration but also in being much thicker (Figure 5). Also in the upper levels of the Tanjung Pinang shelter were some quite well-preserved remains of apparently secondary human burials, including teeth and skull parts, together with a breast pendant of shell. These had obviously been buried in holes and had caused much disturbance. A report on these human remains has been prepared by David Bulbeck, who concludes that the sample size is too small for secure conclusions, but that "the anatomy of the Tanjung Pinang specimens appears comfortably Melanesian-like rather than like the morphology found in the islands to the west of Morotai". A sample of bone from one individual has

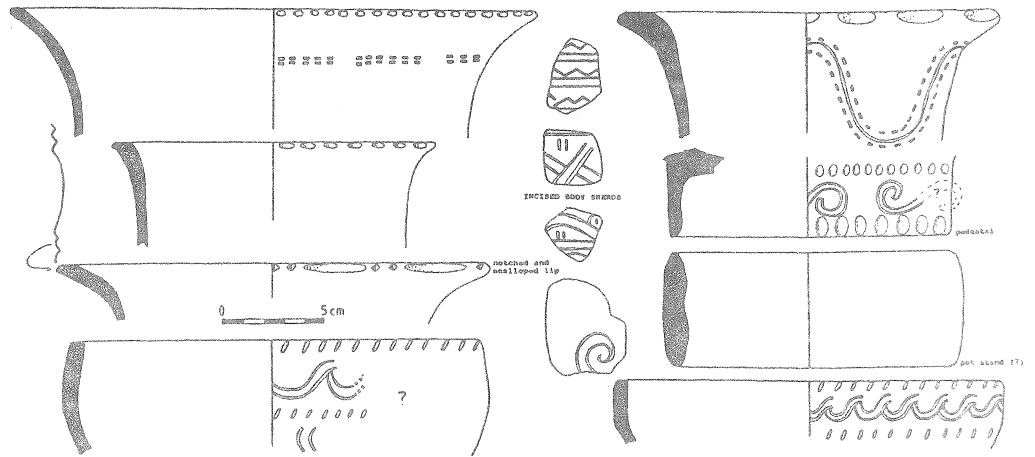


FIGURE 6: POTTERY FROM SABATAI TUA. THIS ILLUSTRATION SHOWS THE MAIN RIM AND VESSEL TYPES.

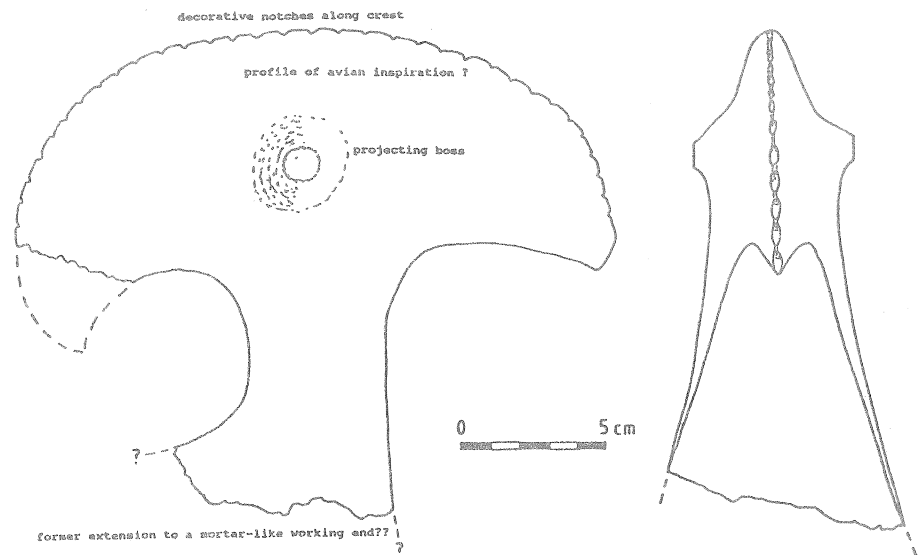


FIGURE 7: THE CREST/HANDLE OF A LARGE POTTERY OBJECT, PERHAPS A MORTAR, FROM SABATAI TUA

SABATAI TUA HILLTOP SITE.

This site, on a hilltop immediately across the river from the present village of Sabatai Tua, was found by accident when the villagers were trying to show us caves (the caves, incidentally, turned out to be of no interest). Large quantities of sherdage appear to have eroded from the top of the hill and many have come to rest on a terrace about half way down the seaward side. Two test pits revealed no *in situ* stratigraphy owing to soil

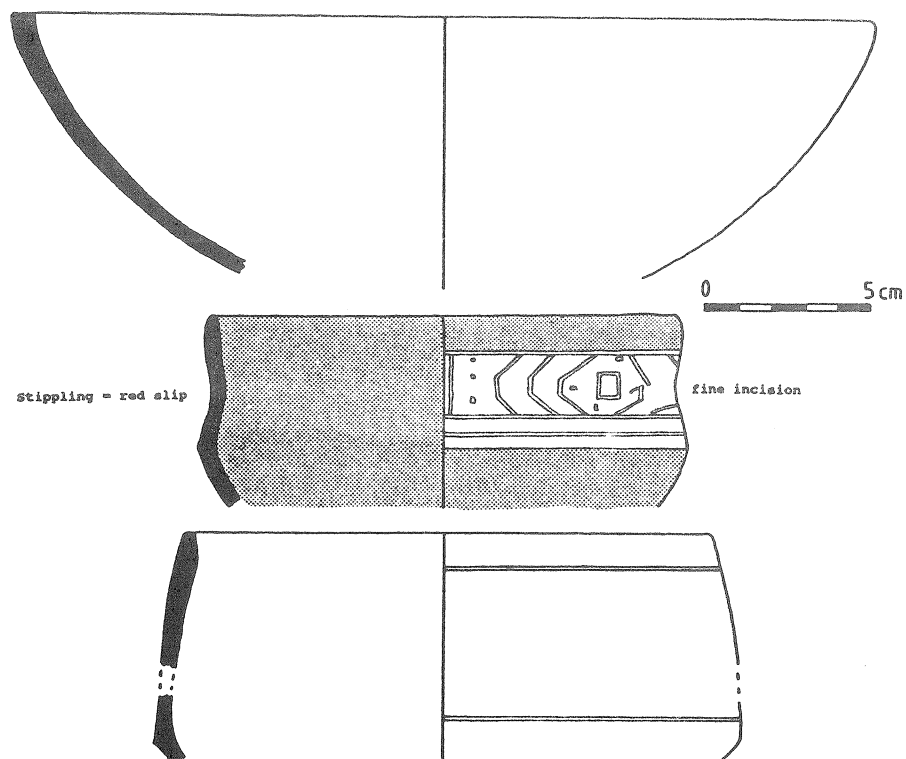
movement and continuous cultivation of the site, but collections of the pottery were made. The Sabatai Tua pottery (Figure 6) overlaps with that from Sambiki and Tanjung Pinang, particularly in the importance of incision and impression, although red slip is very rare. A few sherds of blue and white Chinese pottery and *forma* for cooking sago suggest that the assemblage may overlap with the period of the Ternate Sultanate. There are also some remarkable classes of unique ceramic material, including pottery mortars and massive decorated pestles, perhaps for betel preparation (Figure 7). Some of the pottery recorded by Schmitt (1947) during Second World War activities on Morotai may also belong to this tradition.

#### GUA SITI NAFISAH, NUSLIKO, SOUTHERN HALMAHERA.

This site lies about 70 metres above the alluvial flats of the Sungei Roti, near the northeastern end of the southern arm of Halmahera. It is a very large true limestone cave (not a rockshelter) with a habitable floor area at the front about 3 metres wide by about 10 metres long running back into the cave. The excavations encompassed one large trench of 4.25 by 1 m excavated into preceramic shell midden deposits in the mouth of the cave, and two smaller trenches of 1.8 by 1 and 1 by 1 m excavated into two areas of pottery-bearing shell midden deposits further inside. The sequence of activity represented in the site is quite complex, but can be summarised under three headings:

- a) *Preceramic*. A midden close to the mouth of the cave yielded at least 24 species of freshwater and marine shells with varying concentrations (almost solid shell in places) through a depth of 70 cm, together with quantities of animal bones, bone tools (identified by Peter White), some ochre (one piece with very clear signs of use), cooking stones, and a large number of unworked pebble manuports. This deposit produced no worked stone tools of any kind. Animals identified by Tim Flannery (excluding bats which live in the cave) include *Phalanger ornatus*, a species of *Dorcopsis* wallaby which no longer occurs on Halmahera, and a species of bandicoot (cf. *Echymipera rufescens*) which is likewise locally extinct. The bones of *Dorcopsis* and the bandicoot occur throughout the preceramic midden, which is dated by several radiocarbon samples to between 5120±100 BP (ANU 7789) and 3410±70 BP (ANU 7786), and postdated by a determination of 2540±70 BP (ANU 7785). The most likely explanation for the wallaby and bandicoot is that they are extinct local endemics, rather than human introductions. The question arises whether incoming populations, presumably Austronesian-speaking groups with agricultural practices and perhaps dogs, bore some responsibility for this, but this question is clearly one which requires further research. The preceramic midden itself certainly contains no pig or dog bones.
- b) *Pottery-bearing occupation*, mainly further inside the cave and separated both spatially and probably by a brief hiatus in time from the preceramic occupation. The pottery occurs with a very dense (virtually solid) shell midden which in one place was sealed under a massive stalagmite. The pottery is heavily red slipped and incised and shows some possible affinities with late Lapita pottery in terms of decoration (Figure 8). It is

different from the red slipped but otherwise plain ware from the lower deposit at Uattamdi, but may be related to pottery excavated in 1990 by W.G. Solheim from a site on Pulau Kumo near Tobelo, northeast Halmahera. Other finds with the Siti Nafisah pottery include definite pig bones, a flaked and partially ground fragment of a lenticular-sectioned stone adze (Figure 4C) like the one from Uattamdi, fragments of stone and pearl-shell rings and bracelets, and a shell pendant. This



**FIGURE 8: RECONSTRUCTIBLE VESSEL FORMS FROM THE SITI NAFISAH SHELL MIDDEN, c.1870 UNCAL BP**

deposit is dated by ANU 7790 on *Anadara* shell to 1870±80 BP, but pottery was also stratified in lesser amounts on top of the preceramic shell midden and there dated to 2540±70 BP (ANU 7785). This date probably represents the beginning of pottery-using occupation in this site.

- c) *Enigmatic occupation.* Of particular interest was the finding of an ashy hearth on a well-trodden floor of decomposed guano stratified under a layer of sterile guano

about 5 mm thick, directly beneath the pottery-bearing shell midden just described. This hearth contained the poll of a lenticular-sectioned and untanged stone axe/adze (Figure 4D). No pottery was found in association and this may be a significant absence, not simply a matter of sample bias. The present guano surface seal over the c.1870 uncal BP shell midden is only about 5 mm thick or less, so this tool may be very much older than the pottery-bearing midden since its guano seal is compacted. It may even belong with the preceramic occupation at the front of the cave, described at (a) above. Given claims for flaked and ground axe-adzes in the New Guinea Highlands throughout the Holocene (e.g. White 1972) one could suggest that this find may record the preceramic use of an axe/adze tool kit on Halmahera. Unfortunately, the ash hearth contained insufficient charcoal to give a date and no shellfish were found in association.

#### CONCLUSION

Before the fieldwork began four questions, as listed at the beginning of this report, were deemed to be of central interest. Of these questions, the fourth was not really researched since it would require coastal excavations in Ternate and Tidore. However, the Chinese coins and Early Metal Phase burial material from Uattamdi must surely have some significance in terms of contacts with more westerly parts of Indonesia and mainland Asia about 1000 years ago.

Given the 37,500 BP date from Tanjung Pinang, the first question, of initial human settlement, may be discussed but not yet easily answered. Until further information is obtained from the Tanjung Pinang site one might surmise that Halmahera was first settled from western New Guinea and not from regions of Indonesia to the west or south. A glance at a map will quickly show that the easiest sea crossings go towards New Guinea, via the intervisible islands of Gebe and Waigeo. The most puzzling observation on the preceramic of the region is that it seems to be almost devoid of flaked stone tools, apart from the few flaked pebbles from Tanjung Pinang and the possible axe/adze from Siti Nafisah. Good stone seems to be very rare around Halmahera - do we have a predominantly lignic and bone-using prehistory, especially at Siti Nafisah?

On the second question, of Austronesian settlement, we clearly now have lots of materials from the Uattamdi and Siti Nafisah sites which overlap in time with western Pacific Lapita assemblages and which show affinities with them in terms of pottery design, shell ornaments and stone adzes. The red-slipped pottery from Uattamdi overlaps considerably in vessel and rim forms with the plain sherdage excavated from Lapita sites in the Mussau Islands by Patrick Kirch (1988) (Bellwood was able to examine this material on a recent visit to Berkeley). However, the absence of Talasea obsidian at Uattamdi is puzzling, given its frequency much further west at Bukit Tengkorak in Sabah (Bellwood 1989), and there is currently no apparent explanation for this. One can only conclude here that we do not yet have an obvious archaeological ancestor rather than a contemporary for Lapita in Halmahera. The evidence from Uattamdi, where pottery-



conclude here that we do not yet have an obvious archaeological ancestor rather than a contemporary for Lapita in Halmahera. The evidence from Uattamdi, where pottery-using occupation seems to start abruptly at about 3500 BP, suggests that the makers of the red-slipped pottery did not arrive in Halmahera very long before this date. This raises many interesting questions about the dating of the appearance of red-slipped pottery all over the Philippines and eastern Indonesia, and a growing impression is that this phenomenon might have been part of the same expansion, and perhaps just as rapid, as that represented by Lapita.

On the other hand, it is worth remembering that the research reported here is only a "first strike", so it is possible that dates for pottery older than that from Uattamdi may eventually be forthcoming from other Halmahera sites. After all, the first Lapita "strikes" in Melanesia produced dates of around 800 and 400 BC (Lapita and Watom), many centuries later than those now reported by Kirch and Hunt (1988) from Mussau.

Other important matters probably connected with Neolithic expansion will be the dates of introduction to Halmahera of non-native mammals such as pig, dog and sambhur deer. The lower layer of Uattamdi may give the answer for pig, although none has been found there yet. Pig is present in Siti Nafisah at c.1870 BP.

The third question, of Papuan/Austronesian interaction, may well turn out to be one of the most important for the present-day peoples of the region. It still seems to be a reasonable hypothesis that Papuan speaking peoples settled Halmahera before Austronesians, and it is noteworthy that the Austronesians today only occupy some of the offshore islands and the southern portion of Halmahera. The more densely-settled northern region has always presumably remained the domain of Papuan languages, even if the influence of Austronesian languages, especially in the period of the Ternate and Tidore Sultanates, has been very strong. The Morotai sites have not, so far, produced any early red-slipped pottery like that of Uattamdi or Siti Nafisah, and the radiocarbon date from Sambiki gives us only a 700+ year timespan for pottery manufacture on the island. Of course, some caution is required here until further dates are forthcoming, although the current impression from the pottery data is one of considerable diversity along a north-south axis. Whether the underlying preceramic remains of Tanjung Pinang and Siti Nafisah can be said to be sufficiently similar to indicate that a more homogeneous population occupied the region prior to 3500 BP, is going to be a more difficult question to answer in the virtual absence of style-bearing stone tools.

However, like the human story of New Guinea itself, the prehistory of Halmahera can be expected to be unusually complex. Further fieldwork to address what are obviously many continuing questions is planned for 1993 and 1994.

#### ACKNOWLEDGEMENTS

The field research in the northern Moluccas is supported by grants from the National Geographic Society and the Australian Research Council. Tim Flannery (Australian Museum) has identified the animal species in Uattamdi and Siti Nafisah and is now preparing a report on the extinctions at Siti Nafisah for publication. Wal Ambrose (ANU)

and Glenn Summerhayes (La Trobe) have assisted on obsidian. David Bulbeck (University of Western Australia) has analysed human remains and Ken Heffernan (ANU) has analysed the marine shells. Haji Syamsuddin Tukuboya of the Muzium Kedaton Sultan in Ternate joined us for all the fieldwork and provided indispensable assistance with local liaison.

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## NOTE ADDED IN PRESS

Peter White and Annette Moore (Anthropology Department, University of Sydney) have just completed an analysis of the postcranial bones from Siti Nafisah and inform me that the preceramic layers in this site contain a number of small bone points, including bipoints (cf Bellwood 1976 for similar points from northern Sulawesi). The *Dorcopsis* wallaby also survived into the ceramic shell midden (c.1870 BP) at the same site.