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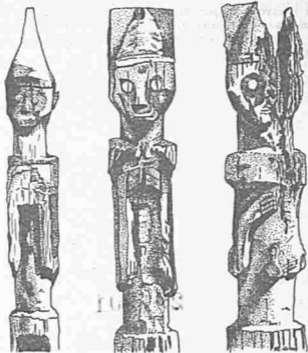
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MONOGRAPH

The Prehistory of Sabah

BY TOM AND BARBARA HARRISON



SABAH SOCIETY

KOTA KINABALU, SABAH, MALAYSIA

The Sabah Society
P. O. Box 547
Kota Kinabalu
Sabah, Malaysia

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THE SABAH SOCIETY

The objects of the Society are:

- i. To stimulate a wide interest in and knowledge of the history, natural history, and geography of Sabah, and the cultures and customs of its peoples.
- ii. To encourage and assist the recording of knowledge of the history, natural history, and geography of Sabah and the preservation of examples of the cultures and customs of its peoples.

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Contributions to the Journal in the form of articles, short notes, letters, drawings or photographs will be welcomed by the Editor.



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FOREWORD BY THE PATRON

His Excellency, Yang Di-Pertua Negara, Sabah, Malaysia.

The Sabah Society aims to stimulate an interest in, and knowledge of, the prehistory, history, natural history and geography of Sabah and the cultures and customs of her people. It also encourages and assists in the recording and preservation of these, mainly through the publication of the Journal which now has a world wide circulation.

This first monograph version of the Sabah Society Journal *The Prehistory of Sabah* fulfils these objects well. Drawing from their accumulated experiences and investigations in Sabah while in service in our sister state, Sarawak, the authors have presented a book which will not only edify the present and future generations of Malaysians but also bring Sabah further into international literature and knowledge. For the first time, facts and legends which we, the peoples of Sabah, know about from our traditions and up-bringing, have been put on record. For those who are learning or who have forgotten or do not know our country well, this book and its illustrations will enliven interest and inspire further work. Therefore, it is my pleasure to write this foreword and to congratulate the authors and the members of the Sabah Society for continuing the high standard of publication.

TUN DATO PENGIRAN HAJI AHMAD RAFFAE
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THE UNIVERSITY OF CHICAGO

PHYSICS DEPARTMENT

PHYSICS 311

LECTURE 1

MECHANICS

LECTURE 2

LECTURE 3

LECTURE 4

LECTURE 5

AUTHORS' PREFACE

The work on which this book is based began in 1952 and has been continued into 1968. During much of this time (until 1966) one of us was Curator of the Sarawak Museum, further south—and so could only make short sorties northward, except when invited for special purposes on secondment (three occasions). The other author was able to spend longer periods, mainly exploring the rich cave formations on the Kinabatangan and Segama Rivers and elsewhere on the east coast. Between us we have walked, boated, ridden, driven and flown over nearly all of the State. The following pages present the results of this reconnaissance, which should provide a basis of fact with the minimum of necessary speculation. If we did not put this on paper now it would be less easy for our successors to proceed to surer conclusions, based on deeper and better supported field research. Even where our results are negative they will save others a great deal of time and duplication.

A total of not more than Malaysian \$15,000 (U.S.\$5,000), financed the travel, field surveys, test excavations and other operations which feature in what follows. For the authors it has been a labour of love. The results would have been less interesting had it not been for generous cooperation and information over the years from civil servants, native headmen, village and longhouse folk, political leaders and officials. These were Malay, Bajau, Illanun, Bisaya, Suluk, Idahan Bugis, Kadazan and other "Dusun", Tagal and other "Murut", Sungei, and Kwijau on the Malaysian side, not to mention British and American friends at times. Those who gave special help are thanked in the text, as occasion arises. We must mention, especially, our indebtedness to Mr. Michael Chong and Mr. Raymond Goh of the Sabah Museum staff, and to Dr. G. E. Wilford and Peter Collenette, who have spent many years with the Geological Survey in Sabah and assisted us on innumerable occasions and finally Mr David W. McCredie, our editor from the Sabah Society; without these five gentlemen, the work could not have been adequately completed.

The Sabah Society and the Sabah Museum have sponsored publication. The Sarawak Museum has provided a base-line for comparative research, continuing under the present Curator, Benedict Sandin.

Records and other materials resulting from our Sabah fieldwork are deposited in the Sabah Museum at Kota Kinabalu (previously Jesselton). Similarly, all the many stone-tools, stonewares, earthenwares, beads and other prehistoric artifacts obtained during the study are in the Sabah Museum, except for some duplicate items which Sabah has helpfully sent for study purposes to the Sarawak Museum or Cornell University. Small Sabah collections made earlier by others (notably the late I. H. N. Evans) are in the

British Museum, London, the Cambridge University Museum of Archaeology and Ethnology, and the National Museum, Singapore. We have examined all this material at first hand, thanks to the courtesy of the authorities in each of these places.

While working over the final draft, helpful comment has been received from colleagues here at Cornell, as indicated in the main text and notes where relevant. George Kahin, as Director of the South-east Asia Program, and R. J. Smith, as Chairman of the Anthropology Department, have kindly provided research facilities at Cornell. Miss Selene Fong, a Cornell graduate, has done the drawings of stone-tools from Madai (Agop Atas) and Tomang-gong; other text figures are from the Sabah Museum, where all photographic negatives have been deposited by B.H., and others, who provided the illustrations.

T.H./B.H.

Cornell University,
New York.
1.2.69.

POST-PREFACE

Necessarily, some time has passed in getting the proofs corrected as between the editorial work in Sabah, printing in Hong Kong, and the authors in the West. In the interval, three important and relevant publications appeared, while the present material was in press. Although all three refer mainly to Sarawak and/or Brunei, further south and west, each relates closely to Sabah and to points raised in the present discussions. The reader's attention is therefore drawn to these three publications, which also give a general coverage of wide fields in prehistory otherwise lacking for the whole of Borneo, except in the present monograph for Sabah. All three may, therefore, with profit be read in conjunction with the present volume:

1. Cheng Te-k'un, *Archaeology in Sarawak*. Cambridge (Heffer) 1969.
(This is a short and well illustrated account by the leading oriental archaeologist in Britain, primarily on the work in the Sarawak River Delta carried out through the Sarawak Museum from 1947-1966; it is biased in favour of the Chinese point of view, but contains useful ideas for the whole of West and North Borneo.)
2. Tom Harrisson and Stanley J. O'Connor, *Excavations of the Prehistoric Iron Industry in West Borneo*. Cornell University, New York (Southeast Asia Program, Date Paper 72) 2 volumes; 1969.
3. Tom Harrisson and Stanley J. O'Connor, *Gold and Megalithic Activity in Prehistoric and Recent West Borneo*. Cornell University, New York (Southeast Asia Program, Data Paper 77); 1970.
(These two illustrated items include full-length field reports on excavations in Sarawak, coupled with general wide discussion of relevant problems for Borneo as a whole).

T.H./B.H.

2. 1. 71.



EDITOR'S PREFACE

We have here in this book the ideas and the facts on the *Prehistory of Sabah* written up in the inimitable styles of two internationally known writers. As a Society, we are proud to publish this, our first monograph, as a whole volume issue of the *Sabah Society Journal*. There is an abundance of detail which cannot be pruned without losing essential facts. This monograph is both scholarly and readable with many amusing anecdotes. I have left in ideas and interpretations that may merit revision in any future work, but that is what we, the Society and the authors, want. In its detail and entirety, it receives the full support of the Society. To aid in the publication, the Sabah Society has received a grant from the Asia Foundation of M\$7,500 which in itself has been matched by the Sabah Government. To both, the Society is deeply grateful.

I would like to thank other members of the Sabah Society who have helped with the monograph in the proof stages. The past and present committees who have been associated with this book thank the authors for giving the Society their work to publish at no material gain to themselves and who have been so patient with the inevitable delays in the final appearance of the monograph. I feel honoured to have been associated with them and this book which, I am sure, will turn out to be a firm basis for discussion, conservation and investigations in the future.

DAVID W. MCCREDIE
Hon. Secretary and Monograph Editor
Sabah Society

1971

PART A
BACKGROUND

I. The Ancient Setting

1. The Scope of Prehistory

PREHISTORY, our theme, may be loosely, but sufficiently, defined as what happened before history. History is that part of the time-record which is registered in writing. Because all modern scholars can write, they tend to consider any people who cannot do so as incapable of keeping anything like accurate records; unwritten information is (on this view) considered second class material—or worse. Experience in the field soon teaches one that people with no written traditions may, in fact, develop wonderful memories and an elaborate system of passing these on from generation to generation. This information can be as accurate as some history.

In any case, it is the only information that we have before the appearance of written records, which came very late to Borneo, and not at all to parts of it. There is one written text, an inscription on stone over a thousand years old, in southern Kalimantan. The first "book texts" in Borneo, however, are no earlier than the advent of Islam in the 15th century A.D., and of the first Europeans soon after; Magellan's ships, the first to circumnavigate the globe, sailed into Brunei Bay in 1521 A.D. and left for us a wonderful account of the rich and powerful Royal Court at Brunei, though nothing specific about Sabah.

Sabah, thereafter, appears increasingly on western maps and texts, though very erratically at first. Even for the period of early British colonialism in South-east Asia, the literature is both incomplete and hopelessly one-sided. The earliest English accounts of Sabah came from Alexander Dalrymple and James Rennell in the 1760's.¹

In Islamic texts there are some early references, but, as Sabah never was the focus of a powerful sultanate like Brunei to the south and Sulu to the north, the information, usually written in a Malay dialect but in the Arabic Jawi script, is generally, incomplete and inaccurate. During the present study, however, we have been fortunate in gaining access to what is probably the oldest surviving written native Moslem source, which links history and prehistory in a fascinating way. This comes from Kampong Sapagaya near Lahad Datu, on the east coast, and is exceptional in that, although written in Jawi script, the language is native Idahan.²

The early Chinese texts, illuminating, if ambiguous, for other parts of the archipelago, are notably unclear about Sabah or anything that could be positively identified for Borneo north of Brunei. Chinese literature, however,

¹ This and the following numbered notes refer to references and other particulars which are added for each Chapter at the end of the main text (see p. 238). It is necessary to substantiate some of the points we make in this way without burdening the reader unduly.

is full of information on Brunei and some references include the land across the bay northwards, and even the Kinabatangan River on the east coast (Chapter II, 5(a)).

Broadly, then, we here distinguish history and the written record from prehistory, the unwritten, but with overlaps as in the Idahan text.

No one can hope to understand how things happened, or even how they became the way they are today in Sabah, unless prehistory is seriously examined. In the first place, we have to examine the knowledge already available; in the second place, others have to add more knowledge in the future. Meanwhile, few places on earth have a shorter, written record. Sabah's "official historian", Dr. K. G. Tregonning, begins his story in 1846 A.D. when the Sultan of Brunei ceded Labuan to the British; there are firm indications, however, that few places in South-east Asia may prove to have a longer and more elaborate prehistory, once it has been fully explored.

Fully to explore Sabah's prehistory (and history, too) account must be taken of the unwritten information, the 'oral literature' of the proud and varied native people. This oral literature is usually termed folklore or folk-tradition. Unfortunately, the folklore of Sabah has not been as fully studied and recorded as has that of some adjacent States. Much of it has now been lost or depleted by the impact, first of missionary activity, and then of modern education in this century; wherever possible, however, we have taken folklore into full account in what follows (see especially the chapters on caves (III), megaliths (V) and the concluding chapters XI and XII).

Fortunately, the inadequacy of verbal information is compensated for, to an exciting extent, by the potential evidence to be won (albeit slowly and with special skills) from the ground by the techniques of archaeology. In the caves and river beds, on the hills and islets, are scattered a wealth of imperishable objects made for, or by, earlier Sabahans, over a span of time far beyond the reach of either written or oral literature. These artifacts of human culture range from earrings, beads, bronzes and pottery, mostly dateable within the past 4,000 years or less, back through stone tools, shell and bone from much earlier times. In describing these, we have kept to the actual, factual evidence so far obtained in Sabah, but, as already explained in the preface, this is a reconnaissance survey, and there have been no major excavations in Sabah so far. In consequence the evidence is on a much smaller scale than for Sarawak and Brunei, where similar research has been going on over a longer period and more extensively. Where necessary, therefore, information on Sabah is indirectly supplemented from our own fuller experience in adjacent territories to prevent it seeming too incomplete to be readily comprehensible for the reader.

Finally, it should be clear that an exact, pedantic distinction between prehistory and history is impracticable, as well as impossible, in a situation like this. The historical record is so uneven that even today we have practically nothing in writing about, for instance, the Murut peoples round Mt. Trus Madi, or the general features of areas like the upper reaches of the mighty

Kinabatangan River. There has, until now, been nothing published on the striking, indeed quite dramatic, megalithic activity of erecting stones, which runs back into the mists of prehistory but has continued into this century in the vicinity of Sabah's capital, Kota Kinabalu.

This last is a good example of the impossibility of separating prehistory and history too distinctly. There is nothing recorded in writing about a matter of prime interest to the prehistorian, the Sabah megaliths; they are absent from the historical record. On the other hand, the use of these megaliths, stone uprights, is in itself both prehistoric and (in the sense that it has continued into "historic times") historic. In such cases one uses a quality sometimes underestimated in scholarship, common sense. We have included material in this account, even if it is "modern" at one level, provided basically that the impulse and evolution behind it are predominantly prehistoric in character—as with the megaliths.

The prime concern of prehistorians in this kind of context remains the job of reconstructing as much as we can about what humans were making and doing before the written record. In practice, in Sabah, this generally amounts to "before the advent of Islam", and not quite so generally to before the appearance of Magellan's greedy western sailors (often themselves illiterate) less than five centuries ago.

Assembling practical sources of prehistoric evidence, we have the following—in order of probable reliability.

- (i) *Archaeological excavation*,—so far limited to reconnaissance but with considerable potential (Chapter III).
- (ii) *Finds of individual objects*,—not by controlled excavations, but usually by chance; finders are normally local people, with keen observation and knowledge of terrain. Increasingly, here, there is scope for finds where agriculturists, geologists and others are opening up new land with modern equipment. It is vital that any find be reported to the Sabah Museum so that its staff can investigate the site.
- (iii) *Oral literature, folklore*—as discussed above; particularly helpful where local tradition can be checked against objects (as with Baturong wood carving (Chapters III and X).
- (iv) *Native texts*—folklore overlaps into the earliest written records, in the Idahan text from Lahad Datu (Chapter XI) or the Philippine Maragtas bamboo texts (Chapter II, 5).

Other potentially rewarding methods which have not yet been applied in Sabah, include the lexico-statistical aspect of linguistics, ethnobotany and comparative ethnology, blood sampling and other genetic comparisons (which can now be applied to prehistoric skeletal remains as well as to living persons).

2. The Scope of Sabah in Borneo

BORNEO, third largest island in the world (with a present population of some five million), falls into three fairly simple main divisions from the point of view of one who seeks to reconstruct the ancient past in human prehistoric terms. There is the great rugged mass of Indonesian Kalimantan, which lies south and east of the political boundaries dividing the land from the Malaysian States of Sabah and Sarawak to the north and west; so far, little is known of the prehistory of this equatorial area. Then, on the west side of the island, there is a narrower, but still broad and difficult belt of terrain, roughly corresponding with what is today Sarawak, up past the Niah Caves and Miri and over the Baram River boundary, with the small and independent Sultanate of Brunei. This leaves third and last the northern end, Sabah, 29,000 square miles, with human and other characteristics of its own, both past and present. These characteristics in some respects distinguish the north from the remainder of the great island. For instance, there is a very distinctive late stone age type of stone adze, unknown further south (Chapter VI).

Our area thus includes all the continuing elaborate systems of bays and coastal plains from Labuan Island and Brunei Bay, rich in harbours and monsoon shelters, running north to the Sulu Sea and then south-eastward round and back down into Kalimantan. Behind this attractive coastline of blue coral water rises a formidable jungle hinterland, humid and dense, reaching its apex with Mount Kinabalu, at 13,455 ft., the highest mountain in South-east Asia. Kinabalu itself plays a significant part in our story—as the folklore homeland for the spirit peoples of the hill tribes, as the guardian of the precious pearl which brought the first recorded Chinese and let one of them marry into the Sultanate of Brunei (Chapter II, 5(a)).⁴

Before dealing with this northern sector in detail, it will be as well to make a few broad points relevant to all three sectors of the island, as directly affecting any understanding of Sabah prehistory. On present knowledge we cannot separate the three far back in time, and without a broader background it would be difficult to understand the Sabah material as such on its own.

3. The Span of Time: Before and After the Last Ice Age

FROM the start, it is essential to appreciate that present day Sabah is the outcome of an extremely complicated set of processes, both in human times and terms, and (long before that) in the convulsions of nature which shaped the land and determined all that might and might not survive upon it. The basic background is well put in Dillon Ripley's book *Tropical Asia*, which has much on Borneo. Dr. Ripley writes⁵:

"Although great changes occurred throughout geological time, it was really within the Pleistocene, the last million or so years of the earth's history, that the most important events shaping the distributions, in particular of vertebrates of the Oriental region, took place. These were the ice ages, four major cycles of alternating cold and warm climates in the more northern latitudes, during the colder phases of which the level of the seas dropped so far that connections emerged between the islands of the Sunda Shelf. These falls and rises of the sea at various times connected much of the Malay Archipelago with the mainland, then broke the connections into thousands of islands once again.

This erratic sequence of continuity and discontinuity has complicated the sequence and movement of all sorts of animals into and through the southern part of the area. Most of these ups and downs, furthermore, occurred after the evolution of the higher mammals, but they still affected the evolution of many of the species, including the higher primates like the orangutan and man. This has had a particular bearing on the distribution and gathering strength of human types, and on how, in the end they came to dominate. . . . South-east Asia."

It is especially important to recognise that at various times in its geological history Borneo has been part of a much bigger mass. Land connections continued after the evolution of early human life in South-east Asia. In Java and elsewhere we know that early man-like creatures, "hominids", developed at least half a million years ago.⁶ From that time, up to the last Ice Age which "ended" approximately 12,500 years ago, Borneo was part of a land mass usually called *Sundaland* by geologists. It would then have been possible for a lively man to walk from the north of Scotland to the north tip of Borneo, from the Arctic to the Turtle Islands, and even, at times, as far as Palawan in the southern Philippines. The island of Palawan, indeed, shows closer affinities with Borneo than with the rest of the Philippines, from the prehis-



Fig. 1|1: Sunda shelf.

torian's point of view. If there were such a thing as "prehistoric politics", Sabah would have a strong claim to have then controlled Palawan!

It was along these ancient land bridges that much of the life of Borneo, as we know it today, moved east and north to Sabah. If Borneo had always been an island its animal and plant life would not be so abundantly rich; and this in turn would have restricted the development of human activities in our area.

The land bridges also made it easy for man himself to migrate, as well as other large animals which no longer exist here. Our long-term excavations at the Niah Caves in Sarawak clearly prove that the big, black-and-white striped Tapir was once widespread, and a common food of stone age man, though there is no record of this conspicuous creature anywhere in Borneo in historic times.⁸

The tiger was also extant, but was exterminated by the aggressive hunters of Borneo in the past. There was (at Niah) even the Giant Pangolin, a huge scaly anteater (*Manis palaeojavanica*) which is only known elsewhere from the fossil beds associated with the early "ape-men" in Java, roughly half a million years ago.⁹ These were almost certainly once present in Sabah too.

In many parts of the world, animals, especially large food animals, became extinct because of big climatic changes, and associated alterations in the vegetation and total environment, due to expanding and receding ice-cover from the poles. But in this particular area, so near the equator, the evidence from geology, petrology and botany (including the science of palynology, the study of pollens), seems to indicate that, although the terrain was in a state of flux, the climate, forest and flora remained on the whole stable, and certainly without great fluctuation over a period spanning much of man's evolutionary existence here. It would seem that the big mammals just mentioned as extinct in Borneo were not so much upset by major changes in environment as exterminated by earlier man, who was as fierce in the hunt as his descendants of today.

The fact that traces of very early types of man have not yet been found in Borneo does not mean that they were never present. As they were present in Java it is natural to expect them to have spread over the land bridges into Borneo at about the same time. Here we encounter one of the particular difficulties of reconstructing prehistory, in northern Borneo especially, as well as in the island generally. For mainly geological reasons, it has not been possible to locate any of the terraces and fossil bearing river-beds which have proved so productive for the archaeologist in Java, as also in Thailand and the northern Philippines.

In the Borneo type of terrain, with dense rain forest inland or highly eroded coastal plain, it is extremely difficult to locate coherent prehistoric sites likely to have been visited by early man in the open. Despite years of cooperation from geologists and archaeologists with direct experience of this sort in other countries, efforts in this direction remained unsuccessful, until the 1968 find of scattered stone tools in the open at Tomangong (Chapter VI).

The first anatomical proof of very early man in Borneo will probably come as a chance fossil find somewhere, a piece of luck. Until that time we can only assume that early forms were present; for it would be even more puzzling if they were not. The likelihood of some early human activity at the northern end of the island is strengthened by the presence of "primitive" stone tools excavated in Madai and some other caves of the east coast, in 1966 and 1968.¹⁰

The one comparatively easy way of detecting early human activity in Borneo is by the exploration of limestone (and occasional sandstone) caves. Caves theoretically remain undisturbed by most of the equatorial factors which complicate any long-term sequence out in the open. Unfortunately, however, in Borneo (as widely in South-east Asia), cave floors have been subject to much disturbance, due to changes in water levels, and, more recently, to human activities such as edible birds-nest and guano collecting (we shall have more to say about these in Chapter III). The present position, for Borneo as a whole, is that the first *proven* presence of man is about 35,000 years ago in Sarawak's Niah Caves.¹¹

This was man more or less in his developed modern form, *Homo sapiens*. The early Niahian in some major respects physically resembles the Dayaks living in the vicinity today. We have not succeeded in finding a comparable undisturbed cave floor in Sabah. But common sense again suggests that the wonderful shelter and food conditions provided by the Madai caves of Sabah's east coast must have attracted these early hunters just as well as Niah—which lies only 100 miles south.

4. Volcanic Activity: Api Api and Batu Apoi

THERE are other influences from the ancient past which affect, and, in fact, tend to confuse reconstruction of Sabah's human record.

Geological evidence shows that, despite climatic stability, this was an area of considerable volcanic and related physical unrest, continuing markedly into late palaeolithic times. The highest mountain in South-east Asia, Kinabalu, is itself a superb product of quite surprisingly "recent" activities, looked at in geological terms. Some of it is no more than a million years old, as it stands. Such ages can now be determined through constituents like the potassium-argon content in rock, shell in animal remains, and charcoal or other wood residues of the vegetable kingdom.¹²

There are further indications of notably recent geological activity in the late palaeolithic. Two of these, analysed by the radio-carbon method by the New Zealand Geological Survey, are of particular interest. They indicate major changes since the proved arrival of *Homo sapiens* in Borneo. The first of these gives a surprisingly recent date for the erosion of the gullies which form such a dramatic feature on the higher levels of Mount Kinabalu itself (Plate 1); the second shows extensive flows of volcanic lava round Tawau, on the east coast of Sabah, well inside the *Homo sapiens* time-span for the area:—

- (i) NB 7990: Wood from beneath clay on Pinosuk Plateau, Kinabalu, $7,980 \pm 100$ years. Probably predates the erosion of the deep gullies (200-400 feet) in the plateau.
- (ii) NB 6639: Charcoal beneath lava flow near Tawau, $27,000 \pm 500$ years gives maximum age for one of the lava floors.¹²

Climatic or terrestrial events causing such phenomena would no doubt be even more impressive to early man than to his modern descendants. Small earth tremors which shook parts of North Borneo in the 1960's caused plenty of concern, though insignificant in scale. Those earlier major disturbances were also altering the whole landscape and living conditions. Thus we must be careful not to think of Sabah as static throughout the period of human prehistory; the land was changing as the humans were changing, much of the time.

Even the name by which Sabah is widely known by the native peoples to this day reflects this curiously tormented past. To the hill peoples of Sarawak's Fourth and Fifth Divisions, the whole of Sabah is often referred to as "Api-Api". Some writers have offered explanations as to why this part of Borneo should be called "Great Fire". One even theorised it was because the first railway train belched flame on its little track from Weston in Brunei Bay up to Jesselton, now Kota Kinabalu. The name goes back into ancient folklore among the hill peoples and is also shown on some early European maps of the area. Some of these maps, dating from the 16th century onwards, show "Fire Islands" off the coasts of Brunei and Sabah.¹³ The nearest things of the kind that exist today are mud volcanoes, notably one on Pulau Tiga, between Labuan and Kota Kinabalu. These are perhaps the present relics of a once much larger coastal vulcanism continuing into historic times and recorded by the early explorers, as well as preserved in the native folklore. Maxwell Hall in 1958 wrote in his little book "Labuan Story":

"At Pulau Tiga, a group of three islands about half way between Labuan and Jesselton, a mud volcano erupted and smothered seventy acres of jungle with liquid mud. It was boiling hot and the jungle trees, a hundred or more feet high, withered in the scorching flow. The eruption was heard for a distance of one hundred miles. This was in 1941".¹⁴

In May 1960, the area on Tiga affected by the liquid mud was clearly visible from the air. By May 1967, it was overgrown again with Casuarina trees and scrub (Plate 2).

In this area also, several new islets appear to be forming or emerging; two are still pure coral sand beaches only, very conspicuous from the air at a distance. Another, further north, has some vegetation on the low crown. Maxwell Hall also records a case of this kind:

"Between Labuan and Mempakul on the mainland a little island, 45 feet high and 250 yards long, emerged in 1897, when a small earthquake was felt. The island is still there".

These records of recent islet changes make it easier to accept the earlier reports of "Fire Islands". The earliest is on a map dated 1530 A.D.¹⁵ They also underline some of the problems of reconstructing the past on the offshore

islets where as on Burong and Eno, south of Labuan, there are prehistoric remains already complicated in themselves (Chapter IV).¹³

It is also something of a tribute to the content of native folklore that it is rich in reminiscence about fire islands and fire mountains. The Lun Daya Muruts in the headwaters of the Padas River at the extreme south-west corner of interior Sabah share with the Kelabits across the border in Sarawak a vivid tale, which attributes the origin of all Borneo to a fight between the cool mountain and the blazing mountain (Batu Apoi). The former, by giant industry and quick ingenuity, finally succeeds in drowning the latter and saving the earth. In more sophisticated form, we find ideas even closer to geological fact in some of the pre-European texts written on bamboo in native script among the Visayan Islands of the southern Philippines, whose people have some close affinities with the Bisayas who live in large communities scattered around Brunei Bay (in both Sabah and Sarawak) today. One of these native texts, called Maragtas, is an epic saga of how the Visayan culture was brought north from Brunei Bay long ago, certainly before Islam. The story goes like this:

"There were the Datus that came from Borneo (i.e. to the Philippines) to escape from the wickedness and cruelty to Datu Makatunaw. Secretly and quietly, they sailed in their *biniday* (boat) together with their wives, slaves and other things which they could carry. They sailed along the Island of Paragwa (i.e. Palawan), which was connected with Borneo until an earthquake and the eruption of volcanoes separated the two. While they were reconnoitering the coast of the sea to look for a place where to land, it so happened that they sighted the Island of Panay, so thither they sailed . . ."¹⁴

5. The Name "Sabah"

HAVING clarified (we hope) the much argued term "Api-Api", it will be as well to do the same for the wider usage of *Sabah*.

Most Sabahans take their country's title for granted. They are wise to do so. Most Borneo names have their roots buried in prehistory, beyond any hope of further disentanglement. Some writers have been bold enough to wade in the swamp of terminology, nevertheless. A view that has acquired some local popularity connects the Arabs and the Middle East, where there are similar word structures, with variants of the term "Sabeian" in early Arab and other trade-route texts, and thus on to Borneo at the other end of the line. The etymological base for this idea was long ago undermined, outside Borneo, by the French scholar Paul Pelliot in 1904. The essential point is restated in a new and important book about trade in this part of the world, O. W. Wolters' "Early Indonesian Commerce". While some connection is possible, it is—to put it mildly—improbable.¹⁷

Sabah is better considered as a word of obscure local origin, and none the worse for that; no one is any more successful at explaining the origin of the name of neighbouring Sarawak.

6. Hard Stone—or None

ONE other important factor in the background of Sabah prehistory also derives from geology. The extensive volcanic and related activity already

described has produced large supplies of hard, workable stone, especially in the north-eastern part of Sabah, and, notably, along the Segama River. This meant that once stone age man had arrived he could readily find abundant, suitable stone with which to make tools. In this important respect our area significantly differs from much of the rest of the island, including nearly all of Sarawak. In Sarawak there is a massive shortage of hard stone, even of a quality suitable for modern road building. This meant that stone age man in sectors with inadequate hard stone had to develop alternative techniques or approaches. This in turn has made a reconstruction of their past that much more difficult, since it is not everywhere signed in stone. To some extent at least the prehistory of Sabah is made a little easier by some distinctive stone types which we shall look at very closely later on.¹⁸

7. A Note on Tektites

TEKTITES are smallish pebble-like pieces of "stone", usually black and with a granular texture something like that of candy sugar. Their origins have been the subject of long controversy. It is now generally accepted that they are deposited as showers from outer space and are, in effect, a form of meteoric glass. They are thus in no sense part of the human story, directly. But indirectly they have been helpful to those reconstructing the human past, because these showers appear to have occurred only rarely, at long intervals in time and on a large scale each time one did occur. By fixing the positions and distribution of these tektites, therefore, it is possible to use them as crude time markers. As well-proven showers occurred in this area into the late Pleistocene period, the presence of tektites in a gravel bed, or other open deposit, can indicate the possibility that the place was open to human stone-age activities also, at that period. In this way the late Professor Otley Beyer was able to make important prehistoric finds, working from tektites in the Philippines.

Tektites vary considerably in shape and style according to the "shower". Those found in Borneo are nearly all "Billitonites", named for the type specimens which fell in a big shower on Billiton Island, off the south-east coast of Billiton. The shower is dated at about 710,000 years ago. In this area, all the known tektites so far have come from Brunei.

Although all sites showing tektites in Brunei have been thoroughly followed up for possible human materials, no trace of any such have yet been found. We must not give up hope, however, of finding both in association, in Sabah.¹⁹

8. A Note on Negritos ("Pygmies")

NEGRITOS, like tektites, remain undetected in Sabah. Some of the hill people in the southern interior show occasional tendencies towards the curly hair and small stature which are popularly taken to equate with "pygmy" negritos, present in West Malaysia, and in the Southern Philippines (on Palawan and Mindanao).



PLATE 1. Mount Kinabalu, 13,455 feet, the highest mountain in South-east Asia dominates the Sabah scene. Geologically, this massif is dramatically recent in its formation. (See Chapter I, 4 p. 7).

Lands and Survey Dept., Kota Kinabalu

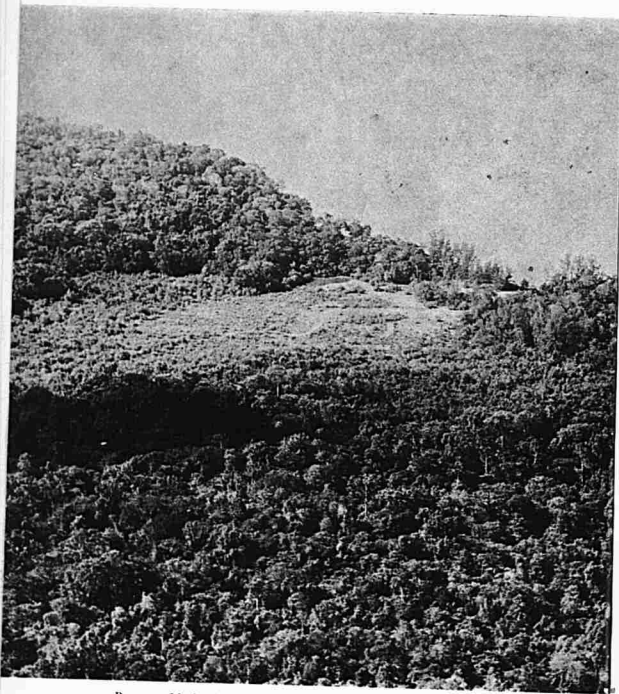


PLATE 2. Mud volcanoes, found throughout Sabah, are perhaps relics of more intense and wide-spread volcanic activity. This mud volcano (clear patch) erupted in 1941 on Pula Tiga near Labuan and in May 1960, the area was still clearly visible. (Chapter I, 4 p. 8).

E.J.H. Berwick

As many educated people seem to expect there to be some kind of pygmy tribes in a great island like Borneo, it should be made clear here that there are no signs of any such groups, either today, or through the evidence of prehistory, for the past. It has long been thought that the negrito pygmy represents an ancient human stock, in many places subsequently overrun by larger, stronger, and technically more able people. If that is so, it would not be unreasonable to suppose that over much of this island they were swamped by the Dayak and related groups in just this way. However, we would expect some signs of them in archaeological excavations and so far there are none. Also, large tracts of jungle in many parts of the island remain uninhabited to this day. These would have provided excellent cover for the little men and women, as elsewhere in the world.²⁰

Sabah is particularly rich in empty space, although timber extraction and mineral exploration are rapidly opening up the virgin forest. The hill country in the hinterland, behind the cave zones of the east coast, would appear to be a kind of pygmy paradise. It is striking that this terrain, teeming with big animals, a hunter's delight, has remained empty so far as can be seen. It is yet more striking when we recall that similar—but less food-rich tracts of virgin forest to the immediate south of Sabah, in Kalimantan and northern Sarawak, are regularly and systematically hunted by bands of nomadic Punans, who are far from being anything like negrito.

This situation may, of course, simply reflect how little we yet know of prehistoric human populations in these parts. But a simpler explanation is provided by a new school of anthropological theory. This disagrees with the traditional view that negritos are necessarily part of an evolutionary sequence in man. Instead, these scholars argue that the qualities which make for negrito-pygmy populations can, and do, arise as a response to physical, biological and local conditions and so can be produced quite separately in different places (e.g. West Malaysia and Palawan).

The argument remains unresolved. It is one of the open questions which might be excitingly answered, in part, by future studies of Sabah's prehistory, where the absence of any nomads, or so-called "primitive food gatherers", remains a curious puzzle.²¹

II. The Present Outline (with a Prehistoric Chronology)

1. Sabah Sites and Artifacts

AGAINST the ancient theoretical setting, we have the problem of presenting rather complicated and unfamiliar factual information in a way that can be readily understood. For simplicity we have hereafter divided the text broadly into two main parts. After our introductory remarks in Part A, Part B deals with prehistoric sites in Sabah as proved (no theory). Later on, Part C deals with prehistoric artifacts from Sabah including some speculation on other associations. We must briefly clarify what is meant by these two categories in prehistory.

(a) Sites—the places of prehistory

Part B deals primarily with what archaeologists term "sites", the places where excavations have been conducted, reconnaissance carried out, or where casual "finds" have been made, e.g. while bulldozing a road. These sites are, by the nature of the difficult Borneo terrain of swamp, jungle or mountain, concentrated largely in and around caves (limestone islands in the sea of rain forest) and upon offshore islets (land-marks on seas which became so busy once man learned to sail) (Chapter II, 4). These sites are charged with prehistoric potential as we shall see. But Sabah sites are very seldom "obvious". There are no temples or permanent buildings known so far. It is quite possible none will ever be discovered. There are two main reasons for this. One, that the great temple-building tradition throughout South-east Asia came from Hindu and Buddhist influences, basically "Indian" in orientation. These influences barely reached as far east as Borneo, where they are represented in structure by the primitive but fascinating Tantric Shrine excavated in the Sarawak River Delta during 1966. Indeed, no "Indian" objects of any kind have yet been recorded in Sabah, and only a few elsewhere in Borneo. The nearest is the Ganesha ("Elephant God") now in the Sarawak Museum, along with a hoard of golden jewellery, now in the Brunei Museum; both from Limbang, 20 miles south of Weston in Brunei Bay. However, the little bronze drum from the Woolley Collection, now in the Sabah Museum and a few other items show some fairly remote "Indian" affinities (which will be discussed as they arise).¹

The second reason for the absence of temples is the local abundance of good, long-lasting timber for building. Easily accessible and workable hard stone was not so available (as already emphasised in Chapter I, 6, with regard to stone tools). Under such circumstances, there was little incentive to build in other than wood. And in the open, in this climate, only the hardest wood, such as *belian*, lasts more than a century, never two.

Too much can be made of temples, in any case. In these outposts of Island Asia they represent alien religions which, in earlier times, clearly failed to attract the self-sufficient, dynamic pagans already established in residence, with their own elaborate conceptions of their universe. Angkor in Cambodia, Barubudor in Java, and others like them, are few and far between—though you hear and read a great deal about them, so tend to see this picture out of perspective. Such splendors tell us nothing about everyday life and ordinary people in places like Sabah. If one had to look for an equivalent metaphor in Sabah, then consider the beautiful, wide, irrigated ricefields which enrich the lovely upland valleys of Ranau, Keningau and Tambunan in the interior, or again on the plain at Tuaran, Papar and at Penampang with the great stone monuments of the Kota Kinabalu megalithic behind the coral sea (Chapter V).

We cannot, then, really expect the high drama of vanished cities resurrected from impenetrable jungles here. This same jungle soon overwhelms and obscures anything on a lesser scale. So, site-wise, the Sabah record is humbler. Yet it has many features of high interest and some special to Sabah, as well.

(b) *Artifacts—prehistoric things*

Having examined the sites of prehistory in part B, we can then examine more intelligently the many objects excavated, found or reconstructed. These will be referred to in their site context throughout part B, but in part C they will be grouped together by categories, the more interesting ones being discussed and illustrated in detail. It is mainly through such tangible evidence of man's presence at these sites in the past that we can mainly hope to reconstruct Sabah's prehistory. But inevitably many of such things are now to be seen in a dilapidated state, if not due to natural disaster, then by the hand of man. Still, that is what a prehistorian must work with. All these things made by man are termed "artifacts". An artifact is anything deliberately shaped or worked (even if only rubbed) for use of any sort, from felling a tree to placating an evil spirit. It is the capacity to create and use artifacts, regularly and deliberately, which distinguishes man from all other living creatures.²

This sense of "creation" from long ago can appeal to discerning persons of today. This is why so many people find a kind of actuality, a meaning, in a stone—even though they may find it hard to decipher the silent message received from any one item. It is indeed good that man should recognise how a pebble crudely flaked into an axe 10,000 years ago reflects the spirit of man just as surely as those huge concrete and glass structures which house banks or bureaucracies in modern Kota Kinabalu. Moreover, some of the more sophisticated artifacts of later development, like the Chinese dragon jars, or the bronzes of unknown origin still to be found in a few Sabah villages, speak to us more directly through a recognisable beauty of form and vitality of symbol as alive now as when they were made many years ago.³

For those readers who prefer to read about the artifacts first in part C, the text has been arranged to make this possible. But the site information of part B gives the essential setting and detail, as well as being of descriptive interest to the majority who will not be familiar with the caves and other by-ways of the country at "first hand". The remaining sections of the present chapter provide other background essential to both parts B and C.

One side-effect of the present study may be to enlarge the knowledge and interest of local people about these things, to encourage them to read further and more widely so that they can distinguish a stone axe from a broken pebble—and this can be difficult. If this happy effect is achieved, so much the better. At the same time, it must be firmly emphasised at this stage that:

- (i) Such artifacts of antiquity (more than 100 years old in most legal definitions) should not be bought or taken and kept in the hands of private persons, but immediately passed on to the Sabah Museum, where they properly belong, both as part of the national heritage and as vital information for further study. Where possible, full details of the place where a thing is found, the date and all surrounding data should be supplied along with the artifact itself. An artifact on its own is of little value, however ancient.
- (ii) Any attempt to "treasure hunt" for artifacts (e.g. by digging holes in caves) is both against the law and against common decency. Even well-intentioned probes "to find out what is underneath" are only likely to destroy a site from a prehistorian's point of view. Anyone who finds a new cave or any other kind of site likely to be of interest should similarly report it at once to the Sabah Museum. Only qualified persons operating under Museum licence and control may "dig" in any such situation.⁴

2. Prehistoric Sequences in Sabah

SABAH has a human tradition at least as old as that of Sarawak—where our excavations at Niah Caves have proved that *Homo sapiens* goes back over 30,000 years. In Sabah, we have yet to do the same detailed, slow and costly study. But from the stone artifacts, it seems possible that what we are beginning to see in Sabah could pre-date Niah. Certainly, we can with some confidence accept that fully palaeolithic, old stone-age tools are already proved from more than one cave as well as from an interesting open site in the north-eastern part of the State; and that there was continuous occupation of the area from then on to the present day. Let us, now, sum up the sequences insofar as these can be deduced from the artifacts and the sites already studied, set against the background of what we know from surrounding countries and from plain common sense. The following simplified summary also uses a few terms widely accepted by prehistorians and hereafter frequently employed in this text.⁵

- (a) *Palaeolithic*: the old stone age of man, beginning with *Pithecanthropus* (Java), and other "ape-men" back in the early period (up to c. one million years ago in the islands). The palaeolithic continues over a very long period during the Pleistocene epoch of geology (see below), and covers a great range of human evolution up to modern man (*Homo sapiens*). Continuing and intensified archaeological research in many parts of the world is still rapidly enlarging and altering conceptions of the palaeolithic and evolution to early man. Dramatic new finds are to be expected when more funds and personnel are applied to this end in South-east Asia.
- (b) *Mesolithic*: a term loosely used to cover the period between the old (a) and the new (c) stone ages, generally characterised by pebble tools, more technically "advanced" than in the palaeolithic. In South-east Asia this is often termed the *Hoabhinian* from a site in North Vietnam, where French archaeologists long ago found rather flattened stone tools flaked all the way round to make a roughly circular cutting edge. The *Hoabhinian* has not been substantiated in Borneo (Chapter II, 4). For the present this phase cannot effectively be separated from (a), but it should be borne in mind for those wishing to compare the literature for West Malaysia.
- (c) *Neolithic*: the late stone age; in Sabah from after 3,000 B.C. (peak c. 1,000 B.C.) to the start of the Christian era, when man developed and polished fine stone tools in a variety of readily recognisable forms, along with earthenware pottery and beads, boats, matting, early housing out-of-doors, and a regard for the dead shown in nicely arranged burials, often in caves, and sometimes elaborate. The neolithic is clearly defined and in some ways distinctive in Sabah, notably, through the special types of adze and gouge which have been found not only in the open as native treasures but also by excavation on Bird Island and at Tapadong Cave (Chapters III and IV).
- (d) *Calcolithic*: a term used for the phase where early metals were coming in but stone was still in use and the two occur in association, (as at Tapadong Cave on the Segama). At this stage of our knowledge, the term calcolithic is not a particularly useful one in Sabah as it is not readily distinguishable.
- (e) *Bronze age*: the first use of metal, even if this had a limited functional capacity: proved by excavation on the Segama River and with interesting related finds, such as a fine "kettle drum" in the Sabah Museum (Plate 46). By this time, perhaps around 500 B.C., Sabah's east coast seems to have developed special links with Celebes (Chapter II, 5), although an elaborate bronze industry was to develop separately down the west coast in Brunci and become important there.⁶
- (f) *Iron Age*: beginning in force about 700 A.D., though some iron almost certainly appeared much earlier than that.⁷

A piece of iron has been dated as early as 890 B.C. in southern Palawan, and we have a fine iron blade associated with a bronze tool and polished stone implements at Pusu Lumut, Tapadong, in a basically neolithic context (cf. "calcolithic" in (d) above). But in practical terms for Borneo, individual metal implements do not make an age, any more than continuing use of stone pestles and mortars by Bajaus and Malays grinding chillies and other spices makes the present age neolithic. The firm base for an iron age in Sabah only came with the ability to make the tools locally. Iron usage and iron working developed rapidly in Borneo after the establishment—or as part of the establishment—of extensive barter-trade contacts, stimulated particularly by contacts, at first largely indirect, with the mainland to the north-west. The iron offered big technological advantages—notably in felling the rain forest and keeping it under at least temporary control, thus enabling man to spread up from the wetlands of the coastal plain or from the flat valley bottoms of old lake beds, and scatter through the interior highlands (Chapter V, 6). The tradition of native exploitation for the crude iron ores that are abundant almost throughout Borneo, is strong in Sabah folklore though no actual prehistoric iron working site has yet been found this far north. This type of site is particularly difficult to locate in the open and has generally been overlooked through South-east Asia. Further discoveries in this direction are therefore to be expected. But it would also have been quite possible for metal to have been brought northward from the huge workings now proved in Sarawak, and others reported from the Tarakan area to the south-east over the Kalimantan border. The presence throughout Borneo waters of maritime Bajaus ("Sea Gypsies" of the past), as well as Bugis from the Celebes, was equally facilitated by the development of iron tools for boat building. These people certainly played a significant part in the carrying trade which characterises the beginnings of the iron-age proper (Chapter II, 4 below).⁸

For present purposes, then, the main time-terms we regularly need are:

Palaeolithic = Old stone age (as at (a)); ends about 4,000 B.C.

Neolithic = Late stone age (c); to about 700 A.D. with local variation.

Iron Age (f); after 700 A.D.⁹

Geologists, whose interests often overlap that of archaeologists and prehistorians generally at the older levels, use the term Pleistocene, a geological era which broadly corresponds (in South-east Asia) with the Palaeolithic. Similarly, the geological term Holocene—which they also call "recent"—broadly covers the "mesolithic" and neolithic as defined above.

3. Down the Calendar—Key "Dates" for Sabah

TO TIGHTEN up the framework of the past, a few provisional "dates" may next be offered, with the understanding that the earlier ones remain highly speculative, with large margins of error which must be narrowed in the future.

- 40,000-30,000 B.C. — First *Homo sapiens* (like present-day man) in the area; earlier hominid (human) types almost certainly present before that: the Palaeolithic or old stone age.
- 10,000 B.C. — Ice cap receded and the present large island structure of the area finalised in main outline (see Map, p. 5).
- 3,000 B.C. — Significant change in stone-tool technique; neolithic men begin to polish stone and get symmetrical outlines.
- 1,000 B.C. — Development of good earthenware pottery, elaborate cave burials with coffins, textiles, boat building, etc.; the full late stone age.
- 500 B.C. — Bronze is the first working metal (Chapter II, 2); first trade iron overlaps.
- 607 A.D. — T'ang Dynasty starts in China.
- 700 A.D. — Iron smelting revolutionises island life (on coast at first); associated with early imported Chinese stonewares and with glass beads from the west.
- 800 A.D. or later — Brunei becomes trade and power centre for much of northern Borneo (Chapter II, 5).
- 960 A.D. — Sung Dynasty starts in China; period of great artistic activity expressed in vigorous export trade (not necessarily in Chinese hulls) to the island.
- 1292 A.D. — Yuan Dynasty now dominant in China; supposed expedition from Kublai Khan to "Chinabatangan" in east Sabah (Chapter II, 5(a)); Marco Polo reached Sumatra in the same year.
- 1368 A.D. — Ming Dynasty starts in China; intensified and more personal, political contacts with Brunei and the northern end of Borneo generally. Birds-nest trade develops via Sulu greatly enriching the Sabah cave communities.
- 1408 A.D. — Abdullah, first Muslim of Sabah's east coast—according to the surviving Idahan text (Chapter XI).
- 1520 A.D. — End of Majapahit Empire, after long decline (started 1293 A.D.), centered in Java, influenced Brunei and fringed Sabah; by this time Islam was established in the Brunei court.
- 1521 A.D. — Beginning of the historical period for Brunei Bay, with arrival of Magellan's ships, the first to encircle the world. (Chapter II, 5(d)).
- 1644 A.D. — Ming Dynasty ends in China.

- 1762 A.D. — Major James Rennell accompanies Captain Alexander Dalrymple on the sailing ship "*London*" up the west coast of Sabah to Balambangan Island; these two Englishmen give first detailed accounts of Sabah populations and activities.
- 1846 A.D. — Sultan of Brunei cedes Labuan Island (now in Sabah) to British.
- 1881 A.D. — British North Borneo (Chartered) Company formed; expands to form State of North Borneo (now Sabah).

There is no need to be too "apologetic" about Sabah's present position on the prehistoric time-scale, as indicated above. With all its mighty research and financial resources, the United States of America has an equally uncertain early history and an equally uncertain (at present hotly disputed) early pre-history, which is not agreed further than 10,000 B.C. and barely as yet suggested more than 20,000 years back. The first proto-Americans had to contend more directly with the effects of the last glaciation, which from about 15,000 years ago gradually freed viable land in North America, previously under ice, and was part of the same process which flooded Sundaland and separated Borneo once and for all.¹⁰

4. Over Land and Seas: What went on around Sabah?

UNTIL Sundaland finally broke up near the end of the Pleistocene geological era, leaving the Indo-Malaysian archipelago in roughly its present form, men could, and no doubt did, get themselves, their artifacts and their ideas about the place by the not-so-simple—in Sabah's rugged terrain—act of walking. And they could go on as far as Palawan on foot, until this was separated from Borneo (and much later became part of the Philippines politically). At this time there was no need for boats. Ancestral man might not have got here at all if there had then been that need.

There followed a considerable period, a lull, between the end of Sundaland and the beginning of man's skill in boat building. There was a period of several thousand years when Sabah in Borneo was cut off from the main streams or trickles of human interchange. Bornean boat building needed to be better than "primitive", in any case, before groups could deliberately navigate the storm-ridden and, for months, monsoon-swept surrounding seas—now called the South China Sea to the west, the Sulu Sea to the north and Celebes Sea to the east of Sabah. These prevailing winds, of an erratic ferocity, played a big part in determining what people could do in the way of regular movement to and fro far into the late stone age. These difficulties indeed continued into historic times. The first adequate account of navigation in Sabah (1762 A.D.), by James Rennell as in Chapter II, 3 above, frequently attests to delays and deviations, days of sail before the steam boat was invented in the following century.

We know that there were sea-going boats before the end of the neolithic, not only from studies elsewhere in South-east Asia, but directly from the little cave on Bird Island, in deep water off Labuan, which contained among other things a fine stone adze, a stone mortar, coloured earthenware pottery and the other signs of a burial place to which the dead were carefully transferred from a living community in the late stone age (Chapter IV, 2 for details). Of course, an earlier capacity to get along on rafts and logs must never be underestimated (e.g. Sabah to Celebes).

The pre-neolithic period of severance from outside contacts, in the later part of the palaeolithic, must have had the effect of isolating island strains, of allowing some of their techniques to develop from earlier common sources along lines most suited to the immediate conditions of Borneo life. This was in some ways an advantage in terms of local evolution. But at the same time, any new technological developments on the mainland in this period would have taken a long time to reach Sabah, or would not have reached here at all—which is probably why the "*Hoabinhian*" culture had no significant impact (Chapter II, 2(b) above).

Although it is clear that the palaeolithic people were active in Sabah, we do not yet know how far they tackled Borneo as a whole. Especially open is this question: did the earlier folk penetrate into the deep jungles and across the great mountain barriers, the present day Kinabalu, Trus Madi and Crocker Ranges? Were they blocked by the great rivers, Padas, Segama, Kinabatangan? Could early man, with fairly simple tools and techniques, cope for long with the dense, self-replenishing rain forest? Or did he prefer to stay where the feeding was easier and the going better—along the clear blue coral waters and turtle beaches, the low tidal swamps and rich delta estuaries?

The present picture is of frequentation in the old stone age centred around limestone caves, particularly those with easy access to the sea, which was also quite a bit nearer in those times over most parts of Sabah. These caves provided rich supplies of protein with their huge populations of edible swift nests and bats. The cave mouths provided shelter for those not yet making houses to keep out 200 inches a year of tropical rain, not to mention leeches, scorpions, snakes, hornets and tormenting deer-flies. From such useful bases, it would be natural for parties to foray inland if and when they were short of food—or wanted a change—from the coastal plain. The seasonal migrations of wild pig would have been a special attraction, along with the rewarding jungle harvest of rhinoceros, tapir, wild ox, orang-utan, monkeys and gibbons, civet cats, porcupines, leopards, giant squirrels and other forest creatures represented in the cave food remains long before the evolution of the blow-pipe or domestic hunting dog.

It is striking that neither by excavation nor by stray finds of tools and other artifacts, is there yet any sign of palaeolithic activity in far inland areas which modern man has found especially attractive for agriculture, for hunting, for climate and health. However, the questions here posed can only be answered in full by further research. Certainly, we can answer for neolithic

man: he did reach the interior and strayed far from the coastal plain, leaving his artifacts in evidence.

Once there were boats, especially sailing boats, the picture begins to change again. Now contact with other islands, and even with the mainland, is re-established, but re-established on new terms. For the local populations have had a long spell in which to develop their own techniques, manners and attitudes, some of which are sure to be resistant to outside influence. Not quite enough attention has been paid to this aspect of prehistoric culture in South-east Asia as a whole. Too much has perhaps been made, in the writings of talented and sincere non-Asians, of the importance of migrations and movements from the mainland, south and east, during the neolithic and the early part of the iron age. As a result, the importance of local roots and the developing diversity of endemic cultures suited to their environments has been neglected. The basic assumption, unconsciously held in many good minds, has been that anything intelligent, ingenious, beautiful, etc. in so-called "primitive" island societies, came from somewhere else, specifically from one of the great (on this definition) centres of mainland culture. Some attribute nearly everything interesting of this sort to an Indian origin. Others favour China or Indochina.

It has seemed both natural and easy for the best scholars to allocate origins in this rather straight forward way, to this source or that. Different scholars not infrequently disagree on the result. But just as the slight, slow increase in knowledge raises many new thoughts, doubts and hopes in Sabah, likewise the development of prehistoric studies in India, China or for that matter in the United States of America, raises new issues which threaten to undermine some of the easier, earlier assumptions. Thus our Cornell colleague, Judith M. Treistman has recently reviewed the new research situation in China, and concluded:

"The history of the period around 1,000 B.C. in the south-west of China, in the north-west, and in the Hanshui region . . . is a history of the "confrontation" of many cultural elements and not of the colonization of weaker or less advanced peoples by stronger civilizations. Historical inference and archaeology suggest that China, at 1,000 B.C. was an area of great diversity. Perhaps in this diversity, this mosaic of cultures, lies the clue to the significance of later Chinese civilization".¹¹

These remarks could be modified to fit almost any place and period further down in South-east Asia, from around 1,000 B.C. with increasing maritime mobility. One of the leading modern advocates of direct Chinese cultural movements is the Danish archaeologist, Per Sorensen, based on a season's work in the caves of Thailand. In scholarly detail, he has sought to fit his findings there into a wider pattern, both westward into Borneo and south into the Archipelago—mainly on the basis of artifacts. But he has to admit that the attempt "was less successful than might have been expected" and that:

"The excursion through the South-east Asiatic mainland searching for possible connections . . . has been disappointing".¹²

But not 'disappointing' if there is no prior assumption. When movement theories based on map reading, geographical "logic", or the shape of selected

artifacts, are tested against a whole complex of information from all sources, conclusions that have seemed highly satisfactory increasingly appear in danger of becoming superficial nowadays. It is notable also, that the approach based on "island cultures derived from mainland migrations" has to give way when the argument passes from prehistory and is faced with acceptable written history—for instance, in Java and Sumatra, after the beginning of the Christian era. Unfortunately, the pre-Islamic historic records of this kind are non-existent for Sabah and extremely weak for the adjacent Sultanates of Brunei and Sulu. But as our archaeological knowledge increases, there is more and more reason to think that the same considerations apply in Sabah and that they apply, with force, to prehistoric times as well.

We postulate, therefore (as a working hypothesis), a strong, indigenous human way of life established gradually in the northern part of Borneo, especially after the last ice-age, growing naturally out of local stone-age conditions in the tropics. We can see no alternative explanation that adequately fits the evidence to hand at this stage of the game. Of course, Sabah and Borneo as a whole may have become something of a backwater at this phase—with big empty spaces on the island's human map. Of course, contacts and migrations did occur, increasingly, but often erratically and by no manner of means in single directions and in simply reconstructed forms. Of course, the expanding populations of the mainland spread out in new directions. But equally, so did the populations of other islands and within the islands, including Borneo. Spread over millenia, these intricate operations can have borne little relation to the arrows on the map which claim to report what happened before history and the compass.

So, what did happen once the better boat building made water no longer a potential barrier for everything that could not naturally fly, float or swim? What happened was surely an interchange in all directions—eventually reaching right across to small island chains of the Pacific as far as Easter Island, looking towards America. Many of the Pacific Islands, now densely populated, were not reached by neolithic boatmen until after the Iron Age was well established in Sabah. This exceedingly complex going to and fro was often displaced by wind and storm. For a long time it proceeded along undefined travel routes, and not directly across open seas, which could only be efficiently traversed following the invention of the compass in the Sung Dynasty (about 1260 A.D.)

Once this human sea flow became established, Sabah must have held a rather special position. The island of Borneo lies as a 700 mile bar, blocking any dolphin, sampan or shark seeking to move directly across these waters, especially those going east after navigating out of the Indian Ocean, along the west coast of the Malay Peninsula and through the Straits of Malacca, or coming down south-east from that vast area along the east side of the Peninsula, the Gulf of Siam, the coast of Indochina, and the Gulf of Tonkin around China nearly to Hong Kong. For those proceeding to or returning from northern Celebes, New Guinea and the vast sea-worlds now called

Melanesia and Micronesia, the tongue of Sabah protrudes towards Palawan leaving a way jagged with reefs and islets, but still on the whole easier than keeping south of Borneo across the Flores, Timor and Arafura Seas, to clear Torres Strait between the northern tip of Australia and southern New Guinea (of course, one went this way, as well).

We must ourselves be careful not to drift into oversimplification here. The same problems of simplicity versus complexity affect not simply the Indo-Malaysian Archipelago and up into the Philippines; they equally affect and, indeed, currently bedevil the prehistory of human movement into, and colonisation of, the whole broad Pacific east of Borneo. Earlier scholars, favoured straightforward migrations from the west through Micronesia. Again, such views are now being seriously questioned, and there is an important school of thought which emphasises internal culture development on the islands. Two leading Pacific archaeologists have well summarised new evidence, as it affects us, at the gateway to that vast ocean:

"It [is] abundantly clear that Melanesian origins cannot be sought at a particular place or at a particular time".¹³

By the later part of the neolithic there were already large and effective local populations established at least along Sabah's coastal plains. It is most unlikely that these residents would have welcomed any extensive influx of outsiders should these try to settle, unless they brought something new and special to contribute or to enable them to dominate in some way. Some impacts stuck, succeeded, survived, sublimated the older indigenous setting. In this process a single individual—a master-mariner, say, or the first rice-farmer or guru—could be just as important as a boat-load. Anyway, most boat-loads sailed (or drifted) or were lost in the crowd, so far as Sabah was concerned.

Since boats were made of wood until the 19th century, we shall probably never know what these were like in the Sabah stone-age. The first Europeans were certainly impressed by some of the first boats they met within these waters. The most striking ethnological difference between the east and west coast of Sabah is relevant here. On the east coast there is extensive use of outriggers projecting from the boat-hulls. These are even used on the rivers; we found them invaluable in carrying heavy loads to and from Tapadong caves, on the Segama. On the west coast, in virtually identical seas and estuaries, there are no outriggers. Too much cannot be made of such an obvious survival of boat technique out of earlier times; it provides considerable food for thought, however. For the outrigger is the characteristic equipment throughout the Pacific, invaluable in negotiating those seas. An American ethnologist comments very much to this point:

"The mere possession of outrigger canoes and advanced navigation techniques, however, could not account for the occurrence of extended migrations. There would have to be, in addition, a very powerful motive to travel and explore. The most likely such motive would be trade".¹⁴

Trade becomes the key to understanding most of what went on in and around Sabah, out of the neolithic and into the iron age, which liberated new possibili-

ties of intercourse and interchange. Now the Sabah jungles became a source of wealth, producing goods highly esteemed: rotans and bamboos, feathers for jewellery, bezoar-stones and deers' horn for medicines, rhinoceros horn as aphrodisiac (alleged), and the horn-like casque of the huge Helmeted Hornbill as "golden jade", prized by Chinese carvers, camphor and other woods, honey bees, wax, sago. From the sea came tortoise shell, coral and shells for decorative and other purposes, sharks-fins, *trepang* (sea slug), dried squid as special foods. From the caves gypsum and birds-nests in due course. From the ground and the rivers Sabah does not seem to have contributed gold or iron for export until historic times; these were major items further south by the time of Sung.

In return, the mainland and surrounding islands sent articles which could not be made or modified locally. Impressive among those that survived are the stonewares and porcelains from China, and, after 1350 A.D., from Siam ("Sawankhalok" wares), which augmented locally made earthenware pottery, and the glass for beads more durable than those of shell and more attractive than most stone. Iron, wherever it first came from—and there is no need to assume only one source—was the most important outside contribution, though the Sabahans quickly learned to find and forge fine axes, adzes and swords for themselves, just as they had previously done, though with more difficulty perhaps, in stone. A great deal else has not survived and can only be surmised, silk and other cloth, cosmetics and spices, the prehistoric equivalent of coca-cola in the porcelain bottles, probably sweet things in the stoneware jars. It was a massive trade at its peak.

This vigorous overseas trade was naturally associated with other non-material things. Buddhism, Hinduism and a variety of less organised ideas were brought by traders or gurus, along with the artifacts. There was however a conspicuous failure to make deep or lasting impacts in Sabah by any outside, organised "religions" until the advent of Islam after 1400 A.D.

With Islam, the tempo changes again. We begin to move away from prehistory and towards the written record. For most of Sabah however, there is nothing in writing yet. The coastal people are mainly converted to the Moslem faith, sometimes under pretty severe pressure—for instance, where birds-nest caves are involved (Chapter III). Trade and other contact, then, becomes increasingly centred on Moslem traders and channelled through the more centralised power of the Moslem Sultanates, Brunei to the south-west, Sulu to the north and also Bolongan (Tajong Selor) further down the east coast at the mouth of the Batang Kayan, which exercised an influence at least as far north as Lahad Datu at this time. The *inland* folk, by now quite numerous, remained pagan, encircled by the new faith. They continued and indeed elaborated their own form of animism, closely integrated to the needs and moods of life in the equatorial jungle, and distinctly less suited to coastal or maritime living. Some lowland folk did not accept the new pressures. They moved inland, filling some of the empty spaces of the interior uplands, merging with existing stocks elsewhere.

Seldom, in any of this, whether maritime or interior, is there the faintest sign of what might be called "conquest" or "invasion". There is no overthrow of a people, a place, race or class. This may well be partly because the detailed record is lacking and we cannot really compare Sabah with, say, Java in this respect. Yet Sabah would appear to have stood somewhat outside the general pattern of disturbance on any massive scale. This would partly be explained by distance and topography: there is plenty of scope for retreating or avoiding trouble in northern Borneo. By the same token, much of Sabah was never really controlled from outside, even in the great days of the Brunei Sultanate which covered many other islands and far up into the Philippines. Indeed, this failure to dominate the terrain as a whole has helped lead to modern difficulties in defining ownership, and thus complicated the recent disagreement between the Philippines and Malaysia.

To some extent, Sabah was at the far end of an extended chain of bridges in space and time. It stood near the eastern flank of easy communication in the days of sail. In this sense, Sabah in the neolithic and early iron age remained at the further end of an arc of contact, just as it had, much earlier, stood at the far end of Sundaland. It took the invention of steam engines to minimise this factor and obscure it in time's perspective. Nevertheless, there were other lands further east, such as Celebes, from which developed special ties with the east side of Sabah, completely outside the orbit of "Indian" and "Chinese" impacts.

Similarly, Sabah was something of an outpost on the trade routes. But looked at another way, it provided a link between east and west, as also from the Philippines to the north. Much of its trade and other contact were through small craft, like those operated by the Bajaus in Sabah today, or Bugis from the Celebes, who continue to sail regularly round Borneo to Singapore and back each year in a modern version of what was the general pattern of prehistoric traffic. This situation made the occasional visits of high-class outside ships or personalities particularly memorable and thus rather readily fixed in Sabah folklore—as with the Kinabatangan cruise and the Kinabalu pearl epic next to be discussed. . . .¹⁵

5. From Emperor to Elephant: Five Famous Contacts

LET us round up these background remarks (Part A) by turning from the general to the particular. Hereafter, it is the latter which will be almost the sole concern in this text. The complexity, within simplicity, of Sabah's earliest known contacts can be illustrated by taking five instances from the oral literature, the folklore, of this land. Two of the five occur also in the folk beginnings of the earliest written texts, one of these pre-Islamic (c) below). None of these can be put back before the iron age began, some are much later. The Golden Deer tale (e) is probably the oldest, with echoes from some sort of Hindu contact on the east coast. We can only summarise the five here.

(a) *Kublai Khan, Kinabatangan, Kinabalu*

Some of the oldest cultural features of pagan peoples in northern Borneo have been described by art historians as "Chinese"; for example, tattoo designs, basket patterns, earthenware pottery of local manufacture do show some striking parallels to those of China, B.C. A warning note has already been sounded in the previous section, against drawing facile conclusions from too few selected criteria. If there are pronounced parallels at this time, they need not imply direct contact but may be the result of spread of a few people or ideas or things, perhaps from a third area, long ago. Because the Chinese material has been so well studied, a Chinese origin is naturally easy to assume. It is the same with "Indian" contacts. Such regional adjectives now have to be accepted with major qualifications in mind.

In this corner of South-east Asia, the issue has been further clouded in the prose of the late great Otley Beyer, doyen of Philippines archaeologists, who first drew attention to many of these matters from the island end, but was over-ready to generalise on scanty evidence. He concluded, for the whole Philippines, flatly that:

"There is now no doubt but that the principal phases of the Neolithic culture reached the Philippines directly from South China and Northern Indochina".¹⁶

This generalisation could be taken to cover Sabah, by extension, but it can no longer be accepted two decades later. Nevertheless, of all the truly "outside" influences that have made their mark in the Sulu Sea, and thus Sabah, the "Chinese" is probably the largest—small though the final effect may have been.

The earliest authenticated record of Sino-Bornean contact is for 631 A.D., a few miles south of the present Sabah boundary. In that year a deputation from the then capital of Brunei, Kota Batu, journeyed to the T'ang Emperor at Ch'ang-an. The event was commemorated by the famous court painter Yen Li-Pen (who died in 673 A.D.); a copy is in the Palace Museum, Taiwan.¹⁷

After the 7th century, contacts increased, though erratically, between Brunei—already a powerful Sultanate long before Islam—and China. Some of the material and other results spread up across Brunei Bay and Labuan Island. But it is not until about 1292 A.D. that there is a specific mention of Sabahan territory, although the basic idea behind this record has become part of much local folklore. This idea is that Sabah's largest river, the Kinabatangan derives its name from *batang* (river) and China. Similarly, Sabah's dominant mountain is widely thought to derive its name from a fusion of the native term with a derivative of the word *China*. This rather surprising belief was first given currency by Sir Hugh Low nearly a century ago, when he related the Kinabatangan to an "unsuccessful expedition sent by Kublai Khan, 1292 A.D."¹⁸

With Kublai Khan, the Sung Dynasty had passed its peak of outside contact, evidenced in the large quantities of Sung pottery to be found almost throughout Borneo—and in great abundance in Kota Batu at Brunei. But this incident has become so garbled that it cannot be accepted for Sabah without further study of Chinese records and identification of at least one Chinese

settlement or contact point in the Kinabatangan itself. So far, evidence in this direction is distinctly negative. It is significant that the splendid caves of Guomantong in the lower Kinabatangan, which are also easily and more quickly accessible by land from Sandakan Bay, have produced very little of Chinese origin, none of it early (Chapter III, 2 for details).

The next record in time is of the Chinese Ming emperors' epic traveller, the eunuch Admiral Cheng Ho, who made a series of well-authenticated voyages. But scholars do not always agree on the interpretation of the place names in the old Chinese texts and his exact course through the islands is uncertain. His fleet evidently visited the southern Philippines after 1405 A.D. In the absence of written records for Sabah, and of any known place names north of Brunei at that time, we can only assume that he probably did visit this coast. Certainly this is a more likely basis for the Kinabatangan legend—and such legends do not grow out of nothing at all. Once again, however, the event is confused, not only in folklore but also in the earliest written material where fact and fantasy are intermixed. The Idahans, who own the birdsnesting rights in many caves on Sabah's eastern coast, claim that they first traded them to a powerful Chinese group further north across the Sulu Sea, just about the time that Islam was first introduced—which, on their reckoning is 1408 A.D. (Chapter XI). On the west coast, the royal annals of Brunei identify a great Chinese voyager, Ong Sum Ping. Long before this, a great many Chinese had become Moslems. Ong, like Cheng Ho, was a Chinese Moslem—and he may well have had to do with the expansion of Islam in Borneo. The annals say that either his daughter or his sister married the second Moslem Sultan of Brunei, Akhmed, brother of the first ruler to be converted to the new faith (probably about 1410 A.D.). The official record for Brunei reads:

"Sultan Akhmed, the brother of Sultan Mohamed, married the daughter or sister of Sum Ping, a Chinese Chief who had come down to Borneo, by order of the Emperor of China, to seek for the jewel which was in the possession of the dragon of China Balu. He went with his daughter, on her marriage to Sultan Akhmed, from China Batangan to Brunei, taking all his people with him".¹⁸

Through this tangled picture of the past, it is difficult to doubt that Admiral Cheng Ho and Ong Sum Ping are related in time, if not identical in person. That is our personal suggestion. For sure, Ong in the folklore of Borneo "represents" Cheng in the Chinese reports. He is, in this sense, a symbolic figure for an important Chinese contact in the same way that the jewel and the dragon of Kinabalu may be taken as symbols for the wealth of the Sabah trade and the fact that this wealth was held by people who, on the Chinese dragon scale of values, were to be regarded as devils, barbarians and so on.²⁰

Others must seek further to disentangle this fascinating web. Unfortunately, any attempt to solve the Kinabatangan end of the puzzle is fraught with a particular difficulty in an already difficult terrain. Much of the riverine land has been very heavily flooded over long periods; and increasingly so in the last few years, with vigorous deforestation on a massive scale through the big timber companies, main source of Sabah's modern revenue and, indeed, prosperity.

(b) *Celebes Contacts*

It is a common belief in Sabah that some of the "Dusun" type people, especially those near the coast, have ancient Chinese blood, derived from such ghostly figures as the Kinabatangan's Sum Ping. Be that as it may, the physical composition of this multiracial society is extremely complex. Words like "Dusun" (now largely replaced by the politically conscious term "Kadazan") and "Murut" were adopted for administrative purposes and then formalised as cut and dried distinctions in the periodical censuses of colonial times. These terms cover, often disguise, a multitude of faces and facets, combining the ancient common stock out of the palaeolithic with the multiple local specialisations, and the increasingly numerous other impacts, physical or intellectual, through the neolithic into the iron age.

One of the least studied, but most important, cross-currents of culture from the neolithic onward, has been between Sabah's east coast and the Celebes further east again. Because Celebes is now more or less cut off by political boundaries and recent events, modern observers have tended to overlook the connection but not so native tradition, not so the artifact evidence of coffins upon cave floors, and neolithic pottery under the floors. There are notable affinities between some of the prehistoric coffin shapes at, for instance, Miasias Darat (Chapter III, 5(b) and Plate 7) and those studied earlier in Celebes by W. Kaudern and others. The buffalo and lizard motifs in both native traditions are strikingly similar and the former, like the buffalo itself, has become a vital feature of native life in the interior uplands and may well have come into Sabah from Celebes (or vice versa) early in the iron age (or before).

We draw special attention to this Celebes-Sabah contact as a fruitful field for further study, especially since parts of Celebes have been well served by archaeologists and ethnologists who are again working there at this time. The growth of a bronze technology in the Celebes could be of particular significance for prehistory. Likewise, the important role which the Bugis of Celebes undoubtedly played in carrying objects and ideas, not only westward to Borneo and through the islands, but also as far as the northern extremities of continental Australia.²¹

(c) *The Disgusted Datus who headed north past Palawan*

Although there is now no known form of endemic, pre-Islamic native writing in Sabah, it is almost certain that it did once exist. Highly specialised native scripts occur to the south among the Sea Dayaks of Sarawak and the Kenyahs of Kalimantan, as well as the Bugis of Celebes. An elaborate and abundant form of such early writing has survived for study in the Visayan Islands of the Philippines, where the Spaniards found the people writing long texts on bamboo early in the 16th century. The term "*Maragtas*" is often applied to these texts, one of which has already been briefly quoted (Chapter I, 4 above). The "historical" value of *Maragtas* texts has been much disputed. From the prehistorical point of view they are invaluable in providing vivid

accounts of an earlier way of life which, however incompletely or inaccurately reported, cannot any longer be adduced at all from other sources.

The Maragtas which refers to the disgusted Datus in much detail has usually been attributed to about the 13th century, though this is open to dispute. What matters here is the information on human movement which the text contains, regardless of the particular century involved. This story opens by explaining how a group of aristocrats left from somewhere in the north of Borneo, probably Brunei Bay, in disgust at the oppressions of their ruler. Passing up the west coast of Sabah and Palawan Island (as in the earlier quotation cited above) they came to the island of Panay in the southern Philippines and encountered Datu Marikudo, Chief of the Negritos (Chapter I, 8 above). This was the first important stop in their journey northward, past Sabah:

"When the Datus of Borneo arrived in the barrio (village) of Sinugbuan, all the Negritos, because of fear, fled except Marikudo. As the only one left, Marikudo got his bow and arrow, bravely faced the newcomers, and asked them what they wanted. Datu Puti, the Bornean leader, answered that they wanted to buy the land, the very land on which they were standing, the place which was called the barrio of Sinugbuan, if it could be sold to them. Datu Marikudo asked them to wait for a few days for his answer, as he was going to have a consultation with the old men in the barrio. Meanwhile, the Borneans could return to their homes and Marikudo would just notify them".

The Borneans consolidated their position with the Negritos, then moved a decided step further to establishing a claim for land ownership amidst their northern neighbours. A great feast was held—it is described in fascinating detail in the text:

"After the feast, Datu Marikudo told Datu Puti that there was no objection to the sale of the Negrito land as all of his old men were in favour of the sale, and he asked how much Datu Puti wanted to pay for the land. In return Datu Puti inquired about the extent of the land offered for sale, and in reply some of the old Negritos who had made a survey of the whole island, said: "Friend, if you go around the whole island passing by the coast, starting from your farm where you have just planted your seedlings, by the time you reach your starting place, your rice will be ready for harvest".

When Datu Puti heard this, he sent his slaves to his boat to get a *saduk* (a big native hat) and a *batiyin* (a native wash dish), all made of gold, and offered these to Datu Marikudo in payment for the Island of Panay. Marikudo, upon seeing these, was so dazzled by the brilliance of the gem that he snatched the gold hat and put it on his head and danced with joy. When his wife Maniwantiwan saw him, she said that the sale would not go through unless she was given a necklace like the one worn by Pinangpangan, wife of Datu Puti, even though she would not get the basin. Upon the advice of her husband, Pinangpangan without hesitation took off her necklace and gave it to Maniwantiwan, but in addition to the land she requested Maniwantiwan to give her one *tabungus* (a big basket used for storing *palay*) of crabs, one hog with long tusks, and wild deer with slanting eyes. Maniwantiwan agreed to this but she asked for some time to procure these. She then put on the necklace and danced with Marikudo.

The Negritos who had just seen the dazzling brilliance of gold were happy and believing that the people of Borneo had paid a very high price for their land. They told their chief that they would be willing to leave behind to the Borneans, as part of their land, their cottages and plants. And so, after they had taken all their belongings, the Negritos left for the mouth of the river called Dalanos and others went to Kabadyangan".²²

The story goes richly on, fascinating reading—but outside the present theme. What matters in the context of this chapter is the way the Visayan bamboo text—halfway between the historical and prehistorical—describes the process by which a small group, motivated by special reasons, no longer decipherable in detail, moved to make its impact upon another and in this

instance, a very different group, not following any accepted trade route or migratory arrow of direction. If one wishes to widen this idea a little, it can be said that the Philippine Visayans do have some particular linguistic and other affinities with the people now called Bisaya who inhabit the Beaufort area in the southwest of Sabah and the Limbang River in the north of Sarawak. It is probable that the Visayans and Bisayas "separated" in the iron age, and that the *Maragtas* story symbolises that event, or one part of it. Similarly, the Borneo Bisayas are themselves quite closely related to the Melanau peoples further south, one of the big ethnic groups on modern census definition in Sarawak. The Melanau, in turn, relate themselves in their folklore to the founding fathers of the Brunei Sultanate. . . .²³

(d) *From North to South: the Sultan's Elephants*

The origin and evolution of elephants in South-east Asia generally and Sabah specifically is almost as complex and uncertain as that of human beings. The two inter-relate in our fourth example of the processes by which a multi-racial pattern grew from the palaeolithic into the 20th century, the atom age.

Large herds of the Indian elephant (*Elephas maximus*) still roam parts of Sabah. Like the outrigger canoe, however, they are only found in the lowlands behind the east coast, never on the west or in the interior. Where they do occur in numbers, they have become a major enemy of modern "development", the big new plantations of sisal, cocoa and oil palm. There are no living elephants to the south in Sarawak, Brunei and very few in Northern Kalimantan. Nor is there any indication of a prehistoric elephantine presence in the food remains at the Niah Caves, where they could hardly be missed, and where other locally extinct forms are conspicuous.

This absence of elephants in our excavated material gives some substance to the pachyderm folklore, widespread in Sabah, which explains their localised presence there—we will come to this shortly. On the other hand, the geological record points vaguely in the opposite direction. For in adjacent Java there is fossil proof of a modern-type elephant there some 50,000 years ago, as well as a more archaic Mastodon type, while in Sumatra the Indian elephant persists in a specialised local sub-species (*Elephas maximus sumatrensis*.) Moreover, further east, an extinct miniature elephant had evolved in the Celebes and may well have been exterminated by early human hunters there.

The record is trebly confounded when we recognise that elephants are the first animals ever to be mentioned in the historical record for Borneo. Pigafetta, chronicler of the first circum-navigation of the globe, describes the first European visit to these parts, when the Iberians called upon the Sultan of Brunei in 1521 A.D., after sailing down part of Palawan:

"When we reached the city, we remained about two hours in the prau, until the arrival of two elephants with silk trappings, and twelve men each of whom carried a porcelain jar covered with silk in which to carry our presents. There upon, we mounted the elephants while those twelve men proceeded on foot with the presents in the jars. In this way we went to the house of the governor, where we were given a supper of many kinds of food. During the night we slept on cotton mattresses, whose lining was of taffeta, and the sheets of cambric. Next day we stayed in the house until noon. Then we went to the king's palace upon elephants, with our

presents in front, as on the preceding day. All the streets from the governor's to the king's house were full of men with swords, spears, and shields, for such were the king's orders. We entered the courtyard of the palace mounted on the elephants. We went up a ladder accompanied by the governor and other chiefs, and entered a large hall full of many nobles, where we sat down upon a carpet with the presents in the jars near us".

After an audience with the king and exchange of gifts:

"They presented us with refreshments of cloves and cinnamon, after which the curtains were drawn and the windows closed. The men in the palace were all attired in cloth of gold and silk which covered their privies, and carried daggers with gold hafts adorned with pearls and precious gems, and they had many rings on their hands. We returned upon the elephants to the governor's house, seven men carrying the king's presents to us and always preceding us. When we reached the house, they gave each of us his present, placing them upon our left shoulders. We gave each of those men a couple of knives for his troubles. Nine men came to the governor's house with a like number of large wooden trays from the king. Each tray contained ten or twelve porcelain dishes full of veal, capons, chickens, peacocks, other animals and fish. We supped on the ground upon a palm mat from thirty or thirty-two different kinds of meat besides the fish and other things. At each mouthful of food we drank a small cupful of distilled wine from a porcelain cup the size of an egg. We ate rice and other sweet food with gold spoons like oars. In our sleeping quarters there during those two nights, two torches of white wax were kept constantly alight in two rather tall silver candlesticks, and two large lamps full of oil with four wicks apiece and two men to snuff them continually. We went elephant-back to the seashore, where we found two praus which took us back to the ships. That city is entirely built in salt water, except the houses of the king and certain chiefs. It contains twenty-five thousand fires (families). The houses are all constructed of wood and built up from the ground on tall pillars. When the tide is high the women go in boats through the settlement selling the articles necessary to maintain life. There is a large brick wall in front of the king's house with towers like a fort, in which were mounted fifty-six bronze pieces, and six of iron. During the two days of our stay there, many pieces were discharged. That king is a Moro and his name is Raja Siripada. He is forty years old and corpulent. No one serves him except women who are the daughters of chiefs. He never goes outside of his palace, unless when he goes hunting, and no one is allowed to talk with him except through the speaking tube. He has scribes, called Xiritoles, who write down his deeds on very thin tree bark".

If only we had the other side of the story, the reverse account of those court writers, the *guru tulis* surviving as the perfect bridge between history and prehistory, on bark.

Four centuries later, no trace either of the bark or the great beasts is to be found in Brunei: not one ivory tusk remains to adorn the new Brunei Museum, and no one in Brunei offers an explanation of how the elephants got there in the first place, or vanished again into thin air in the second. But for Sabah, where Indian elephants are still very much a feature of the eastern landscape, there are folk explanations in plenty. The most widely heard and generally accepted view is that a few elephants were landed somewhere near Lahad Datu by order of the Sultan of Sulu. From these, over centuries, the stock has increased to 2,000.

The Sulu Sultanate has become something of a traditional bugbear in Sabah, and we shall meet somewhat similar accusations of prehistoric nuisance with the dog in our fifth and final contact example. After hearing many facets of this story, we believe there is at least a germ of truth in our summarised version:

"A long time ago the Sultan of Sulu, who had previously received some elephants as a gift, decided to move them from his small island and place them on the Bornean coast. The purpose of this act, as proclaimed by him, was that these elephants were in fact his representatives in a territory which he claimed to control. They were to be a living reminder of his royal domain and power. Wherever the elephants roamed was to be considered to lie under the Sulu Sultanate".²³

Shipping massive mammals had become almost commonplace as the great sea trade developed in the iron age. Both Indian rhinoceros and African giraffes were successfully brought north to China early on. But westerners, reluctant to attribute such skills to others, have tended to get round this elephant paradox by suggesting that the East India Company donated the beasts to the Sultan of Sulu. This could hardly explain the Sultan of Brunei's elephants, which clearly pre-date that company's existence. It would be equally plausible to explain the affair by supposing that a later Sultan of Brunei, in one of the many royal exchanges with his neighbour to the north, passed the animals on to Sulu—and so on.

A final solution to the elephant puzzle of prehistory here may be gained through blood samples and more refined physiological techniques which are now enabling biologists to trace animal affinities and evolutions. More likely, we shall never know what really happened, as is the case in almost any attempted total reconstruction of South-east Asian prehistory. Nevertheless, these elephants act as a reminder of the complex processes at work in the Sabah situation. They no longer mark Sulu territory—certainly not so far as the people of Sabah are concerned!

(e) *Interior Contacts—the Golden Deer as a Cave Guide*

Our last example also starts off with the Sultan of Sulu and shipping a domestic animal, this time a dog. It then moves well beyond that though: through the shadowy "long, long ago" in time, and throughout Sabah in space—about as far back in both dimensions as oral literature can go. The folk-tale occurs in several forms. The Muruts behind Brunei Bay, in 1945, had as the central figure a wild ox (*tembadau*) with golden horns, which starts out from the coast, as an offshoot of the Brunei Sultanate, then travels all through the headwaters of the great rivers—the Limbang, the Padas, the Kinabatangan, and the Sesajap (in Kalimantan), leaving behind a human child in each valley as an ancestral aristocrat in a new social arrangement something like the one we have already seen with the Datus and the Negritos. The "idea" in this and other versions is of a marvellous ancestral animal leading the way either to a new race or a new way of life, in areas either previously empty or backward in the modern sense. More usually, a golden deer is the culture hero, as with the version recorded on the east coast of Sabah in 1930, by Pastor Orolfo; this has lately been elaborated and to some extent clarified by the written material in the Idahan native text from the same district (Chapter XI).

The tale starts with a man called Gomorid Kimau, who lives on a hill called Bulod Apoi—"hill of fire"—as with the volcano and other origin stories discussed (Chapter I, 4). Gomorid has a brother, Siod Rapat, who is a dog: such mixed animal siblings are commonplace in Borneo folklore and basic for the animist side of religious belief. This dog-brother was famous because he could talk like a man and hunt better than any dog—mastering not only wild pig and deer, but rhinoceros and bear. His fame came to the ears of the Sultan of Sulu, who eagerly desired to possess Siod. He sent a boat

with ten men to get him from his brother by barter; or, if need be, by force. Evidently there were no hunting dogs in Sulu at that time.²⁶

Gomorid was reluctant to sell. But Siod himself advised this course. So the Sulu men sailed off with their prize. But on the way, as they sailed by the mouth of the Madai River, dog brother suddenly attacked and slew seven of the crew. Three he let go back to Sulu to warn the Sultan not to interfere with him any more. Then, to quote the 1930 native account:

"Soid Rapat (the dog), after seeing the men off to Sulu, swam up the river, then climbed Madai Hill. There he called for his brother Gomorid, who immediately recognised the voice of his own dog, in spite of many miles distance between them. Bringing a spear with him, Gomorid set out to find his brother—who, of course, was waiting for him on top of Madai Hill. Gomorid enquired why he was there when he was supposed to be with the Sultan's men. Siod Rapat now told of what had been in his mind when he advised his brother to sell him. His only reason for not going with the Suluks was that he loved Gomorid and did not like to leave him. Siod Rapat related all that had happened since he and the Suluks left Bulod Apoi up to the time he reached the top of Madai Hill. When all had been related, they were again at peace together.

After a while Siod Rapat said, "Brother, I want you to remember this hill. Its name is Madai. In the future you and your children will find riches here". Gomorid said: "Yes". Siod Rapat added: "Supposing there is a deer for us to chase, how many days will you be able to continue with me in the chase?" Gomorid answered: "One week". So the two brothers climbed down the hill, at the foot of which they saw a golden deer grazing. Immediately Siod Rapat began the chase. Gomorid followed, spear in hand.

After a wild and fruitless chase Siod Rapat stopped on top of Baturong Hill and waited for his brother, who caught up hours later. Siod Rapat then said: "Brother, remember also this hill. Its name is Baturong. In the future it will give you and your children riches". As before Gomorid replied: "Yes". They looked again for the golden deer. They found it grazing not far away and chased it once more. After many hours Gomorid was able to spear the deer in the side. They were by now in the upper Sabahat River, near Silam. But in spite of the wound and a great quantity of blood oozing from it, the deer was able to run as fast as when they had started the chase. The two brothers grew tired and they rested on top of Tapadong Hill. Here, as on the top of Madai and Baturong Hills, Siod Rapat told Gomorid to remember the hill, the name of which was Tapadong. Gomorid, as before replied: "Yes".²⁷

And so the tale goes on over to Gomantong Caves, the golden deer always ahead of the brothers. Gomorid eventually falls out, exhausted. Siod continues along, eventually killing the deer on top of Mount Kinabalu. It turns out to be a deer of solid gold. But of more lasting value are the places this deer has pointed out on the chase: the succession of limestone hills containing caves, soon to become the prime source of native prosperity, for they are rich in edible birds-nests.²⁸

At this point, we may suitably close this Part A as general background, allowing the deer to lead us into the caves themselves, opening Part B. These caves—Gomantong, Tapadong, Madai, Baturong and the rest—are a prime source of Sabah's archaeological wealth as well. And for those who wish, later on, to follow the deer further, through wider prehistoric ramifications, we shall return to this theme near the close of this book, with the more intricate Idahan version of the same story, (published for the first time in Chapter XI), which also links Sabah with Hindu beliefs before Islam.²⁹

PART B

SITES—THE PLACES OF PREHISTORY

III. The Caves

To assist the reader in identifying the many caves to be described, a special table of contents is offered for this chapter:

1. Birds-nests and Cave Exploration.
2. Gomantong Caves.
3. Caves on the Lower Kinabatangan River:
 - (a) Batu Keruak, "Cave of the Waterhen".
 - (b) Agop Pangi.
 - (c) Agop Tahi.
4. Caves on the Middle Reaches of the Kinabatangan River:
 - (a) Batu Pin, elephant difficulties.
 - (b) Batu Puteh and Suluk Caves, potentially important.
 - (c) Batu Supu, a network of caves.
 - (i) Sapa Tareng.
 - (ii) Agop Mantapus.
 - (iii) Agop Nonok, "Cave of the Fig Tree".
 - (iv) Agop Tajarang.
 - (v) Agop Samangat Bubuah, "Cave of the Haunted Burials".
 - (vi) Agop Bugdado, "Cave of the Old Jar".
 - (vii) Other Caves at Batu Supu?
5. Pintasan and the Sandstone Caves of the Lokan River:
 - (a) Agop Miasias and the "Toy Coffin".
 - (b) Miasias Darat and the "Double Coffin".
6. The Kinabatangan above Kuamut; Fringes of Orang Sungai Country:
 - (a) Agop Sarupi, "Cave of Remembrance".
7. Tapadong Caves on the Segama River:
 - (a) Mandag Awan and its "Slave Undertakers".
 - (b) Samang Itay, three rock-shelters.
 - (c) Samang Buat, with more oversize coffins.

- (d) Bagdapo, cave of broken ceramics.
 - (e) Pusu Lata.
 - (f) Pusu Lumut, a neolithic and bronze cave.
 - (g) Batu Blas, with 1000 coffins.
8. Darvel Bay, Sipit and the Outer Island Fringe.
9. Madai Caves; Earliest Evidence of Sabah Prehistory.
- (a) Madai Cave and Village.
 - (b) Agop Atas, from bird-nesters' camp down to Palaeolithic.
 - (c) Agop Tuhan, a rock shelter.
 - (d) Pusu Samang Alag, "low-lying coffin cave".
 - (e) Kiypo Cave, "crawl-in cave".
 - (f) Pidtong Cave.
 - (g) Pusu Samang Tas, "high coffin cave", rich in earthenware.
 - (h) Malap Buaya Cave, of bird-nesting interest only.
 - (i) Lawag Lawag and Kubonatok Caves, Orolfo's account.
10. Baturong Caves beyond Madai:
- (a) Pusu Bakas, with massive ossuaries.
 - (b) Timbau Balai, a guano cave.
 - (c) Pusu Serap Gaya, a camping place?
 - (d) Lobang Tingalan, an important site?
 - (e) Hagop Bilo with prehistoric wood carvings.
 - (i) The three ancestral figures.
 - (ii) The fourth carved figure; a lesser variation?
 - (iii) Relevant comments on the four carved figures.
 - (iv) Sungai burial rites as remembered by Bambi.
11. Interior Caves:
- (a) Keningau, in Kwijau country.
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 - (c) Murut Speleology.
12. Conclusion on Caves.

1. Birds-nests and Cave Exploration

THE limestone caves mainly along Sabah's east coast, known as an important source of edible birds-nests for centuries, remain of considerable economic importance to the local population of the area who inherited the rights of collecting the nests from their forefathers.

The birds-nest trade probably started from the east coast in or before the early 15th Century A.D. A great Chinese fleet (said to have consisted of more than 60 vessels with 27,000 men) under command of Admiral Cheng Ho, supposedly visited the Philippines and Sulu after 1405 A.D. from the north (Chapter II, 5). Almost simultaneously an Arab missionary, Machdom, came to Sulu via Malacca. He built the first Mosque on Philippine soil at Tubig-Indajan on Simunul Island, in 1380 A.D. Machdom was an "Alawiah" which simply means "holy man" but also implies direct descent from the Prophet Mohammed. Idahan folklore, of which we shall hear more presently, has it that this "Alawiah" (or Aulea) came to Sabah's east coast with a trading vessel in 1408 A.D. and there converted the first Idahan to Islam (Chapter XI). Once these connections were made, enterprising local people sailed up themselves with their barter produce, including birds-nests, to Sulu and Mindoro. As we were told by many informants in various areas of the east coast, these first local traders, upon arriving in Sulu, found there powerful Chinese representatives and Muslims from the west, assembled together.

The Chinese identified and bought the edible nests previously known to them from elsewhere. During the following two or three centuries, the trade prospered, bringing considerable wealth and outside impact to the east coast, the most important aspect of which was the message of Islam, of education and writing, from the north and west. Chinese stonewares and porcelains, iron, brass and gold, glass beads and textiles were obtained and traded inland, often in exchange for edible nests.

But during that time and many centuries before, we have also to think of the east coast caves as important centres of spirit activity, as burial places of the settled pagan population. In some isolated small caves not containing edible nests—such as Batu Belas on the Segama River—cave burial customs have been continued into this century by the Orang Sungai and others of the area who have resisted conversion to Islam. The conflict of interest between Arab, Brunci, Bugis, and Sulu traders who came in for the edible nests and the progressive local converts who promoted them on the one side, and the strong spiritual fears of pagan local settlers who treasured the caves as their ancestral burial grounds on the other, grew as time went on, often causing widescale destruction and bloodshed. A typical story of this kind of trouble survives at Agop Sarupi on the upper Kinabatangan River¹:

¹When the Suluks arrived in the area (the approximate period is not remembered) they established a new Government and their own rights, by waging war with the pagan Sungais who, being weaker, submitted and retreated. The Suluks wished to take over the birds-nest cave of Sarupi, and, to spite the Suluks, the Sungais spoiled the cave. They gathered a large quantity of *damar* (inflammable gum) from the jungle, brought it to the cave and burnt it there

to cause all the birds to perish. This had the desired effect for no birds came back to recolonise the cave. It thus became useless for the Suluks and could continue to be used by the Sungais as a burial ground.

However, in 1923, the Suluk aristocracy of the area *again* tried to take over the cave, wishing to re-establish the population of swiftlets which once occupied it, prior to the fire. They hoped to achieve this by clearing out all burial remains including the coffins,—cleansing the cave, so to speak, and thus inviting the swiftlets to come back. But three years passed and no birds came back. So the Sungai cave owners once more used the cave. They made no attempt to recover any of the older burial remains, thrown out by the Moslems".

(This and the following cave folk tales were collected in the field from 1963 to 1968.)

Caves where burial remains were left undisturbed are, today, only few. In the five centuries following the first missionaries of Islam, the coastal settlers gradually became Moslems; and in doing so, gave up the regard and care for their ancient customs. In the economically most important caves which the swiftlets (builders of edible nests) colonise, only debris remain: broken hardwood coffins, sherds of ceramic and earthenware jars and pots imported over the Sulu and Celebes Seas long ago: wooden, iron, and brass fragments, the relics of funerary gifts to wealthy ancestors. Throughout these centuries casual visitors from outside who had no understanding and regard for these burial caves, took away with them what was intact and of value; and this process deplorably continues to the present day. In some of the larger caves, such as Gomantong and Madai for instance, seasonal birds-nester's villages also grew up, with crowded sleeping platforms and houses built by the collectors right over ancient burial grounds. But, however much a cave has been disturbed and emptied in the past, there remains almost always something to "tell" an old story; dateable ceramic fragments with specific patterns and origins, folktales and ancient beliefs surviving in the minds of those who have been settled along this part of Sabah since time immemorial.

Most surface remains in any such cave can be dated within one or two centuries; and taken against the background of living memory, can be reconstructed to tell much more than a date, as we shall see. But tracing the story back still further to a time before the establishment of historic trade contacts to the north and west, by Chinese imported stonewares, of iron, and glass beads, the archaeologist has to probe deeper, excavate below the surface.

Before cave deposits can be excavated, surface relics must be fully recorded, analysed, and removed. Large scale removal was not undertaken by us; firstly, to avoid causing offence to, and suspicion by, the peoples settled near the caves; secondly, because we were primarily committed to reconnoitre and survey as widely as possible, in order to establish a pattern of priorities for archaeological excavation work to be undertaken by the Sabah Museum in the years ahead. However, we found three caves—at Tapadong on the Segama River (7(f)), at Madai (9(b)) and at Baturong Caves (10(d)), south of Lahad Datu where excavations resulted in evidence from earlier stone age periods, as we shall see. These were limited, probing operations, giving us only brief glimpses into the ancient past; but the main job of *finding them at all* has been largely achieved. Future efforts by others who follow after us may now pick and choose where they want to be—with the early stone age hunter or the iron age agriculturist and trader. Both used these varied, beautiful caves on Sabah's

eastern coast—to live in and feed off, and to bury the dead; finally to become prosperous by collecting birds-nests.

2. Gomantong Caves

THE Gomantong Caves are in Gomantong Hill, (Plate 3) the north-east end of Dulang Lambu (also referred to locally as Bobong Bulod), a limestone massif about 20 miles south of Sandakan (See Fig. 1/2). There are two main caves in this formation, known locally as Simud Puteh (white) and Simud Hitam (black). The names refer to the principal types of edible birds-nests produced in each cave. Kala Bugir, a small burial cave, lies in the slope beneath Simud Puteh. It is reached by walking up the path to the larger cave and striking left at the first limestone cliff for about 100 feet. The entrance to Kala Bugir is about 30 feet above the foot of the cliff.



Fig. III/1: Areas with limestone caves and abundant hard stone.

Simud Puteh is the largest of the Gomantong caves, with two chief entrances and extensive dark passages behind. Deposits at the cave entrances slope sharply down and inwards. Thus all debris forming during cave occupation rolls or is washed in by rain and drip-flow, down into the piles of guano inside. Such steeply inclined slopes provide the worst possible conditions for the formation of a deposit sealing and preserving layer upon layer of human debris as time passes. Nor can anything but stone normally survive the destruc-

tive effect of the acidity of the guano. Although it may be assumed that Simud Puteh served as a camping place to many comers in prehistoric times—as it does to the seasonal birds-nesters of today—it bears no interest from the archaeological point of view because it entirely lacks even (horizontal) ground and regular deposits at its entrances. Simud Hitam is smaller than Simud Puteh, but its passages are much larger and a gap in the roof gives sufficient light for exploration inside without the use of lamps. It opens at ground (forest floor) level, so that pig and other large animals enter easily and often. The cave slopes gently upwards and inwards and is very damp. There is a slow flow of damp guano from within to the mouth, excluding all other deposits. No damp, regularly flooding forest floor will preserve casually deposited archaeological remains at such a location. The cave's low situation and accessibility to pig may have led to Gomantong's discovery by the Sungai people and subsequent use by them of nearby Kala Bugir, as a burial site. Such a story survives locally:

Seven Fairies leading the way to Gomantong

"Many generations ago a man called Raja Tua Batulong, a Sungai from Kampong Kuala Kuamut (upper Kinabatangan), went hunting in the jungle with his spear and his dog. He went very far and lost his way. After a time he lost his mind. He suspected that he was under the influence of a bad spirit (a spirit called *Anturute*) dressed only from knee to waist and on the front of the body. He went on walking. After a whole week he reached a hill and found a cave in it. He threw a stone into the cave and thereby discovered that there were many birds nesting in it. He explored the cave and finally marked it. He named it Agop Tagarang.

From Agop Tagarang he continued his journey for another two days, when his dog chased after an animal. Batulong did not see the animal at first, but went after it and his dog for two or three hours. Finally he caught up with his dog and saw that it was fighting with a pig. Batulong speared the pig and slaughtered it for food. He was very surprised to notice birds-nests in the pig's stomach which indicated to him that there was a birds-nest cave nearby.

After eating the pig he went to sleep. That night he had a dream. He saw seven fairies (seven good female spirits) dressed in blue, who asked him why he was where he was. He told the fairies that he had lost his way. They told him he should not worry: that tomorrow he would come across a cave if he followed their directions. They pointed to the right from where he was sleeping and said if you follow this way you will find a cave with many birds-nests in it. This cave is larger than those at Kuamut, its name is 'Simud Hitam—Gomantong Besar'. They also told him that before he left the cave he should place his shirt as a marker in the cave mouth so that he would be able to find the cave again later on. The fairies then spoke to him about his return journey to Kuamut. They told him that he must continue his way and walk on in the direction he thought right.

Batulong woke up but could not see anybody. He ate some meat and went on his way in the morning. He chose the direction the fairies had given him, and shortly afterwards came upon a cave which contained many edible birds-nests, as the fairies had told him. He explored the cave and marked it with his shirt. Then he went on, choosing his own direction.

After about two hours he came to a river which he followed to its mouth in accordance with his dream. In the early afternoon he saw two men in a boat. He called out that he was a friend who had lost his way in the jungle, and that he was from Kuamut.

The two men took him into their boat and slowly travelled upriver. About midnight they came to their village which is now called Malapi. (This is a village one bend upriver from Kuala Menungal.)

There they brought him to the house of Penghiran Degadong Sama, the leader of the village and the whole area, telling Penghiran Sama how they had found him.

The Penghiran was not surprised, for he had already heard the story that a man had got lost from Kuala Kuamut village. He told them that this was a friend who should be welcomed in Malapi. The Penghiran himself took him into the house, clothed and fed him, for a number of days. As Batulong was getting stronger he started talking to Sama and told him the story of his discovery of a new cave. He showed him the birds-nests that he had collected from it and also related his dream of the fairies. The Penghiran asked him if he could find his way back to the cave, and Batulong said that he could.

The Penghiran arranged for a party to go with Batulong back to Gomantong. They reached the cave Simud Hitam, which was pointed out to Batulong. The Penghiran and his people then made their own signs of ownership near the cave and also built some huts at its mouth."

Kala Bugir consists of three separate shelters: Kala Bugir Besar, a room-sized rock pocket with low ceiling, Kala Bugir Kechil, a similar small space under an overgrown cliff, and Kala Bugir or Agop Lungun ("Coffin Cave")

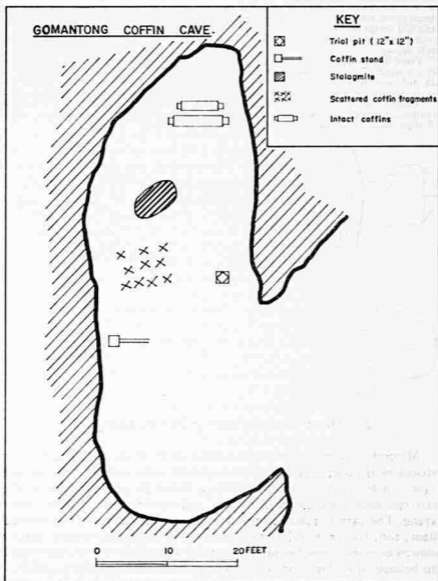


Fig. III|2: Map of Kala Bugir Lungun cave.

where burial remains are on the surface. Lord Medway, who explored for us there in July 1958, describes the cave thus:

"A climb (but not hard) leads up well above the valley floor. The cave is sheltered by a screen of hanging lianas and *Ficus* sp. (*kayu ara*). It is quite dry within, and light. Most of the walls are white or pale green. There are no wall drawings.

There is no active stalactite, although a pillar of stalagmite stands in the centre, and there is a row of stalactite from a joint crack in the roof along the axis of which the cave is orientated. The floor deposit is mid brown, dry, and in places evidently four or more feet deep. Five swallow nests, one with young, are at the back of the cave.

The remains of 7 coffins of a similar style are scattered about, and one more has been thrown down the cliff. They have evidently been deliberately broken. Two remained fairly intact and details of these are figured below (Fig. III/3).

Fragmented human bone, earthenware sherds, and food shell are scattered over the whole deposit.

From one support still standing it appears that the coffins here were once deposited above ground. The coffins are of hardwood (*Merbau*) and in good condition, without saw cuts, only with adze marks. Two halves fitted as trough and lid without nails or pegs. The trough appears as a simple rectangular box, its fitting lid has a decorated flange fore and aft.

A small trial trench was excavated to one side of the cave (Fig. III/2) to a depth of 30 inches. It revealed earthenware sherds, human and animal bone fragments, one "flake" and other small extraneous stones to a depth of 24 inches."

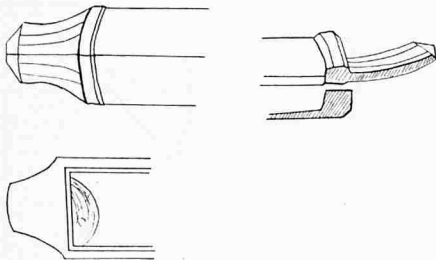


Fig. III/3: Details of coffins from Kala Bugir cave.

Michael Chong, visiting Gomantong seven years later, found some archaeological remains probably of comparable date in Agop Tobi Dayang, a cave situated outside the main Bobong Bulod formation at Gomantong, about one mile from the birds-nesters' godown (store) on Sungei (River) Dayang. The cave is reached by following first the path leading to Simud Hitam; then from the cliff to the right of Simud Hitam, turning west for about 20 minutes across the jungle. A gentle slope leads up to the cave, easily seen because of its high and wide opening, facing east (and see p. 151).

Two inside passages connect here. The situation is damp due to drips from the cave's ceiling. The cave is colonised by bats and accessible to pigs.

A few earthenware sherds are scattered on the surface, and a small trial trench resulted in a fragmented ancient Chinese coin, more earthenware sherds and some shell debris.

For Gomantong as a whole, archaeological prospects may be limited at present. A small archaeological excavation at Kala Bugir (Agop Lungun) would probably result in more detailed information on Gomantong's prehistory. But indications from past explorations are that no large-scale finds are to be expected mainly owing to the caves' low situation, limited size, and adverse topography. The burial remains present on the surface compare in style to many others (see below), but could only be dated through excavation, which was not undertaken because of the suspicion and fears of the bird-nesters' community operating at Simud Putih and Simud Hitam, nearby.

3. Caves on the Lower Kinabatangan River

DURING a month's archaeological investigation (May, 1965) of limestone and other small cave formations in the wide flat Kinabatangan basin between Abai on the delta and Kuamut far upriver, we seldom strayed far away from the riverbanks. Without exception, all these outcrops (of limestone and sandstone) are small and low lying, some barely visible from the river or its tributaries, hidden behind tall forest trees. It would have been impossible to find them without guides. Usually only the cave owners or a near relation know their location. Strangers are not shown around gladly, especially if a cave houses colonies of swiftlets building the highly priced white variety of nests. A yearly harvest of five katis (6½ lbs.) of these can result in \$1,000 cash to its owner. Sometimes we searched for a cave unsuccessfully. The list of caves given here, therefore, is far from complete, although it is believed to cover the main archaeological potential—limited as that is in this section.

The first most conspicuous rock of limestone—well known to most people living and working near Sukau in the lowlands—is Batu Temonggong, a rock about 80 feet high, standing right over the river. As we travelled past it one of our boat's crew (a Brunei Malay whose family migrated to Sabah four generations ago) threw a handful of rice grains across the water, and uttered a prayer. This, he said, was in accordance with custom and because the place was considered holy—'*kramat*'. The story how the custom originated, was later told us by Haji Ugi bin Ali, a slight, soft-spoken man of great intelligence, in his late sixties. His Suluk father came to Sukau as a trader, married a local Sungai girl and remained eight years, before returning to his Philippine home and family there. Ugi, then age 18, went to the Philippines in search of his father, found him and remained for two years, attending school there. He returned to Sukau and his mother; and is now a village leader.

Much of the present Sukau population is of similar mixed ancestry, incorporating Suluk, Brunei, Bugis, Chinese and Arab influences—consequent on vigorous trade in birds-nests over the past centuries. The ancient settled population of the area are Sungais speaking varying dialects, who can understand each other. The Sungais are also sometimes referred to as Orang Asli—

that is "aborigines" by outsiders; and those of the Gomantong and Segama areas also call themselves "Bulud Upi". They are distinct and culturally separated from the Muruts whose settlement areas begin upriver from Kuamut.

How Temonggong turned into stone (as told by Haji Ugi)

"A long time ago, before people of the area knew about Islam and all were pagans, seven brothers went hunting in the jungle near the hill now called Batu Temonggong.

The seven brothers were out hunting with their dogs who chased a pig, catching up with it near the river. The pig was speared and mortally wounded, but got away, swimming in the water. The brothers gave chase, managed to capture it and finally pulled it into their boat. Then they started their journey home.

When they reached Batu Temonggong, a storm broke from the sky with violent rain. The men made fast their boat under the rock and climbed up the steep cliff a short way to shelter in a cave there. Six of the brothers went into the cave, and the seventh, who could not find enough room, went to sit under a small overhang nearby.

From there he observed, to his horror, how the cave in which his six brothers were sheltered suddenly started *shrinking*, the walls drawing nearer and nearer to each other and the cave mouth becoming smaller and smaller.

He called out to his brothers to take care and quickly come out, for they were in danger of being entombed in the cave. One by one they emerged following the call, except for the youngest, who was last.

This brother—whose name was "Temonggong" could not get out. By the time he was due to emerge the opening had become so small that he was trapped although he was still visible and could speak to his brothers.

When the storm and rain stopped, Temonggong said to his brothers, "You go home and leave me here. I cannot follow you." And as he spoke, the gap in the rock had become so small that only one of his arms showed, which Temonggong stretched out into the open.

The six brothers outside now saw to their dismay that this arm which a little while ago had been human, was now covered with *fur*. They then realised that a powerful spirit had taken command.

Their brother went on speaking to them. He advised them to go home, saying that he had *changed*, that he was no longer human and that they should leave him behind.

The brothers were not prepared to do this at first. They were very sorry. They wanted to free their brother and take him home in their boat.

They cut a *belian* (hardwood) pole from a tree which they used as a lever to break up the cave and enlarge its opening in order to free their brother. They worked for a long time, but alas, only a little stone gave way and the opening remained as small as before.

Temonggong again spoke to them from inside the cave, saying that they should not worry, and return to the village. 'I am quite happy here' he said, 'and indeed better off than I used to be with you, back in the village as an ordinary human being.'

He said his only wish was that people who passed under the rock on the river in either direction should from now on make a token offering, or a small gift of whatever they could spare.

That is why people to this day call the rock "Temonggong", and why, in passing under it, they throw rice or other small gifts towards the rock and over the water of the Kinabatangan River."

The 'Cave' the story refers to is no more than a fissure in the limestone rock just above high watermark.² There are no indications that rock fall or breakage really occurred, sealing a previously present, larger cave.

The fear of petrification expressed in the story is a common and important idea occurring widely in the folk tales of many Borneo peoples. We were told the Temonggong story in almost the same words a year later by the Idahans of Lahad Datu. They also placed it on the Kinabatangan. But they identified the trapped hero as Sulong (not Temonggong), one of their ancestors placed in the surviving genealogy at about the 15th century A.D. (Chapter XI). Another version of the same idea from the remote Murut hinterland is given at the end of this chapter (11(c) below).

Be that as it may, there are no archaeological remains on Batu Temonggong. But it is a beautiful landmark, a gate into Sukau village—where cave owners live, who took us to other rocks and caves in the vicinity. These were:

3(a) *Batu Keruak, 'Cave of the Waterhen'*³

Batu Keruak is at the downriver end of Sukau village, about 1 mile from Batu Temonggong. It is barely visible from the right river bank (in a upriver direction) behind scrub and low trees. The approach is from the river at a point near the formation. Flat swampy land has to be crossed and then the rock is skirted from behind (i.e. the side away from river).

On the "inland" side of the formation three caves were located for us by the cave owner, Batadun bin Onggong. They are all called *Agop Keruak* and for the purposes of this report are described below as *Agop Keruak I*, *II* and *III*.

(i) *Agop Keruak I* is reached by a steep but easy climb over rubble and rocks to about 50 feet above the level of the flat land. It consists of a vertical slit in the limestone, about 3 feet broad and 30 feet high, facing north-west (320°). This slit gives access to a dark tunnel-like cleft, about 100 feet long, which is populated by bats and swiftlets (white nests) and ends in an oval, dark and wet chamber, with yellow clay deposit on the floor.

On being asked whether any burial remains had ever been found there Batadun replied that "people would not tolerate coffins so near the village". The cave appears to be of no archaeological interest.

(ii) *Agop Keruak II* is about 20 feet higher than *Agop Keruak I*, located on the shoulder of the formation between two prominent rocks. The cave mouth faces south (200°), a large hole amongst rock walls and fallen boulders steeply continuing into a dark cleft, a site of white nests. No material of archaeological interest appears to be present on the floor or in the deposit at the cave entrance.

From here the access route doubles back, past *Agop Keruak I* and goes along the formation keeping under a cliff facing west. There is a shelter under an overhang, with only rocky deposits subject to drainage and erosion from the top of the formation. Downwards from here and angled slightly to the left, following the cliff, is the main cave of the formation, *Agop Keruak III*.

(iii) *Agop Keruak III* faces west (260°) about 40 feet above the valley floor, overlooking large boulders and rocks, and beyond, tall trees. Its mouth is 40 to 60 feet high, shaped like a gothic arch. The cave floor (purple coloured guano) is even, roughly 40 feet wide, gently rising with a step up into the cave for a distance of about 80 feet, to end up against steep rock walls. In the centre the floor is wet, as here an approximately 60 feet high vertical chimney extends to the surface above, fringed with low trees round its opening. The walls of the cave are richly tinted green by algae. There are few stalactites. The guano deposit at the entrance is disturbed by pigs. Bats are present and one snake "*Ular Bakan*", (black with yellow vertical stripes, 6 feet long, poisonous) was seen.

To the right of this main cave is a secondary opening, with a drop behind over sharp and uneven rock into clefts, a site of birds-nests (white only).

Archaeological remains in Agop Keruak III

To the left of the entrance to Agop Keruak III is an "offering of ceramics", partly buried in guano. Batadun, who is a third generation cave owner, says that the ceramics were put there by his grandfather, who discovered the cave, in accordance with instructions received by him in a dream. The dream gave him directions for his exploration, but also communicated to him that he must leave an offering in the form of ceramic jars, in exchange for his ownership of the cave; and that he should give further offerings before collecting nests, later on. (His descendant, Batadun, offers today yellow rice, a white fowl, etc.) (See Plate 4).

There are two jars, a plate and a saucer. The first jar is fully buried to its lip. Only bare clues are therefore available. The body is purple and the glaze a shiny dark-brown, unevenly applied, giving a striped appearance. It probably belongs to the 17th century. The second jar, buried up to the shoulder with lip, rim, and one ear exposed is deeply encrusted with guano. It is about 2½ feet high has an out-curved lip, high mouth, and 4 simple ears on the shoulder. It is supposed to have a green glaze but the guano incrustations could not be removed to check this.

The large white plate is of the "late Swatow" variety, probably 19th century, the blue decor hidden by dirt and lime. The maximum diameter is 11 inches, the foot 4 inches, and the height 3 inches. The saucer is white with an unglazed foot, bare rim inside, and an outcurved rim. It is of medium size (diameter 6½ inches) and probably recent (Plate 4).

Agop Keruak III could possibly be a stone age site subsurface, bearing in mind three main reservations:

- (a) it is *isolated* generally within low swamp land, with few neighbouring hills to connect it to other caves;
- (b) though above the 1963 "disaster" flood level, it is easily accessible to pigs, the disturbing influence of which is evident;
- (c) profuse guano cover and its chemical actions will have destroyed most of what may have been deposited here long ago.

Excavation at Agop Keruak III should only be undertaken when more promising sites have been fully explored. Trial trenching at the cave mouth was not attempted because of the regular placing of offerings there by the owner, Batadun.

3(b) *Agop Pangi*

Agop Pangi is in a peaked rocky hill, 60 feet high, close by the Kinabatangan, downriver from Sukau and Batu Keruak. The approach is from a bend roughly 2 miles downriver from Sukau, through secondary forest, skirting the hill in a southern direction. After about 10 minutes walk large boulders are

reached and a climb leads gently upwards to a 40 feet limestone cliff. Agop Pangi is a dry shelter below where the rock opens into a large cleft, facing south (160°), giving access to a dark passage leading downwards and containing edible birds-nests. A trial trench was excavated on the limited dry surface beneath the overhang. Bedrock was struck at 6 inches depth. No archaeological remains were found.

3(c) *Agop Tahi*

Agop Tahi, a group of small caves, is situated upriver from Sukau and is best reached by the Manungal River. Agop Tahi caves are extremely difficult to locate because the formations in which they occur are less than 15 feet above the level of the surrounding low and swampy land, completely invisible through the trees until the ridge itself is reached. Batu Tahi has four caves in two separate locations, Batu Tahi Lama and Batu Tahi Bahru. The former were described by the owner, Batadun bin Onggong (who also owns Batu Keruak 3 (a) above), to be "exactly like Tahi Bahru".

Agop Tahi Bahru is a depression between two limestone ridges, both entirely covered with humus and forest trees. In this depression, which has the shape of a large bowl (roughly 100 feet in diameter), gape two holes, one large, one small. Each gives access to two cave sites, into which it is dangerous to proceed. Both are colonised by bats and swiftlets (white nests) and are accessible to pigs. The cave of easy access has a dark, downward sloping channel 15 feet wide, and is extremely wet.

Agop Tahi, with its low situation and unpleasant character, has no archaeological interest, but much value as a birds-nest site, bringing in about 4 katis yearly. But while the owner can harvest the nests easily within 4-5 days, he does a lot of patrolling besides this to prevent theft by others—an ever-present prospect where an hour's collection into a small bag can equal a month's full pay.

4. Caves on the Middle Reaches of the Kinabatangan River

THERE are three small limestone outcrops in the middle reaches of the Kinabatangan, still in lowland areas near Lamag; Batu Pin, Batu Puteh and Batu Supu. Two other minor outcrops can be seen on the way upriver, before reaching Batu Pin; Bilit, a low, even crown of hillocks on the right bank which we did not visit—we could not locate a guide or informant—and Lobok Buaya "Hole of the Crocodile", also on the right bank, situated close to Kuala Koya (which gives access overland to the Segama River system).

Lobok Buaya is no more than 50 feet high, a limestone rock close to the water and covered with vegetation. It is locally known to be haunted by crocodiles, who are supposed to occupy a cave at water level which opens into an extremely long underground passage leading as far as Brunei! If a man was taken by a crocodile—in the old days a frequent occurrence—his corpse, it was believed, was carried from Lobok Buaya underground and through the passage as far as Brunei. A quick search was made by us with negative effect, and a

landing party (Michael Chong and Junaidi bin Bolhassan) explored the hill for possible sites. All they found was the lair of a honey bear (*beruang*)—which speeded their retreat in no uncertain manner!

4(a) *Batu Pin, elephant difficulties*

Batu Pin is situated above Kuala Takala, and stands out as a low "double hump" covered with vegetation. The whole formation is about a mile long and brackets (like a "safety pin") one sharp meander (Tanjong Bulat) of the Kinabatangan. A small settlement and timber camp stretch up to, and beyond, Sungei Pin.

Unfortunately we were unable to explore Batu Pin on the day of our visit, 31st May, 1965. As we made enquiries about the way and possible guides in the Pin Timber Camp, we were advised not to proceed. A baby elephant had been born shortly before, right on that track. The rest of the herd was excited, roaming about nearby, waiting for the new arrival and mother to make their appearance!

But we found one Chinese informant, Chin Yu, who had visited the hills. He said that he saw a cave in one, with remains of eight coffins. This report is possibly unreliable because Batu Pin is often confused with Batu Puteh, especially by people not permanently living in the area (of which Chin Yu was one).

4(b) *Batu Puteh and Suluk Caves—potentially important*

Batu Puteh means "white rock" and is a very appropriate name for this isolated, sheer, 129 feet high limestone cliff. Situated midway between Batu Pin and Batu Supu, about $\frac{1}{2}$ mile away from the river bank, it is not immediately visible from a low boat, and is best approached from Kampong Batu Puteh, where guides are readily available. An easy walk of about 20 minutes through gardens and fields leads to it. Batu Puteh has three known main caves, all called "Agop Suluk". One, at forest floor level, opens into a dark passage with a wet guano deposit. It is colonised by bats and swiftlets building mossy (non-edible) nests and of no archaeological interest. Two more are situated at a height of between 40 and 50 feet. Access over rocks and rubble to that height is easy. Above these caves towers a vertical cliff to the top of the formation. To explore these heights is very difficult and we did not attempt it, because all local informants insisted there were no further caves higher up.

The first cave at middle height, named "Agop Suluk", its sections hereafter described as Suluk I, II, III, IV, (Fig. III/4), is a beautiful round stone hall lit by seven rock windows irregularly placed in all directions, the main one facing east (100°) (See Plate 5). The ceiling is domed, between 25 and 40 feet high, and is colonised by a small species of bat. One large stone pillar, formed through drips, but no longer active, stands against the main rear wall. Walls and ceiling are partly overgrown with sea-green algae, partly oxidised and vividly ochre. The available floor space is mainly flat and

roughly 65 feet in diameter. A few loose rocks (infall from cave ceiling) are strewn over soft deep surface guano. One active drip is present in the cave's centre, another near the rear wall.

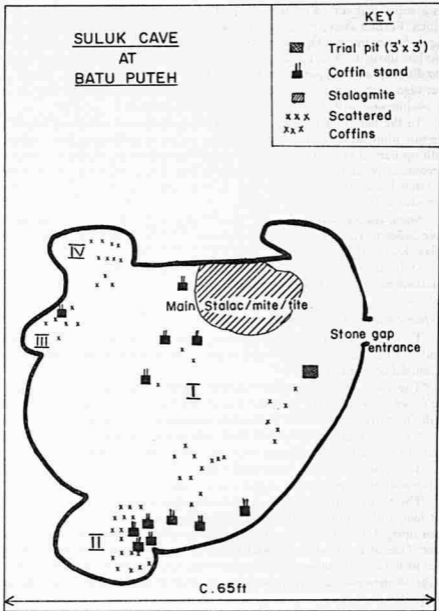


Fig. III|4: Map of Agop Suluk cave, Batu Puteh, Kinabatangan.

Surface contents of Suluk I

Surface contents of Suluk I consist of wooden *tiangs* (posts) and coffins. Planted to one side of the floor are three uprights with two carrying one connecting crosspiece still *in situ*. These appear extraordinarily high if they once supported coffins on top (which they probably did), measuring 6 feet 1 inch. Further away and apparently isolated is a much lower upright measuring 2 feet 7 inches. Opposite this group, against the other cave wall, are two low uprights (2 feet 4 inches) still *in situ* and 18 feet apart. Behind these, standing up and supported in rock pockets, is a single big pole, about 10 feet high with a square slot in the top. There was no indication near it, or in conjunction with the other remains, of its purpose.

In the flat circular space are scattered 17 halves of coffins, of which 4 are sub-adult, all of hardwood. All but one are plain, round or faceted troughs with up-curved head and tail pieces which themselves are sometimes ridged, faceted, or pointed. One was seen with a lock device (a slot to carry rotan or other binding) on its inner side, so that upper and lower head and tail piece could be bound firmly together.

Some coffins have "stepped" insides of troughs (Fig. III/3) but none have holes to carry locking sticks or nails (cf. Kain Hitam at Niah; Batu Balas, Kuamut).

Only one of the coffins is decorated with bands of incised simple decorations at either end of the main trough.

Surface contents of Suluk II

To one side of the centre cave (i.e. Suluk I), and alongside the main window which faces east (100°), is a second separate unit of coffins still partly supported on uprights.

The floor space is roughly circular, about 15 feet in diameter, fairly even over rocks with dust and some guano. The cave is well sheltered, exposed to the morning sun, and on three sides surrounded by walls. The ceiling is about 15 feet high. At the inner end, which gives access to Suluk I, is a frame of uprights that still carries some coffins, partly collapsed. (Plate 5)

Two main uprights, 3 feet 8 inches apart and 2 feet 8 inches high, slotted with square windows at their upper ends, support the main structure.

The two square slots at the top have crosspieces *in situ*, which are 10 feet long and rest on one additional forked upright placed between the main front upright and the cave wall, which supports the other end of the cross-piece. One of the front uprights has under its top square slot two vertical lines of horizontal notches, one line carrying 19, the other 22 notches (Fig. III/5). A genealogical record or count of a family burial place is a possible interpretation of these.

The two main front uprights are bracketed, in front and over the protruding ends of the cross-pieces, with another connecting cross-piece, carved in the form of a crocodile head at one end (Fig. III/6 and Plate 6).

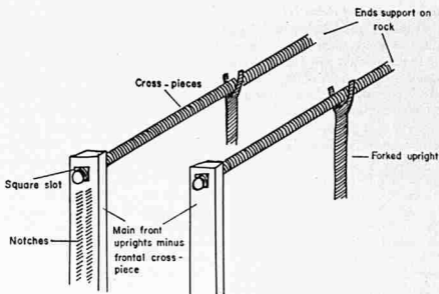
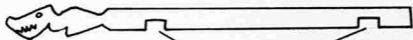


Fig. III/5: Arrangement of coffin supports in Agop Suluk II.

Under this construction lay a notched pole, square in cross-section, 9 feet 3 inches long, of hard wood. It carried 30 notches along one side, 25 notches along an opposing side, two sides being blank.



Carved frontal bracket, the indicated cut out spaces fitting over cross pieces protruding through slots of the two frontal uprights.

Fig. III/6: Carved coffin support in Agop Suluk II.

At an opposite end (a few feet away) two long cross-pieces and two forked uprights have collapsed, partly lying under coffin halves.

Sixteen coffin halves made of plain hardwood are scattered throughout the cave, partly overlying each other; of these, 3 are sub-adult. All those with their main troughs facing the ceiling are filled with guano.

The loose dust and guano around and under the coffins was superficially sifted by hand and trowel and yielded a collection of native earthenware and imported ceramic sherds. Field analysis indicates they are probably 16th-18th century, showing some similarity to those from Magala, in the Sekaloh River at Niah, Sarawak.

Surface contents of Suluk III

Under a rock window opening into Suluk I, is a separate niche, with a roughly 6 foot diameter space over rocks and dust. To one side of the niche, one forked upright and five coffin halves, three of them sub-adult, are lying parallel to the wall. All are plain and of hardwood. This unit appears to have been disturbed in its present position. Next to the niche is a plain, deteriorated adult coffin (both halves) placed directly on the rocks.

Surface contents of Suluk IV

A dark rock-niche opens at the rear wall of Suluk I, with a floor space of 15 feet by 6 feet over rocks and guano. It houses a dense bat colony (small species) in its low ceiling, which is irregular and broken, 8 to 15 feet overhead.

Eleven coffin halves, all adult size and of plain hardwood, are present. Two near the window, obviously an original pair, lie crossed on top of each other over rocks. The rest are irregularly scattered in the dark, partly on top of each other and filled with, or buried in, guano. One round timber, that might have been an upright, was lying amongst the coffins. A notched fragment of a blowpipe was associated.

The next cave in this formation (hereinafter referred to as Suluk V) is reached by skirting the formation from the entrance to the second cave and climbing up about 10 feet. Here a narrow gap exists in the rock through which a slender person can squeeze. The gap gives access to a low and dark passage. Filled with guano and soggy from active drips, it is about 100 feet long and curving, opening into a small cave with uneven, guano-filled floor, the ceiling being densely populated with mossy nest swiftlets. The birds have built "nest stalactites", each new nest glued to a former from which it hangs down, instead of being attached directly to the wall.

Further cave sections exist straight ahead, but were not explored because the floor was uneven and broken by crevices, partly filled with guano, with a possible sudden access to the dome of Suluk I below. A passage to one side ending near a rock window contained remains. This was termed Suluk V, a floor space of roughly 20 square feet, including a small, subsidiary dark side-passage.

Surface contents of Suluk V

Nine plain, hardwood coffins are deposited on the surface, four halves (all sub-adult) under the rock window, and five others in the subsidiary passage. A shaped plank of hardwood is associated on a rock shelf, and probably contemporary with the coffins. Unevenly $33\frac{1}{2}$ inches long and 5 inches broad, topped by a round headpiece, one side is pierced with six, the other with three neat holes (Fig. III/7). This unevenness of perforation is clearly intentional. The use of the board, perhaps as a frame, or other supporting part of a composite wooden structure (such as a weaving device) is a possibility. (c.f. 5(b) below)

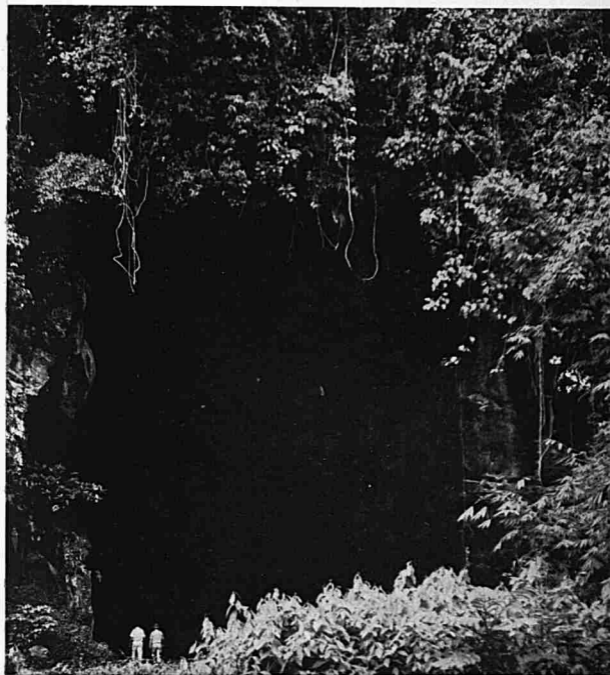


PLATE 3. Enormous entrance to Simud Hitam of the Gomantong Caves, south of Sandakan Bay. Famous as a source of the birds-nests so well-known in Chinese cuisine, these caves also feature in many significant folk-tales of Sabah. (Chapter III, 2 p. 43).

M. Chong, Sabah Museum



PLATE 4. Cave owner, Batadun, at the entrance to Agop Keruak III, a cave on the lower Kinabatangan River, gives an offering of food in old bowls left by his ancestors to propitiate the spirits before the harvesting of birds-nests. (Chapter III, 3(a) p. 44).

B. Harrison

PLATE 5. Main cave, Agop Suluk, in the Batu Puteh Formation, Kinabatangan River, contains scattered ancient coffins and uprights half buried in the droppings of the swiftlets which colonise the ceiling. (Chapter III, 4(b) p. 46).

B. Harrison



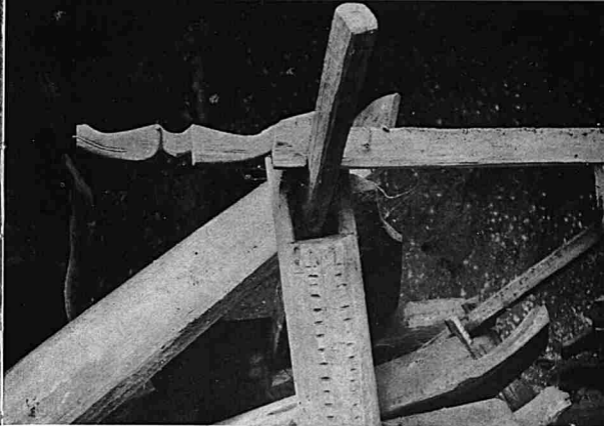


PLATE 6. Hard timber frames were erected generations ago inside caves to support the coffins above the floor level. This example shown from Agop Suluk, is carved in the form of a crocodile head and the incisions in the main upright probably represent genealogical data. (Chapter III, 4(b) p. 48).

B. Harrison

PLATE 7. Buffalo head on prehistoric coffin in Miasias Cave, Lokan River. (Chapter III, 5(b) p. 60). These ancient carved coffins show affinities with the Celebes.

B. Harrison





PLATE 8. Mummified corpse of unknown antiquity protrudes from its coffin at Miasias Cave. (See Chapter III, 5(b) p. 63).

B. Harrison

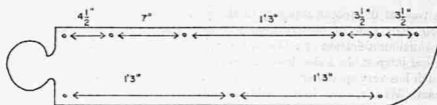


Fig. III/7: Wooden plank from Agop Suluk V.

Archaeological trial trench at Suluk I

A trial trench 3 feet by 3 feet, was excavated in the main cave, Suluk I, to ascertain whether a deposit more ancient than the one on the surface was present. The stratification in the trial trench was as follows:

- 0 to 9 inches: chocolate-coloured loose guano with dense insect population in the first three inches, becoming more compact with depth and gradually lighter in colour.
- 9 to 10 inches: sandy, pink-grey, hard sand with clay admixture becoming very hard at 12 inches and entirely sterile.

The remains excavated consisted of:

- 0 to 6 inches: fragment of blue-white porcelain, similar to those collected from Suluk II; five fragments of deteriorated stoneware.
- 6 to 12 inches: one fragment of deteriorated stoneware.

No skeletal remains were seen anywhere on the surface in either shelter at Suluk, nor were any recovered from the trial trench. A probable explanation is the corrosive action of guano, apart from other possible factors. A count of the coffin halves found in all Batu Puteh may give an approximate indication of the size of this burial ground. However, it is evident that a sizeable number of originally deposited coffins and much grave furniture have been taken away for profane use, or as souvenirs. The local Moslem population use parts of carved or decorated coffins, for instance, as decorative components in houses and boats. What remains, therefore, is only a fraction of what was deposited there in earlier times. The coffin halves remaining at Batu Puteh are summarised below:

Cave	Adult coffin halves	Sub-adult coffin halves
'Suluk I'	13	4
'Suluk II'	13	3
'Suluk III'	4	3
'Suluk IV'	11	0
'Suluk V'	3	6
Totals	44	16

In view of the recent antiquity of the present surface remains, along with their poor state of preservation, and the presence of guano without any essential stratification or artifacts, the cave remains only of limited archaeological interest. As a site, however, and from a *historical* point of view, Batu Puteh has very special attractions. It is easily accessible and of great natural beauty. What remains in it should certainly be protected as an ancient monument. Once the State's history is on firmer ground it can be developed by reconstructing and preserving its remains to an historic site of the first order.

4(c) *Batu Supu, a network of caves*

Batu Supu, a site known to all birds-nesters, is on the right bank of the Kinabatangan, between Batu Puteh and Lamag (the district administrative centre). It contains seven caves, six of which we visited and one which we failed to locate in spite of a prolonged search.

(i) *Sapa Tareng*

Sapa Tareng is a separate outcrop at the downriver end of Batu Supu, about 400 yards from the river bank. It rises to a height of about 40 feet over sharp limestone rocks. A walk of 25 minutes over the hill's shoulder takes one to Sapa Tareng Cave, which received its name from its discoverer, a man called Tareng.

The cave has two entrances, both containing burial remains described below as Sapa Tareng (I) and (II). Following the hill's shoulder from this cave and in a direction away from the river, a steep, 100 feet high limestone cliff is reached. This contains a few fissures but no known caves.

Sapa Tareng I is a small, roughly circular cave (30 feet in diameter) with a narrow even floor space over rock at its entrance, which faces north-east (40°). The cave extends steeply downwards into a dark passage over slippery, soft rock covered with fresh guano. A second similar one runs parallel. These contain few swiftlets and edible nests and a great number of bats (small kind). The only feature of interest here is a mark in the form of a cross (X) cut into an active drip at the entrance. It is probably a sign of cave ownership and of recent origin. No archaeological surface remains are present.

Sapa Tareng II can be reached by stepping sharply up to the right of the entrance to Sapa Tareng (I) and following about 50 feet along the shoulder over rock. It consists of a 30 feet high entrance window with a circular, flattish floor space behind (50 feet in diameter). This narrows at the inner perimeter, and leads through a roughly 100 feet long dark tunnel, occupied by numerous bats into a dimly lit cavern with numerous rocky niches and small side passages, sparsely occupied by bats.

The surface contents of Sapa Tareng II consist of coffins. Two halves are present on the surface, partly buried in fresh guano. They constitute a pair, upper and lower half of the same unit; the length of the lower and

upper halves are 7 feet 1 inch and 7 feet 3 inches respectively. They lie about 30 feet apart, the lower half upside down in the centre of the entrance chamber, the upper half with the right side up close to the cave wall at the entrance of the dark tunnel. They are both of hard wood and deteriorated. Another coffin is present on a narrow rock ledge.

The lower half of the "paired" coffin is indistinctly faceted in the main body and has down-curving flanges, also faceted at either end.

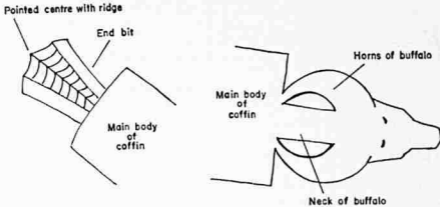


Fig. III/8: Details of coffins from Sapa Tareng caves.

The upper half has no visible facets, but is more deteriorated than the lower half. Its two handles carry carved buffalo heads (broken) on long extended necks at either end (Fig. III/8). No other surface remains were seen. An 18 inches deep trial trench was then excavated in the centre of the entrance chamber. Loose guano, gradually becoming more compact, was present to a depth of 12 inches, then merged into pink-brown, sandy soil with an admixture of guano and limestone rubble. A small fragment of charcoal was the only result of the excavation.

(ii) *Agop Mantapas*

The remaining caves here are all in the main Supu hill, at its up-river end. Approach is through exceedingly swampy ground near a river bend walking in an up-river direction, across Sungei Supu Kechil, then up Supu hill from behind. The crossing took us nearly an hour (at a time when the Kinabatangan was high). But once rocks and hill were reached, access became easy.

Agop Mantapas is a low cave at forest floor level giving access downwards into a room-sized cavern populated by bats and swifts. A subsidiary passage leads to yet another dark, damp, and rocky cavern. The cave is similar to Batu Tahi on the lower Kinabatangan and only of interest to bird-nesters.

(iii) *Agop Nonok*, "Cave of the Fig Tree"⁴

Fifteen minutes gentle climb along the shoulder of the hill from Agop Mantapas is Agop Nonok. Its entrance faces west (260°) and is marked by the roots of a huge fig tree growing over it. It leads into a dark cavern with sterile clay deposit, and a dim passage beyond, lit by a small rock window. The cave is of interest only to birds-nesters.

(iv) *Agop Tajarang*

Setting off again, and continuing in the former direction for a short distance, is Agop Tajarang, an opening in the side of the hill. The entrance leads steeply downwards into a dark and wet abyss. There is no deposit at the mouth, and the cave is of no archaeological interest.

(v) *Agop Samangat Bubuah*, "Cave of the Haunted Burials"⁵

Twenty minutes' walk further on up the side of Batu Supu brings one to another cave, Agop Samangat Bubuah. Its wet, rocky entrance faces north-east (40°) and leads downwards into a dark cavern about 50 feet long and 30 feet wide, with rounded rock-walls, its ceiling being between 8 feet and 20 feet high.

Here the deteriorated lower half of an adult-sized hardwood coffin lies in soft guano. Fragments of timber (probably of the lid) are scattered. No decorations or distinct shapes are recognisable and there are no funerary gifts. A gloomy place indeed; Bubuah is of no archaeological interest.

(vi) *Agop Bugdado*, "Cave of the Old Jar"

This small cave 20 minutes from Bubuah, faces west, and gives access over wet limestone to a cavern without floor space or deposit over a 25 foot drop negotiable with rotan vine. Its ceiling is densely populated by swiftlets and bats. A second chamber is reached by creeping along in total darkness. This has a floor space of roughly 40 square feet. Stalactites hang from the low ceiling. Here are six coffin halves, one sub-adult in size. They are of hardwood but much deteriorated, so that no distinct shapes or decorations are recognisable.

A few Chinese imported monochrome stoneware sherds, brass and iron fragments, and some small monochrome glass beads were collected near the coffins. They indicate a 16th century date. The site is of limited archaeological interest.

(vii) *Other Caves at Batu Supu?*

A large cave or shelter, called 'Supu Besar', and supposed to contain burial remains including coffins, is allegedly situated in the centre of the formation, facing away from the river. An attempt was made to locate it by approaching from the up-river end and then tracing along the shoulder, climbing up to its ridge and following on to the downriver end but alas, unsuccessfully.

Supu Besar is seldom visited as no birds-nests occur there. During the two days we were camped at Batu Supu we were unable to enlist enough help for a more thorough search. Attempts to reach Supu Besar were thus abandoned, specially also in view of the poor remains at Batu Supu generally. Two other caves, described as small, dark and wet openings without the emplacement of remains apparently exist in the formation. They are known as birds-nest sites under the names of "Dalas" and "Kurugau".

5. Pintasan and the Sandstone Caves of the Lokan River

FOLLOWING the great Kinabatangan River from Batu Supu, one other hill appears on the right bank before reaching Lamag. This is Bukit Garam, a steep, triangular shaped feature standing right over the river and "crowned" by a makeshift military station on top in 1965. This is said to have been the site of an ancient salt spring (now dry). A large group of Long-tailed Macacques patrolled the bank at this spot and Proboscis Monkeys were also present.

Once beyond Lamag, with its offices, rest-house and shops (all elevated on 10 foot stilts because of heavy annual floods), one travels again through wide, flat country devoid of human settlement, except for the presence of impermanent timber camps and long stretches of exploited forest on both sides of the river. Finally Pintasan is reached, situated just beyond the Lokan River, surrounded by beautiful gardens and fields.

The village of Pintasan includes roughly 40 households with over 500 people. They are all Moslems, some converted within the past decade, of Sungai stock with the usual admixture of Suluk, Chinese and Brunei blood. Our most knowledgeable informant was the Tuan Imam, Barigun bin Hatiff Mini, whose father was a Bugis and his mother, a Sungai. Hardly anybody here remains interested in old traditions, as modern times seem much easier than the old. The Suluks, who "ruled" the area prior to the arrival of the British Chartered Company Administration,⁶ are widely recalled as oppressors with trade monopolies. They allegedly took 10% royalties from *rotan sega* (a main article exported) and measured eighteen tahils in a kati of *kapor* (also exported) instead of the correct sixteen. They also bought *gutta percha*, *kayu garo* (for joss-sticks) and other produce collected by the Sungais. But the Suluks are also considered here as the main ambassadors of Islam and the representatives of a modern and progressive outside world.

The people now settled in Pintasan were formerly farming along the Lokan River. They shifted into the Kinabatangan following an early epidemic of cholera and then the advent of a more secure Government. How far back in time the migration took place was difficult to ascertain locally. There is no doubt that the burial caves on the Lokan River belong to the ancestors of the people now living at Pintasan. However, these people thought very little about, and knew next to nothing of, these cave sites and their ancestors. Owing to conversion to Islam, resettlement, education, and modern trade, a thorough "deculturation" has taken place here. Even to locate the two burial sites, Agop Miasias and Miasias Darat, proved difficult though reward-

ing in the end. Both sites are within the same low *sandstone* outcrop, on the lower reaches of the Lokan River, near Kuala Rawang Kechil but on the opposite bank. The river is usually navigable with a 5 h.p. engine, taking two and a half hours to the Kuala. The water situation on the Lokan is however, extremely variable.

5(a) *Agop Miasias and the "Toy Coffin"*

Agop Miasias is not visible from the river and there are no other landmarks. The formation stretches away from the river with the point of first contact roughly 100 yards from the bank surrounded by secondary swamp forest. Once the rocky formation is located, one simply follows it to the opposite end. Agop Miasias is a small shelter elevated about 20 feet above the forest floor under an overhang (Fig. III/9).

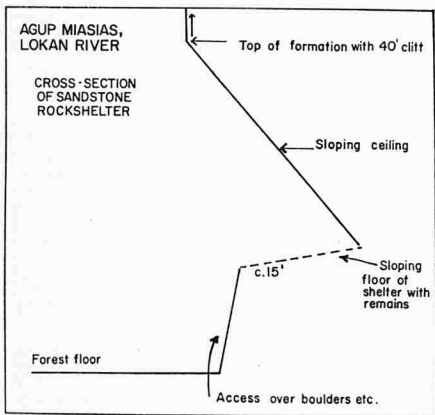


Fig. III/9: *Agop Miasias, near Pintasan.*

Its sloping floor space is roughly 15 feet wide and 30 feet long, with a narrow (foot-wide) extension of another 80 feet. Here, in May 1965, 19 coffins halves were present. They include eight upper halves, some placed

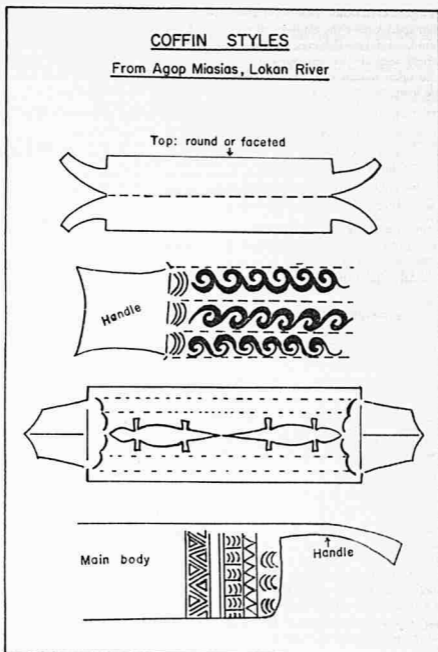


Fig. III|10: Coffin styles from Agop Miasias, Lokan River.

on top of each other, others collapsed, partly broken, or fallen away from the even space under the ceiling. All are of hard wood, and all but three are plain round, or faceted, boxes with upward sloping handles fore and aft, of a variety seen at Gomantong, Batu Supu and Tempadong, there described as "the open mouth of a crocodile". The three decorated halves (two upper, one lower) included these designs:

- incised spirals running across the facets of the main coffin body in continuous twirls, on the upper half;
- two crocodiles (or lizards) in relief, tail to tail over the faceted top of the coffin's main body;
- incised bands of geometric designs at the upper end of the main coffin body (lower half) (Fig. III/10).

Informant Barigun (the Imam) claims that previously many other coffins were present here, including decorated varieties, which were taken away by looters over the past twenty years or so.

All coffin halves were measured, with the following results:

*LENGTHS OF COFFINS (WITHOUT HANDLE EXTENSIONS)
AT AGOP MIASIAS, IN FEET AND INCHES*

<i>Serial number</i>	<i>Upper half</i>	<i>Lower half</i>
1	6' 2"	6' 5"
2	5' 7"	5' 8"
3	5' 8"	5' 8"
4	5' 8"	6' 2"
5	5' 11"	
6	5' 6"	6' 6"
7	5' 11"	5' 11½"
8	broken	
9	broken	2' 3½"
10	broken	1' 4½"
11	broken	5' 8"
12	5' 2"	broken

Numbers 6, 9 and 12 are of children and sub-adults; number 10 is too small even for a new-born child. This last is apparently a *toy coffin*, attributed to a local hero, Sangan, who died in a battle far away. Sangan's story is of special interest here because it links intimately to one obtained in the Segama River near Tapadong where Sangan is similarly remembered as the hero who established the burial ground of Batu Belas (cf. (7g) below). The presence of such toy coffins, both in Agop Miasias and Miasias Darat, as we shall see, may point to a former custom of performing *token* burial rites for persons dying in warfare, away from their settlements. The story of Sangan is told vividly:

The Saga of Sang'an's Liver

"A long time ago there lived a brother and sister, named Sang'an and Duli, in a village on the Lokan River; they were Sungais. Duli, when about 20 years old, got married to a man called Tanaut. They had a son in due time and continued to live in the same village.

Sang'an was brave and powerful with control over many people. Tanaut, his brother-in-law, became jealous and thought of ways and means to take over Sang'an's leadership. They became hostile to each other and quarrelled often.

The opportunity came for Tanaut when Sang'an went with his men to wage war in the Segama River, Tanaut secretly met one of his own followers suggesting to him that he should kill Sang'an during the raid, promising him, as a reward, an important position in the village afterwards.

The man agreed, followed Sang'an's party into the Segama, waiting for an opportunity to kill Sang'an. It came when Sang'an was asleep. The man bore on him with a spear. Sang'an woke up from the pain of the spear in his side to see a man standing over him, spear in hand, murder in his eyes. He took hold of the spear with both his hands and with a tremendous effort pulled it out, threw it at his adversary and killed him.

Sang'an was badly wounded, his liver protruding from his body. But being strong and brave he managed to hold it to his side, and survived the journey home. On return to his village he made enquiries and found out that it was his own brother-in-law who had nearly succeeded in killing him. His wound caused him great trouble. He could not go on holding his liver to his side. So he decided to make a coffin for it and bury it at Miasias.

He built a coffin, put his liver into it, and stored it in the ceiling of Miasias Cave.

After burying his liver he returned to the village and spoke to his sister Duli. He said—"If you still love me as your brother, I want you to count seven days from now. After these seven days are over I wish you to call all our people together and hold a feast in order to do away with bad feelings. For although my brother-in-law treated me badly I have no wish for revenge and I want us to remain brothers'.

Sang'an's wounds healed while his sister Duli counted the days. When she had counted six, a blind man approached her and told her that seven days had elapsed. He enquired from her why the feast had not yet started. She told him not to interfere and mind his own business.

The blind man replied: 'I may be blind and limping but I do know how to count. I stayed in this house all the time, counting the days, whereas you people went to and fro, working every day, not noticing that the seventh day has elapsed.

Duli and her people were thus convinced that seven days had elapsed instead of six. They immediately set about preparing the feast and held it from dawn to midnight.

At midnight they suddenly heard a man's voice shouting from the roof of Duli's house. Surprised, Duli and her people interrupted their celebrations. They looked up at the roof but it seemed empty.

They heard the voice again and this time they understood what it said—"Not only has Tanaut, my brother-in-law treated me badly, but you, Duli my own sister, have done the same." The voice now rose with a curse: "Therefore as a vengeance, a week from today, there will be unhappiness in this village. Its people will be dying from cholera and only very few will be spared". So Duli and all the people of the village were very afraid. Their fear was so great that they decided to abandon their village. Many of them presently moved to Labuk, upriver, and some to the Kinabatangan, downriver.

Sang'an was never seen again but a story was told that he had turned into a tiger (*harimau*).

Amongst the Miasias coffins were remnants of coffin platforms in the form of slotted uprights. They have now collapsed. It is evident from what remains that one simple main support was used to prevent several coffins from falling off the sloping sheltered space under the cave's ceiling: not to support single coffins individually. The supports are cut with an adze, and the main beams have a faceted finish.

Extensive surface search in the shelter produced the following remains of grave furniture:

(i) *Ceramics*

- Several sherds of indistinct white ware.
- Fragments of a brown-glazed eared jar with a pattern of moulded, raised dots on the shoulder, flat (pierced) base, concave, high

neck and strongly outcurved lip. The original jar was about 8 cm high. Similar specimens are well represented among the Melanau and Land Dayak peoples of Sarawak; probably 18th century A.D.

— One fragment of indistinct earthenware.

(ii) *Metal*

— One indistinct iron fragment, probably an adze.

— Handle of hardwood blow-pipe, broken, without spear.

Barigun stated that many other remains, including wooden paddles, brass *sireh* boxes, an iron *keris*, and more broken ceramics were present here when he was a small boy. No skeletal remains showed on the surface around the coffins, but some were detected with a torchlight in one of the lower placed coffins, buried in dust.

With its limited deposit, and its exposed situation which is subject also to occasional flooding, the site is of little archaeological but strong folk-lore interest.

5(b) *Miasias Darat and the "Double Coffin"*

Miasias Darat is reached by walking along the formation from Agop Miasias for about 10 minutes. It is situated under a 40 feet high, grey-white sandstone cliff, similar to but larger than Agop Miasias. A slightly sloping space 30 feet wide and 150 feet long, partly covered with boulders and moist humus deposit, is under an overhang. The site is exposed to bad weather.

Over the available dry space (but not occupying all of it), are 235 coffin halves—so far as could be ascertained without disturbing piles of coffins sandwiched on top of each other. Most of them are of hardwood. A few are placed high, on narrow ledges under the sloping ceiling. One of them, of sub-adult size and plain, was again identified as "Sangan's liver-coffin".

On enquiry why there should be two coffins belonging to Sangan's liver, one in each of Miasias's shelters (cf. (a) above), informant Barigun got confused. He replied that he first made a mistake and that this coffin at Miasias Darat was the one of Sangan. Clearly there is a deeper element here, now lost.

As in the other shelter, most of the coffins are plain. The shapes include those seen at Gomantong, Supu and Tapadong, with flanges fore and aft. But there was a second common variety also, crude flanges in the form of the head of a "buffalo minus the horns" (Fig. III/11a). The feature became evident in comparing these possibly fragmentary forms with two other large, elaborate *belian* hardwood coffins with beautifully carved buffalo heads, (Plate 7) the main bodies incised with a band of geometrical motives in relief (see Chapter II, 5(b)). One of them also had a lizard or crocodile in relief, carved between the buffalo's two eyes: (Fig. III/11b).⁷ Other decorations included incised spirals, as represented in Agop Miasias, various geometric edges and faceting of the main body of the coffins. No platforms or posts were present supporting any of the coffins.

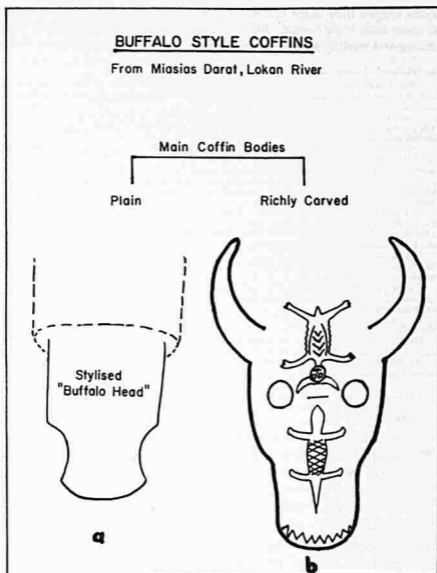


Fig. III|11: Buffalo style coffins, from Miasias Darat, Lokan River.

One coffin, just under 7 feet long, with a distinct buffalo head-piece is believed to have been made for *two people* whose story survives at Pintasan. It almost compares in size to some plain coffins found later at Tempadong (7(c)), Madai (9(d)) and Baturong (10 (a) and (e)), all reaching over 7 feet, some over 12 feet in length. That they were made long in order to enshrine two corpses is a widespread Sungai explanation. An alternative interpretation is discussed below in connection with these other coffins whose massive

bodies suggest their usage as *ossuaries*. The present Miasias coffin is probably no more than a particularly fine and elaborate example, made for a high-ranking and wealthy ancestor—though its story tells otherwise:

The Widower's Loving Suicide

"More than 200 years ago there lived at Kampong Sungai Lokan a brave young man by name of Giwai. He was engaged to a pretty girl of his village and she was called Tahira. They were both Sungais.

One day Giwai, who was a keen head-hunter, asked the permission of his parents and his bride's consent, to go away on a journey to the upper Segama. He wished to fight there against enemies and prove his manhood.

When he had been away two months he received the sad news that his bride had fallen ill and died. He immediately set out on the return journey. When he arrived at his village he found his relations sitting beside Tahira's coffin, mourning. They cried and were very unhappy.

Giwai joined them. He was desperately sorry and did not wish to continue living. He told his parents and all mourners to please make a new larger coffin with enough room for two bodies.

His parents were astonished at his request and asked him why he wanted them to make such a coffin. Giwai replied that he could not live without Tahira, that he wanted to die and his body to lie in the same coffin with hers. Giwai's parents and all his family tried to stop him but he was firm in his wish to end his life.

His parents asked the village people to make a large coffin of hardwood and to decorate it with crocodile scales and buffalo heads at both ends. After the work was done, this coffin was brought to Giwai's house.

Giwai now removed his bride's body from her small coffin and laid her out in the new large one. Then he himself lay down in the coffin beside her corpse. He asked for the lid to be put over them both.

He also asked his parents for a bamboo flute (*suling*); and for a hole to be cut in the coffin's lid.

Giwai told his parents that he would blow on the bamboo flute from inside the coffin, as long as he was alive. When the sound had stopped they would know that he had died.

All this was done in accordance with his wishes. The large coffin was taken to Miasias cave and deposited there. People heard Giwai playing the flute for seven days."

The following grave furniture was identified at Miasias Darat:

(i) *Ceramics*

- Plain white wares, mainly plates, of recent type;
- Dutch imported earthenware with floral design, plates and bowls, of recent type (c. 1850 A.D. onwards, in Borneo);
- Recent blue-white varieties (plates and bowls) including those with spiral centre design (c. 17th century to present day);
- Overglaze enamelled colour plates of recent design, including probably Japanese, (19th century to ? c. 1925);
- Late "Swatow" plates with white, red and green overglaze colour, probably 19th century;
- Blue-white bowl, probably early 16th–17th century;
- Blue-white plate, probably early 16th–17th century;
- Grey-greenish glazed large stoneware vessel with incised and moulded design, probably late 19th century;
- A variety of brown-glazed medium-sized stoneware jars with broken mouth and pierced base;
- A few earthenware sherds including one of the rare "turtle-ware" variety (see Chapter VII).

(ii) *Metal*

- Two crude iron bangles, simple open spirals, child and adult size;
- One *parang* (sword) plain, recent workmanship; no brass-wares, such as gongs or betel-nut boxes, were seen. Some are supposed to have been removed by looters.

(iii) *Baskets and Textiles*

- One printed cotton sarong, very deteriorated;
- Various deteriorated baskets and broken rotan fibre (as binding to coffins).

(iv) *Wood*

- Several wooden paddles with carved handles, and a notched stick, similar to those at Batu Puteh and Tapadong.⁸

Contrary to Agop Miasias, a great deal of skeletal material was preserved here. Those coffins which had not been moved contained both bones and dust-deposit, some quite undisturbed. Evidence here is clear that no secondary burial practices have taken place, as some of the bones were covered with dried skin. In one coffin a body was sitting almost erect, protruding as if mummified, from under the collapsed coffin lid—a queer sight (see Plate 8). Dentitions were untreated. No deformed skulls were present. In view of the preservation of skin over bones, it is possible that these bodies were treated prior to burial with some preserving agent. The illustrated corpse was locally referred to as "petrified".

Apparently, both Miasias burial sites were in use until about 150 years ago. Two or four community leaders (or wealthy persons) were buried at Miasias Darat and these probably account for the few elaborate coffins and early ceramic fragments. The site was evidently in use until the community shifted into the Kinabatangan. The number of coffins at Miasias Darat (150 plus) and the fact that space for more remains available, also suggests that the site was not used for a long period—and certainly not during the cholera epidemic which survives both in memory and folklore at Pintasan. Certainly more coffins would have been present if such was the case.

6. The Kinabatangan above Kuamut; Fringes of Orang Sungai Country

UP the Kinabatangan River, beyond Pintasan, are three other small Sungai settlements—Balat, Papar and Kuala Kuamut where the Kuamut River joins the Kinabatangan. Here we have reached the upriver fringes of Sungai country and the character of the landscape changes. Further on rise hills and distant mountains, cut off by rapids; this is the Murut (and Dusun) country, where the Sungais never settled (they say).⁹

On this stretch of the Kinabatangan are three isolated hill rocks: Bukit Tabahia, Bukit Kanap, and Bukit Malabok. Only the last named is known to hold a cave. But it remains a nostalgic puzzle, even to locals. For its discoverer (and owner), Agilangan, kept its location secret, even from his fellow

villagers (and family), because of its precious content of edible nests. It should be a low-lying, hidden site—because he discovered it while hunting pig: the pig revealing (on slaughter) a bellyful of nests. Alas, Agilangan died some forty years ago, taking the secret of the cave with him. It must have been on Malabok, people say, because his boat was seen tied up on the left bank of this river every time he went out on his secret collecting trips.

6(a) *Agop Sarupi "Cave of Remembrance"*

Agop Sarupi is situated on the true right bank of the Kinabatangan, about one hour (by small outboard) from Kuala Kuamut. There are three cave shelters on Sarupi and they are easily reached. Perhaps this is why they were particularly vulnerable. For this is the place which the Sungais burnt out in despair to prevent immigrant Suluk traders from taking over the birds-nests therein, as described at the start of this chapter. As Agop Sarupi is then supposed to have been cleared of all *ancient* burial remains deposited there prior to 1923, the following descriptions are of special comparative interest. For the record now shows what can accumulate in a small community practising such cave burials within roughly two decades.

The three shelters on this hill (described below as Sarupi I, II and III) are close to each other. Two (I and II) are about 40 feet above river level and face east; the other is about 90 feet above river level and faces west.

Sarupi Shelter I is the largest of the three. It is about 20 feet high and has a slightly sloping floor space 20 feet by 10 feet. Bordered on two sides by large boulders, the shelter is light; wet at the mouth, and dry inside. There are no birds or bats.

There are at least 40 coffins. Most are soft wood and—near the mouth of the shelter—very deteriorated. Further inside, they are better preserved, and piled in five layers on top of each other, one layer comprising roughly 6 coffins, 3 pairs placed tail to head.

Most of these coffins are adult; three of child size being present. They are round or faceted oblong boxes with handles fore and aft, similar in shape at either end. The handles curve upwards and outwards, their edges sometimes incised with simple lace patterns. A hole, cut at the bases of both upper and lower handles, is provided to take a locking stick, few of which remain *in situ*. Those present are turned in beautiful patterns, the one placed on the forward end of the coffin being the more elaborate.

Many coffins still show signs of the damar gum used for sealing top and lower halves together, as well as bindings—of rottan, metal and tree bark.

About 10 coffins are decorated, the majority with crocodile or lizard motifs cut out in relief between bands of diamonds also in relief. Other motifs include a flying lizard in relief, and incised bands of geometric designs combined with spirals and curvilinear designs (Fig. III/12b). All these are of hardwood.

An ordinary wooden box of beer case size, is said to be an emergency burial of a child.

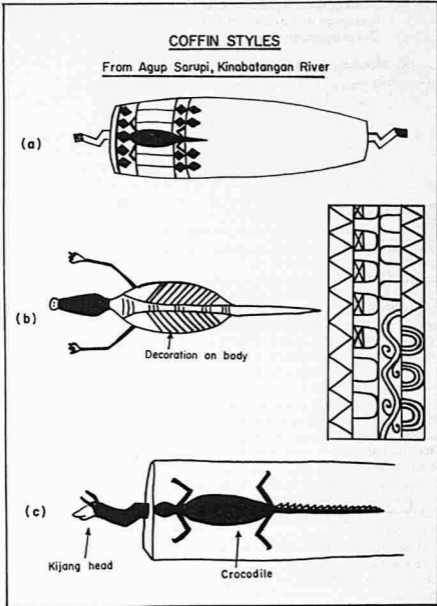


Fig. III|12: Carved coffins from Agop Sarupi.

The following furniture is associated at Sarupi I:

(i) *Ceramics*

Recent Chinese and European type porcelains and stonewares, scattered near the coffins, are mostly broken into small fragments.

Most of these represent plates including Chinese blue-white, and European multi-coloured wares the latter, being in the majority. No native earthenwares are represented.

(ii) *Metal* objects include

- Iron *parang* (sword) (handle deteriorated and rusty).
- brass betel-nut boxes (including Brunei types).
- Talcum powder tins, biscuit tins.
- Food carrier (*renykat*).
- Iron springs for baby cradles.
- Perfume bottle.

(iii) *Textiles* (badly deteriorated)

- consist mostly of *sarong* and *baju* garments;
- Umbrellas are placed (shut) near some coffins.

(iv) One *whetstone* was seen.

Sarupi Shelter II is a small chamber (floor space: 5 feet by 10 feet) its ceiling 10 feet high, its opening facing north (340°). It is dark and damp, exposed to heavy rains. A small colony of bats resides here. There is a thin, clay-like deposit over rock.

The chamber contains four adult-size coffins, all deteriorated, without decorations or distinctive forms. (see Plate 9).

Sarupi Shelter III is an open shelter much exposed to weather facing west (290°), elevated about 90 feet above river level. It has a sloping roof over a flat floor space (4 feet by 30 feet) with a narrow, slightly lower ledge at its entrance. There is a thin soil deposit over rock. Bees nest in the shelter; there are no resident bats or birds. Access is easy from the outside.

Near the centre of the floor at its widest point are 14 wooden coffins, some piled in two layers, others scattered. All except one are of soft wood, of adult size with plain or faceted bodies and with handles of the type described for Shelter I.

One adult-size coffin (of *merbau* hard wood) has the forward end of its lid carved as the head of a Barking Deer (*kejang*) with simple antlers. The main lid carries a crocodile in relief, its nose placed near the deer head which serves as a handle, crocodile's tail disproportionately extends to the undecorated handle aft. It carries a series of incised vertical notches right to its end (Fig. III/12c).

The following grave furniture is associated at Sarupi III:

(i) *Ceramics*

One piece only, a European-type plate, broken, its base placed on top of the decorated coffin, other fragments scattered near.

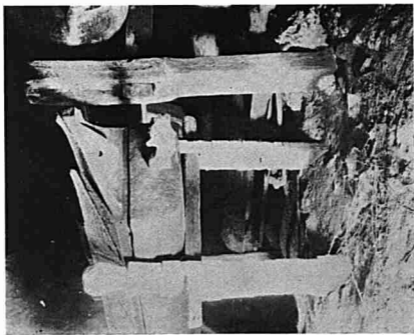


PLATE 9. New coffins in the Agop Sarupi shelters above Kuamut on the Kinabatangan River. About 1923, all ancient burials were cleared from Agop Sarupi and since then over 50 coffins with modern grave furnishings and decorations have been placed there in the same way as in former times. (Chapter III, 6 p. 66). *M. Chong, Sabah Museum*



PLATE 10. White cliff of Pusu Lumut on the Segama River is the site of an important excavation where beautiful polished stone adzes and a bronze tool were recovered. (See Chapter III, 7 p. 69).

B. Harrison



PLATES 11, and 12. Ancient decorated coffins were lifted up by strong rotan vines and set on trestles in the virtually inaccessible cave, Mandag Awan, high in the Pusu Lumut cliff. (Chapter III, 7(a) p. 69).

G. E. Wilford

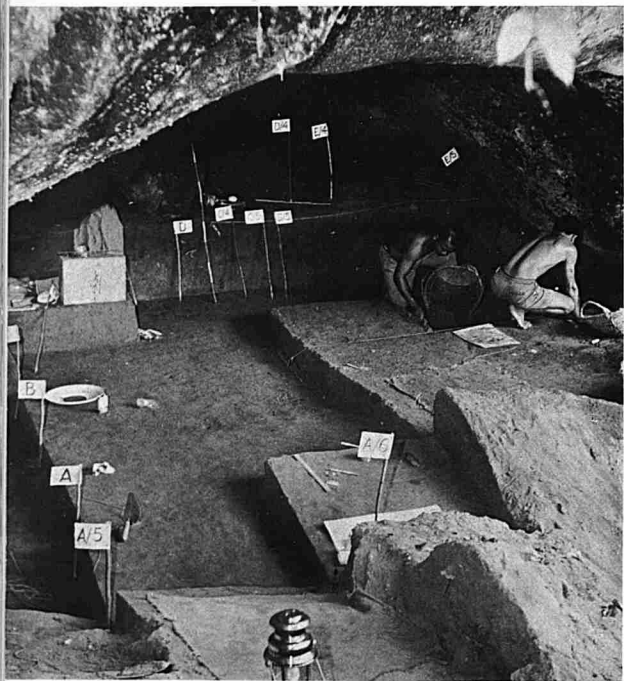


PLATE 13. Joint excavations by teams from the Sabah and Sarawak Museums in Shelter IV of the Pusu Lumut cliff revealed a burial site about two thousand years old, with important archaeological finds. (Chapter III, 7(f) p. 69).

B. Harrison

- (ii) one iron spring for a baby's cradle.

Skeletal remains, present in Sarupi Shelters I and II, included skulls (one outside, 5 or 6 inside coffins), and other human bones mainly fragmented and scattered (largely in Shelter I).

Before leaving the Kinabatangan River it is well to remember that the region, in accordance with documented folklore (to be referred to in more detail in Chapter XI below), is supposed to be the ancient home of at least one important branch of the Sungai people, certainly going back into prehistory.

Our failure to locate more ancient remains proving the presence of these people further back in time is mainly due to the character of the region, offering only limited choices of small cave sites as burial grounds. Many of them are of a kind which precludes preservation of remains for any length of time. Many have been desecrated or destroyed since Islam penetrated the area 500 or so years ago. The natural geological element, plus the pressure of conflicting economic (birds-nests) and spiritual (Moslem) interests alien to an endemic culture and its material associations, have combined to obliterate earlier traces almost entirely.

What remains are just remnants, signposts and symbols which usefully compare with the archaeological remains surviving in other areas and concerning the same people—in the Segama River and the Lahad Datu area further to the south.

We have already discussed the *buffalo motif* of decoration on coffins. Equally important is the *crocodile* (Fig. III/11) which deserves further mention at this point. In the ancient belief of the Sungai peoples the crocodile is intimately connected with death. It is a kind of *ancestor* ruling the deep, dank underworld, who can speak and think, and possesses powerful magic. The belief is reflected in a series of folktales told—with only minor variations—throughout the area. Here is one story as collected from Amor bin Biging, village headman at Batu Puteh:

Tungal Mata's Coffin, his Descendants and Grandfather Crocodile

"A very long time ago there lived two brothers. They were no ordinary human beings, for one of them had four eyes in his head—two in front and two at the back—and the other had only one eye in the middle of his forehead.

Four-eye was called 'Empat Mata' and one-eye was called 'Tungal Mata'.

Empat Mata and Tungal Mata controlled many people over whom they held great powers. For instance, that of closing the river so that nobody could pass. They did this by commanding their men to stand upright in the water close together and side by side, thereby forming a human wall through which nobody could pass.

There were many other extraordinary things the brothers could do, like making their people harvest their rice picking each grain individually with their fingers instead of cutting the whole ear. If people did not follow this command they were put to death. Other commands are not now remembered. But the brothers were very powerful and their people lived in fear of them.

Empat Mata was also a great craftsman. He could make beautiful coffins and carved them with intricate patterns. One day, when he had just completed a coffin, his brother Tungal Mata came to see him. Tungal Mata set his eye on this coffin and immediately wished to have it for himself.

'Give me that coffin' he said to Empat Mata, 'so that I may use it for myself for I like it very much'. But Empat Mata did not agree because he had made this coffin for his own body. The two brothers argued for some time about who should have the coffin until they became angry with each other. Tungal Mata in his fury decided to kill his brother.

'If you like it so much' he said to Empat Mata, 'why don't you try it out for yourself to see if it fits you by lying down in it?' Empat Mata, who did not suspect any mischief, promptly did so, and at this moment, Tungal Mata quickly closed the lid over him. He then ordered his men to come along and tightly bind the coffin shut with rotan many times over.

Tungal Mata then ordered them to carry the coffin to Gomantong and went with them. They left the coffin in the cave and then went home to Bukit Garam. It later became known to the people that Empat Mata in his coffin at Gomantong had promised good fortune to all descendants who visited his coffin for help, provided they were poor (that is, all those who were eating out of coconut shells).

From now on Tungal Mata ruled at Bukit Garam on his own. But very soon he became ill and died.

Now Tungal Mata had two children, male and female. The son, Sidadak, was a brave and powerful young man. The daughter, Darupak, was very beautiful.

Sidadak went away one day to the Segama River, to fight. While he was away, his sister Darupak, was taken by a large crocodile by the name of Torongarek* at Bukit Garam.

The crocodile Torongarek, with the body of the young girl between its jaws, swam down-river to Batu Puteh. Here it met with Sidadak who was on his way home from Segama. Sidadak first noticed Torongarek because of its call, a kind of hooting sound which it made when it was glad.

Sidadak spoke to Torongarek and asked it why it was so glad. Torongarek—who could speak like a human being—then told him that it had just taken a young girl from Bukit Garam, called Darupak. Torongarek of course, did not know that it was speaking to Darupak's brother.

Sidadak was shocked and decided to kill Torongarek in revenge. He asked the crocodile to come up and show him its prey. First Torongarek made excuses but Sidadak insisted, and finally the crocodile came near to the river's edge.

Quickly Sidadak speared the crocodile and seized the body of his sister out of its jaws. But the crocodile was not dead. It swam away with the spear in its side.

Sidadak went home and made a coffin for the body of his sister. He sealed it inside and carried it to Batu Puteh, high up into the white stone cliff where it is still visible today.

Sidadak went on living at Bukit Garam but soon lost power over his people who broke up. Only few remained with him at Bukit Garam. Others went to Batu Supu, Batu Puteh and Sabangan—all places nearby.

Torongarek swam back to its own village in the river—under the water, where there lived many crocodiles, big and small. It asked its sons to look for a medicine to cure it as it was sick with the spear in its side.

Its sons went out and found an old woman by the name of Sabulig Buling whom they asked to come along to help. She was made to sit on the crocodile's back and to shut her eyes.

Thus Sabulig Buling was brought to Torongarek's village where she cured it. As a reward, Torongarek promised Sabulig Buling to spare all her descendants and relations and never to harm them or carry them away to death in the Kinabatangan River."

7. Tapadong Caves on the Segama River

"BUKIT Tapadong, a hill of Upper Miocene limestone on the Segama River northwest of Lahad Datu, contains at least forty caves, including two burial caves." This statement (by Wilford)¹⁰ with maps and sketches of most of the Tapadong caves (Fig. III/13), first made in 1931 by Orolfo, was still unpublished when the first archaeological investigation of Tapadong caves was under way in September 1964. Had we known of Tapadong's complexities then we might well have been discouraged!

Happily archaeological reconnaissance could disregard a great many of the caves listed, for Orolfo was mapping colonies of swiftlets making edible nests in certain caves of the formation on behalf of the Forest Department during those years. His task was in some ways a more exacting one than ours, for birds require different cave standards than men. They seek darkness in caverns and fissures of all shapes and sizes often difficult to reach; whereas man wants protection from weather and surprise attack, accessibility to water, and a good level space to rest on; not foul droppings of birds and bats, or dangerous rock-clefts, in darkness. He may also want, for burial usage, a

small, dry shelter, a meaningful place with good spiritual influences; and— at times of insecurity—a place for coffins difficult of access, to prevent looting and interference.

It is therefore not surprising that some of the caves we discovered during 1964 remained nameless and unlisted by Orolfo; they did not contain edible nests. There are, to date, many other caves, unmapped and unexplored at Tapadong, mainly on the true right bank of the Segama River. Here the formation is broken up into rugged, low cliffs, extremely difficult to traverse. Here also are said to be burial remains which our second working party in 1968 failed to find. Even some colonies of birds making edible nests remain unmapped here; simply because the birds-nesters themselves have so far not been able to locate them, so complex is the terrain.

Tapadong is a difficult limestone hill to appreciate because it is spread out, mainly low, with weathered rock and rubble, and overgrown by jungle. The central face of the formation is a prominent sheer cliff standing about 180 feet high over the Segama just beyond Kuala Mensuli, where it makes a sharp bend. Two massive rocks, once connecting, have collapsed from the cliff face down into the river, leaving it marked with large ochre-coloured patches streaked with black.

This is Pusu Lumut—"the Rock of the Mossy Swiftlets"—with two caves inhabited by mossy swifts (whose nests are not edible) bordering the cliff on either side, the one on the left being one of the most important cave sites archaeologically (see 7 (f) below and Plates 10 to 13).

Next to Pusu Lumut, but set back and away from the river, is a twin cliff reaching slightly higher and crowned by jungle. This is Bukit Tapadong, the highest point of the formation. Cave openings can be seen high up on the sheer face. They are known as Mandag Awan, the Sungai-Idahan name for the legendary Garuda bird, the ancestral spirit of the hills.

The central twin cliffs at Tapadong are connected with an ancient legend telling how the caves were first conquered and put to use.

*Tarongari, the Great Striped Crocodile.**

"Very long ago at a time when the riverbanks had not yet formed and there were only high stone walls and water, there lived (at a place named Tapadong) a huge crocodile by the name of Tarongari. Tarongari, though in possession of a crocodile body, had no scales, but a smooth skin with stripes of yellow, white, green and in some places, black. Tarongari lived in the water under the main cliff, not allowing anyone to pass. Whoever dared, was caught and eaten by him.

On top of a nearby cliff over the water lived a Garuda bird. It brooded there on two eggs, and helped the crocodile in his watch over Tapadong. That is if the crocodile slept while people or boats approached, the Garuda struck down on them, tore them to pieces and ate them.

Now the people of the kampong near the caves decided on a ruse. Their idea was first to catch and kill the Garuda bird. They made a large raft and approached the caves on that. They tied bait to the centre of the raft, surrounding it with numerous spears of sharpened bamboo. As the bird took the bait it was pierced by bamboo spears. Badly wounded, it took off and flew back to its nest on the cliff, but it was too sick to settle down.

With a tremendous effort it took to the air again to fly away to another land. But as it flew off, the whole top of the cliff came crashing down into the water below crushing the crocodile Tarongari under its weight.

For three months the water was foul with the decaying body of the crocodile so that people could not drink it. But since that time, they can go about unharmed in the caves and since that time also they used the caves as burial grounds."

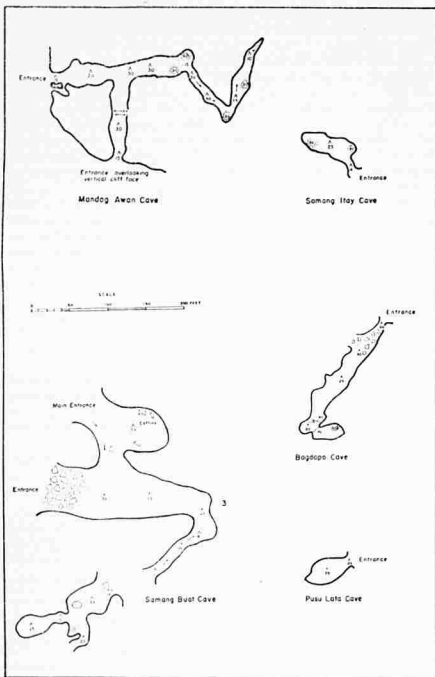


Fig. III|13: Maps of some Bukit Tapadong caves (after Orolfo and Wilford, 1964).¹⁰

7(a) *Mandag Awan and its "Slave Undertakers"*

Because caves overlooking a river are traditionally used in Borneo as burial sites, combining topographically the powerful spirits of hill and water, our investigations concentrated first along this stretch of the Tapadong formation. Mandag Awan, "The nest of the Garuda", unfortunately is very difficult to reach. But as it contains edible nests, it is regularly climbed by birds-nesters during harvesting seasons. The path to the cave leads first along the Mensuli River to a point where the limestone comes close to its bank for the first time. Then one traces gently upwards over boulders into the formation in a southerly direction, past Bangkad Sariwao Cave a rocky opening with a steep downward passage. From here is a climb over a narrow spine of sharp limestone bordering Sawai Cave. One rather avoids looking down into it, for, from the ridge one crawls across, there is a sheer drop into rock fissures 60 feet or more deep. The path leads on easily after this, upwards and in a southerly direction until the shoulder of Tapadong cliff is reached. Suddenly from here, a view opens up over the crowns of tall jungle trees to a glimpse of the river below and to the vertical cliff face above.

Mandag Awan is at about the same height as this shoulder. But to get in, it is necessary to first climb sharply downwards along a narrow ledge on the cliff to a point roughly 30 feet below the cave mouth. Then one aims vertically upwards at what seems a slight outward bend, on vines hanging down over the rock—if one has the heart! Tactfully we decided first to ascertain the presence of grave furniture through three Idahan birds-nester friends in our party (Johan bin Bognor, Panglima Rawan and Panglima Usup, of Kampong Sapagaya and Lahad Datu), the more so because G. E. Wilford had climbed up here as a younger man, back in 1951 (describing it modestly in his 1964 cave report) and had taken photographs of the surface coffins present (see Plates 11 and 12). The following was then put together by shouting up and down from ledge to cave:

"There are three hardwood coffins placed over trestles here, in semi-darkness in one section of the cave right under a nest colony. Two are adult size, one with a carved buffalo head on the lid and another with the head of a *kijang* (deer) on its lower half. A third, with flanges fore and aft (representing the open fangs of a crocodile), is slightly smaller. A fourth, flanged coffin, is deposited below the trestles on the cave floor and near it are two more, one adult, and one sub-adult size, broken and deteriorated without distinct carvings. There is nothing on the surface (which is guano) except a broken blowpipe."

Sub-surface search, undertaken to roughly 6 inches depth by the birds-nesters, produced the following:

(i) *Imported stoneware*: 5 sherds of two original vessels

— a large Sawankhalok (Siamese, 14th to 15th century A.D.) two-eared rounded pot with narrow mouth, its celadonic glaze much deteriorated by the acidity of guano (see Plate 48, *right* sherd);

- a medium sized, brown-glazed jar with a blackish brown "fish-scale" pattern painted under glaze which has largely flaked off. This may be of a similar or earlier date.

(ii) *Earthenware*: 40 sherds of three original vessels

- a medium-sized, plain utility pot with rounded base, slightly angled shoulder and everted rim with vertically incised single strokes along the lip;
- a similar pot, smaller sized. These two were deposited used, with much soot adhering;
- the broken high neck and some body fragments of a medium sized bottle or jar of thin, well-fired earthenware, distinctly different from the above utility pots. Broad bands *may* have been painted on neck and shoulder, but unfortunately, the fragments are thickly encrusted with lime and thus only indicate possible outlines.

(iii) *Stone*: 3 small rough flakes of chert and a series derived from lateritic concretions, the first imported and the latter probably from near the cave itself.

The archaeological potential of Mandag Awan is slight, mainly in view of the destructive influence of guano affecting grave furniture, and because of parallel, similarly dated remains in other shelters of the formation which are more workable.

The burial use of this cave, as some others to be described below, may well date back to the 15th centry A.D. By tradition, the coffin with the carved buffalo head (Plate 12) is attributed to a famed Idahan ancestor, "Maharadja" Gamerang, buried here with some members of his family. Gamerang appears in the Idahan genealogy as the 12th generation with a date of about 1450 A.D. (Chapter XI).

Of much interest is a surviving tradition telling how these coffins were winched up the cliff. This elaborate operation involved the co-operation of a great many people, which only a rich and powerful family could afford. The coffin was lashed up and suspended on very strong rotan vines, strong enough for the coffin's great weight and numerous enough to bear the chafing of rock to the top of the cliff with some hope of the coffin arriving still intact. As people now recall it, there was always a danger, however thick the rotan and however multiple its binding, that the coffin might crash into the jungle below the cliff before reaching the cave. In order to ensure against the consequences of such a disaster—the deceased would then never be able to reach the afterworld in proper status, and would exercise evil influences over his people henceforth—two slaves (the property of the deceased) were made to ride up the cliff with the coffin, sitting on either side of it. They were ready to be killed in a possible crash, their deaths to appease the soul of the deceased. And if they did not crash they were given their freedom

after safely depositing their master's coffin at Mandag Awan. No story of a coffin crashing to the foot of the cliff survives. The slaves had a pretty good chance if they worked hard riding up the cliff, using their hands and feet as strong braces against the rock.

7(b) *Samang Itay, three rock-shelters*

A short distance downriver from Pusu Lumut, on the true left bank of the Segama, are three open rock-shelters between 50 and 80 feet high over the river. They are easily accessible and an extension of Samang Itay Cave. They were in use as burial caves at about the same time as Mandag Awan.

Shelter I is a protected niche under a large overhang with an irregular rocky floor about 80 feet long, situated about 50 feet above river level. The shelter houses two separate coffin units, mostly of hardwood, as follows:

- (i) One adult-size coffin, its fore-end carved as a "Civet" with its tail as a "Flying Fox", deposited directly on the rocks and its lid in place.
- (ii) Four (one adult, two sub-adult, one child-size) coffins with upcurved head and tail pieces. Two (one adult, one sub-adult) resting on slotted hardwood trestles elevated 2 feet above the floor of cave: one (child-size of soft-wood) placed close to and behind the elevated coffins, on rocks. One sub-adult coffin has apparently fallen away from the platform and tumbled 5 feet down amongst rocks; it is broken. The adult coffin has its lid in place as per (i). The sub-adult next to it has its lid partly off and a gaping hole at one end. The child coffin is decayed.

Associated imported ceramics (sherds only) at Shelter I were representative of an exceptionally large number and variety of objects, broadly to be dated into the Ming dynasty (1368-1644 A.D.). Sherds of Sawankhalok and Sukhotai provenance (Siam, 14th-15th centuries A.D.), both monochrome (small jars, plate) and polychrome (plates) were seen. Export blue-white wares from South China were numerous, mostly as sherds belonging to plates (large and small) and bowls. One sherd belonging to a fine, high-necked blue-white bottle with Wan-Li type of panelled decoration was seen directly under the "male" coffin but could not be removed without causing offence at the time.

The majority of sherds were indistinct, representative of a quantity of smallish jars up to 2 feet in height, predominantly glazed brown, with and without moulded dragon patterns or "fish-scale" incisions. Fragments showing transparent brown liquid glaze forming drops, were also seen.

Direct parallels to these ceramics are known from four other Bornean sites, notably from Kota Batu in Brunei, from Gagar Mawar (a megalithic site in the Kelabit uplands of Sarawak) and from two sites in the limestone massif of Niah's Lobang Samti (there associated with a large, boat-shaped hard-wood coffin), and Lobang Imam, a rock-shelter containing secondary burial remains and ceramics.

There is no ceramic parallel to the coastal sites of south-west Sarawak which are all dated prior to the 14th century, or to Kain Hitam at Niah, an important burial cave containing boat-shaped hardwood coffins and haematite wall paintings of death-ships with associated ceramics of the Tang dynasty of China (618-906 A.D.), some extending into the Sung and perhaps to the 13th century A.D.

The absence of Chinese celadons, which were certainly exported to Borneo in large numbers during Sung and Ming times, and including Brunei, (as we know from the archaeological site at Kota Batu), was noted. The scarcity of white wares was also conspicuous (see Chapter IX 2).

One small round black glass bead was also associated with these ceramics.

A long (161 cm.) carved stick of hardwood with an ornate head tapering to a pointed end was seen in a prominent position alongside one coffin. This stick, rectangular in cross-section, carried below its head a series of notches on two long opposing sides right down to the point. The notches were cut at regular distances on each side, but the distances between the notches on either side did not correspond. Thus on one side 73, on the other 65 notches were counted. The stick compares to two others already described from Batu Puteh on the Kinabatangan (4(b)) and Miasias Darat on the Lokan River (5(b)). They are tallies of sorts, with records in two comparable series of numbers, possibly of geological significance.⁸

Behind the coffins, in a dark rocky hole, an ornately carved hardwood spindle whorl (length 23.5 cm.), a fragmented worked seed-coat and two broken bowls of fruit shell with notched rims were collected. The seed coat and shell are of one nut species, *Pangium edule* ("kepayang") which grows wild around limestone hills only, in Borneo. It is known from the Niah Caves, where worked specimens of the seeds were also found (at Kain Hitam Cave). The use of the seeds as rattles on dancing masks is recorded from New Guinea. Our specimen may well have been part of a rattle. The *Pangium* shell (approximately the size and shape of a coconut shell) may have been used for drinking and eating.

On a narrow ledge, 30 feet up on a vertical stone wall bordering Shelter I to one side, a broken adult-size softwood coffin was seen and behind it a decayed basket. No earthenware pottery or imported ceramics were present.

Shelter II is a rocky platform under an overhang, open at three sides, about 60 feet above and overlooking the river. Helpers agreed that a coffin "used to be here until recently", but none were now present. A few sherds of Siamese (14th-15th century A.D.) celadons were seen on the ground and these were identified by the helpers as similar to a complete plate or bowl previously seen unbroken on this spot near the coffin mentioned. Sherds of blue-white Chinese export wares of late Ming dates were present. Parallel specimens to those seen were collected by the Sarawak Museum from the Kelabit uplands in 1962, and obtained by excavation from Kota Batu in Brunei (see *Brunei Museum Journal*, 1970).

Shelter III is a small shelf (30 by 15 feet) under an overhang at the edge of the cliff containing shelters I and II, and is about 80 feet above river level. No coffins were present but helpers again say that "there used to be one here" until recently. A few fragmented human bones are the only surface evidence of burials.

7(c) *Samang Buat with more oversize coffins*

Mandag Awan and Samang Buat are the two caves which contain both burial remains and edible nests. Samang Buat (Fig. III/13) is situated at the northwestern (upriver) end of the formation, and is best approached from the Mensuli River, past the low-lying and archaeologically hopeless Bigaret Caves, and climbing up soon after, into rocks, roughly following a tributary of the Mensuli (a clear, nameless brook) in the direction of Busai Cave and well beyond. After going up to a height of roughly 80 feet—about an hour's walk from the Bigaret Caves—the two largest cave entrances of Samang Buat open up. Downward inclined slopes lead inwards, over rubble. These are probably the largest cave entrances of the whole Tapadong formation.

The cave encloses two large halls, one higher, one lower, each with its separate entrance and an inward connecting slope. The smaller cave has smooth, rounded walls, covered with dust and cobwebs. The ceiling curves 30 feet overhead, pock-marked with small chimneys, each housing a few edible nests. The lower, larger hall has a massive central stalactite and alongside a high, pointed, relic blade of limestone rock, standing among rubble like a natural menhir. A large swiftlet colony occupies a circular upward depression in the cave's ceiling.

The whole place is an immense cathedral, dimly illuminated with a greenish diffuse light, similar in character to the 'Painted Cave' at Niah which carries wall paintings and burial remains of the early iron age. There are no paintings on the walls of Samang Buat. The higher hall contains one oversize coffin and it is from this that the cave derives its present name (*samang*—coffin; *buat*—long). Orolfo shows four coffins in his 1931 sketch (reproduced as Fig. III/13), and very likely he saw four then. During our 1968 visit there remained only two halves: the complete, lower portion of a plain, hardwood trough without carved head pieces or handles, much weathered, measuring 12 feet by 2 feet 2 inches externally, and 11 feet 4 inches by 1 foot 9 inches internally, the bottom solid, without drainage hole. The incomplete lid of this (or a similar, long coffin), also plain, lay upside down in two fragments 40 feet away in a position Orolfo indicated on his sketch as one coffin unit. Its broken length was over 9 feet, its external width 1 foot 10 inches.

The Idahan birds-nesters from Lahad Datu, who own these caves, interpret the notable length of these coffins in exactly the same way as the Pintasan Sungais on the upper Kinabatangan river explained an oversize coffin present in the Miasias Cave there (see 5(b) above). But whereas the bereaved bridegroom of Miasias used a flute to play to his death from inside the coffin within which he was sealed with his dead bride, the Idahans empha-

tically state that the mourning bridegroom of Samang Buat used a Jew's harp, played by strumming on the lips.

The coffins surviving at Samang Buat are the *longest* and most massive of all coffins seen anywhere in these burial caves on Sabah's east coast—comparable coffins present at Madai (9(a)) and Baturong (10(a) and (c) below) run between 3 feet and 4 feet less in length. These were certainly no ordinary coffins. They functioned most probably as *ossuaries*, receptacles for the bone remains of a whole family or clan, to be used over a long period of time as deaths occurred.

The practice is documented, dating right back into neolithic times, by two *ossuary* coffins containing both primary and secondary burials, excavated in the cemetery of the Great Niah Cave, there C-14 is dated at 500 B.C.¹¹ At the other end of the time scale, we are assisted by a little recognised but important observation made by Newington as long ago as 1911, in which he describes precisely this type of *ossuary* process, using enormous coffins for the pagan Bisayas in the Limbang River behind Brunei Bay. These Bisayas are on many grounds to be associated culturally with the Melanaus further west in Sarawak, who once had a much wider distribution. People still calling themselves Bisaya, but now Moslem, also live on the west side of Sabah, and their relationships with the Philippine Visayans to the north have already been discussed as one of Sabah's five major culture contacts of the past (Chapter II, 5 above).

Unfortunately, the whole surface of Samang Buat has been cleared of all burial associations. An extensive search near the coffins and along cave walls produced little: one sherd of indistinct imported stoneware, 19 of earthenware, all of utility type—fairly large, rounded cooking pots. One rim-herd was decorated with single strokes over a thickened lip. Rough flakes of red chert were also present on the surface.

Red chert is readily available fairly near these caves. The deposit of rough flakes with burials is perhaps comparable to the presence of "soft" or "mock" stone tools in other metal-age burial sites where no such source is available. The craft of shaping beautiful, polished knives, adzes and axes for use in the afterworld was no longer appreciated at a time when metal tools had come into wide use. But a token effort, in the form of broken tools or quickly struck flakes (necessary also to the deceased for lighting a fire during his afterlife), was still being made. Most of the flakes from Samang Buat are of red banded chert (as those of Gomantong and Madai Caves), some, scrapers with signs of use and others apparently unused. Some unused flakes show a rough trapezoidal outline, most probably intentionally following the shape of the beautiful Neolithic trapezoidal artifacts found near Pusu Lumut (see 7(f) below). One used fragment of greenish chert is evidently the broken butt-end of a former axe. It shows reworking all along its crescentic cutting edge (see Fig. VI/1 and discussion in Chapter VI below).

Two other birds-nest caves, Bagdapo and Pusu Lata, both at the Mensuli end of the Tempadong formation were investigated for burial remains

because their topography (and names) indicated their former burial usage a possibility.

7(d) *Bagdapo, a cave of broken ceramics*

Bagdapo, elevated roughly 70 feet over river level, has two small entrances strewn with limestone rocks and rubble, facing north (Fig. III/13). Towards the cave's centre, which is in very poor light, the ground is fairly level, its surface consisting of dry guano and dust. Parts of a deteriorated coffin are in one corner and broken pieces of stoneware and earthenware are scattered over the surface. A small trial trench, 6 inches deep, was excavated to ascertain sub-surface remains—with negative results.

Bagdapo's ceramics consist of wares made in, or exported to Borneo over centuries. They are certainly not recent fragments and may well link in time with those of Mandag Awan and Samang Itay. They are:

(i) *Stoneware*: 17 fragments of 3 original vessels:

- a medium-sized eared jar with grey-buff body, distinct for its "brittle" feel (a southern Chinese ware exported to western Sarawak from about 700 A.D. onwards), with shiny, watery, darkbrown glaze forming drops.
- a similarly bodied, larger jar with grey-greenish, weathered glaze and a cloudy and pitted appearance;
- a very large, purple-bodied jar with thick, blackish brown glaze forming drops (including near lip), a distinctive ware found elsewhere associated with Sawankhalok (Siamese, 14th–15th century), and early Ming blue and white varieties.

(ii) *Earthenware*: 13 fragments of two plain utility pots with rounded base and everted rim of fair size.

(iii) *Stone*: 1 piece (unused) of red chert.

7(e) *Pusu Lata*

Close to Bagdapo is Pusu Lata (also pronounced "leta"), a small well-lit cave facing north (Fig. III/13). It has a fairly level surface overlain by dust and guano and is colonised by bats.

Pusu Lata contains remains of grave furniture but no coffins. A trial trench to ascertain sub-surface materials proved negative. The materials collected here for the Sabah Museum in 1968 included:

- (i) *Earthenware*: 42 fragments—19 of indistinct, plain utility pots, 23 of a finely made jar of medium size, its dark red body of a grainy texture, well fired and apparently with a blackish slip or glaze forming drops over the shoulder. It is unusual in having a flat base. A neck fragment indicates an incised decoration consisting of two horizontal bands of single wavy lines between rows of incised

treble dots applied vertically and close together. One rim fragment indicates everted shape and similar incised strokes starting right under it, and a corresponding line of dots all round the broad bevelled lip.

- (ii) *Shell*: one small bead of shell and a fragmented bangle made of a large marine shell (*Trichidna*—Giant Clam).
- (iii) *Metal*: one indistinct fragment of a medium-sized bronze bell; and a much corroded fragmentary *parang* (sword) blade.
- (iv) Few *bone* fragments were present, all human (adult). The distinctive feature of Pusu Lata is that *no imported stonewares* are present. This may indicate that this small cave served less wealthy people. But it has to be remembered that what remains in all of these Tempadong caves is only a fraction of what was originally deposited. Striking, shiny, and beautiful stoneware fragments attract attention and are removed first as "souvenirs" by anybody not personally concerned with these burial remains.

7(f) *Pusu Lumut, a neolithic and bronze age cave*¹²

After visiting all possible burial sites at Tapadong, let us now turn back to Pusu Lumut cliff, the central focus of this cave formation where we started. This is the place on which ancient beliefs and folklore are centred and where our efforts concentrated early on at the small, nameless caves bordering Pusu Lumut to right and left (recorded as Shelters IV and V in 1964). *Shelter IV* is about 15 feet above normal water level but gets flooded annually. It leads into a deep rock fissure and its floor consists of pure, dry sand, more than 3 feet deep. It is of no archaeological interest.

Shelter V, on the other hand, became the most important neolithic—bronze age burial site for Sabah. Elevated 45 feet above the river, it is reached over a steep, rocky path leading up from the water. The cave's entrance faces southwest, just over a man's height, and is 16 feet wide. A straight passage leads inward into darkness where mossy swifts colonise the ceiling. Grey-brown dust and guano form a level deposit near the entrance. The cave has no local burial traditions (in contrast to *all* others described above).

The deposit at the cave's entrance covers an area of less than 300 sq. ft. (see Fig. III/14) and was excavated by M. Chong and R. Nyandoh in September 1964 (Plate 13). The cave proved to be a burial site of the late stone age/early metal age, probably dating from the first two or three centuries A.D., that is predating all other Tapadong burial caves by more than one thousand years. What makes Tapadong unusual is that it contained, in one single, general horizon, advanced polished stone tools of trapezoidal shape (not known further south in Sarawak: Chapter VI), and the first bronze adze so far found in stratification in Malaysia or Indonesia, along with a cast for making bronze adzes of a different type (Chapter VIII). No porcelain,

stoneware, or import ceramics of any kind were present. There was no glass; a few beads were of stone. Such clear parallels as existed in the non-earthenware material showed a considerable specialisation in Sarawak, along with some probable affinities with the Celebes to the east.

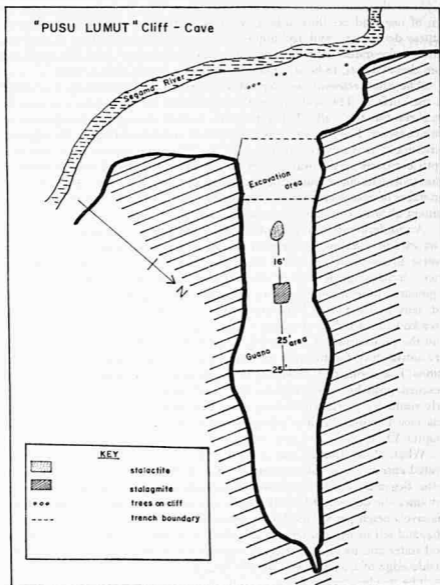


Fig. III/14: Map of Pusu Lumut Cliff Cave—"Shelter V" showing excavation site.

The cave deposit was excavated over a surface area of 277 sq. ft., to a maximum depth of 27 inches. Below 24 inches there was, generally, a featureless, hard erosion deposit. Apart from the above stone and bronze tools, and one fine early imported iron blade, all other material was earthenware. Small quantities of fragmented human bone also survived. A total of 10,301 earthenware sherds were excavated here. The great majority show no sign of use, and are thus to be considered as burial wares. A wide range of shapes, decoration, and techniques of manufacture (including the "turtle pottery" decorated with the imprints of turtles' shells) have been identified from this material, to be separately described below (Chapter VII).

The whole relevant cave deposit was "sealed": that is nothing was visible on the surface. The seal ran to 6 inches down at the centre and near to the surface at the walls. Below this, the deposit showed no stratification of distinct layers. The soil was uniformly brown and fairly compact throughout, increasingly hard towards 24 inches where it became featureless. Within that depth occurred earthenware, an iron and bronze tool and several polished stone tools with an overall antiquity of about 1,800 years. Several stone chips and flakes of earlier character may suggest the presence also of an underlying element absorbed by later users of the cave.

An underlie of fully palaeolithic frequentation is common in the much more extensive Sarawak cave excavations, with dates beyond 20,000 years in several places there. No such time scale has yet been proved for Sabah, where archaeology is still in its infancy. But a rather meagre sample of fragmented human bone taken in 1964, low in the Tempadong floor deposit and sent to Geochron Laboratories, U.S.A. gave one of the two earliest dates known for Sabah at $10,300 \pm 1,110$ years before present. This derives from the radiocarbon (C14) method of analysis, which has not always proved very satisfactory for the type of test material (bone) under these local conditions. The result can, however, be taken to indicate some sort of human presence probably around 8,000 B.C.. This compares well with the other early result for Northern Borneo, derived from a 1968 shell sample at Agop Atas (see Section 9 below in this chapter and the full data discussion in Chapter VI, 3(c)).

When Pusu Lumut was re-visited in February 1968, the cave's excavated entrance was covered with a 3 inch deposit of white sand—the result of the Segama's disastrous floods one month previously. It is fairly certain that since the deposit of burials around 200 or 300 A.D., no flood has reached this cave's height, or it would have destroyed some of the remains excavated in 1964, and left its evidence in the stratification of the deposit. The pressure of flood water and its erosive effect is tremendous on this cliff, as it borders the outside edge of a sharp bend on the Segama.¹²

The flooding Segama also reminds us of the Sungai peoples settled near Tapadong, some of whom remain pagan and continue cave burial to the present day. Nearly all these people became homeless in this 1968 flood. The State Government, in order to help on a permanent basis, devised a generous

resettlement scheme elsewhere, with new houses, abundant new land titles and crops (oil palm) provided free. Some 70 per cent of the people reluctantly agreed to re-settle further down the coast. The rest are not prepared to leave Tapadong, mainly because they do not want to abandon their traditional cave burial grounds.

7(g) *Batu Blas, with 1000 coffins*

Batu Blas and Batu Belachan (further down the Segama and separated from Tapadong) are the two main caves which the present-day Sungai of the area consider as their own. They were probably put into use from the 18th century A.D., when burial could no longer be practised at Tapadong's main caves because it conflicted with birds-nest collecting. Batu Blas is an outcrop close to the true right bank of the Segama, at the southern (downriver) end of Tapadong. Coming alongside by boat, one climbs a steep path between stone walls towards the cave which is 35 feet above the jungle floor, with access by a rough ladder. (Plate 14). A series of faded coloured flags (*bandera*) on high bamboo poles, put up during a recent burial, can usually be seen at the cave's entrance facing the morning sun.

Under the ladder, in rock-pockets, decaying coffins, human bones, skulls and other relics lie on the ground. A special place is reserved for *babies born prematurely*, deposited wrapped in white cloth, and tied in bundles of bark.

These lower places are only for children too small to live or adults so low of standing that the necessary twenty friends to rebuild the ladder and haul a heavy coffin into the main cave above cannot be found. Normally a coffin is placed high up, into the semi-darkness of the 100 feet long, 30 feet wide and high passage which leads into the mountain behind the flagpoles and to a small colony of bats at its furthest end.

All available space here is filled with coffins, piled over each other to over a man's height, the latest on top, crushing the older ones underneath, and finally into decay, at the bottom of the pile. (Plate 15). These coffins are oblong boxes, varying in length in accordance with the body housed, with pairs of projecting handles, with simplified, slightly curving flanges, fore and aft. New coffins show faded coloured cloth wrapped around them under ornate, rotan binding, an umbrella open across the top. All have gifts to the dead placed alongside or wherever there is room: empty tins and boxes, mirrors, plates, cups and bowls of enamel and porcelain, a Japanese bullet case and sword (the owner killed a Japanese in 1945), planting sticks, paddles, rubber sheets, textiles, suitcases, baskets, glass bottles, tins, basins, thermos flasks, a rattle, a baby's shoe. Some coffins carry special name identifications (*tanda*) such as an ornately carved or coloured stick locking both lid and lower coffin, a name incised or painted on a paddle, or alongside, on to the cave wall itself.¹⁴

A careful count of all visible coffins of the outer crust gave a number of 567. The inner body of the pile certainly represented an equal number so that over one thousand coffins are accounted for in this one cave. Roughly three-quarters of these were probably deposited during the present century alone.

Kampong Balas, which has had access to skilled medical help only for the last 25 years, nowadays has 3 or 4 deaths per year. Prior to that, and during the Japanese occupation, the death rate was certainly much higher; and in the thirties the latest cholera epidemic resulted in over a hundred victims, all buried in the cave. A correct account of past deaths is therefore difficult, the more so because certain unlucky deaths were (and still are) unacceptable in the cave. Those which have to be buried elsewhere, in the earth for instance, include all women dying in childbirth, men or women with an "unlucky influence" over their spouses, (all those who lose, through death during their lifetime, more than two husbands or wives in quick succession).

One tradition, represented at other Tapadong caves, was however not visibly carried into the present at Batu Balas; the shape and material of the coffins themselves. The ancient coffins of Tapadong have ornately carved handles in the shape of animal heads or curved flanges fore and aft, the latter representing the open jaws of a crocodile. The people of Batu Balas say that animal handles were made for male and crocodile flanges for female corpses. Some other communities do not agree with this, however. Furthermore, at the more ancient burial caves most coffins are made of *belian* hardwood; those at Batu Balas are soft, mainly because hardwood has become too expensive for ordinary village folk (it is valued by the logging companies and so has cash value today).

The people say, "it is just as well" to use softwood coffins here, as turnover from top to bottom of the pile is therefore quick—a desirable state of affairs in view of the serious overcrowding which threatens a cherished tradition, at Batu Balas. There is no other cave to move the dead to from here.

8. Darvel Bay, Sipit and the Outer Island Fringe

"DARVEL BAY—glittering jewel of sapphire and gold in the crown that is Sabah's Eastern Coast! You are most beautiful in the soft morning haze veiling the grey and light blue of the sea, sky, and distant mountains, the pastel green mushrooms of near hills and floating islets. This is the time to set off across you, from Lahad Datu, through a narrow channel of coral reefs floating under the boat from a transparent sea. To sail out and gaze at the white *lingga*-shaped peak of Mount Dalas that guards Madai Caves, towards Sipit and Semporna, to delight in the teeming flying-fish playing in and out of the water". (B.H.'s diary extract, crossing the Bay, 13th February, 1968).

Most of the low hills and islands near this coast carry to this day the story of early settlement and trading movements. Some ten years ago ceramic sherds were accidentally found in the ground in Semporna, but got lost before anybody recognised their inherent value. It looks as if the great T'ang and Sung ceramic trade penetrated here and southwards to Tawau, whereas they seem to have missed the northeastern coast—and certainly our record, so far!

Semporna is now settled by Bajaus and Suluks, sea-going traders and fisher-folk with an ancient tradition of their own. They still make distinct earthenware pots, incorporating forms and designs with peculiar elements



PLATES 14 and 15. Rough ladder leads up to the entrance of the Batu Blas cave, downriver from the Pusu Lumut cliff. This has been in continuous use since the 18th century and is reputed to contain one thousand coffins. (Chapter III, 7(g) p. 81).

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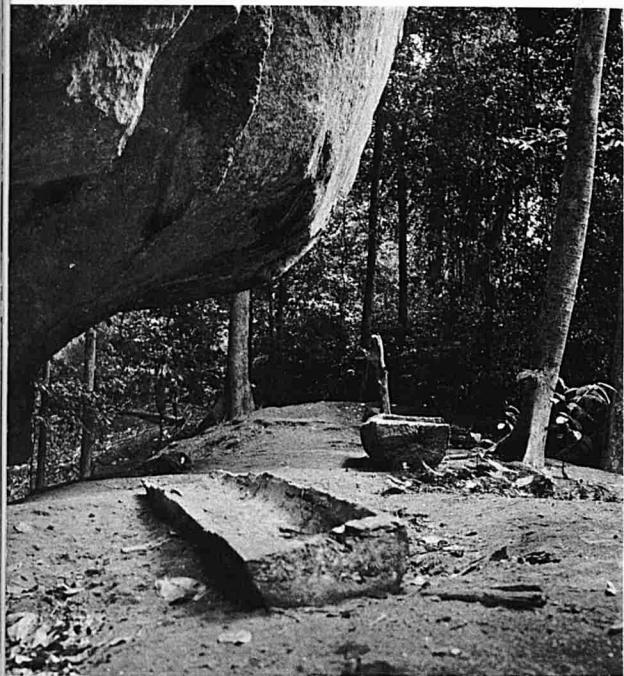


PLATE 20. Massive coffins under the Pusu Bakas rock overhang at the Baturong Caves were probably used repeatedly as ossuaries for the dead of particular families or clans over many centuries. (Chapter III, 10(a) p. 98).

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paralleled in excavations of Western Sarawak back over a thousand years ago (Chapter VII below).

Small caves occur in the low limestone hills near the mouth of the Sipit and Segarong rivers, usually called Sipit but sometimes also referred to as Semobong, or Pillolo. As we approached the Sipit hills at low tide, we had to wade through mud and sharp coral to gain access. One rock shelter present here is no more than 30 feet above the level of the surrounding mangrove. It has a semi-circular chamber with a floor space of dry guano, 15 feet across, housing a small colony of swiftlets (Plate 16).¹⁵ Ten decomposing coffins are half buried in surface dust and windblown leaves, partly pushed under rocks. Trial excavations proved negative.

The special interest in this small, remote cave is the *variety of coffin styles* represented:

- (i) fragments of lids (or troughs) with upcurving (or downcurving) flanges fore and aft, a form most commonly represented in our area. The type may be plain or combined with faceting, incised or relief decorative carvings. We have established it in one cave at Gomantong (2 above), in five caves on the Kinabatangan and Lokan Rivers (4(b), (c)); (5(a), (b); (6)), and in two caves on the Segama River (7(a), (b)). Baturong (cf. 10 below) is the only cave formation where we have not seen it.
- (ii) a lid fragment in the shape of a buffalo head (Fig. III/16a), as seen in three other caves, two on the Kinabatangan and Lokan Rivers (4(c); 5(b)), and one on the Segama (7(a) above). Coffins with upcurving flanges are associated in all three locations with this buffalo motif, which also remained prominent on Toradja coffins in the Celebes until very recently (See Chapter II/5(b) above).

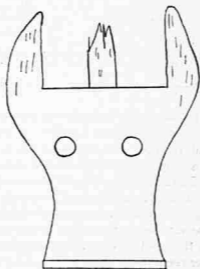


Fig. III/15: Buffalo head from coffin in Sipit, Darvel Bay.

- (iii) a fragmentary lid with a simple handle projecting outwards from one short side. This type of handle is associated elsewhere with plain, massive and over-length coffins of *ossuary* type, and may come in pairs—that is one handle at either short end as examples found at Madai (9(d) below), or as a single-handle type as with coffins in two Baturong caves (10 (a) and (c) below). The type does *not* combine with (i) and (ii) except here at Sipit. It also seems localised in the Madai-Baturong area to the south-east where it discontinued at an earlier date than the flanges and buffalo type which carried on into the present century, especially on the upper Kinabatangan River (see 6 above).

The three styles occurring side by side in this limited cave situation indicate a combination of culture contacts in this coastal locality at a time when Islam was becoming accepted. Grave furniture surrounding these coffins were collected for us by Lord Medway in 1958. It included local earthenware sherds and one fragment of Sawankhalok celadon dateable to the 14th–15th century A.D. (Plate 48, *left* sherd).

Opposite Kuala Sipit lies Pulau Timbum Mata (Shut-eye Island) where low limestone hills similar to Sipit are present and supposed to hold caves also. The island was settled by the Sungai-Idahan people “a long time ago”. The paths to the caves have now been forgotten because the nest-sites are small and uneconomic to harvest from a distance. The place is nowadays dangerous because of pirates operating from the Sulu Sea.

Pulau Timbum Mata remains connected with ancient folklore notably with another tale of *petrification* due, as often instanced in Borneo, to ridiculing animals:

“An old, blind, grandfather sat outside his house in the village that used to be here. He was minding new padi spread on mats before him to dry in the sun. When chickens came to peck the grain he heard them and shooed them away with a long stick. His grandson looked on for some time, then went off, caught a couple of crabs on the beach and set them free over the padi. Walking to and fro, the crabs made a noise just like pecking chickens, upsetting the old man who could not frighten them away with his stick.

The boy started to laugh, and the inevitable happened, a strong wind suddenly blew; rain, hail and thunder descended from the sky engulfing the whole village and its people, turning them into stone.

Nothing of the village or its people remains now—except areas of rock that look like padi grains turned into stone.”

The punishment for making a fool of, and laughing at animals, as in this story over crabs, must be death by turning into stone. Thus originate, on this theory, nearly all the caves and rock outcrops we are here exploring.

One other high limestone hill is visible in the distance on approaching Kunak, to the south. This is known to the Idahan as Bukit Meragkap. Its caves were harvested “a very long time ago” from an extinct village near Madai (called Sabang), but are no longer worked being too far away to be economical now. There survives in the minds of the people a legend about Meragkap exactly like that told in connection with Batu Temonggong on the Kinabatangan River (section (3) above). It is of a cave enclosing one of

seven men who went there to collect nests. After the last man got caught he, too, managed to stick a hand through a crack in the rock, to have it *suddenly covered with fur*. Here this was interpreted as being due to the failure of the seven to act in accordance with a dream which one of them had had, in which the spirit of the cave required the offering of a goat before any more nests were to be collected. (See also the story at section 11(c) below).

Massive Mount Silam (2,897 ft.), the foothills of which are farmed by the Idahans to this day, also contains a cave, about half way up. This, a "regular tourist sight" has not been visited during our explorations. Lord Medway, who went there in July, 1957, says it is marked by Moslem tombstones and contains an ancient burial ground but no surface coffins. It deserves re-examination.

9. Madai Caves; Earliest Evidence of Sabah Prehistory

MADAI Caves are situated about 4 miles inland from the shores of Darvel Bay. There are at least 25 caves in this impressive limestone formation with its three peaks: Gunong Dalas (2,000 ft.), Gunong Pidtong (1,500 ft.) and Sapud Batu (600 ft.).

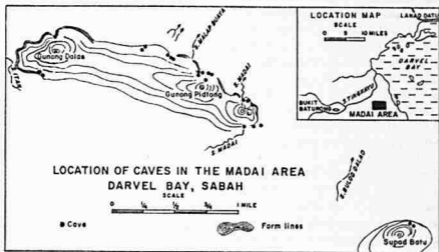


Fig. III/16: Location of caves in the Madai area (after Orolfo and Wilford, 1964).¹⁰

P. Orolfo mapped the Madai birds-nest colonies in 25 locations in 1930 (Fig. III/16). These are of considerable economic importance with an average white-nest harvest twice yearly of 40 pikuls (= 5320 lbs. worth about \$20,000 (Malaysian) locally). G. E. Wilford concerned with a survey of the phosphate deposit in these caves, published the results of the combined effort in his over-all report in 1964. The report greatly facilitated archaeological exploration of the outcrop by the Sabah Museum (December 1966; June 1967; Febru-

ary 1968). From the descriptions and drawings supplied by Orolfo and Wilford it was possible to eliminate more than half of these cave locations as of no possible interest from an archaeological point of view. These, low-lying wet situation, fissures and rock chambers without a deposit, are omitted from the account to follow. A few other caves, with a faint possibility of archaeological potential, were not visited because they were too difficult or too far to reach within the limited available time.

9(a) *Madai Cave and Village.*

The main Madai cave system comprises about 3,000 feet of passages which average 40 feet in width and vary from a few feet to more than 400 feet in height. The floors are either generally flat, floored with guano or rocky. The cave system is divided and separately named by the Idahans into topographic sections of cave ceiling or passages in accordance with individual owner rights over existing bird colonies.¹⁴ They harvest the nests twice yearly (March and September), sharing the income from the sale of nests in an intricate way—in accordance with Islamic laws of inheritance. Most owner families live in Kampong Sapagaya and other settlements close to Lahad Datu, with rights over the nest sites going back twenty generations and more (Chapter XI). Some individual shares are so small nowadays that they are hardly worth taking, or only come up every few years; others are still sources of considerable income to individuals. Not all cave owners collect the nests themselves. There are only a few specialists (*tukang pungut*) these days, who take payment for their work in form of a share in the harvest. Each nest collector works with a crew of between four to six helpers depending on the accessibility of the nests. All gear necessary for collection and climbing is made by the people themselves, usually at the start of the collecting season.

The Madai River flows northwards through the main Madai Cave to emerge at the lowest main entrance. Its water is beautifully cool and clear (except after heavy rains) carrying pebbles and gravel of a variety of hard stones, mostly a dark-red to pinkish, banded chert. Spreads of gravel just inside this lower mouth have been naturally cemented by lime to form a shallow, wide bathing pool at its outward bend, while on the inside slope, only touched by water when the river floods, "the footprints of the Golden Deer" show as peculiar scratches and marks on the lime-cemented surface. The full story of the Golden Deer, which combines ancient folklore of Idahan origin and the gradual discovery and take-over of all cave locations between Kinabatangan to the north and Madai and Baturong to the south is told later (Chapter XI). But it is here at Madai that Apoi, the story's hero, spoke to the Golden Deer after unsuccessfully trying to kill it with his spear (another scratch-mark on a rock nearby); and it is right here that ancient beliefs and folktales lovingly survive, told during the long evenings at harvesting time, when 40 Idahan families or more live and work in and near the caves.

A mosque was built outside the main cave entrance long ago—the present one, with zinc roofing and walls superceding earlier, thatch structures. Prayers are regularly sung by the birds-nesters long before dawn and after sunset, the call to be heard in all huts in and outside the cave (see Plate 17).

Madai village consists of two main parts, with some huts connecting between them. The more recent part of the village is built on a small hillock opposite and outside the cave entrance where Madai River emerges. These huts are beautifully dry, clean and good to stay in. But most families prefer to stay at Agop Atas, the old, traditional site with its huts built right *inside* the cave under a large rock overhang, a few minutes climb away (see Plates 18 and 19).

9(b) *Agop Atas, from Birds-nesters' Camp down to Palaeolithic*

Agop Atas (see Fig. III/17) is approached by a steep rocky path, past the mosque leading into Tengah cave to the north-east, a small rather dark and wet hall (with some huts). Through Tengah one proceeds by climbing a slope at its eastern entrance where Agop Atas starts under a large cave overhang, which borders the village with its 100 foot solid rock wall on the west side, before opening up into the second cave entrance, which leads to the main nest sites of Mabong Mapau Danau beyond. Agop Atas is about 50 feet higher than the lower cave entrance where the river flows, and is fringed on its outside with boulders and rubble (infall from the cliff rising above the overhang). All space under the wall is taken up by crowded sleeping platforms and semi-roofed huts, some with connecting ladders up to second and third stories, following the rock's outward curve. A narrow path-way leads gently upwards in front of these huts under the overhang; and as the space widens toward the cave entrance you pass a second series of huts, built right over fallen rocks, opposing those hugging the wall. A little village square marks the centre and is left free for the assemblage of large gear (long bamboo poles and ladders) and for the children to play in while their fathers work in the cave darkness beyond. All the space around this square is taken up by additional platforms, sleeping and storage places. Some of them are in darkness, some under the flight-lines of the swiftlets and bats and consequently are full of their droppings. When asked why they prefer to camp here rather than outside the cave (where there is still ample space), the birds-nesters say, that Agop Atas has been the "proper camping place since time immemorial".

Right *under* the huts of Agop Atas ancient coffins, show up here and there, buried in modern debris. These are the ancestral graves of Apoi's generation, not respected by his present Moslem kinsmen. It is three or four hundred years ago since the last coffins were deposited at Agop Atas and all Idahans (unlike the Sungai) have since converted to Islam. Thus they became "different", in the sense that their old spiritual regard for the caves was supplanted by a new progressive religion and education. Yet they remained tied to the limestone as a source of material wealth. No doubt, these

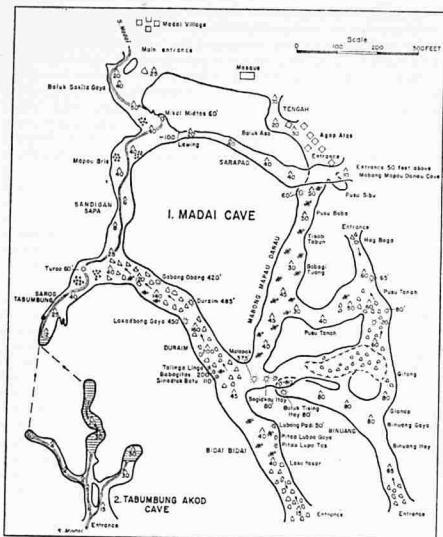


Fig. III/17: Madai and Tabung Akod caves, Madai area (after Orolfo and Wilford, 1964).¹⁰

burial remains were gently but firmly pushed out of mind and sight, where they now remain almost buried and forgotten. But a story, rationalising past feelings and doubts, has grown up and become accepted by all Agop Atas settlers as true. The story has it that a hidden cave exists sandwiched below rocks right under the village and that this cave contains Apoi's burial and the coffins of his children and children's children. It has marvellous riches: spears and blowpipes, jars and plates of fine porcelain, textiles and mats, all gifts to accompany the dead on their long ago journey to the after-world.

Whoever visits or disturbs this hidden cave will be doomed and inevitably he will be struck by mortal illness. It is also said that one European long ago dared to visit the place and subsequently nearly died of fever.

The proof of the story, say these kindly people, is the "hollow ring" each and every step makes in walking up and down the "village street"; and in a coffin to be seen sticking out from between two large boulders near Tengah Cave.

Three attempts were made by Museum parties to locate this hidden cave, by excavation around and behind certain boulders, by carefully examining all possibilities of the boulder scree bordering the village from the outside and by digging far into an underlying dark side passage merging into Tengah Cave, until we became convinced that the cave does not exist. The "hollow ring" of steps on the village street is probably due to the debris deposit having built up rapidly, over minor cavities underfoot.

The first archaeological test excavation below Agop Atas village itself was undertaken during February 1968. The site's archaeological potential has always been considered to be excellent, especially after obtaining unstratified specimens during the various efforts to locate the "hidden cave", ranging from modern debris to what seemed to be tools of the early stone age. But no attempts had been made to excavate previously, because the birds-nesters were not prepared to tolerate such activities right under their doorsteps. By 1968 initial suspicions had vanished and been superseded by considerable goodwill. The excavation of a 5 by 10 foot trial trench (AA2) was agreed to, on condition that it would be re-filled with spill after extraction of specimens, and that support posts of huts were to be left *in situ*. This test excavation, which probed to a depth of 60 inches, confirms the tremendous potential of Agop Atas. Here Sabah's prehistory can be traced back from the present right down into the early stone age. The stratification of the trial trench showed:

- (i) Loose surface debris of \pm 18 inches, relics of \pm 60 years of recent birds-nester's occupation; cleared away by *changkul* (heavy hoe) until a firm earth cover became apparent.
- (ii) Excavation below that into the sub-soil:
 - 0-18 inches: Dark brown to black, very moist deposit with high guano content and a little ash and charcoal. Remains: deteriorated wooden coffins (lower surface at 14 inches), stoneware and earthenware sherds, iron fragments, some chert stones; age indication c. 350 BP (before present).
 - 18-24 inches: Dark brown soil continues less moist and turning slightly greyish. A 2-inch band of white lime and ash is irregularly deposited. Remains indicate continued frequentation of cave; increased amount of earthenware, decrease in stoneware.

- 24-30 inches: Recurrence of white lime and ash band, at places 12 to 15 inches broad, especially on the short side of the trench facing the cave mouth. Under the band the deposit becomes extremely hard. Bulky accretions are concentrated below the white deposit and consist of partly mineralised, charred food-bone and shell, extraneous stone flakes, chips, cores and tools, caked in hard earth. Some loose deposit continues at short end of trench facing the cave wall which contains a few earthenware sherds.
- 30-36 inches: Continued presence of hard accretions described above. Side of trench facing cave wall affected by white ash and lime deposit. Very large quantities of extraneous stone, food-bone and shell with hard deposit; few earthenware sherds from white ash and lime deposit.
- 36-42 inches: Continued presence of hard accretions, especially on cave-mouth side, with still increasing quantities of worked stone (mainly red-banded chert; cf. Chapter VI, 3 below), food-bone and food-shell. Earthenware discontinued. Age indication at this level near cave walls is *c.* 4,000 years, possibly earlier.
- 42-48 inches: (Trench reduced to 5 × 5 feet to prevent collapse of sides, excavation continued on short end facing cave wall). Dark brown and greybrown deposit, fairly moist patch, hard accretions. Charred food-bone (including boar, deer and rhino—the latter two identified by antler and molar respectively), hard and seemingly mineralised. Large quantities of stone.
- 48-54 inches: As 42-48 inches.
- 54-60 inches: Loose, dark brown to greyish deposit with decreased quantities of shell, bone and stone.¹⁷
- 60 inches plus: Probing down slightly with a trowel showed a continuation of deposit with food-bone, shell and worked stone. The curve of the rockwall bordering the trench suggests the presence of several more feet of occupation deposit before reaching bedrock.

[As excavation to such depths (with its highly promising content of mineralised food-debris and stone of an early Stone Age period) would have required a considerable extension of the present excavation trench, involving the removal of several dwellings on the site, the excavation was suspended at the 60 inch level. After marking the excavated surface with plastic covered

by a layer of of limestone rubble, the trench was refilled with spill and debris to former surface level].

It is difficult to appreciate the antiquity of the deposit below the lower level of earthenware (36 inches plus) because there are no dated comparable artifacts elsewhere in the region with which the stone-tools and fragmented hard stone below that level can be compared (see their full descriptions and analysis in Chapter VI). There is no doubt that hard pebbles were brought up from the river below and shaped into axes, knives and scrapers on the spot. The food-bone of these deeper levels seems largely to derive from biggish animals requiring groups of men for tracking down. The presence of food-shell throughout all levels seems to indicate women's participation in camping, for it might be assumed that hunting men would have little taste for collecting small edible shell. Food-shell from the upper levels (coinciding with earthenware sherds) include a few marine shells. Those at lower levels are exclusively local riverine with *Thiara variabilis* and *Clea* as main representatives.¹⁸

The presence of peculiar hard accretions in the stratification of the deposit (30°-40°), separating remains prior to and after the advent of earthenware pots (considered classic markers of large agricultural communities with developing trade links in this region (Chapter VII below), may indicate a time-gap of cave use in Agop Atas, between earlier stone age hunting, camping and toolmaking activities, and later stone age seasonal frequentation. The latter eventually culminates and merges into modern frequentation with the sole purpose of collecting birds-nests for trading abroad. Although the people engaged in collecting the nests never eat them themselves (they are now too valuable), there can be little doubt that early hunters were conscious of their food value and used them. There are many stories telling how caves were discovered by hunting for pig in the jungles surrounding the limestone hills. How, on slaughter, the beasts were found to have eaten nests (see (2) above). And lastly how a hungry man, stranded in bad weather in a cave, tries them out as food with good results.

9(c) *Agop Tuban, a rock shelter*

Agop Tuban is a small rock overhang a short distance uphill beyond Agop Atas that shelters a dry space 60 feet long and 9 feet wide, facing east. A trial trench 1 foot square was excavated by Lord Medway in early 1958, to a depth of 33 inches. He found earthenware sherds, food-shell (riverine and marine) and fragmented human and animal bone to a depth of 21 inches; below that, only land shells. As he rightly states, the presence of land shells in deeper layers, in good condition, indicates that any animal (or human) remains deposited below would have been preserved. He describes the site as having been used and frequented during a pottery age (neolithic to iron age) and concludes that there are no signs of earlier occupation. He is probably right, because at that early period people were camping at Agop Atas,

the main overhang a short distance away. It is also possible, that human remains are present *below* the level of the excavated pit.

All other caves visited in the Madai formation held iron age remains often comparable to those described from Tapadong (7 above). These will be briefly summarized below.

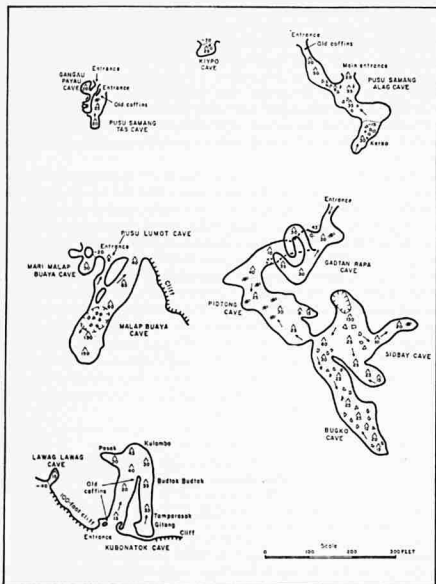


Fig. III/18: Maps of caves in the Madai area (after Orloff and Wilford, 1964).¹⁰

9(d) *Pusu Samang Alag*, "Low-lying Coffin Cave"

This cave has two entrances, one with a 15 foot descent into a rock chamber with uneven floor and little deposit, where a small trial trench proved negative. The second entrance is level and smaller. Surface coffins of hardwood are present here. They comprise three units:

- (i) the lower half of a trough-shaped log, 7 ft. 5 in. long, 1 ft. 7½ in. broad and 1 ft. 1 in. deep. The thickness of the timber at its short ends is 8 and 4 inches respectively. There is no handle or carved decoration.
- (ii) a complete coffin unit which seems to be in original position, though partly rotten and broken. The crescentic lid is 7 ft. 5 in. long and 2 ft. 1½ in. broad, with simple, stick-like handles projecting from the crest of either short side. The trough closely matches the lid. The maximum combined height of both lid and trough is 2 ft. 3 in. There are no decorations.
- (iii) a fragmented lid, similar to the one at (ii) above, 1 ft. 6 in. broad.

Other timber fragments are present, but none suggest trestles or supports to elevate these coffins above ground. Their massive simplicity and great length relates them in appearance, and probably also in function, to the *ossuaries* of Samang Buat Cave at Tapadong (7(c) above) and to those of two other caves at Baturong, two days walk away (10(a) and (c) below). Unfortunately, Samang Alag, because of its accessibility, has become a kind of tourist attraction and has been emptied of associated surface materials by casual visitors to Madai over the past thirty years. We scraped the sub-surface for specimens and collected the following materials for the Sabah Museum including some items with doubtful burial connections:

- Fire-strikers (chert from the river below);
- Sea-shells (3-4 species; food);
- Iron knife for rottan work—"Pa'is" (local name);
- Native earthenware with incised and impressed patterns: (cordmark and basket; mostly of small cooking vessels showing use);
- Chinese imported stoneware: (black, white and brown monochromes, and blue-white fragments, no recent types). Approximate age indication \pm 300 years.

A trial trench (TTB) excavated between coffins (i) and (ii) in hard old guano soil with much admixture of food and cave-shells and calcareous nodules revealed a small quantity of indistinct Chinese stoneware sherds similar to those of the sub-surface and some fire-strikers. Deeper coffin remains were also present.

9(e) *Kiypo Cave, "Crawl-in Cave"*

Kiypo Cave is a (20 foot wide) rock-shelter with low ceiling close to Pusu Samang Alag, but with steep and difficult access over a cliff. Joseph Ingai—(Junior Assistant Curator, Sarawak Museum, who joined the November '66 field party) climbed up and crawled in. He reported no surface remains and searched the deposit down to 12 inches without results.

9(f) *Pidtong Cave*

Pidtong is situated about 120 feet higher than Pusu Samang Alag and the connecting trail is steep, over boulders and sharp rocks. The entrance leads steeply downward (about 20 feet; negotiable with rotan vine) into a boulder strewn, bowl-shaped rock cavern from which dark passages lead into complete darkness where swiftlets and bats colonise. This is a well protected place, though dark, moist and cold. There are no surface remains and a trial trench 6 inches deep was negative.

9(g) *Pusu Samang Tas, "High Coffin Cave", rich in earthenware*

The approach to Samang Tas, a steep ascent along a cliff ledge past Sidin Cave (a rock fissure with an 80 foot drop) can be managed without ropes or ladders. The cave's entrance is about 200 feet above Pidtong Cave (see 9(f)), and faces eastward with a wide view over the jungle canopy below. It is high and wide with large boulders screening the outer part. It leads into a hall measuring about 60 by 60 feet, with a level dust and guano surface merging into an extensive slope of guano beyond which has accumulated from the droppings of swiftlets (white and mossy nests) and bats living in chimneys and cavities of the cave ceiling. By sight alone the place is a delight: here is dryness and space set apart from the birds and bats further inside. There are no dark, wet passages beyond which make so many other caves draughty and uncomfortable. But there is one main snag, the absence of a water source anywhere near this rather steep cliff, which would probably have discouraged people from frequenting it over extended periods in the past. As a burial site the cave is ideal. Although there was one deteriorated indistinct coffin, half buried in dust and dry guano to one side of the entrance, there were no signs of grave furniture or other remains on the surface. A trial trench ('TTD. 5' x 5') was excavated 2 feet away from the rock wall at a sheltered point near the surface coffin, and revealed immediately just under the surface a dense concentration of earthenware sherds and fragmented human bone. The trench was excavated to a depth of 36 inches, with the following pattern of stratification.

Under a 2 to 7 inch layer of dust, humus, leaves and dry guano occurred a 1 inch layer of charcoal, partly covered by ash. Directly under this were concentrated remains of broken earthenware and broken human bone, admixed with loose brown earth, about a foot thick. The finds were more concentrated against the rock wall, but covered the whole of

the trial trench. Under this layer, which carried the main artifacts of the excavation, the soil became increasingly moist and hard, until at a general depth of about 20 inches it was almost rock-like and a greyish thin line appeared. Beneath this hard deposit which was about 2 to 3 inches thick, loose brown earth, again appeared and continued to the bottom of the trench at 36 inches below the surface. Probing indicated that the soft deposit continued for at least another 21 inches. The soil *under* the hard band at about 20 inches contained a few animal food bones and food shells.

The artifacts obtained from this excavation included an extensive, beautiful range of earthenware types. All pots were originally deposited whole and most of them are fit for reconstruction now (see Chapter VII for descriptions). Five glass beads of two varieties (4 large round and yellow, one small tubular and brick red, the latter being a '*manek tulang*' bead, imitating ancient polished bone beads) and two small iron knives, much deteriorated, were also obtained. Imported stoneware was absent.

The exact character of the human burial remains could not be established within the small test excavation area. There were no outlines of complete skeletons in any position. These are normally distinct, if primary burial in the ground took place under soil conditions such as at Samang Tas. But the *typical* criteria of alternative "secondary" burial deposits, such as clearly outlined areas of broken-up, cremated or lustrated bone assemblages, were similarly absent. The skeletal remains were indistinct and as such are of secondary burial character. It is possible or likely that corpses were placed into wooden coffins or mats which disintegrated in the subsurface in the course of time. The overlying charcoal and ash layer may point to the burning of superstructures or "offerings" erected over burials; or alternatively, that the burning of still later remains, those associated with the present surface, took place at a time when the cave was taken over by Moslems as a birds-nest site.

At the present stage of knowledge about early types, forms and patterns of earthenware pots, it is difficult to date the remains of Samang Tas. They are certainly iron age (cf. knives, glass beads), but probably connect with periods preceding that represented by imported stonewares in any other burial shelter at Madai (cf. 9(d) above). It is possible that the deeper remains are early *Bajau*, while the surface coffins are of later Idahan origin (probably \pm 400 years old). Local tradition would vaguely support this theory.

We suggest full excavation of this rich and worth-while deposit, especially from the point of view of obtaining a good range of early earthenwares in fair condition for the Sabah Museum. An excavation deeper down into the deposit would include a distinct possibility of obtaining stone age artifacts. But work on this cliff is not easy. Camping on the small site is impossible. Travelling between Madai village and the cave takes two hours; necessary water must be carried up and all specimens down over a difficult path.

9(h) *Malap Buaya Cave, of birds-nesting interest only*

The Malap Buaya group of caves (Fig. III/16 above) is located to the north and west of Madai, an established trail running along the foot of the formation. Malap Buaya Cave, the first of the group, can be reached in about 1½ hours from Madai village. It is a camping site on a level space surrounded by trees and shrubs sheltered by a high cliff wall. Fissures and gaps in the wall and ceiling lead into darkness over rubble. These inside passages are of birds-nesting interest only. Extensive sub-surface search in five locations of the camping area (TTE) only produced one earthenware sherd. The place is of no archaeological importance, although it was and is seasonally frequented by hunters and birds-nesters.

9(i) *Lawag Lawag and Kubonatok Caves, Orolfo's account*

An extensive effort was made during November 1966 to reach these two caves in the Dalas Group of the Madai formation. This was unsuccessful because the birds-nest owner of the site was not in our party and our guides were not sure of the way. Kubonatok Cave certainly deserves archaeological exploration in view of the burial remains described by Orolfo.

"Lawag Lawag Cave. This cave is located at a height of 40 feet in a cliff at the south of the western end of Madai Hill—southwest of Dalas Peak. There is a blind trail connecting Lawag Lawag and Kulambo Caves. This trail passes around the foot of Dalas Peak on the west. Lawag Lawag Cave is a very small cave of no importance at present for the inhabitants are but a few bats, but it is said that 20 or 30 years ago this cave produced about two katis of nests yearly.

Kubonatok Cave. This is located three chains east of Lawag Lawag Cave at the foot of a cliff. This cave is 130 yards long, running north-eastward for a distance of 65 yards and then southward for the rest of the distance. The entrance is wide. The ceiling is high. The floor is almost level. On both sides of the entrance there are dilapidated coffins, which show that this cave was once used as a graveyard. The inhabitants are bats, common white nest swiftlets, and white-bellied swiftlets. This cave is said to have produced about 40 katis of nests (white) 20 years ago but now it only produces about three katis."

The Supad Batu group of Madai caves was not visited because the descriptions of the two caves given by Orolfo suggested them to be of unlikely archaeological interest.

10. Baturong Caves beyond Madai

BUKIT Baturong is a 1,000 foot high scrub-covered limestone hill surrounded by high level alluvium north of the Binuang River, about 15 miles distant from Darvel Bay. It can best be reached by walking from the road-head at Tinkayu Timber camp for between 3 and 4 hours through the jungle and along the Binuang River—crossing it about ½ mile before reaching the eastern end of the limestone formation.

There used to be a trail directly connecting Baturong and Madai before roads became established, and the bird-nesters working both Baturong and Madai Caves took two days to cross it with loads. The trail no longer exists and all traffic, including that of birds-nesters, now passes along the new Tinkayu Road.

Orolfo mapped 36 cave locations at Baturong during his 1930 survey of birds-nesting sites (Fig. III/19). Five of these were visited by a Museum team in December 1966. A follow-up operation for excavation at Lobang Tingalan (no. 24) took place in February 1968.

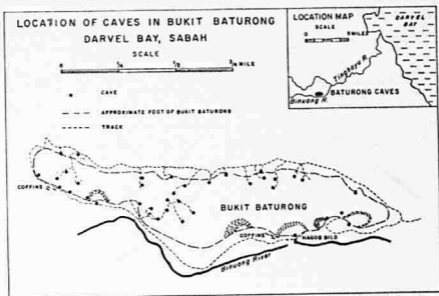


Fig. III/19: Map showing location of Bukit Baturong caves near Darvel Bay.

Most of the caves listed are of no archaeological interest, because their locations (low-lying and swampy, exposed etc.) or formations (rock fissures, pockets, clefts, drops, etc. without level space at entrances) make them unattractive for human frequentation. This is true for *all* caves on the northern side of Baturong. Of the five caves visited on the southern side, only two proved of archaeological and historical interest. The one good camping site, a loam terrace under a wide overhang overlooking the Binuang River (Plate 22) is part of Hagop Bilu cave (the most important cave at Baturong from our point of view—see 10 (c) below). To walk from here to the western end of Baturong (where we shall start telling our story), takes just over one hour. The foot of the limestone is regularly flooded by the Binuang River following heavy rains. The surrounding forests are beautiful, with many signs of wild life—wild ox, elephant, deer, pig, crocodile, gibbon, leaf monkey and birds galore. Rhinoceros and orang-utan are unfortunately not within range now, though their remains are present, under the surface.

10(a) *Pusu Bakas* (Fig. III/20) with massive ossuaries

This is a low-lying exposed terrace, partly covered by a rock overhang at the western end of the formation, a known site of surface coffins. They

lie on a mound of clay and gravel pushed up under the rock overhang by the flooding Binuang, a long time before they were put here.

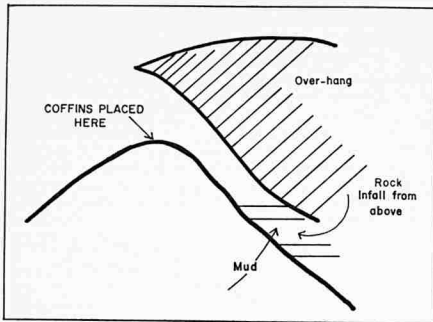


Fig. III/20: Profile section of cave in Pusu Bakas, Bukit Baturong.

The coffins are massive, over 8 feet long, without decorations. There are two lower halves and one lid, the latter lying inside out. It has a slightly crescentic cross-section and a stick-like handle projecting outwards from one short side. No material associations surround these coffins. No excavation was attempted on this exposed, topographically awkward site. (see Plate 20).

The short, single handle, seen only here and close by at Hagop Bilo, in Baturong (see Fig. III/22 and 10 (e) below), is of particular interest in that it provides an additional clue to its former function. The single handle is barely effective, if one tries to visualise it as an attachment relevant to the removal of the heavy lid, which requires more than two men anyway (not to speak of the carriage of a complete coffin including a corpse). But it is very adequate for lifting the lid up on one side, presumably so that bones could be put into the coffin, adding to what was deposited earlier—as is implied in the use of an *ossuary*. This directly fits with the enormous size of these coffins already discussed in connection with even larger coffins present on the Segama River (7(c) above) and at Madai (9(a) above).

The archaeological potential of Pusu Bakas is low. Some material associations may be recoverable through excavation of the mound and through search in the drainage channel below the rock overhang.

10(b) *Timbau Balai, a guano cave*

This cave is reached by skirting the western end of the formation from Pusu Pakas and climbing inwards on its northern slopes. R. Goh and J. Ingai reported it to be difficult of access, a high (35 foot) cave exposed to rain and water draining off the formation, inhabited by bats and birds. The floor is densely covered with guano.

10(c) *Pusu Serap Gaya, a camping place? (Fig. III|21)*

Serap Gaya is situated roughly half-way between the Hagop Bilo camp-site and Pusu Bakas, on the southern slope of the formation at a point where the cliff opens into a series of caves. Orolfo described it in 1930 thus:

"This cave is connected on the north to Huag Krus Cave. The entrance of Serap Gaya is located on the slope of the hill at an elevation of 269 feet above the foot of Baturong Hill. Serap Gaya is the biggest cave in Baturong Hill. Near the entrance the cave is almost a ruin owing to the fact that parts of the ceiling have dropped down making large gaps or openings, and the floor is littered with many boulders. The wing or branch on the northeast is a regular formed cave. Its floor is practically level. The inhabitants of Serap Gaya are bats, common white nest swiftlets and white-bellied swiftlets. I have seen hundreds of common white nest swiftlets but it was said by the natives that the birds never make nests in this cave at present. Nests have been collected in this cave many years ago."

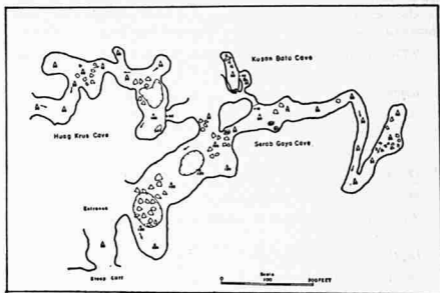


Fig. III|21: Map of Serap Gaya caves, Bukit Baturong (after Orolfo and Wilford, 1964).¹⁰

R. Goh and J. Ingai climbed the short cliff (about 20 feet) that has to be negotiated to get into the cave mouth, and excavated a trial trench (TTM) to a depth of 12 inches near its main entrance.

A small quantity of earthenware sherds of utility type, food-bone and food-shell was obtained. Some extraneous stones, pieces of banded chert probably used as fire-strikers, were also recovered.

The potential indicated is that of a small camping site, probably contemporary with early bird-nesting activities or frequentation in connection with burial rites, with a possible earlier element underlying.

10(d) *Lobang Tingalan, an important site?*

Lobang Tingalan is half way between Pusu Serap Gaya and the first described Bakas Cave (a) above. It is easily reached by climbing up over boulders and rubble to about 60 feet above forest floor level to the foot of a sheer white cliff rising over 200 feet at this point. Lobang Tingalan is more than a cave. It consists firstly, of two interconnected, slightly downward sloping terraces, partly covered with shrub and perfectly dry, with a dense leaf cover. These are accessible to large animals since evidence of their resting and nesting here was abundant. Secondly, a true cave has formed at one point of the cliff-face which connects with the upriver terrace, over boulders. This consists of a round cave 60 feet across, with level entrance and a high (c. 80 feet) ceiling. A circular, upward depression in its centre contains a large colony of swiftlets building white nests, regularly harvested. The level floor of guano is strewn with limestone infall from the ceiling of the cave.

Only the two outside terraces are of evident archaeological interest. Three small test pits (2 ft × 2 ft) were excavated here in 1966 as follows:

TTN: Centrally situated on upriver terrace near two prominent boulders.

<i>Depth:</i>	<i>Contents</i>
0-12"	Earthenware sherds (3) Food-bone (8) Food-shell (riverine) (5)
12-24"	Food-shell (riverine) (6)
24-36"	Food-shell (riverine) (2)

TTO: Central, in downriver terrace between roots of a large fig tree and bushes.

<i>Depth:</i>	<i>Contents</i>
0-12"	Earthenware sherds (3) Food-bone (3) Food-shell (riverine) (5)
12-24"	Earthenware sherds (6) Food-bone (3) Food-shell (riverine) (6)
24-36"	Earthenware sherds (6) Food-bone (2) Food-shell (riverine) (5)

36-42" *negative*

- 42-48" Stone tool (flake) (1)
 Food-bone (1)
 Food-shell (riverine) (3)

48-60" *negative*

TTP: closer to upriver end of terrace, away from main roof influence.

Depth: *Contents*

- 0-12" Earthenware sherds (11)
 Food-bone (16)
 12-18" Earthenware (3)

Between 12 and 18 inches down a human burial was found and the trench slightly extended to confirm its character. This, a complete skeleton in extended position (skull pointing eastwards, downriver), had a long iron blade (*parang*) and a fragmented, shallow bronze bowl associated. Both knife and bowl were collected for the Sabah Museum. The skeletal remains were left *in situ*, covered over with spill.

These results implied an important, two-pronged (if limited, in this remote cave situation) archaeological potential:

- (i) The presence of an extended, early iron-age burial suggesting usage of the cave at a time prior to the adoption of surface burials in coffins and to a continuity, back in time, with possibly different cultural trade links, covering also a bronze phase.
- (ii) the recovery of a single flake associated with food remains from deeper strata below a band of negative soil, suggests the presence of an earlier, stone age frequentation of this cave, deserving further investigation.

Therefore, during February, 1968, a second effort was made at Lobang Tingalan, by the excavation of one 5 feet by 10 feet trench:

TTO/1: located alongside TTO.

Depth: *Stratification:*

- 0-12" Humus from leaves, grey-brown to pink-brown. Loose dust soil with an admixture of roots from large trees nearby. Patches of ash.
- 12-24" The deposit continues as at 0-12 inches, the colour becoming greyish brown. Moisture content heavier. Heavier too, is disturbance by roots pushing in all directions through deposit, some of them more than an arm thick.

- 24-30" On the western (upriver) end of pit, the grey-brown deposit turns into pinkish-white sandy deposit, some bedrock present. The eastern (downriver) end still fully grey to dark brown. In this sector, at a depth of 27" a burial becomes exposed consisting mainly of skull and bronze vessel. (cf. note on burial below).
- 30-36" Pink-whitish sand. Fair numbers of land-shells and few food-shells present. The extreme eastern end (under burial now recovered) has darker deposit (i.e. sign of ancient burial pit).
- 36-48" Pink-whitish sand continues, with presence of land- and some food-shell. Root influence still considerable.
- 48-54" As at 36-48 inches. No signs of charcoal or hearth intrusion. Earth largely sterile, but sparse food-shells continue showing burning. Bed-rock at western end now obstructs a quarter of pit, trench-size reduced by half.
- 54-60" Gradually, the light pink deposit becomes looser, more greyish in colour, though the distinction is *not* in the form of a layer. Shell content *increasing*. Roots still present but less large. Trench again reduced to one quarter. Deposit becomes much looser, greyish and finally dusty. Root influence (small veins) still present. No signs of charcoal. Continued presence of limited earth with dust over bedrock deposit.

The material results of the excavation are summarised in the following table which *excludes* the burial at the 24"-36" levels, described separately below.

SUMMARY OF MATERIALS OBTAINED FROM TTO1:
AT LOBANG TINGALAN, BATURONG

Materials recovered in nos. of fragments	Depth of layers in inches					
	0-12	12-24	24-36	36-48	48-60	60-78
1. Imported stoneware sherds	5	0	0	0	0	0
2. Earthenware sherds	32	158	13	0	0	0
3. Extraneous stone	0	0	0	0	2	1
4. Bone	fair amount	fair amount	0	0	0	1*
5. <i>Tiara</i> shell } <i>Clea</i> shell } Food-shell	2030 45	323 203	3 3	11 7	54 49	341 113

* the upper left 3rd premolar of a rhinoceros, *Didermocerus sumatrensis harrissoni* (see Plate 21).

These 1968 results confirm the 1966 test. Unfortunately, the early materials from below 48 inches generally consist mainly of the shells of two riverine species (*Tiara* and *Clea*), cooked and eaten on the spot. The only deep

bone is the most interesting; an upper left deciduous third premolar of a Sumatran Rhino (*Didermocerus sumatrensis harrissoni* (see Plate 21), as identified by Dr. Don Savage of the University of California to whom the tooth was sent for identification.¹⁹ The Sumatran Rhino is the only rhino known to have occurred at any time in Borneo, where it was quite common into this century. There are now only very few left in the whole island, and most, if not all of these in the largely unpopulated jungle areas of Sabah. The near extinction of this fine creature, whose two horns are fantastically over-valued by the Chinese for their supposed sex stimulating qualities (in reality, zero), is the result of modern firearms. In the stone age, hunting down a rhino must have been a formidable operation in this terrain, for the beasts stay under cover and move great distances at speed, unlike the more familiar larger rhinos of the Indian and African plains. The Baturong tooth is paralleled by another fragmented one, which came from the deeper levels of Agop Atas, in Madai (9(a) above).

The three deep Baturong stones are one fragment of red-banded chert, apparently unworked; a hard pebble chip; and a tiny (0.5 cm × 2 cm) "knife" of greenish chert with a depressed trapezoidal cross-section. This may just possibly have been used for the extraction of shell-food.

The clearly separated materials from the upper levels are for the most part remains of occasional cave frequentations, as evidenced by food-bone, food-shell and hearth remains near the surface. All but one earthenware sherd belong to simple, rounded cooking pots left behind, sooted and broken, on the site. Most are indistinctly plain, some have a crossed paddle pattern.

One large sherd, a part of the recessed shoulder of a bottle or pot, is painted with parallel bands in haematite red and charcoal black between thinly incised lines applied horizontally, round the shoulder. The sherd was clearly placed ritually, over the upper parts of the human burial, at 30 inch level. This three-coloured earthenware is specialised *burial* ware, made in the neolithic tradition (see Chapter VII and Fig. VII/3 below).

The five sherds of mainland-imported stoneware excavated from the top 12 inches belong to one original vessel. They are too few and small to allow for an estimate of the former shape and size of the vessel. But their hard, thinly potted, "brittle" grey-buff body, their watery, transparent and shiny, grey-green glaze is very well known to us from extensive T'ang and Sung sites in Sarawak.

A reconstructed, green-glazed jar closely matching the Tingalan sherds was excavated at the Painted Cave at Niah, over 200 miles away. Such a jar may have been placed here to mark graves at Tingalan later to become broken and scattered. A T'ang or Sung date for the two burials exposed less than 3 feet away from each other (at TTO and TTO/1) is highly probable, all other evidence considered.

Owing to the extensive root-systems affecting the deposit throughout, the skeletal criteria of the 1968 burial could not be established since the bones were disturbed and fragmented to a hopeless degree. But because the skull,

that of a sub-adult, remained fairly intact, we assume it to have had *primary* character. And as the '1966' burial was primary and extended, we may also assume an extended form for the '1968' burial, especially in view of the identical grave furniture placed with both burials.

These are two fragmented bronze bowls, placed fairly centrally with one, near the right hand and thigh with the other burial. They are thinly cast, medium sized and fairly shallow. The '1968' specimen has a simple ring stand. Their only decorations are emphasised rims. One is apparently ridged, the other slightly outcurving. Unfortunately the metal is very corroded so that a better appreciation of the fragments is difficult outside a laboratory.

Two iron tools, a long *parang* blade and a small iron knife, both common types and known to us from early iron age excavations in Sarawak, were also associated. The long blade was placed near the left hand and thigh of the burial found in 1966, the short knife lay centrally over the burial found in 1968.

A small, spherical, yellow glass bead (a "seed" bead, of an "early" sort by eye judgement) was also found with the latter burial. The only other cave where glass beads have been found so far is Pusu Samang Tas in the Madai formation (see 9(g) above). This is *the one other cave* where excavated materials point to trade with the mainland prior to the Ming Dynasty. The combined evidence of Samang Tas and Tingalan may thus be taken as signposts for T'ang and Sung trade contacts.

This can only suggest sporadic and insignificant links on Sabah's eastern coast at that time from the barter operations of small sailing craft. The impression may be corrected through future archaeological investigations of potential trading sites on the coast and off-shore islands in the vicinity.

10(e) *Hagop Bilo* (Fig. III/19 no. 36), with prehistoric wood carvings

Hagop Bilo is the name for an extended terrace under a small cliff, grooved out of the limestone by previous higher water tables of the Binuang River, which comes very close to the Baturong formation at this eastern point. A true cave by this name leading into rock fissures and of no interest to our record also exists near here.

The terrace is a welcome sight to all weary travellers. For the trail from Tinkayu leads directly on to it and it is used by all comers as a camp site (see Plate 22). It continues westward, interrupted by large boulders and rock in-fall from the cliff overhang, for about a quarter mile. Most of this stretch is sheltered and dry, elevated 40 feet above present river level, and accessible to large animals, as ascent from the jungle below is easy over rubble. The deposit consists of hard loam, dry dust and leaf close to the rock overhang. Further out it is shrub, tangled vegetation, merging into tall trees. The loam, which blissfully covers the whole of the camp site (causing debris to roll or blow off, leaving a clean surface) drains from fissures and gaps out of the limestone behind. As we were coming into Hagop Bilo in February 1968, a new loam deposit had just formed at the easternmost extremity of the terrace,

the result of flooding one month previously. We limited our activities here to the investigation of surface remains and to a quick search through dust deposits close to the overhang.

Orolfo saw and marked on his 1930 map (see Fig. III/19) coffin remains close to the camp site. The location is screened from the camp by large boulders, best approached from the jungle below. This burial shelter extends under the overhang for about 150 feet. Two large coffins are present on the western (upriver) section. The first, a complete unit, consists of a lower trough, largely buried in dust, with its lid lying upside-down on top. The second unit, similarly placed about 40 feet away, is on an elevated separate rock-shelf with just sufficient space for one coffin. Both are simple log coffins of hardwood, probably *belian*, with slightly crested and flattened short sides to the lids. Both have a single handle projecting to one short side of the lid, exactly as the one seen previously at Pusu Bakas (see 10(a) above) and are much the same size. The outside length of the first coffin is 8 feet 2 inches and that of the second, 7 feet 2 inches, while widths and heights equal at 18 and 13 inches (lid, see Fig. III/22).

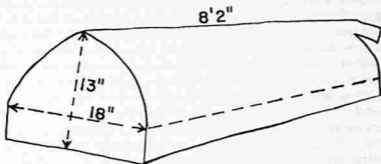


Fig. III/22: Coffin lid from Hagop Bilo, Bukit Baturong.

Sieving of dust in the vicinity of these coffins resulted in a few fragments, all of rounded, plain and paddle-decorated earthenware cooking pots, a few flakes of iron and very small fragments of what seemed human bone. A hardwood log, its top carved with a human representation, was found prone under the separate rock ledge on which the second coffin is placed.

Searching the considerable dust accumulations under the rock-walls produced three other figures, all carved of massive, hardwood logs. These have not been previously reported and have probably not been seen by outsiders. But they are well known to the Idahans who own these caves, and to the Sungai people of Tapadong as well. To the few people who remain knowledgeable in such matters the largest of the figures, a male representation, is known as Seriga, a venerated ancestor representing the fourth generation after Besai, the father of all Sungai and Idahans. He is also the great grandfather of Apoi, the discoverer of Madai Caves and brother of the Golden Deer (see the Idahan genealogy in Chapter X/I, Fig. X/1 below). To most

ordinary Sungai and Idahans, the male figure is known as *Antu hujan panas* (Hot rain spirit) or alternatively as *Hergam* (Red man). The other two figures are considered female and Seriga's (or Hergam's) immediate family.²⁰

These impressive figures were put upright against the rock-wall, cleaned of thickly adhering dust and photographed. They are of much ethnological interest, especially as they can theoretically be dated to about 1250 A.D. with the help of the Idahan genealogy. No coffins remain immediately near the figures. Associated sub-surface materials consist of a few earthenware sherds (plain and paddle decorated; crossed and ribbed) and minute quantities of food-shell, bone and charcoal.

The figures will now be described, firstly the more important group of three to which the Idahan genealogy refers, and then the fourth as a lesser variation. We will then discuss their wider significance.

(i) *The three ancestral figures of Hagop Bilo* (see Plate 23.)

These are of *belian* (iron-wood), between 6 and 8 feet high. Similarities of overall structure, execution and style of sculptured parts suggest one common purpose. They have to be visualised as former main support pillars of a wooden trestle or platform erected in the cave for the support of coffins. They all have a large slot-window in the upper base which was required to admit a cross-piece which in turn would have been supported on secondary pillars nearer the cave wall, or possibly over natural projections of the rock itself. Bracketed logs at right angles to hold the cross-pieces in a firm position and to complete a frame behind the frontal sculptured pillars must also be assumed as essential parts of the original structure. Only one cross-piece, 8 feet long, remained on the cave floor near the figures. One end of this fitted well into the slot of the male figure. It would have connected behind it (not as shown in the illustration) with only a short end emerging in front, possibly bearing an outside, decorative bracket or plank as well. The survival of only one cross-piece is not surprising. As *belian* is difficult to fell and to shape, yet extremely durable, such pieces would be welcome to any native visitor who could put them to immediate use as a bird-nesting ladder. *Belian* is hard, and very heavy as well. Its hardness certainly requires iron blades for effective carving. Even then it would encourage an artist to go out for strong, broad outlines, rather than intricate detail. The weight of the largest figure made it most difficult for two strong men to put it upright from its prone position. They could not lift it, only in slow stages drag it into line, and tilt it up.

The three figures are shaped in two main parts a lower, functional stem-base with a round or squarish cross-section bearing a large slot at its upper end, and a sculptured top figure emerging, legless, from the base as the main and meaningful decoration.

The stem-bases of the figures

The stem-bases of the male and female figures appear to have been made as a pair. Both are round and 10 inches in diameter, their outer surface incised

with deep grooves. These run in straight parallel lines from top to bottom on the circumference giving the logs the effect of sculptured pillars. The logs are irregularly broken and worn at their lower end due to weathering at that sector of the stem which emerged from the ground, rotting away from the implanted end, just above former floor level. They must have been erected on slightly uneven or sloping ground in order to bring the slot-windows, which are cut out at an equal 7 to 8 inches below the upper sculptured part at the top into a horizontal line, because the stem-base of the male figure measures 5 feet while that of the female is only 4 feet long.

The third (child or sexless) figure has a rather different stem-base. Here the log is shaped to a squarish cross-section, between 7 and 8 inches in width, while the slot-window at its upper end is inserted only 4 inches below the sculptured part. This stem is the shortest, weathered at 3 ft 4 in below the upper figure. The slot-window itself is equal in size to those of the larger male and female figures. The figure location being so close to the other two, and the fact that the size of its slot is similar to those of the others, indicate that this was used to support one and the same platform arrangement. But it may represent an addition to enlarge and elaborate on a previous structure which incorporated two main pillars in the first place. The comparative shortness of the third stem-base also suggests that this figure may have been placed closest to the rockwall where the cave floor slopes up.

Presumably all three figures were standing looking out of the cave over the jungle and river below, near where they were found, the male and female pair in a parallel line, the third figure possibly set back a little, or to one side.

The sculptured top parts of the figures

Common features

Unfortunately the upper part of the male figure is split, distorted, as well as damaged by termites on the head and shoulder. But essential outlines and characteristics remain. The female and "child" figures are in a good state of preservation.

Overall sizes, measured from tip of head-dress to top of stem-bases are 39 and 39½ inches for male and female respectively, and 39½ inches for the third figure. The male and female figures have the following common features (seen from top to bottom):

- Tall, peaked caps with wings to the sides and a bordering band in relief setting the cap squarely over face and brow.²¹
- Sculptured hair emerging from under the cap to the side of faces, hanging down to ear-level. It is accentuated with deeply incised vertical grooves (parallel to and continuing those of the stem-bases).
- Round, disc-like goggle eyes, widely set; long straight noses with protruding, horizontally cut tip, hollow cheeks.
- No ears.

- Long thick necks connect head and shoulders.
- Oversize shoulders ringing the upper body in broad relief and prominently accentuating them as the central part of the figures. They are emphasised with incised vertical grooves continuing the pattern of stem-bases and hair.
- Overlong, thin arms with stylised hands (though in different positions for male and female, *see below*).
- No legs.
- The third figure repeats these basic features, but its peaked cap is more pointed and lacks the wing-like side attachments; the neck is more strongly elongated, hair and shoulder parts are smooth and ungrooved.

Dissimilarities and sex

The dissimilarities between the male figure on the one hand and the female (to a lesser extent, the "child") on the other are summarised below, before comments are presented. They are:

- Execution of *mouth* and *chin*: though this is damaged in the male the remaining parts show an insignificant horizontally incised line under the nose for a mouth above a protruding, pointed chin while the female has strongly sculptured, parted lips forming a pointed triangle which protrudes far forward under the nose deleting a chin altogether. The child figure follows the male pattern but less emphatically. Its mouth-line is hardly visible, the chin less pointed.
- The *neck* of the male figure has a prominent "Adam's apple".
- Sexual organs*: the male has an upright penis in relief with testicles suspended below in central position at elbow level; the female has curious twin-nipples, set centrally into the broad shoulder band right under the neck. There is no vulva outline. The "child" has no sexual outlines.²²
- Position of *arms*: the left arm of the male starts well back from the shoulder and extends down and forward in a smooth arc so that the fingers of the hand meet with the testicles; the right arm is first placed downwards, then bends sharply up from the elbow so that the forward-inclined hand comes to rest on the upper chest.
The female has both arms extended downwards to the side of the body, slightly taken back. The elbows, vastly oversize, bring the lower arms into the front to continue them sharply bent and straight up, fairly close and parallel to the upper arms until the palms, inclining inwards at almost right angles, meet in central chest position, right under the nipples.
The "child" figure follows the female pattern but here the hands are barely indicated; they are simply incorporated into the broad, shoulder-ringing.

—Treatment of *hands*: while the hands are generally thumbless, the fingers of the male are indicated by thin, deeply incised lines, giving five to the left, four to the right hand. The female has strongly stylised palms with three shortened fingers separated by deep grooves, a central gap indicating the meeting point of both hands. The "child's" hands have only faintly incised outlines that indicate sharply bent palms placed one above the other (right above left) in central position under the long neck.

(ii) *The fourth carved figure; a lesser variation?*

The fourth figure was found below a narrow elevated rockshelf under the cave-wall at Hagop Bilo, some 60 feet away in an upriver direction from the other three (see Plate 24). It has evidently toppled over and come to rest upside-down, wedged between large boulders.

This one is less heavy, measuring only 56½ inches in length, combining 28½ inches for the stem-base and 26 inches for the sculptured top. The base is undecorated, unevenly round; about 8 inches in diameter. It has *no slot-window*. Its lower end shows a weathered, ragged edge, like its three counterparts. These facts indicate that the figure was once planted in the ground and probably not connected with a trestle or platform for the support of coffins.

The rock-shelf from where it has fallen (or has been thrown) is only 3 feet wide and flush under the cave wall. There is just enough space for one large coffin and room to move on it crouched or bent. We can be fairly certain that the fourth figure originally stood here alongside or near the still present coffin without the added function of securing a trestle.

It is an accepted Idahan and Sungai tradition that coffins can be placed *both* on trestles and directly on the cave floor, much depending on the topography of the cave itself. A trestle was generally favoured for high-ranking people, but alternatively, a limited or uneven cave floor may have necessitated a trestle regardless of rank.

The *sculptured top* of this fourth figure is comparable to the first three in three important ways:

- It has similar facial attributes: round, widely set goggle eyes; straight, long nose; hollow cheeks; pointed chin; no ears. Its mouth is barely indicated (cf. male and "child" figures above).
- The strongly accentuated arms run down the side of the body, then turn sharply up to the chest with stylised palms, one placed above the other. While this arm position generally agrees with both female and "child" figures, the hand detail is relevant to the "child" only.
- The legs are absent.

Generally less striking than the previous three owing to inferior workmanship (displaying crudeness rather than simplicity or lack of detail), this figure is different in three aspects:

- The characteristic peaked cap is missing. There appears to be no headdress at all. A small protrusion to the back of the head presumably represents hair, piled up in a top-knot (alien to present-day Idahan practice). Hair parts are otherwise not indicated.
- The neck is comparatively short. More important seems the absence of the broad shoulders which so prominently ring the other figures in relief.
- There is no indication of sex (though this is also true for the "child" figure), *unless the arm position itself is indicative of sex.*

(iii) *Relevant comments on the four carved figures*

Our various Idahan informants, questioned in the field on burial customs practised by their pagan ancestors, all stated that corpses were always placed into coffins in an extended position, with both arms along the sides of the body. But the leader of the pagan Sungai community living in scattered villages near Tapadong Caves, K.K. (i.e. "*Ketua Kampong*" or headman) Bambi bin Ungap, with whom we discussed the Baturong figures at Ladah Datu, said that while present-day pagan Sungai buried their dead with arms fully extended to the sides, *the ancient custom* prescribed differently. In the old times, he said, a female corpse was buried with lower arms brought up to the chest, hands placed under the chin, while a male was buried with one hand extending into the pubis, the other lifted up or crossed over the chest, just as shown in the Baturong figures. He said that these arm positions were given to adults and sub-adults alike, that the "child" figure was, female and the fourth figure certainly female. In his view, Seriga's main counterpart is female not only because her breasts and her arm position make her so, but also because her protruding lips showed the necessary wailing attitude which does not fit the male. He also said that no person in mourning must be exposed to loud noise especially not one of merriment. That this is why these figures have no ears; it is a simple matter of precaution.

Bambi's explanations gave us an important clue to a possible parallel in the neolithic cemetery of the Great Niah Cave where we excavated over 200 burials between 1954 and 1967. A majority of the 66 extended burials displayed either one or the other arm position as in the Baturong figures, i.e. both lower arms lifted up with hands under chin, or one arm extending into the pubis, the other crossed over or lifted up on the chest. Specimen skeletons of these burials have been under laboratory examination for the determination of physical data. The results supplied evidence of parallel male and female distinctions back in the late stone age, by people settled in north-eastern Sarawak only that here, the "male" element had "female" arm positions as compared with the Sungai traditions.

We have already referred to the neolithic cemetery of Niah¹¹ in connection with the *ossuary*-type coffins of Tapadong (7(c)), Madai (9(d)) and Baturong (10(a)) and the present Hagop Bilo site. The extended burials of Niah, placed inside wooden coffins or bamboo caskets, occur side by side

with secondary (cremated) burials in short coffins, earthenware jars, baskets etc and with large *ossuary*-type coffins containing both primary and secondary remains. There are thus two Baturong-Niah parallels:

- the distinctive arm positions of Niah skeletons seemingly reproduced in the four wooden figures.
- the deposit of human remains in *ossuaries*; fully recorded at Niah and indirectly evidenced at Baturong through the presence of oversize coffins.

Although the pagan Sungai of today only practise primary burial, since their dead are placed in coffins and deposited in caves without any subsequent treatment, it may be assumed with some certainty that more elaborate customs, including secondary burial, existed in their communities in the more distant past.

An approximate knowledge of the modern attitudes, as recorded below from K.K. Bambi bin Ungap, may finally help us to appreciate what actually happened in these burial caves long ago, especially since so many of the materials left to accompany the dead on their journey into the afterworld have been lost forever in the course of time.

(iv) *Sungai Burial rites as remembered by Bambi*

"In olden times it was necessary for all persons of standing to be buried in *belian* hardwood coffins. As the making of such a coffin took a long time, reputable people saw to it that their coffins were ready well before they died. Usually children and grandchildren of a person got together to make it—and they did not need to wait until their parent was sick or very old.

They shaped the coffin in accordance with custom, as an oblong box with a curved or faceted lid and trough, slightly narrower at the end taking the feet. Both upper and lower parts had to be fitted with head and tail pieces which were regarded as the individual makings of the owner, made to his specification, in accordance with two basic types: for males, shaped in the form of animal heads (ox, civet, flying fox, snake, crocodile and others); for females, curved up and downwards from the main lid and trough so as to give the superficial outline of a forked fishtail. Other surface ornamentations and carvings were left to taste. Scales, incised or painted, were once popular for the main body of the coffin.

Now the coffin was put into a suitable place where it must stay until it was put to use. As *belian* preserves well in moist, loamy soil, it was usual for a village to have one such communal place ready to take up new coffins as they were produced. It was also the custom to take, from this reservoir, coffins for emergency use in cases of sudden death, by friendly agreement between families. All the borrowing family had to do was to produce, after their bereavement, a coffin of equal quality, to the lending family.

At the time of the placing of a new coffin in the reservoir (or suitable individual place), a small feast had to be given by the family who made the coffin, in order not to attract or invite evil spirits to take away a person prematurely only because his coffin had just been made.

Very small children or persons of low standing were buried in coffins made of soft-wood or wrapped in bark. Unlucky deaths—such as women dying in childbirth and persons with "unlucky influence" over their spouses, i.e. all those who lost, during their lifetime more than two husbands or wives in quick succession, were similarly treated, though they could on no account be deposited in the caves near the other coffins. They had to be buried in the earth elsewhere.

It was unusual to have more than one corpse put into one coffin, with the exception of women dying in childbirth, who had to be buried with their babies. But there is one coffin known from Tapadong (its exact location has been lost in the passage of time) which contains two corpses laid out with their feet touching. The story goes that the two had been lovers and that the bride died prior to the wedding, through snake-bite. The desolate bridegroom committed suicide soon after, and he and she were buried together in accordance with his wishes.

High, light and dry rock shelters were usually taken up by influential people to house their coffins, which must be put in an elevated position, on *belian* trestles. Lower, smaller places were occupied by lesser people who did not elevate their coffins above the ground.

Upon the death of a person, gongs are sounded. The mourners put on a white peaked headdress and drab clothing. The main mourner's hair is cut about one inch. From now on he or she can only act and speak through a medium, who must be an elderly, widowed person. If the mourner is male, his helper is male; a female mourner has a female helper and she will make all arrangements and speak for her charge.

The first important task is to open the walls of the room in which the death occurred and where the corpse is. The idea is that the mourning family should not be reminded, by the shape of the room itself, of the death of the parent who died in it.

Next, the coffin is brought into the house over the steps, and the corpse laid into it, cleaned and dressed in his or her best finery. Hands are placed alongside the body, a wad of textiles under the head. In old times, and if people had such possessions, a ceramic plate was put on the head. Silver discs or coins were put over the eyelids. Small quantities of cotton (*kapas*) were put into the ball of each hand, if the dead person was an adult. Children or youngsters carried a wooden top in the left and an egg in the right hand. The meaning of this custom is not now known.

Now the coffin and the corpse are on display for all the people of the village to see. They come into the house bringing customary gifts to the mourning family, mainly material contributions for the coming death feast.

For the first night the coffin is left in the house, watched over by the mourners, who also attend it three times daily up to the time of burial with food offerings.

On the second day, people come to feast and drink alongside the open coffin in the mourners' house. Nobody is allowed to sit behind the coffin before it is closed otherwise people go about and behave normally and when drink is provided, with much gaiety. To get drunk is no offence.

A person who is good at this sort of thing (often the helper and friend of the widow or widower) has to provide the necessary words to guide the mourners away from death and the dead person on his way to the afterworld. This is done by reciting memorable occasions from that particular person's life as well as traditional beliefs and legends of the area. There is no set pattern of the recitals and no exact memory as to how this was done in ancient times.

On the second evening after the feast, the coffin is sealed by the mourners with *damar*, wrapped in cloth and tied over with ornate *rotan* bindings. Lid and trough are specially secured with loops or other devices locking head and tail pieces together.

On the third day the coffin is taken out of the house—not over the front steps, but to the side of it through a gap made in the wall of the house. Outside, a few words are addressed to the spirit of the dead person as his coffin is rested, asking him not to return to his old home.

The coffin is now taken to the caves by all mourners, accompanied by many others. It must travel by boat, which is gaily decorated with coloured flags and bunting. An umbrella must be put high over it (and this is later placed over the coffin at its final resting place). Gifts to the dead spirit are taken alongside the boat. Gongs and other musical instruments are sounded during the journey over the water, which is a gay and noisy affair.

The coffin is carried from the landing stage, up to the final rest-site in a shelter or cave. When it is settled the mourners pierce a hole in the bottom of the coffin and through this the corpse's fluid will clear. Gifts and decorations are put around the coffin. A few words are spoken to the spirit of the dead person, explaining to him that this is his final home and here he must remain and rest.

On their way back, the mourners crown their heads with green leaves to symbolise that another kind of life is now beginning for them. They return to their village after going through a cleansing ceremony at the river; during this they throw away the leaf crowns.

Three days later, a small feast is held in the mourners' house after which food offerings are taken to the caves and placed near the coffin.

From then on, the coffin is left alone. Only if a mourner *dreams* of the dead person, an offering is needed next day at his coffin. Coffins are sometimes visited on occasions of later burials at the same cave, when small gifts of food or other offerings may be added.'

II. Interior Caves

THE interior uplands are not as rich in limestone as Sabah's east coast. Two known outcrops have been explored by T.H. and others, one in Kwijau country near Keningau on the central plain, the other in the upper Sapulut River north of Pensiangan and the Kalimantan border, in Murut country.

11(a) Keningau, in Kwijau Country

Upriver from the Kwijau community, north of Keningau airstrip, a small limestone outcrop contains one significant cave with some excavation potential.

This was first inspected by T.H. in 1952, when he walked through from Kota Belud via Ranau to Keningau (before there was a road). He revisited the cave in 1960.

The site has been much disturbed, and is in itself far from attractive. The cave floor slopes steeply and is mainly wet, dark and cramped. There are no signs of burial or other usages. But it could have been a refuge for earlier folk, or an occasional place of call for bands of stone age hunters, if these existed so far inland at that time—a proposition that remains uncertain since the only certain stone *tool* found in this area is a bark-beater, which could be of later origin (see Chapter VI, 8).

Dr. Neville Haile described the Keningau cave in 1963 from a geologists' point of view thus:

"The cave is situated about 2 miles northwest of Bukit Mengitom, a grassy hill about 4½ miles north of Bingkor, which can be reached by Land Rover along the Mengitom Road. From Bukit Mengitom a path leads over hills covered by old secondary jungle and primary forest to the cave, which is on the north side of a tributary of the Baiayo River, about 100 feet or more above it (the river can be heard, but not seen, from the cave mouth).

The cave occurs in limestone which appears to dip towards the north, and to be at least 40 feet thick. The cave entrance is small, and slopes steeply downwards in a northerly direction, opening out into an irregular chamber, from which several small passages lead off. The floor is mostly covered by damp guano. Numerous bats of at least two species, one rather large, occur, but no swiftlets are seen.²³ Yellowish sub-soil has flowed into the cave at several places on the west side, and was probably washed in by the heavy rains in January-February 1963, since Mr. Wong stated that on his former visit (late 1962) this sub-soil was not there."

11(b) *Batu Punggol and Batu Tinagas, Sapulut*

A pair of conspicuous peaks of limestone in the upper Sepulut have long been well known in Murut hill folklore. The larger of the two, Batu Punggol, is discussed and illustrated by Owen Rutter in 1912.²⁴ Not many people have visited the place, for it is remote. In February 1966, T.H. with Mr. E. J. H. Berwick C.B.E., and Mr. Michael Chong made a visit to the Sepulut Muruts. Later in that year T.H. was able to make a brief close-up exploration with the help of an R.A.F. helicopter. But plans to carry out a thorough excavation and test the presence or absence of stone age man in this rugged terrain were then (happily) thwarted by the end of "confrontation" between Indonesia and Malaysia, and the consequent reduction of transport facilities into this uninhabited place.

Our information, from the archaeological viewpoint, is that Punggol contains caves at its foot, due to the incursions of the Sapulut River. It is possible to enter by boat. A good cave for potential excavation is much higher up in the outcrop, dry, with fair light, good shelter and lack of disturbance. Many bats and their guano are present in the cave. The mouth is about 65 feet deep and 20 to 40 feet across. It would make a good hide-out, and was reportedly so used by the Muruts even in prehistoric times both as a refuge in times of war, and as an escape in the terrible and hysterical times when smallpox and cholera epidemics decimated this population up into this century.

Adjacent, and at a lower level in Batu Tinagas, is a cave about 30 feet above the forest floor and flood plain, 40 feet deep and 30 feet across facing the river. A higher cave, on the other side of the hillock, about 25 minutes walk away, has a larger and deeper mouth, well protected and providing fair shelter.

Although further exploration of these caves could be unrewarding, we have a few doubtful "flakes" (discussed in Chapter VI) from here (obtained without proper data by Mr. Hurov in 1960), which *could* indicate some stone age presence. An organised expedition, also studying the cave fauna and flora, would be worthwhile, even if the excavation result was only to prove a prehistoric negative—in itself of high interest.

11(c) *Murut speleology*

The remotest Sabah Muruts have their own tales to explain most geological and other features which seem strange or out of place. This is their form of scientific thinking, in a universe they by no means accept mutely or take for granted. The striking twin outcrops of limestone in the Sapulut valley naturally attract such attention. So they have acquired their special place in folklore. Here is one of the several explanations versions, recorded from Native Chief Lindong, headman of the river, in 1966. This story incidentally, of itself suggests that men lived up there before there were boats. The Muruts make excellent ones nowadays, and indeed, depend largely upon them.

The story of Punggol and Tinagas villages

"Long ago Batu Punggol and Batu Tinagas were long-houses and not limestone rocks, as they are now. The Sapulut River then ran as a boundary between Punggol and Tinagas.

One day Rumah Punggol had no fire and people in this long-house wondered how they could manage to do their cooking without it. When the Tinagas people heard this, they were very sorry for the Punggol people. Tinagas asked Punggol what they could do to get a fire to them, as none of them had boats in those days. The Punggol people suggested to the Tinagas that it would help if they tied a bundle of fire on the head of a dog and sent the dog to swim across the river. The Tinagas people did as they were asked.

A man from Tinagas bundled up the fire on the dog's head and then told the dog to swim across the river to give the fire to the people on the other bank. The dog started to swim across the river but before reaching the other bank a big wave arose and put out the fire tied on the dog's head: at this the people on both banks started to laugh.

Then the people of Punggol suggested another way in which the Tinagas people could help them. They told them to tie a bundle of fire to a cock and ask the cock to fly across the river. The same man who tied the fire on the dog's head did the job again. He told the cock to fly across with the fire to give to the Punggol people. The cock did as it was told and flew towards the other side, but unfortunately it fell into the river and put out the fire before it reached the further bank. Again the people on both banks started to laugh.

This time, however, before they could stop laughing, the people on both banks were turned into stone as well as their houses.

The man who asked the dog and the cock to carry the fire was the only one left alive, but he was trapped in a cave unable to get out.

Not long after people from other villages while travelling along the river, saw that the two houses had turned into stone. When they came to search, they found no one alive, except the one man trapped in the cave, who shouted from inside. They asked him what had happened to the people of the two houses. The wretched man told them.

The visitors told the man they could not help him, he was in such a hopeless state; but they begged him to show them his hand. The man stretched out one hand through a little hole. The visitors smartly chopped it off and brought the hand back to their long-house. They then held a big feast to honour the unfortunate petrified villages. The feast is called *elau* and applied to burial rites of the Muruts to this day. After the feast they buried the hand—to represent the lost ones of Punggol and Tinagas".



PLATE 21. Rhinoceros tooth (upper left 3rd pre-molar) of the species *Didermoceros sumatrensis harrissoni* was the most important bone fragment found at depth in the excavation in Lobang Tingalan at the Baturong Caves. The Sumatran Rhinoceros, once common, is now threatened with extinction and is protected in Sabah. (Chapter III, 10(d) p. 103).

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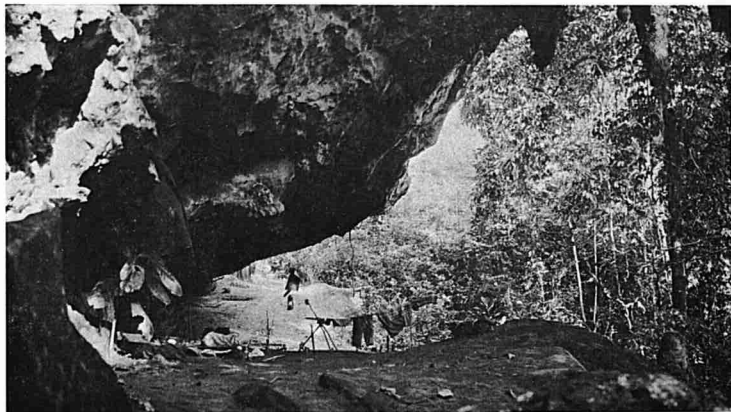


PLATE 22. Dry shelter under a rock overhang over a terrace of the Binuang River on the way to Baturong Caves is one of the few suitable locations in this area where there are *no* prehistoric burials. (Chapter III, 10 and 10(e) p.p. 104).

B. Harrison



PLATE 23. Three prehistoric figures, carved in belian wood, between six and eight feet high, were found in the dust of Hagop Bilo, Baturong Caves. They are probably over seven hundred years old. The hand positions in the small figure on the left are the same as those of the central figure which is recognisably female while the figure on the right is male. (See Chapter III, 10(c) (i) p. 106).

B. Harrison



PLATE 24. Fourth figure in Hagop Bilo, of inferior workmanship and with a hair top-knot instead of a peaked cap, was erected alongside a nearby coffin some sixty feet away from the other figures. (Chapter III, 10(c) (ii) p. 109).

H. Harrison

This strange (but characteristically Murut) story suitably rounds off our cave descriptions and prepares the reader to cross back over the mountains and the coastal plain to the sea (Chapter IV).

12. Conclusion on Caves

THIS has been a difficult chapter to write: weeks of paperwork to summarise months of fieldwork. A major difficulty was to keep the information within reasonable, readable limits. Even so, it presents only a summary of reconnaissance results collected with physical and mental effort over a number of years. Our purpose, as ever, is to facilitate future research in the field of Sabah prehistory. So far as we know, there has been no previous attempt to examine the potential for cave archaeology over any large area in this part of the world. The findings are presented as a basis for subsequent study. Cave archaeology in many South-east Asian countries seems often to have been unplanned and sometimes unhappy. The results in consequence have too often been incomplete as well as uneconomical. As no archaeological excavation had been undertaken in any Sabah cave when we came on the scene, it is possible now to move on to a careful exploitation of this natural treasure.

It is then inevitable, that those who may wish to follow up on these small beginnings will have to digest for themselves whatever information in this chapter seems relevant to their particular interests, and then pursue it further according to a careful study of the priorities. They may also have to widen research into a few areas which we have been unable to examine sufficiently—notably the upper Kinabatangan, and a fuller examination of the Sapulut-Murut country. They must further analyse our field material deposited in the Sabah Museum and consider other matters outside our present scope such as a second look at the geology, an evaluation of local religious and magical feelings about the caves and the ownership controls. If fuller excavations are planned, there must be careful and realistic costing for travel and field operations. The skill and availability of labour forces in areas where their normal work is seasonal must not be overlooked. These and many other practical factors must not be ignored if work of this kind is to succeed under Borneo conditions. This applies especially when people of another race or creed are engaged in these delicate themes among peoples of other origins and outlooks.

No simplified summary of the cave reconnaissance is offered, therefore. For each site the facts, as presently known, have been stated with a wide range of interests in mind, palaeolithic, neolithic, iron age, funeral; and secondarily ethnological, speleological and zoological. Nor is it our place to tell the Sabah Government or other interests what should be done with this kind of information on their prehistory. This rests at the policy level. It is nevertheless clear that ancient patterns of looting and spoiling of fine caves, as part of the prehistoric and then historic process of Sabah development, have become inappropriate at this time. Fairly drastic action may seem to be required in order to curtail unguided interference with what are truly national assets.

which can never be replaced once lost. Most of the caves belong firmly to the birds-nesters, especially as regards the cave ceilings and the birds. But the country as a whole must surely have an interest in preserving the prehistoric heritage on the cave floors, some of which long pre-date birds-nesting or the people who bravely practice this astonishing craft.

In this richly alive culture of northern Borneo, practically every high, dry, decent cave holds some piece of the past, unless it has been disturbed. But some caves are more alive with the past than others. Some are of such outstanding importance as to appear deserving of complete floor conservation and control now. The reader will have assessed some of these from the text, but we venture to draw special attention to a selected few which are classical for Sabah and cannot be matched elsewhere:

2. Gomantong Caves, Kala Bugir—the small rock-shelter with coffins, in which no birds-nest interests are involved.

4(b). Batu Puteh—a Kinabatangan River cave of great national beauty with a wonderful coffin assemblage, which has not been completely spoiled, though it is easily accessible. Again there are no birds-nest interests, so it should not be difficult to declare the whole a National Monument.

7(a). Mandag Awan—one of the few untouched Segama River caves, because only the most skilful birds-nest climbers can reach it. Could this be regarded as a special reserve for the archaeologist?

9(b). Agop Atas as Madai—an important early site, its surface fully occupied and protected by the birds-nesters who are, however, willing to co-operate in any project that reasonably protects their own traditional rights on the site.

10(e). Hagop Bilo in the Baturong Cave group—with unique prehistoric wood-carvings, which should probably be removed to the Sabah Museum and duplicated for replacement on the site in an indestructible form as has already been done with the second most important set of Sabah wood-carvings, those at Kinarut on the Papar Road (see Chapter V, 5 below).

Many other Sabah caves may well be felt to deserve protection for particular reasons or in a more general way. In publishing the full facts on so many caves for the first time, we obey our "brief" in undertaking this reconnaissance. We do so in the faith that the people of Sabah will follow up by ensuring that these facts are put to the honest purpose for which they were collected and not allow these to be abused by the few vandals who selfishly sabotage any future reconstruction of the past.

A classification of the artifacts described cave by cave, through this chapter will be found arranged under types and periods in Part C (Chapters VI to XI). The only exception is the classification of the very numerous wooden coffins examined in so many caves. Despite this abundance of material we do not yet know enough about the dating of different types, the degree of local variation, and the cultural background to make a full classification that merits a complete and exhaustive study in its own right.

IV. The Offshore Islands

WE HAVE seen how limestone caves, quite numerous in Sabah, assist in attempts to trace back the State's prehistory. Each cave gives a local focus for special sorts of human activity which in Borneo would be obliterated by time, weather, and jungle growth if conducted in the open. Moreover, these caves stand as scattered and isolated islets, providing shelter and protection of special sorts which attract man at all times, present as well as past.

We find a somewhat similar situation at sea. There cannot have been much movement over the waters until the later part of the stone age when man developed advanced techniques and sophisticated tools, which among other things gave him the capacity to make proper boats (Chapter 11, 4). Upon this sea, often unpredictable, turbulent and even dangerous around Sabah, the scattered islands offshore provide special focal points for cover, camping and contemplation as well as refuge in a crisis in much the same way as the caves do inland.

Whereas there are very few islands along the west coast of Borneo from Tanjong Datu up to Brunei Bay, from there, through Labuan and right around the whole Sabah coast line, there are many small islands, with a whole archipelago of them joining Sabah and the Philippines in the Sulu Sea. As with the caves ashore, or the islands off, it is relatively easy to look for remains of earlier human occupations, especially as the islands often have quite simple vegetation and low jungle scrub which can easily be explored. Another important factor is they have not been disturbed by pig, porcupine, deer and other animals which are forever rooting and trampling the mainland soils and destroying anything tangible or edible (such as human bone).

We have already seen something of the significance of the ancient "fire islands" and the modern mud volcano substitutes on Pulau Tiga (Chapter 1, 4). In the course of collecting material for the present study we have visited many small islands around the Sabah coast and many more remain to be explored in the future by those searching out the past. During the period of this study, the numerous islands off the east coast were usually unworkable in practice, because of piratical or political unpleasantness. One cannot do effective prehistoric reconnaissance with even the most kindly of police escorts in attendance.¹ Three westerly offshore islands have, however, produced enough positive information to show that there is a considerable archaeological potential for Sabah in this sector. These three are: (i) Pulau Burong, *Bird Island* a tiny islet off Labuan which has now been almost eliminated by the Public Works Department; (ii) Pulau Eno, *Eno Island*, closer to Labuan itself; and (iii) Pulau Usukan, *Usukan Island*, up the west coast in the mouth of the Sungai Abai (see map at Figure IV/1).



Fig. IV/1: Location of Bird, Eno and Usukan Islands.

Bird Island is of special interest because here the first stone tool was excavated *in situ* in Sabah, in 1960. This occurred in what was then a tiny, long overgrown and therefore unrecognised cave on the island, which is unusual as it is formed entirely of limestone. The other two islands, of sand or sandstone on coral, show evidence of later activity, though still with a prehistoric background.

1. Bird Island and the Late Stone Age

(a) Background: Sequence of events

PULAU BURONG, Bird Island, is—or rather was—a small hillock of hard coralline limestone (of Miocene date) rising sharply out of ten fathoms of water about a mile off the west coast of the large island of Labuan (see Plate 25).

Extensions to Labuan airport necessitated quarrying the islet in 1960. Late in March 1960 the contractor, Jimmy Pan Chao Ming of Kota Kinabalu, then Jesselton, reported a "giant fossil human skeleton" exposed during blasting operations of what appeared to be a small, jungle-hidden cave in the cliff. Peter Collenette of the Geological Survey in North Borneo at once visited the site. As a result of his report and some blasted remains brought back to Kota Kinabalu and examined by Dr. John Clapham it was clear that these were indeed human (though hardly giant).

At this stage the North Borneo Government (as it was then called) asked the Sarawak Government if T.H. could make a visit and advise, since the

need to continue quarrying was urgent, and the laudable desire to record the past almost equally so. He was brought over from the Niah Caves and made two study trips to the islet.

The exact height at one point in the cliff "cave" (see D on table at p. 121) was first fixed with the Divisional Surveyor, Labuan—at 23.1 ft above Mean Sea Level (a point of importance archaeologically).²

It was at once clear that initial estimates of "fossilised" remains as possibly "Neanderthal" must be revised, but that the find was of importance and everything possible should be done to preserve a representative amount before the priorities of airfield construction blew the whole place away.

With the co-operation of the contractors and the Public Works Department, a demarcated area was left untouched until T.H. was able to return with Mr. Collenette and two of his staff—Stephen Sipain and David Lee. What was essentially a "salvage operation", conducted under rather difficult conditions, was begun on May 3, 1960. Despite pressures of time and the particular difficulty of the cave floor conditions, the consequent collection was obtained in logical order and fair condition. It gives a small but coherent picture of what occurred at this isolated offshore spot over a thousand years ago. On May 8, normal blasting resumed. Now the once prominent island is flat and barely visible from the sea. All of it has gone into the Labuan airstrip.

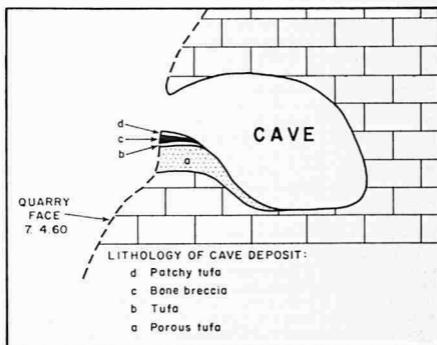


Fig. IV/2: Lithology of cave deposit, Bird Island.

(b) *Method of operation on Bird Island*

A little cave perched in the cliff was accidentally cut sideways by dynamite blasts, exposing the floor which, probably owing to a break through of a brook or spring long ago, had gone through rapid stalactite formation, covering bone and other remains with a petrified layer resulting in apparent "fossilisation". The presence of ferric oxide weathered out in this process, blending with the haematite iron ore used in colouring both bones and earthenware pots placed in the cave, produced a striking red band, full of bone-breccia where exposed (see Fig. IV/2).

The whole section was at first difficult to work on and interpret in detail since it was:

- (i) confused by a mass of debris fallen down the cliff from above or shifted about locally by previous explosive charges;
- (ii) perched awkwardly on the side of the cliff;
- (iii) all extremely *hard*, so that ordinary archaeological tools and techniques were of no use;
- (iv) exposed to blistering sun-heat plus the uproar and dust of quarrying, and vehicles working on either side of the temporarily "protected area".

Considerable time was therefore spent at first in clearing rubble, getting out the overhang, and exposing and cleaning what was left of the accessible cave floor. Once cleared, whatever possible was removed in sequence by hand tools. On May 5th, we experimented with tiny test charges of explosive, shifting forward narrow strips of the solidified cave floor to get further in. To have attempted this effect from above, moving the scree, would have involved days of work by a large force, and this was not possible under quarrying conditions and Public Works Department needs. These tests proved effective and we were able to make quite rapid progress thereafter. Each new section thus obtained confirmed the initial picture. The cave floor was one homogeneous limited unit, representing a special phase of one cultural period.

(c) *Stratification and time span on Bird Island*

Four distinct layers were discernable in what was left of the cave floor on first study; and further sections inward confirmed these. They have little actual relevance in human terms, since the *whole* appears to cover one quite narrow span in man's prehistory. What happened is that influence outside human control altered the cave floor subsequent to its human use, in the process affected various degrees of change on the surface, the bones and related funerary objects just under the surface, and the bat guano with some human 'picnic' remains under that.

STRATIFICATION ON BIRD ISLAND

Layer and ht. above Sea Level	Mean Depth from surface	Visible general character	Colour	Main archaeological content
(c. 25 ft above M.S.L.) A.	0-1"	Fine black earth "top-soil"	Black	Earthenware sherds and human bone; shells (cowries).
B.	1"	Limited bone breccia	Red	Human bone; pigs' teeth.
C.	—	Stalactite band serving as seal (rapid deposition)	White	One coloured earthen- ware sherd; mostly sterile.
D.	—	Solidified bat guano; a few pockets are soft; full of beetles elytrae, etc.	Jet Black	Few introduced shells and animal food bone (incl. monkey and fish); bat bone.
E.	—	Nodular lime-chert accretions	Blackish	Original cave floor.
(c. 22 ft above M.S.L.) F.	Cliff	Hard limestone	Grey	Nil

The base of D is the point fixed at *23.1 ft above Mean Sea Level*. This is too low, probably, to have avoided at least major marine invasion, if not actual submergence, during the *early* stone age of the Pleistocene. This, and the surrounding very deep water make it further unlikely (on purely "level" grounds) that men would visit such a place before the development of proper boats in the late stone age. All this is consistent with the "narrow" time-span of the human and associated materials.

The guano layer, D, is in some places up to a foot deep. As a depth in purely *human* decomposition (as at Niah outside the guano zones) this would almost certainly represent a long time span. In a small cave, however, a single colony of bats can deposit that amount in a matter of years only. Indications are that this may have been the sole source of D. In an adjacent cave-shelter on the other side of the island but at sea-level, too low for *any* human use, there were present some 200 of the large Tomb Bat (*Tazophous*) who could do just this job.

(d) *Material results for Bird Island*

A small and interesting collection of human and animal (food) remains, stone-tools and earthenware sherds were obtained, in such a way as to give an insight on human activity in this tiny deep-water islet:

(i) *Human remains*

All these are *Homo sapiens* (that is, modern man) of Mongoloid stock. Several adult teeth are filed. This was common early practice in much of Borneo. Teeth of children and babies are included.

(ii) *Animal remains*

Small amounts of food shell, teeth and bone of animals brought to the island and up into the cave—for offerings or casual visits—have been identified as below:

- Mammal: Macaque Monkey (*Kra*)
 Pig (molar)
 Bats (probably the cave's own Tomb Bat)
- Reptile: Turtle
 Crocodile
- Fish: Various
- Molluscs: *Thiara*, *Clea* and *Neritina*, all three *riverine* shells and regularly carried by early man to be left (charred) in caves. Cowries, probably ornamental.

(iii) *Stone artifacts*

Several large "rubbers" of sandstone which must have been brought into the cave occurred in the top layer A. These are difficult to specify, yet characteristic of any site of this kind and probably, in our case, used as weights and to grind haematite ore into powder for colouring (cf. the quern, below).

A single, polished stone-tool,* found in the bone breccia of layer B is of the distinctive, *trapezoidal* type so distinctive to Sabah and unknown further south (see Figure IV/3 and discussion in Chapter VI below). This confirms the site as belonging to the late stone age.

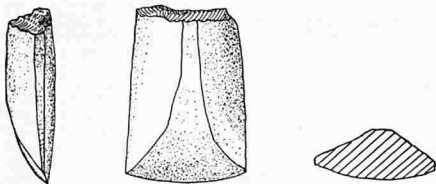


Fig. IV/3: Polished stone tool, Bird Island. (Natural size).

A heavy *stone quern* (small mortar) is a particularly fine thing, the best of its kind so far found in Borneo (see Plate 26). It is the static half of a pestle and mortar, used for grinding haematite ore into powder (with which it is impregnated). Ovoid in shape, $7\frac{1}{2}$ inches high with a neat concavity in the top $2\frac{1}{2}$ in in diameter and 1 inch deep in the middle; weight $10\frac{1}{2}$ lbs. Made of hard stone, it is worn with use, after rubbing to get the finish which the maker evidently desired and which is characteristic of the perfectionism of the late neolithic in this sector.

* The first archaeological stone age find made on a Borneo island.

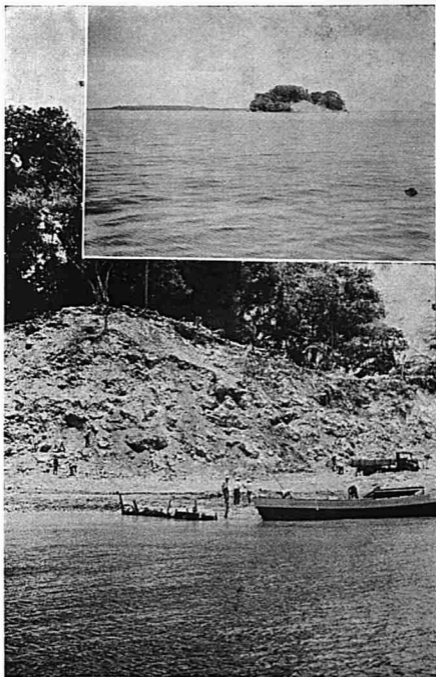


PLATE 25. Pulau Burong (Bird Island) as seen in two views from the sea in 1961 during quarrying for hard stone for the Labuan airport extension. This wholesale removal resulted in the discovery of a small cave which contained burials of the late stone age. These were recovered before quarrying continued. (Chapter IV, 1 p. 118).

P. Colletta



PLATE 26. Neolithic stone quern from Pulau Burong was used as a mortar for grinding haematite ore into a red powder during burial ceremonies. (Chapter IV, 1(d) (iii) p. 122).

P. Collette

PLATE 27. Stone markers in an Obian cemetery on Pulau Usukan surround the graves of these nomadic seafarers. Cement is nowadays rapidly replacing stone but the coherent and traditional stone arrangements are still reproduced. (Chapter IV, 3 p. 127).

P. Collette



(iv) *Earthenware sherds*

Forty sherds of earthenware pottery were recovered. This is not a large number. But the ratio of loss in this small isolated place through casual visitors is probably high owing to the long timespan since pots were deposited. We also know that sometimes individual sherds replaced whole pots as value objects and funerary jewellery of which one such example has already been described from a cave at Baturong, dating back to the early iron age (Chapter III cf. 10 (d) above).

Various sherds belong to several large urns or pots, painted with haematite slip, and incised with faintly outlined patterns (see Figure IV/4), emphasised with slight traces of yellow (clay) colouration. A basic red colour of haematite ore, combined with freely incised (curvilinear or geometric) patterns often emphasised with a second colour (charcoal black and/or clay yellow) are the main criteria of all special *burial wares* which were most advanced in the area during the late stone age. Few sherds of this kind have been excavated in Sabah (see discussion in Chapter VII, below).

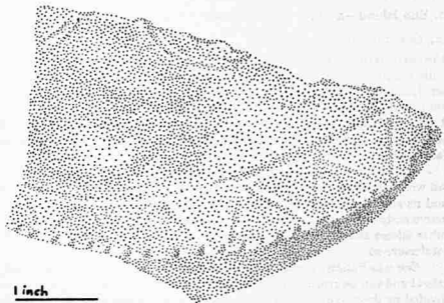


Fig. IV/4: *Earthenware sherd, Bird Island.*

No glass beads, stonewares and porcelains were found. There seems no overlap on this island with the early Chinese trading contacts bringing metal in quantity as indicated at adjacent Pulau Eno (Section 2 below). A single metal point from the surface may have been deposited there at any date. Such things erode quickly and are difficult to pinpoint in time.

(c) *Who, then, did what in the Bird Island cave and when?*

It seems reasonable to assume that this cave, though tiny and awkward to reach, yet the only one in the area, became a focus of funerary rites just at the end of the late stone age. This indicates the degree of cave usage persisting in an area otherwise caveless.

The special feature of the human remains is that they are largely disarticulated, displaced, not buried in the flesh and that at least some of it is coloured with haematite, implying secondary burial of disinterred remains, probably brought over from the main island of Labuan. We thus find repeated in miniature, an association of haematite bone and coloured earthenware pots previously only known from the Great Cave at Niah to the west, in Sarawak, but since then also in Sabah caves as detailed in the previous Chapter.

A vitality and range of human activity is thereby indicated at about the start of the Christian era, with the use of even remote offshore islands for funerary purposes. It is impracticable to regard Bird Island as an isolated instance, although it is isolated in *our* facts of Sabah evidence. Clearly it was used as a special place by a vigorous boating people, making known some of the more elaborate early pottery.

2. Eno Island—a Ming battleground?

(a) *Deductions and indications*

COVERED WITH dense scrub and some large trees, about two acres in extent with a long sand spit and a trace of mangrove fringe, this islet lies just off Hamilton Point in the mouth of Victoria Harbour, Labuan, North Borneo. Various spelt Pulau Enoe, Enoi and even Anoe, the historian of Labuan, Maxwell Hall, uses Eno adopted here. The word means a small jelly-fish in Brunei Malay. Maxwell Hall also calls it Madang-medang (see below).

As a result of our finds on Bird Island (Pulau Burong) three miles away, we were bound to conclude, contrary to previous assumptions that Labuan and its sub-islands were off the track of early man, that a considerable and active early population was here well back in time. This led us to examine other islets; and to seek information on any early human indications from local sources.

Eno was indicated as a "likely possibility" because it is close to Labuan Island and can be reached at low tide by wading. Other islets looked at were divided by deep water and showed no specially attractive features e.g. strong point, trade post or cemetery—the three most likely usages for this period of prehistory. Bird Island's attraction was of a special kind; coralline limestone with at least one *cave*; all the other islets around Labuan are soft, "later" deposit, mostly of sandstone. The low stature of Eno, not more than 12 ft. at the highest point, was a discouraging feature, archaeologically.

There is a native tradition of human remains on Eno and some considerable local superstition about disturbing the island, which we soothed with

suitable gifts to the relevant community leaders. Maxwell Hall has summarised local belief in his little booklet "The Labuan Story":

"History relates that the island (Eno) was the scene of battle three hundred years ago. When Sultan Abdul Jalil-ul-Jebar sat on the throne of Brunei, the abode of peace, his half-brother Pengiran Abdul waged war on him. Pengiran Abdul was a man of great courage and strength, and himself was the father of a Sultan, but he failed to oust his half-brother from the throne. He met his death in a fight on the little island".⁴

The Brunei royal annals are probably both the source and the echo of this folk-tradition, though they are not so specific in identifying Eno as the centre of what was certainly a savage battle at one of the most severe periods in Brunei's long record of internal strife. Sultan Abdul Jalil-ul-Jebar was the 11th Moslem Sultan. So far as we can calculate on present knowledge, he must have reigned somewhere between 1630 and 1680 A.D.⁵ The Ming Dynasty came to an end in 1644 A.D., though its porcelains and other trade goods continued in barter and use long after that.

(b) *Examination and investigation of Eno*

We made a quick visit to Eno on 4th May, 1960. Human bone projected at two points deep in the sea-eroded bank of the island above high water. We were in a hurry then, so came again for a better look next day, to search the foreshore and tide, using skin-diving apparatus.

As a result, we asked the helpful District Officer to come over on 6th May, before digging a small trial trench with positive results. The D.O. returned to Labuan and sent back more labourers. Later, we marked and pegged the area as well as putting up warning notices on the island.

(c) *Trial excavation and stratification at Eno*

A trial trench (2 ft by 1 ft: A/1) was first excavated in 6 inch layers along the edge of the bank, already exposed by erosion. The whole terrain here is impregnated with small roots, making stratification of doubtful validity since roots push and disturb objects, especially downwards (e.g. sherds). It is important to emphasise that all depth indications are subject to this major qualification. Further *in* on the islet, less difficulty of this sort is to be expected.

As the first trench produced a series of significant extraneous objects, a second trench of equal size (A/2) was excavated alongside. The results of the two correspond and may for this purpose, be treated as one unit (4 ft by 1 ft). To obtain a more reliable stratum indication, the second trench was dug in 12 inch layers, and all the materials have been treated as from 12 inch layers hereafter. Simple excavation methods were used under the circumstances. The material was extracted, cleaned, labelled and bagged for further study and future reference.

(d) *Material results for Eno Island*

The materials from this excavation consisted mainly of ceramic sherds and human remains. These occurred in three layers; surface, sub-surface to 24 inches and below:

(i) *The Top Layer*

There is undoubtedly a megalithic arrangement on the islet, which requires further study. They probably relate to the similar stone arrangements on Usukan Island to be discussed next. The stone should not be disturbed or removed, until a full study can be made. Five blue-white stoneware sherds were recovered from the surface. They are of simple, early sorts, possibly of a Ming date.

(ii) *Sub-surface to 24 inch depth*

Fourteen stoneware and five earthenware sherds resulted from two 12 inch excavation layers in very compressed, hard sandy soil. The stoneware sherds are of early sorts, all monochromes, mainly brown and white. They are duplicated in hundreds of thousands of fragments from excavation sites in the Sarawak River Delta where they date from the T'ang to the end of the Yuan Dynasty. The earthenware sherds are plain, paddle-decorated and impressed, of simple sorts with parallels from Borneo and Philippine sites (see discussion in Chapter VII, below).

(iii) *Below 24 inch depth*

One stoneware sherd (brown) and one earthenware sherd (a plain rim-herd) came from this deeper level. Human remains occurred as from 24 inches downwards. These were surprisingly well preserved, possibly through the influence of sea-salt. One skull and some teeth were removed for study. The main remains were left *in situ* for careful excavation in the future. One initial conclusion is possible from these remains: they are *primary* extended burials of adults—with heavily filed teeth.

The imported stoneware and earthenware sherds overlying these human remains are probably directly associated, and an early Ming date is provisionally indicated for these. Only full excavation of the site can confirm these indications and provide evidence on how the megalithic top arrangements relate.

There is no prehistoric evidence, at present, that Eno is directly linked to neolithic Bird Island, 2 miles away. There are no imported stonewares on Bird Island and the few earthenware sherds on Eno are of different, simpler sorts. Eno confirms the wide range of prehistoric activity in this coastal setting. It is a small but significant study site or, at least, may turn out to be so⁶ when it receives the further and fuller examination which it deserves at an early stage in the development of Sabah archaeology.

3. Usukan Island and the "Sea Nomads"

USUKAN, in the mouth of the Abai River, about 40 miles up the coast from Kota Kinabalu, is one of the many small islands around the northern end of Sabah which are not permanently inhabited but irregularly frequented by

sea-going people called Obians, who have no permanent dwellings ashore. These sea nomads are part of a wider grouping which includes elements of the Bajau, Suluk and Illanun folk roaming widely through South-east Asian waters. Some of these people have been at sea in one way or another since early in the Christian era, if not before. With the development of the island trade in the iron age, some of them became active as carriers of valuable commodities between Borneo, other islands, and the mainland.

The Obians and their associates made their cemeteries and ritual centres on small islands off the coast, where they would not be readily disturbed by other humans, scavenging animals and the rest. Usukan is one of several islets with a long tradition of use in this way, although we have had great difficulty in getting a satisfactory background picture of Obian folklore and belief. Indeed, it is not easy to get in close touch with any Obian. Like most wise nomads, they fade into inscrutability, if not invisibility, at the approach of a curious stranger.

The occasional inhabitants of Usukan are currently based mainly on the larger and more remote Mantanani Island, but return periodically to guard coconuts maturing on the islet. These were being damaged by a small army of the beautiful Silver Leaf Monkey (*Presbytis chrysomelas*)—a vivacious and vociferous island element—when we visited there with some Bajaus in December 1960. In recent years the place has thus earned its rating on modern maps as “abandoned”. But the human ties remain firmly identified, in a small but conspicuous cemetery immediately beside the beach. The edge of this cemetery is an eroded clifflet on the estuarine side, which is slowly being eaten away.

This cemetery contains several varieties of burial arrangement around a central theme of stone—and latterly cement. Most conspicuous, because newest, are four square surrounds of narrow, quadrangular cement, inscribed with names in *Jawi* script, sometimes romanized Malay as well (including *Ini Sayah punya ibu*, “This is my ma” on one). Of these four, one (dated 1935) is roofed with corrugated iron sheets on four wooden posts. It has a low wall of medium size broad stone piled inside the cement surround to a height of 18 inches. Inside the square enclosed is a layer of fine white beach pebbles, but no upright or other marker stones (see Plate 27).

The other three cement squares enclose nothing but the buried remains and natural grasses. There are no associated stones; but a piece of a broken Doulton Ware (English) plate is associated with one, and a battered biscuit tin with another (perhaps accidentally).

Two large and one small stone-walled enclosures, non-cement, are clearly older; the largest still with the ruins of an ornate carved wood canopy over the area of the grave. These stone-walled sections are becoming slowly overgrown with shrubs and may be difficult to distinguish in another decade. No enclosed stones are now identifiable.

More distinctive and lasting is a deliberate row of three single upright stones, natural small boulders set 8–15 inches above ground level, in a line at

right angles to the beach and placed 4 feet apart. Two others were probably in continuation of this line but have fallen over.

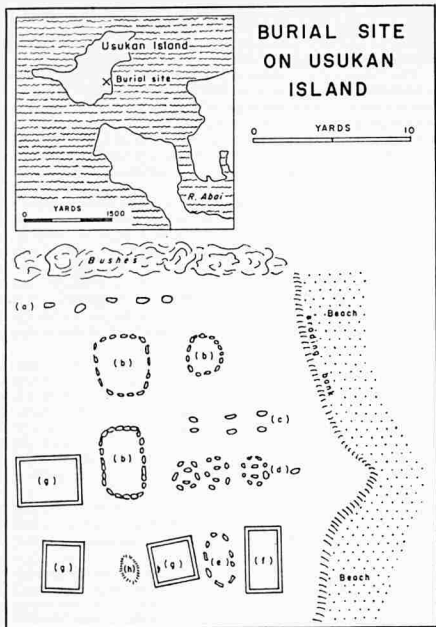


Fig. IV/5: Burial site on Usukan Island.

Parallel to the line of single stones—which are in effect menhirs (see Chapter V, below, on these)—there is a line of three pairs of stones, arranged in the Mohammedan Misan way found in some Borneo Malay graves. Close by and also parallel are three small rings of three to five flat stones, each ring containing within two uprights, paired menhir stones. These rings have diameters (external) between 2 ft and 3 ft. The stone is all natural sandstone or consolidated coral-sand agglomerate (in rock form).

The whole effect is of a miniature megalithic, primitive stone-use set-up. It was evidently, also, once larger. Scattered around are about fifty loose stones, some up to a cubic foot in size, which clearly formed part of the same system in earlier times (see Fig. IV/5).

This note on Usukan, though inadequate, is the fullest and could be the last to describe a still active yet ancient activity, once widespread but rapidly vanishing. The Bajaus of the Kota Belud district inland have parallel burial influences; other equivalents survive on Balambangan and Banggi Islands further north and east in the Sulu Sea.

The later burials (since 1950?) have clearly here been moving away from a simple stone arrangement to modern concrete styles. This, plus rapid sea erosion (estimated at 2-3 feet a year) will probably have reduced this pretty scene to nothing soon.⁷ This sea nomad habit of carrying and erecting stone monuments may properly be related to the more striking megalithic culture on the main island, starting some twenty miles further south (to be described in the next Chapter), even though obviously modified by Islam in recent centuries.

V. The Megalithic Belt

1. Ancient Roots of Sabah's Megalithic

"MEGALITHIC" is an adjective used by archaeologists and others to describe the activity or result of erecting megaliths. Megaliths can be defined, in the Borneo context, as stones or rocks, deliberately placed or worked (incised, carved, shaped, hollowed out, balanced) by man. We have already touched the fringes of a past, small, *mini-megalithic* on Eno and Usukan Islands (Chapter IV, 2 and 3 above). There remains the much more impressive band or belt of megaliths, extending from ancient to modern times, in the area immediately around the capital, Kota Kinabalu, many of them visible to motorists going up to Tuaran or down to Papar. It is rather extraordinary that they have hitherto been neglected by nearly all students, including scholarly Sabahans themselves. The main concern of this chapter is to remedy this serious defect, and to put these megaliths on to some prehistoric time scale, as well as defining them both spacially and culturally.

Megalithic activities have well established roots in the distant past. They are generally associated with a prosperous culture, abundant populations and excess energy. Carrying great stones from long distances, in order to erect them for religious, ritual or other reasons, is a form of exuberance and group expression comparable at its particular pagan level to temple building among Hindus, or putting up chapels by Christians in later days. Borneo is unique in South-east Asia in having a "living megalithic" not once but twice, in the plains near Kota Kinabalu and in the Kelabit uplands way south among the mountains of northern Sarawak and Kalimantan. The activity has one other living centre in South-east Asia on the little island of Nias, off the coast of Sumatra. Other megalithic areas, such as in central Sumatra, in Negri Sembilan of western Malaya and on the "Plain of Jars" in Laos have no living links in contemporary society, so far as we presently know.

The Kadazans who densely inhabit the megalithic belt of western Sabah are in universal agreement about these stones; all say they are very old in origin. Where they recognise stone uprights that have been put up within folk-recorded memory, they are generally considered to be accretions, continuations, or the transference of stones previously placed. As these people have no precise way of backdating events, what they ordinarily say is that a stone belongs to "long, long ago", or to the beginning of human occupation on the plain.

These Kadazans do not regard themselves as necessarily the only or earliest inhabitants along this piece of coastal land. The presence of a strip of Bajaus between them and the coast is in itself significant; and some of these Bajaus, although Moslems, show a keen interest in the stones. They were by no means unwilling to admit them into their own prehistory. What we can

now retrieve of Sabah's megalithic tradition is almost entirely due to the abiding interest shown by some Obians, Kadazans and Bajaus. For unless they take an interest in their monuments, they quickly vanish, being overgrown by jungle, collapsing into paddy fields, or washed away within a century or two. It is the fate, also, of megaliths to attract, in modern times, the eye of road builders, masons, brick layers and drainage men, all of whom are eager for nice handy hunks of good rock to speed their business in a terrain sparsely supplied in this respect. As we shall see, many of these megaliths had once to be carried long distances to grace their present positions as memorial symbols. For pre-literate people, the megalith was one good answer to the eternal anxious search for an earthly gesture towards immortality.

Western scholars have often seen megalith-making as significant of a single or special trend in human evolution. Early scholars derived this (and much else) from the civilisation of ancient Egypt. Megalithic cultures everywhere became part of a great pattern of evolution drifting out of Africa. Recent theories recognise more varied origins in the Bronze age. In western Europe, megalithic structures can be dated with some certainty as highly developed after 3,000 B.C., while in Asia some have been broadly correlated with bronze, before the advent of the Christian era.¹ Several scholars have associated this with the development of irrigation in agriculture—an association which certainly happens to hold rather good in the Borneo context. The Penampang-Kota Kinabalu plain and the Kelabit plateau are the two most "advanced" rice irrigation (*sawah*) locations on the island.

In both places, erected stones are closely tied to the wet rice fields. On the other hand, we have earlier seen megalithic traces in small offshore islands. What about the large tracts of unirrigated mainland? People practising shifting cultivation on hill-sides continuously obscure and overthrow their own earlier evidence. It is therefore unwise to conclude none of them *ever* had megalithic interests and there are a few indications to the contrary.²

Our own view is that in the absence of a Borneo "bronze age" (see Chapter II, 2(c)) these megalithic activities probably began after the advent of iron in Sabah. Along with the idea of erecting stones goes a belief that large stones, even mountains, are the result of improper human behaviour, notably laughing at animals. This belief is indeed widespread among Borneo peoples, and some of its expressions in Idahan, Sungai and Murut lore have already been told in our discussion on caves (Chapter III). Many caves are "explained" in Borneo as acts of petrification from above due to ancient human folly below. It is in that deep sense that we must think of stone as it relates to man's actions and interest in the island in the past. In a way, the petrification stories suggest the old, old background for all attitudes to and of stone. By the same token, the tropical "megalithic" is only a by-product of a much wider conception.

The stones to be seen around the plain near Kota Kinabalu have long been thought to have cultural or ritual significance. But they have nearly always been explained as "oath stones" or "boundary stones"—including clusters of several. There are, of course, genuine "oath stones", the strongest

and best known of these in hill country outside the little wooden courthouse at Sapulut, in the southern interior of Sabah (see Fig. V/1).

"The only local spirit stone of proved significance with some megalithic implications here is Aru Kelasan, the Ghost of Kelasan. The idea of rocks containing spirits is deep seated. The spirit or Ghost of Kelasan is a venerable presence.

He lived at Sepulut long long ago, where that river joins the main Telankai-Sambakong. Kelasan is regarded as a Murut. There is no idea of such very ancient stones and things belonging to an earlier sort of person as there is, for instance, among the Kelabits of Sarawak. When he died, he sealed his grave with this round, flattish sandstone. When the Sepulut courthouse was built early in this century, the stone was moved out into the open on the hillside, thirty yards away, close to the flagpole. Long before that it was used as an oath stone, as it still is. That is: oaths of honesty, *sumpah* (*ampator* locally) are taken on it.

Aru Kelasan has been used for specific oath taking at least since Tunon, now 75, was a small boy, no doubt long before. Kelasan himself was "generations before" Tunon. Native Chief Lindong regularly turns to it in court cases, when, as he puts it, one party or the other must be lying.

The stone looks rather like a large gong, with a depressed instead of raised centre. The cracked central cavity was caused by Kelasan in life, burning dammar for his night light there.

It is 23-26 inches top diameter, the centre, depressed part 10-12 inches. On examination, below the flattish top, the underside tapers down into a bowl effect, with quite a sharp point, which is 10 inches at the tip from the exposed top face. (N.B. Fig. should read inches all over.)

The stone looks as if it has been worked by rubbing and perhaps a knife since the soft sandstone of the whole interior is easily worked. The downward taper below does suggest some sort of lid or stopper (as for a mighty jar burial)".²

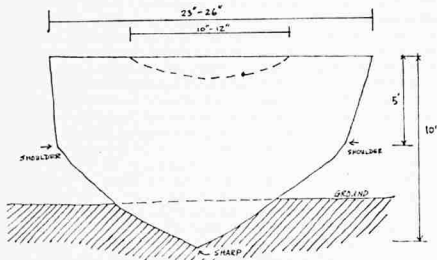


Fig. V/1: Sapulut oath stone.

There are other "oath stones" with known histories, for instance at Kudat and Ranau. An 1882 account tells of a jar being broken and a stone erected beside it in an impressive peace ceremony among the Bongawan Kadazans. An oath stone was also erected, for political purposes at Keningau in 1963. Indications are that this type of oath taking was an adjustment of an ancient concept to western ideas of contract and settlement.

The same objection applies to the widespread explanation for these stones as "boundary stones". A study of their distribution on the Kota

Kinabalu plain in relation to any conceivable boundary-marking logic soon adds up to nonsense, except in so far as one can recognise the possibility of a specific stone marking a place for some purpose, which could include both a property settlement or an "oath" connected therewith.

We found that in talking to local people in these irrigated rice fields more plausible explanations were readily forthcoming once the informants realised our own doubts about the accepted explanations which have got into government records and the common lore of the State. For instance, one of our first conversations was with the headman of Kampong Kinarut, in the middle of one of the conspicuous stone concentrations (along with two "stone substitutes" in carved wood (see Plates 33 and 34)). His immediate explanation was that all these were erected in connection with the division of property of people likely to die without direct heirs (see discussion of this aspect under 3(a) below). He called both the stones and wood carvings *Senganak*. He was a Bajau and stressed that the Bajaus themselves do not *now* use any of these devices as Muslims. Elsewhere they were called also *Sakaganak* by elderly Kadazans, the term for "child-less". However, this is only part of the explanation as we shall see—although one for the record.

The incomplete background and tradition, reflected by educated Sabahans to whom we have spoken about the stones over the past ten years, must be corrected before it is too late. The stones remaining around Kota Kinabalu now are certainly only a fraction of the past number. Even in recent years, many have been lost, knocked down by road builders, buffaloes, and the new sort of neglect of traditional objects which is an almost inevitable part of the modernization process. This loss should now be halted. In fact, properly presented, these stones, enduring monuments to the past, could provide a considerable attraction and interest, both for the native peoples and for visitors from elsewhere.

2. A Survey of Sabah's Megalithic: 30 Miles of Menhirs

THE MOTOR road from Kota Kinabalu to Papar (opened in 1964) passes through wide areas of cultivated rice fields where stones form a striking part of the landscape, especially after the fields have been flooded and while the paddy is still young. One is over 7 feet above ground; many are over 5 feet, massively proportioned. They mostly stand on bunds between rice fields; some, even more conspicuously, in the glittering waters inside the irrigation *sawahs*. Such simple uprights are usually called menhirs by prehistorians.

B.H. saw the area when the road was under construction, in August 1962. Soon after, she came for the first time to the Kelabit uplands of Sarawak where we were working especially on the excavation of specific megalithic sites. She was impressed by similarities between the Sabah and Kelabit stones. This led us to make an investigation when the next opportunity arose, three years later. With the assistance of the Sabah Museum, T.H. initially surveyed a distance of 100 road miles, from Papar at mile 35 to the south as far as milestone 6 on the Kudat road to the north of the capital. The numbers

of menhirs was impressive: nineteen between miles 6 and 7 on the Papar road and no less than forty-nine between miles 7 and 11, all now within easy view from a motor car (and only a proportion have been erected within sight), let alone those further back up the valleys.

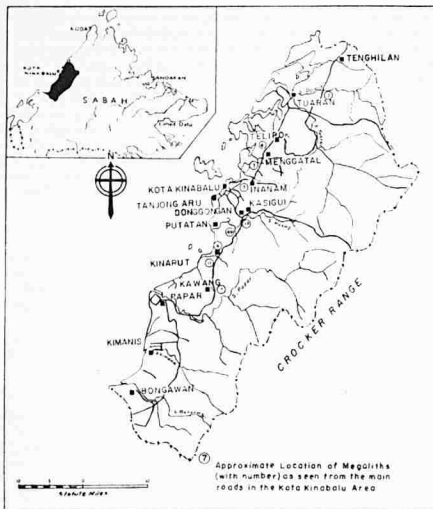


Fig. V/2: Location of megaliths in the Kota Kinabalu area.

The main part of the present study was therefore confined to the main roads, with sorties up selected valleys and hillsides. In all, particulars were taken of 133 stones (see Tables below) and three "stone substitutes" of wood (Chapter V, 5 below). Stones selected as representative of various "types" were visited and measured at distances between 20 and 1,500 yards from the road (Chapter V, 4 below), and also checked by air survey (section (b) to follow). The survey

indicates a concentration of palpably "megalithic" type of upright stones—technically menhirs—within a long strip of irrigated Kadazan rice land on the sub-coastal plain between the low foothills and the immediate coastal band (often approximating to the railway line) which is now occupied by Muslim Bajaus. Quite extensive enquiry and examination outside and beyond the ends of this strip only produced two small stones, both acceptable in the more familiar "oath stone" context. These were just after Sungai Damit, beyond Tamparuli on the road past Tuaran to Kota Belud. Verbal reports indicate stones in the Tamparuli district, but investigation in this area provided nothing except this small pair. It was also evident that there was nothing comparable with regard to megalithic activity remaining to the north in the Kota Belud and Kudat road area, and again in the south on the now richly (but mainly recently) irrigated plain round Papar. No stone was found on the south side of the Papar river; and the first to be encountered on the north side was a small one at mile 23. It must be emphasised that no doubt other upright stones were once erected and will be found later in these places but these do not constitute a conspicuous or visually significant part of the modern *landscape*, as they do north from mile 23 on the Papar side to mile 11 on the Tuaran side of Kota Kinabalu—a direct distance of under thirty miles, entirely populated by Kadazans.

(a) *Distribution and numbers of megaliths along Kota Kinabalu roads*

TABLE 1
STANDING UPRIGHT MENHIRS LOCATED ON GROUND

(a) Kota Belud road at Sungei Damit	2 (both small; see above)
(b) Tuaran road miles 11-10	4
10-9	3
9-8	0
7-6	3
	<u>12</u>
(c) Papar road miles 6-7	19 (see further discussion below)
7-11	49
11-15	4
15-19	11
19-23	7
	<u>90</u>
Grand total upright	<u>102</u>

The information is tabulated by miles for convenience and to assist further study. Most relevant is the distribution of wet paddy land where the stones are clearly visible. Most of the rest of the road side in this sector is rubber or other bush cultivation, where the stones would not be seen. However, with exceptions to be noted later, informants emphasised that upright stones are not normally found except on the wet rice irrigation, which is, for instance, confined to only a small area between miles 11 and 15 on the

Papar road, whereas it constitutes much of the horizon between miles 7 and 11.

Taking the main megalithic belt, very roughly, as thirty miles long and half a mile deep (a fair average even allowing for the major part which is not under wet rice) there are nearly seven megaliths per square mile. In one place, during the July condition of padi growth, it was possible to count and check no less than *fourteen megaliths from one spot on the Papar road*.

These are usually well spaced, the distance between the closest two being just under one hundred yards and in this case one of five standing in the middle of flooded padi (*sawah*), its neighbour in the more usual position on top of an irrigation bund.

Although most stones are now on banked bunds, three of those visible were away from the irrigation altogether. There is strong reason for believing that others have been moved on to areas only opened up for irrigation in comparatively recent times; others again have been moved out of the centre of *sawah*, where they now present a considerable inconvenience to modern padi cultivation.

Included in the above table are two large stones which have in fact fallen over or been knocked down by buffalo and are lying on the top of bunds at the present time. It is probable that others so fallen would, nowadays, be incorporated into the substructure of the bund themselves, acting as valuable reinforcement and thereby being rendered invisible. No doubt a number of factors have operated to reduce the original numbers. Those present only represent a fraction of what might have been seen, say, at the turn of the century. Where there is no continuing respect, stones may be deliberately moved, ditched, buried or broken up.

This is well illustrated by results of a follow-up on a specific stone at Mile 6, close to Penampang, heart-land of the Kadazans. This is a 5 feet high menhir, and stands on dry grassland in front of a house, opposite a creek in a small area which had evidently never been irrigated or ploughed. On closer examination, we found, seven feet away behind this big stone, a pair of smaller ones, six inches apart. On the other side of the original, three feet away, was a very large stone which had fallen. A further twelve yards on, a fifth massive rock was aslant, not visible from the road. Eighty feet from this was the sixth of the group, a short but thick upright menhir on the very edge of an eroding creek, seen on previous days from the road.

The owner of this property, Mr. Raphael Jau, said that in his grandfather's time this corner had still been jungle; it had never been under rice. In clearing it for housing and grazing, these stones, then *all* upright, were revealed. The balance had been knocked down by family buffaloes, one of them in his own lifetime. He was emphatic that they represent a "very ancient" burial ground, where bodies were placed in jars. The bones had long perished: but pieces of the jars were sometimes found in the ground, he said. With his permission, in a few minutes we picked up a series of worn stoneware sherds clearly not recent.

Although it would be unwise to extrapolate from a single experience, here were four new megaliths as well as the two visible. A detailed archaeological survey could no doubt reveal many more and their associations, in this area.

(b) *Menhirs out of sight of the road: Aerial Survey*

We have previously detailed 102 *menhirs*, as erected along two of the main roads from Kota Kinabalu. This is an arbitrary though rich cross-section, limited by the degree of irrigated open land observable from the road. On 18th February, 1966 we chartered a Cessna aircraft for an aerial search over the southern half of the previous main study area, on either side of the Papar Road and the start of the Tuaran Road, all but two of the observed stones stand in this section. (see Plate 28).

The harvest was in except for odd pockets, the weather ideal. We flew between 500 and 50 feet. As well as the strip of stones along the road already recorded, we went up all main irrigated side valleys and other places which could not have been examined from the road. The results are tabulated on the same lines as the ground observations (see p. 135 above) Thus:

TABLE 2
MENHIRS SEEN FROM THE AIR

<i>Section:</i>	<i>1966 from air (new)</i>	<i>1965 road (previous table)</i>
(a) Tuaran Road		
miles 6-11	not fully examined	12
0-6	<u>2</u>	0
(b) Papar Road		
miles 0-6	<u>2</u>	0
6-7	<u>4</u>	19
7-11	<u>9</u>	49
11-15	<u>2</u>	4
15-19	<u>6</u>	11
19-23	<u>6</u>	7
23+	<u>0</u>	0
Total (excluding Kota Belud)	31 (new)	102 (previous)

This increases the recorded menhirs to 133. Some were probably missed. This plane travels at 120 m.p.h. Several stones were very large. One was out in mid-field, not on a bund. In no respect did any significantly differ from those in the main survey. Several points require emphasis from the air survey:

- (i) It is not possible to pinpoint positions and distance correlations against the road milestones, so the above comparison is only approximate.

- (ii) The general pattern of frequency was conspicuously similar by both survey methods, the air adding mainly extra uprights in the same sectors, and providing none again on the otherwise seemingly "acceptable" Papar Plain, nor anywhere in the coastal strip now inhabited by Bajaus.
- (iii) There are relatively fewer stones up the side valleys debouching onto the main irrigated plain crossed by the road.
- (iv) In very small re-entrants and irrigated pockets, a single stone is seldom found. (Such places are not suitable for status displays and memorials, nor are they so likely to involve problems of defining the divisions of property through inheritance etc.)
- (v) The two air-view stones nearer Kota Kinabalu than mile 2 are in rice valleys which lie between the angles subtended by two roads roughly behind Likas Bay and up to Inanam. (Around about miles 0-6 on the Tuaran Road, making 4 in this area whereas more were observed before).
- (vi) The gap round Kota Kinabalu is more readily seen from the air, away from the main road impact, as directly due to building, engineering and other works around the town. It seems reasonable to suppose that there were once more stones here from mile 6 on one road to mile 6 on the other, in an irregular strip, cutting off before the Papar river at one end and before Mile 12, Tuaran Road, on the other.

It is evident from the ground and air searches that this "megalithic area" was once much more extensive, than now. Only where the native peoples have remained relatively undisturbed both topographically and theologically, can these relics of the socio-spiritual past be readily recognised in our time. Even so, the spoken record shows that there has been plenty of *local* disturbance affecting the narrow belt of megaliths which do remain.

3. Megalithic Usage: Kadazan Information and Folk Background

The Kadazans in the Tuaran-Papar area vary in their attitudes towards these stones. Some accept the boundary stone explanation (less often that of oath stone), mainly the young and a few suspicious elders. Some are vague or not interested but others show much interest and pleasure at having the subject raised. These often offered lively information on the subject, though not always consistent. Without better data on the earlier beliefs and observances of these folk, one cannot evaluate such information in detail. But inter-related, overlapping, recurring themes require record, especially since these are often consistent with the more elaborate "megalithic thinking" of Sarawak's upland Kelabits, 150 miles further south, who have no known contact with the Kadazans.

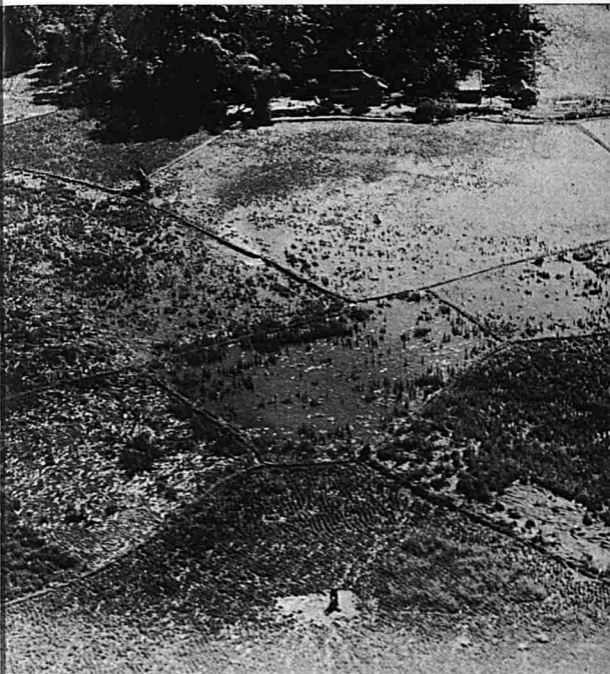


PLATE 28. Single upright megaliths or menhirs erected in the wet padi fields off the Papar Road are representative of some one hundred and thirty three that have been located within a thirty mile radius of the state capital, Kota Kinabalu. Local explanations and traditions give widely differing explanations of their origin and significance. (See Chapter V, 2(b) p. 137).

E.J.H. Bersick



These themes express four main situations causing megalithic activities:

- The distribution of property by the heirless (*Minagang*);
- Status feasting and "bravery testing";
- Funerary rites;
- Memorialising.

Clearly there are not here intended to be four distinct categories. It would be possible, for instance, to erect a megalith under all four categories simultaneously, as well as with only one idea specifically in mind.

(a) *The Distribution of Property by the Heirless (Minagang)*

The commonest single explanation offered for the presence of these stones was on this account. A number had been erected during the lifetime of older living people. Details of the number of costly animals and jars of rice wine consumed were remembered. The extent of these memorable feastings was in fact a significant *status marker* (cf. (b)) for the giver, in itself a form of memorialising and being remembered after death (c) below.

With these Kadazans, land normally belongs to the family as a form of *pusaka*. A childless man's land goes to brothers or nephews, not his wife. If it is the wife's land by direct inheritance it will not revert to her husband on death, but to her own kin. The threat or fear of "his" side acquiring the property by precedent and possession has certainly made this megalith usage of special value to widows in establishing rightful claims before their own death. We were told about such an incident in connection with the erection of a *wooden figure* (see Plates 33 and 34) substituting for a stone, 45 years ago.

The ideas involved in this usage are expressed in the thinking of the only other peoples in Borneo, the Sarawak Kelabits, who have kept up an active megalithic culture into modern times, thus:

"A quick look at one of these megalithic mounts will clear the mind for the last and most complicated side of Kelabit life: death and property diffusion. The great death difficulty arises when there are no direct or near heirs. Usually, parents will adopt a child. But sometimes a couple will be obstinate about this, in a kind of reverse, frustrated spite—though in Kelabit terms it does not seem like spite so much as self-respect, the individual right. Hardest of all is the case of a childless widower or a confirmed bachelor who is rich. About one in every two or three hundred Kelabit men does not marry. This will always be of his own choosing. Even the deaf-mute at P'Urnor has a wife, though no children. Sometimes a man does not marry for physical reasons, but there are also odd men who dislike women, sometimes who treasure their individuality and inner personality too much to share any piece of it with another person.

The Kelabits have devised a solution for this problem; it aims to preclude the most violent source of argument, the permanent property in old beads and jars, by simply destroying it all, in a big way".

(T.H. in "World Within", London 1959).

The above goes on to detail the procedure by which a person in this position erects an enormous megalithic structure of a special kind a mound of stones to cover the property. It is in the same spirit that the Kadazans of the Kota Kinabalu plain put up big menhirs. One main difference here is that their main wealth is in the limited available land—not a big problem with the upland Kelabits.

After arriving at the site, they are shown the selected stone. They gather a large number of long wooden poles. They place a number across the stone, others further out, and fasten crosspoles over them at right angles so as to form a frame around the stone. They use the skin of young bamboo as ropes. Then one man stands in each square formed by the crossed poles, ready to lift and carry the stone (see Fig. V/3). A large stone might need a frame big enough to accommodate as many as one hundred men.

On the first day the men move the stone about a quarter of the way. On the second day, more people come to help to carry it further. Once they reach the flat land, progress is more rapid. Feasting continues at the work site. A buffalo is killed each day to feed the workers carrying a large stone. A pig might be sufficient for a smaller one.

Prayers are said by a shaman (*bobohizon*) before the stone is erected, usually in the corner of a field of the deceased, inclined slightly towards it. The erection of the stone is followed by further ceremonies held by the shaman. Animal blood (from sacrifices for the feast to follow) is collected in a basin and poured over the stone. Two long poles are finally put up next to the stone, the one facing the field topped with leaves, the other with a bloody cloth tied on to it. This done, all go to the house of the deceased for a feast lasting at least one day and night, depending on the wealth of the deceased".

Another informant was Che' Manlanggum of Kampong Limbanak, near Penampang, claimed as the oldest man in the district in 1965. Venerable citizens like these have for some time been dated by the single sure yardstick for the island, the explosion of the great Krakatoa Volcano off Java, 1883-4. Malanggum was given the formal credit of "he is 100".⁵ He had the following account from his father, long dead, passed on to him from previous generations. His father once told him these stories, taking him to the group of stones on the hill near his house, one that has since been destroyed:

"About ten generations ago there was a long-house on the hill where the stones used to stand. The Bangkaakan, fore-fathers of the present Penampang Kadazans, lived there. They were big people, said to average six feet in height. They practised head-hunting at that time. The Bangkaakan lived in long-houses as a means of protection against the Taga'as, who cultivated padi on nearby hills. The Taga'as, ancestors of the present Tambunan Kadazans, raided the Bangkaakan villages for heads. They burnt houses and threw *sapod*, pointed sticks tied together as a tripod, behind them to make the pursuers fall, then took their heads. The Taga'as were not after the land of the Bangkaakan, only their heads. It was considered an act of bravery at that time. When a person took a head there was a ceremony and the skull was kept.

The stones that were on that hill were brought from hill areas occupied by the Taga'as and used as gravestones. It was very dangerous to get them in the first place. When the Bangkaakan went upstream Taga'as would try to cut off their heads. The big stones came from areas closer than the smaller stones.

When a man died, he was put in a big jar. If he was rich, a valuable gong was put over the jar. The stones were erected as markers for the graves. It took many men to carry a stone, depending on the size. When an important person died, a large stone—requiring perhaps forty men—was erected. A buffalo was killed during the erection of the stone".

(d) *Memorialising*

This function is a by-product of the previous three. One particular stone is said to have been put up simply to commemorate a rich individual. Here is the account of this menhir, called *Sansa'abon* and standing six feet above ground, as given by Magulan Demidal of Kampong Sugud, 90 years old in 1965. This erudite old man also stressed that in the old days every stone carried a name, the name of the person who was mainly responsible for erecting it (for whatever purpose). His account of this special stone is interesting also in that the operation evidently failed in its original intention (to memorialise a name for all time):

"The large stone situated 200 yards from my house is called '*Sansa'abon*'. It was erected by Libu, great-great grandfather of the wife of Native Chief Logimon. The name '*Sansa'abon*' is thus not the name of the man who erected it or the man in whose honour the stone was erected. His name has been forgotten.

Libu, who erected the stone, fetched it from Ulu Sugud, at a place about six miles from Kampong Sugud. Fifty men went to inspect it before bringing it to its destined site.

It took five days to carry the stone six miles. Seven buffalos, five pigs and one cow were killed to feed the workers while they transported and erected the stone".

The informant, like many others incidentally, insisted that the stone did *not* have any particular boundary function either then or later. There is something much more profound behind all this. The actual stone and the spiritual relationships of moving it from one place to another, were bound up with deep feelings inside these peoples. Nowadays only fragments of this largely secularised culture remain. Remember, all that is here described lies within the most sophisticated coastal area of Sabah, the country of the Kadazans, the most advanced of Northern non-Moslem Borneans (in the western sense).

4. Megalithic Styles, Sizes, Sources

MOST of the stones still standing in the megalithic belt around Kota Kinabalu were brought down from the adjacent hills rising inland from the irrigated plain. As we have seen from the testimony of knowledgeable old men getting them could be a dangerous business. Some stones were brought from further afield however, and even across the sea, as described by Orang Tua Goninu (3 (b) above). Geological examination of the rock types does not get us far because all the megaliths examined are of a soft sandstone distributed all over this part of Sabah. It seems clear that at no time were the stones selected because of their texture, hardness, colour. The selection was for size (within the limits of possible transportation) and, to some extent, shape.

Unlike megalithic activities in most other parts of Asia, in Sabah the stones were never decorated with incised or relief figures, or symbols. Nor were they cut into seats, "planks", bridges or grouped and balanced to form dolmens, cysts, tables, slab graves or other arranged structures (all of which are found, for instance, in the Kelabit uplands of Sarawak). It is possible that such arrangements were made in the past and have now been lost. Be that as it may, the megaliths here surveyed are exclusively single uprights of natural stone. In some cases, the soft sandstone may have been shaped, rubbed or trimmed, but there is no proof of this. Basically each stone was chosen because it conformed to a fairly loose pattern, which we can summarise on the basis of the more than one hundred studied.

The more than 100 stones varied widely in size and proportions, yet are fundamentally "alike". Long, long ago some sort of ideal form was established. Thereafter, any stones to be selected, carried and erected must not be "unlike" this prototype. Thus none of our menhirs are round or triangular, or very thin, or very irregular in outline. None have a hole in them or a major protrusion upon them. There are none with big lumps of agglomerate or other non-sandstone intrusions. All are pure coarse-grained sandstone, pale buff or

greyish-white in colour. The commonest single characteristic is also negative: none of them are markedly angular, nearly all are markedly smooth-domed or gently curved in total outline. A few are more or less flat along the top, but in at least one case this is due to subsequent breakage.

The general form is a stone averaging between 4 feet and 5 feet high above the ground, and up to 2 feet, or more underground, weighing up to a ton, between 3 feet and 6 feet in circumference—this tending to vary on any one stone so that the circumference is less towards the top than at the bottom, giving a tapering effect. The sides are usually uneven but fairly distinctively faceted, with 3 to 5 faces, sometimes 4. The top is usually gently domed and rounded but sometimes slightly pointed, especially where the stone is somewhat recurved and one side more concave, arching slightly to a nearly hooked point. The lines of direction are always gentle, making transitions smooth and shapes midway.

After this passage of time, so distant from the originators of this megalithic conception, it is difficult even to guess as to why an anomalous, simple, rather conventional natural form so particularly predominates. One could call it "phallic" in the masculine sense; but it would not be easy to justify such a term except on rather involved psychological grounds. One might think of the moon in its various phases. Any such classification lies in the eyes of the beholder and when the beholders are "outsiders", it is likely to be particularly inappropriate. Our native friends were unable to throw any light whatever on this aspect.

Looked at another way, the menhirs we now see in the plains around Kota Kinabalu must have been restricted for selection, in the first place, by the stone available anywhere within human reach. This had to be in separate rocks or soft, round material to extract and carry. It had been heavily weathered already *in situ*, in river-beds or on open banks, by tropical rains, winds and floods. These processes of weathering continued out in the open to soften the angles and smooth the curves. Many of the menhirs show distinct signs of weathering effect, particularly at the butt end where this is in or close to the irrigated rice water. They often show the effects of rubbing by water buffalos also.

With our own fairly extensive knowledge of megaliths elsewhere in South-east Asia, we would only compare them at all closely to those in Negri Sembilan, Malaya. (On which we have published a report elsewhere.⁶) However, there the curves are more pronounced, producing quite dramatic hook effects at the peak of the stone—the stone is much harder and would be subject to weathering influences to a lesser degree. It could be tempting for some to speculate on a megalithic sub-cult to connect ancient rites of Negri Sembilan and Sabah.

The tallest stone measured was just over 6 feet from the ground to the top. The smallest was 2 feet 4 inches. Let us take a small sample of them starting with the smallest:

- Stone A:* Smallest, stands at the foot of a tree, 70 yards on the other side of a small stream in a little irrigated valley. It is the last stone visible from the road going south from Kota Kinabalu to Papar on the left (on the right, coming from Papar), at Mile 23. It is more irregular than most, slightly concave, unusually indented in the centre, domed rather than curved.
H. 2' 4".
Circumference at ground: 2' 8".
Circumference medium: 3'.
Circumference under top: 3' 2".
- Stone B:* By the side of a hut 100 yards from the bridge and 15 yards from the house of Ting Chom at Kampong Tempassak.
H. 5' 6" from the ground tapering to a rather rough top.
Circumference at ground: 4' 5".
Circumference medium: 4'.
Circumference at top: 2' 7".
Bottom half heavily rubbed, probably by buffalo.
- Stone C:* By the foot bridge at Sindoton near Kinarut. A good thick stone, tapering to a partially flattened and partially rounded top.
H. 5' 6" from the ground to top.
Circumference at ground: 5' 1".
Circumference at medium: 5' 7" (as there is a bulge).
Circumference below top: 3'.
The four rather evenly distanced faces give the effect of a parallelogram. The side faces average about 13" across and the two broader faces about 21-23", irregularly.
(See Plates 29 and 30)
- Stone D:* At mile 18, 250 yards in on the right-hand side of the road coming from Papar. Standing strikingly on a bund, in the middle of an irrigation system, with a small but distinct hook effect to one side of the domed top and considerable concavity along this side (under the hook) and corresponding convexity on the other.
H. 4' 1" from the ground.
Circumference at ground: 5' 10".
Circumference medium: 4' 8".
Circumference below top: 2' 9".
(See Plate 31)
- Stone E:* 20 yards before milestone 10 on the left coming from Papar. A fine stone, fully rounded on one side and almost flat on the other. Well situated on a bund at the edge of a small irrigation system with jungle behind.

H. 4' 9" from the ground.
 Circumference at ground: 5' 8".
 Circumference medium: 5' 8".
 Circumference below top: 2' 10".
 Flattened sides, averaging between 21" and 24" wide.

Stone F: At Kampong Meginkau out in the open behind the Roman Catholic Mission on the right coming from Papar. This stone is the furthest from the "norm" or prototype style as already described, in that it has a pronounced bulge in the centre and then tapers up rather sharply to what appears to be rounded point in one view and a slightly curved over, mildly hooked effect from the side. This is also exceptional in being away from a bund, standing in wet padi land surrounded by water. H. 4' 7" (difficult to measure at the time of inspection because surrounded by water and mud).
 Circumference at ground: 6' 5".
 Circumference medium: 6' 1".
 Circumference at 1' above medium point: 3' 6".
 Circumference under top: 1' 9".

(See Plate 32)

Although there would be multiple variations to the above measurements if we printed them for all the stones, the correct adjective would be "minor". Broad conformity comes through as the final impression. The people who placed these stones did not change or work them to produce any standard pattern. They took them and put them where they are because they conformed to a fairly recognisable sort, representing one consistent eye-view of universal suitability.

A good deal has been said about the male and female elements in megalithic symbolism by some of the wilder theorists. It is possible to regard some of the extremes at either level of the general spectrum here as being rather more "masculine" (e.g. Stone B above), or rather more "feminine" (e.g. Stone F.). But this only works well if we take the extremes, leaving us with the big central bulge of "neutral" or "hermaphrodite" menhirs, the majority. However, the point should be borne in mind, as it could have become obscured by weathering or by later trends. It needs to be especially borne in mind since the wooden substitutes for certain stone erections show a definite sex difference now to be considered.

5. Transferences and "Substitutes" for Stone, in Wood?

STONE endures where all else perishes. This produces a danger for the prehistorian. It is easy, seeing only the stone, to forget that the same human activity may very well have been conducted in other and less durable materials and this applies equally to putting up monuments in stone or to making tools out of stone in the stone age (so named for this very reason). The danger is



PLATE 29 and 30. Menhirs of Sabah average between four and six feet high. This stone at Sindoton near Kinarut has a partially rounded top and is heavily rubbed by buffalo. (Chapter V, 4, "Stone C," p. 145).

M. Chong, Sabah Museum





PLATE 31. Fine menhir stands on the bund of padi fields at Mile 18 on the left hand side of the road to Papar. (Chapter V, 4, "Stone D," p. 145).

M. Chong, Sabah Museum

PLATE 32. Large menhir near Kampong Menginkau is right in the centre of a padi field.

M. Chong, Sabah Museum





PLATE 33. 'Male' wooden figure near Kampong Tampasuk off the Papar Road, south of Kota Kinabalu, used instead of a stone monument. (Chapter V, 5 p. 147).

M. Chong, Sabah Museum



PLATE 34. Female wooden figure in Kampong Tampusuk is closely associated with property inheritance, in this case a widow with no children. (Chapter V, 5 p. 147).

M. Gore

that one does not see the wood and other material—bone, shell, clay, bark etc.—for the rocks. Therefore we must be careful not to assume that a megalithic activity is something isolated and conducted exclusively in the metaphor of rock. Moreover, it is not necessary to assume that all megalithic activity is from one source or similarly motivated.

We already know from the Kelabit uplands of Sarawak not only that stoneware jars were substitutes for stone, but that carved poles or ditches cut into the ground often were also. The stone megalith was only *one* expression of a wider view. For the Papar-Tuaran belt of Sabah, we have similar and extremely interesting indications in the use of wooden figures within the general megalithic pattern we have been discussing. These figures, of which two survive, were particularly associated with one of the main functions in megalithic usage, in this case the distribution of property by the heirless (3 (a) above). Moreover, there is an interesting distinction in the two surviving figures and the information obtained about them: they are male and female.

Both figures stood on land belonging to Kampong Tempasuk, about half a mile from Kinarut on the Kota Kinabalu side along the Papar Road. The male figure, more than 100 yards from the road, when recovered in 1965 was tilted over at an angle of 45° from the edge of a bund in the irrigated rice fields. The female figure stood nearly a mile away, in a beautiful irrigated valley (shared with an imposing stone menhir), slightly tilted over on top of a bund (see Plates 33 and 34).

Both figures are carved from the same, fairly hard wood, locally known as *tembusu*, scientifically *Fagraea cochinchinensis*. The local view is that this wood would not last more than about 50 years in the open. There are vague local memories of other figures which have disintegrated in the past. G. C. Wooley photographed one at Putatan in September 1911 which at that time looked frail, with one arm missing. This cannot be located today.

Both figures at Kinarut stood on land now belonging to a Christian Kadazan, Kemuje bin Lajumin, who helpfully cooperated in preserving them for the future. All agreed that the female figure was erected approximately 50 years ago, in favour of a widow with no children. The wooden woman 6 feet 6 inches high, wears a conical hat of the sort in common use, otherwise no clothing is shown. The sex is indicated by a small pair of breasts. The treatment of the face, and particularly the hollowing of the "eye" is unusual in Borneo wood-carving (compare the Idahan figures of Chapter III, 10 (e) and Plate 23). Quite usual, are the bands of geometric parallel lines or crossed lines below the block on which she is seated, and this treatment is more elaborately extended to the "male" figure nearer the road, identified as such by its "penis character". This "male" one has a total exposed length of 6 feet 4 inches, with circumference varying from 1 feet 8 inches to 2 feet.

Zinjanzi was the name of the widow commemorated by the female figure. She dedicated the land to Lajumin's father. When she died he arranged for the special *minagang* ceremony for the heirless, killing three buffaloes and

providing much feasting. He commissioned a then famous craftsman, Lajoman, from Kampong Maan near Penampang, to do the woodwork for the traditional fee, a bundle of padi, 10 *gantangs* (= 60 lbs) of rice, a black *sarong* cloth and a chicken. Additional payments over and above this would have been an ill omen, damaging to Lajoman's craft and this is one reason why the craft has now disappeared.⁸

As these figures are now safely in the Sabah Museum they can be more exactly studied than was possible in the field and we hope someone will do this presently.⁹ Their removal was initiated when E. J. H. Berwick, C.B.E. was the first Curator (1963-4) and involved considerable negotiations as the whole community felt implicated while admitting Lajumin's personal property right. In the end the transfer was agreed against payment of a water-buffalo, a pig and a chicken (together worth M\$230) and M\$50 in cash, provided concrete replicas were put up to replace the figures in exactly the same positions. This offer was accepted and the wooden originals were taken to Kota Kinabalu in November 1965. The Public Works Department there, first made exact wooden replicas, then concrete cast copies for erection back in the fields. The results, now to be seen in the Sabah Museum and on Kemuje's rice-fields, do great credit to craftsman Charles Jonioh and foreman Ho Cheu Hwei, working under mechanical engineer M. H. Leonard.^{10, 11}

PART C
ARTIFACTS

VI. Stone Tools¹

i. Journey into Stone

THE most enduring evidence of early man consists of stone artifacts. Stone tools survive where bone, shell, wood or anything else shaped by man has perished. In most parts of the world, including the Malay peninsula, stone tools occur in abundance. A special feature of a large part of Borneo, however, is the paucity of good workable stone. Man probably spread into Borneo from what is now mainland Asia. To reach Sabah he had to make a long journey with inadequate stone along the way. It may be that along this way he turned more and more to substitutes for stone, or to rough tools of less good rock, and to chips and fragments. Then, with Borneo finally separated from the mainland after the last Ice Age (See Chapter I, 3 above), he may have learnt no new tool-making techniques until the development of sea-going boats in the neolithic age re-established human contact with the mainland.

Be that as it may, even where, as in north-eastern Sabah, good stone is available on the surface, the comparative paucity of stone tools is surprising. Less than a hundred had been collected on the surface or from native ownership before our work began. A large number has been excavated since 1958. However, archaeological activities have so far been restricted to suit a small budget and have been largely confined to a survey of caves to assess archaeological potential rather than the undertaking of major excavations.

As already described in Chapter III, a particular feature of the east coast of Sabah is the great extent to which caves have been used as burial grounds and ritual centres since the end of the stone age up to modern times. This means that many of the caves contain large quantities of ethnological litter on the surface and in the subsurface. Naturally, it also means that there are sometimes strong local objections to disturbing the caves. The situation is complicated by the fact that many of the pagan burial places in these caves have been looted since the 14th century.

Some conclusions can be drawn from the cave deposits so far examined. Stone tools found in the open or kept as talismans by natives also throw some light on the subject.

Some of the stone tools are distinctive and even peculiar to Sabah. Such are the polished and carefully shaped stone adzes and gouges, first reported by the late I.H.N. Evans in 1913 and since excavated in archaeological sites, first in 1960 in the tiny limestone cave on Pulau Burong near Labuan (Chapter I, 1) and then in 1964 at a small cave at Tapadong on the Segama river (Chapter III, 7). Without these excavations, there was always the possibility that these delightful tools had been brought from elsewhere and esteemed as ritual

objects, and it could not be certain that they really were made and used in Sabah in the late stone age.

Polished and carefully finished stone artifacts of this sort in South-east Asia unquestionably belong to the late stone age, and, in Sabah, to the later part of the neolithic period from 2000 B.C. to perhaps 700 A.D. Although Sabah's neolithic tools have special features, as will be seen, they belong to a broad Asian tradition which certainly shows there was overseas contact and cultural interchange 4000 years or so ago.²

2. Early Stone Tool Evidence in Sabah

BEFORE examining the beautiful and skillfully made stone tools of the late stone age, the tools of the earlier, palaeolithic period must be considered. Before man began to finish, refine and eventually to polish his tools almost any piece of hard stone might have been used to kill a squirrel or smash a rhinoceros bone for its marrow or trim a gibbon's skin for clothing. When is a stone a tool and when not? A lot of intellectual energy and not a little acrimony has gone into the discussion of this among archaeologists together with the whole question of the use of tools by early man and by apes. For it has been recognised in recent years that the use of tools is not, as long claimed, a human monopoly. The orang-utan of Sabah use quite a range of inanimate objects for food gathering, nest building and defence. But they do not shape stone in any way, nor use it to make other things. It is the early human speciality to shape bone, wood and above all stone into tools capable of shaping other materials. The hardest material that can be managed is selected in order that it may be used on softer material.

The borderline between a large river pebble and a palaeolithic hammer stone can be very narrow. The difference between the two, natural pebble and tool, may only be detectible, if it is a very hard stone, by barely visible markings at one end. If the stone has been struck and broken, to give a cutting edge, then the distinction is more clear. Even so, there are circumstances under which stone breaks in the same way in nature (e.g. landslides on the steep Borneo hillsides). It is only when stone tools are strongly worked in definite styles and types that it becomes easy to be certain about them, and to identify them according to a recognised classification.

But, as has been seen, certain factors have operated in west and northern Borneo to complicate and in a way to obscure any recognisable typology of earlier times. There may also have been an evolution in the use of stone peculiar to Borneo. The great tool making traditions of the earlier phases of the stone age on the mainland do not appear to have been fully carried up the west side of Borneo and into the north. It may well be that these early Borneans evolved such great skill in the use of hard woods (so abundant in the area) and perhaps also bone, that they were able to do largely without stone.

In any case, people working their way eastwards through Sarawak, which is poor in workable stone, or through Kalimantan, might be forced to modify

their tool making techniques. They might have lost their knowledge of working adequate tools of distinct types by the time they reached accessible bedrock stone or hard pebbles in the north. It might take only one or two generations in a small, wholly food gathering, non-agricultural and, of course, illiterate, community to lose such knowledge.

If, for instance, under the earthen surface of the floor of a limestone cave, quantities of broken and "shaped" stone, extraneous to the limestone formation and incapable of having been washed in there, are found, then there are grounds for considering that the stones must have been deposited by man. If these stones are also associated with human remains and the bones (apparently broken for eating) of edible animals so mixed up that they cannot be explained as stray deaths, then the presumption that they are artifacts is strengthened. If a ridge is found where the floor of the jungle is scattered with stones which are geologically out of context and which cannot have been brought there by natural forces, then again there are grounds for considering them to be artifacts. For the *early* stone age, stoneware or even earthenware pottery cannot be expected to help in the detection of these associations.

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It is in this somewhat laborious fashion that it has been possible to build up a first impression of the early stone age in Sabah. For a number of such finds have been made in caves, one on a large scale at Agop Atas (see 3 below); and one in the open at Tomanggong Estate (see 4 below). These two, Agop Atas and Tomanggong, are the largest and among the most important discoveries of stone artifacts yet made anywhere in Borneo. Both were found in 1968. As the story is of interest, the steps which have led to the certainty that Sabah has at least a pre-neolithic period may be briefly recounted.

In 1958, Lord Medway, then Research Associate in the Sarawak Museum, made an archaeological reconnaissance of Gomantong caves (Chapter III, 2). Among the items he found were several small flake-like stones, not clearly artifacts but difficult to explain otherwise. TH. made a further visit to Gomantong in 1965 which was followed up by Michael Chong of the Sabah Museum. They obtained three flakes, which closely resembled those obtained by Lord Medway from six inches below the surface from a trial trench (see page 40) in the Gomantong complex. These latter flakes were found associated with earthenware sherds and extraneous edible shells of the riverine mollusc *Thiara variabilis* and also an early and much corroded Chinese coin which has not been successfully dated. Other flakes have been found with pottery in the Pusu Lumut cave at Tapadong and at the mouth of Samang Buat nearby (see Fig. VI/1).

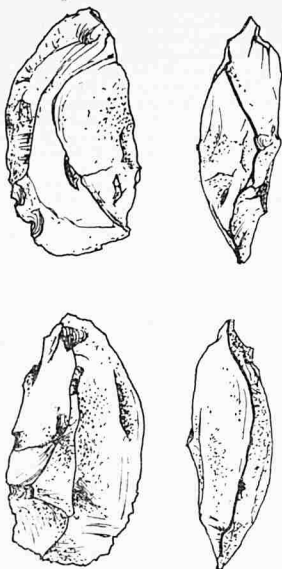


Fig. VI|1: Broken butt of tool made of green chert, found in a pottery context on the surface of Samang Buat Cave, Tapadong. (Natural size).

There was also a casual find in the Segama River in 1888, which is now in the Queensland Museum, and another at Batu Punggol, the cave far inland near Sapulut.

Another flake was excavated further south during the first reconnaissance in 1966 of Lobang Tingalan, Baturong (Chapter III, 10(d)), the only cave in the formation to show signs of stone age frequentation. Here a 2 ft by 2 ft trench

(TTO) on a slightly sloping, sheltered terrace overlooking the Binuang River produced metal-age food and burial remains down to 36 inches. The next 12 inches produced nothing, but below that food shell and bone reappeared though no earthenware. At 42 inches a large extraneous flake was found, and this was the first clear indication of early stone age human activity at Tingalan.

*TRIAL TRENCH (TTO) AT LOBANG TINGALAN,
BATURONG FORMATION, EAST SABAH*

<i>Depth in inches</i>	<i>Earthenware sherds</i>	<i>Foodshell (in nos. of fragments)</i>	<i>Foodbone</i>	<i>Extraneous Stone</i>
0-12	3	5	3	0
12-24	6	6	3	0
24-36	6	5	2	0
36-42	0	0	0	0
42-48	0	3	1	1
48-60	0	0	0	0

The stone in question (TTO 42-48") is of a very hard, banded chert, dull pink with thin, whitish veins. It is the chert abundant about the Madai formation, but not at or near Baturong. It has been struck off quite a large pebble. The top platform is the rough, weathered skin of the pebble. It shows signs of having been used for hammering (as is regularly the case with Niah chopper tools, which are rarely without strong "hammer marks" on at least one point of the remaining skin). The general shape of the tool is of a "burin", though it is heavy, uneven and relatively unfinished. Behind the point on the curved, partly skin, side, there is some secondary chipping, probably due to actual use rather than to retouching. Three more extraneous stones were found, all below 48 inches, in a further excavation at Lobang Tingalan in 1968, confirming the presence of extraneous stone without pottery at this cave.

3. Agop Atas, Madai and its Stones: Sabah's Earliest Prehistoric Date (8800 B.C.)

Agop Atas Cave is the most clearly attractive site to man in the area (see Plates 18 and 19). It is a fine place; it has good shelter and unlimited fresh, fast-flowing water within the cave, which is why the birds-nesters have built houses under the largest overhang. Up to three hundred men, women and children live here for several weeks at a time during the nest collecting seasons, twice a year in September and April. The limestone peak of Madai can be seen from afar, unlike most of the caves in eastern Sabah, which are hidden in the jungle. It is protected from surprise by a broad belt of jungle and by boulder scree. It lies above flood level. There are great numbers of swiftlets and bats, which would provide good protein for man. Outside, the volcanic soil supports an exceptionally rich flora and fauna (including elephant, wild ox, monkey, deer and pig even today, and rhinoceros until recently). It is not surprising that such qualities were attractive to early man: they are attractive to the Idahan today.

The present birds-nesters' village of Agop Atas occupies the entire terrace formed of rock, boulders and rubble under the main overhang of the cave. The posts of the crowded huts are driven right into burial remains of the past (see Chapter III, 9(a) and (b)). Legend has it that there is a separate burial chamber directly underneath the village, but its entrance is supposedly lost. As no ordinary archaeological excavation could be undertaken in the village itself until 1968, when the community no longer objected, efforts during 1966 were made to find the legendary subterranean burial ground.

(a) *The 1966 Search at Agop Atas*

The 1966 search was unsuccessful in its first objective, the subterranean burial chamber. However, a dark passage leading in the direction of the supposed chamber was found. When the seal of this passage had been removed, a ten inch deposit of iron age and other recent debris with a high content of bird and bat guano was first encountered. This deposit appeared to have drifted in mainly through a narrow opening in the ceiling of the passage, which formerly connected it with the village of Agop Atas above. Below this layer, there was a twelve inch band where the dark guano gradually changed into a grey-brown earthy deposit. This band contained some earthenware sherds and some remains of food-shell, mostly riverine. Below this the deposit became lighter in colour and archaeologically sterile until, at a depth below 48 inches, a few tiny fragments of calcinated charcoal were found. At this depth, the deposit was so hard that excavation by trowel was not possible and a hoe (*changkol*) had to be used. Below 72 inches came bedrock.

According to tradition, a narrow gap in the back wall beyond this excavated section led to the burial chamber. It was not however, possible to find this without uprooting the whole village. Nevertheless the results of the excavation were important, in that fifteen hard stones, which had apparently been worked, were found below an undisturbed sterile band, in a situation which could not possibly be metal age or recent. The Madai limestone is surrounded by hard, banded chert, quartz, andesite, sandstone and other rock types. All these appear as pebbles and fragments in the fast flowing Madai River, which at present flows into the cave at a mean level 10 feet below where the stones were excavated. The 1966 stone collection was assessed geologically by Dr. G. E. Wilford and incorporated in the Geological Survey Department collection, as follows:

1. *Chert*. Pink, red or chocolate-coloured. A few banded. About 30 specimens varying from well-rounded pebbles to angular fragments 6 inches long. Some small splinter-like fragments (J. 918B).
2. *Vein Quartz*. One fragment (J. 2918C).
3. *Calcite*. One rounded pebble formed of one crystal with well-marked cleavage (J. 29918D).
4. *Ultrabasic Rock*. Three well-rounded pebbles (J. 2918E).
5. *Andesite (late tertiary lava)*. One pebble (J. 2918F).
6. *Spilite*. Two pebbles (J. 2918G).
7. *Tuffitic Sandstone*. Slightly rounded fragment (J. 2918H).
8. *Sandstone*. Well-rounded fragment of a disc-shaped pebble. Micaceous. (J. 2818I).

Although there is a considerable variety of rock types, all could have come from the Madai area. Another, mortar-like stone (J. 2918A) is almost certainly a lava from Mostyn Estate, ten miles from Madai. In view also of the presence of fossilised bone fragments and calcinated charcoal it is clear that these stones were brought to the cave by man.

The three most advanced examples from this dark passage at Agop Atas are discussed and illustrated in Figs. VI/2-4. This account was written before the further discoveries of 1968, but may usefully be presented as it then stood:

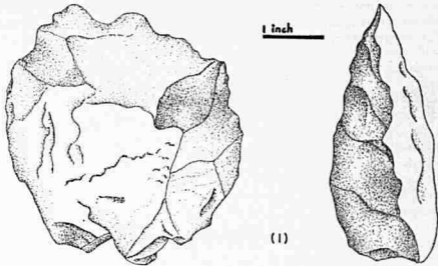


Fig. VI/2. Chert tool from Agop Atas, Madai.

- (i) This is part of a natural pebble of chert, the skin of which remains on the flatter long side—to the right in the right-hand drawing of Fig. VI/2. The rest of the pebble is flaked and chipped in a rough manner, without any of the clear and deliberate working which characterises the “classic” tools of this sort. It may be in fact no more than a core from which smaller flakes and chips have been taken. Without a series of comparable pieces from the area it would be unsafe to draw any more definite conclusion.

It may be no more than a core or accidental breakage. On the other hand it may be some sort of chopper, different from but comparable with the pebble tools found at Niah, Sarawak. This stone may be related to the “Sumatraliths”, which are generally regarded as related to the Hoabhinian stone tools of the mainland. However, the way in which the flaked and chipped back of the stone rises to something of a point on the worked side is not typical. The Hoabhinian “Sumatraliths” tend to be very flat in cross-section. The Hoabhinian

as a whole has long been regarded as mesolithic, that is between the early and late stone ages. But new research by Russian and Vietnamese scholars in Hoabhin caves near Hanoi suggests that the original French typology may be somewhat misleading. There is now a tendency to merge the palaeolithic with the mesolithic. However, in Sarawak excavations some tools comparable with "Sumatraliths" have been found in a fully neolithic context. This may well be because, where there is a shortage of stone or a weakness in stone technique, the same tools continued to be used over immense periods of time—getting broken, re-worked and even improved over millenia. This is liable to be a serious complication in following any formal typology in Borneo.

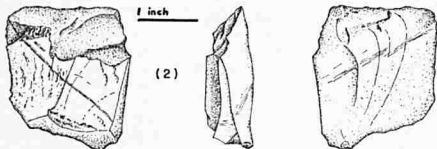


Fig. VI/3. Banded chert flake from Agop Atas, Madai.

- (ii) Fig. VI/3 shows a large flake of banded chert with a well marked bulb (top right on right-hand drawing of flake) caused by percussion. A natural, chocolate-coloured vein runs across the stone (left to right in left-hand drawing).

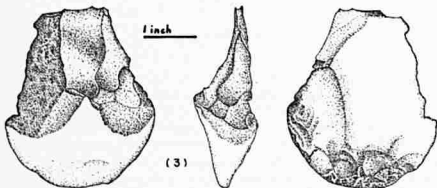


Fig. VI/4. Small pink chert tool from Agop Atas, Madai.

- (iii) Fig. VI/4 shows a smallish pebble of pink chert that has been split and carefully worked to produce a flat end, tapering to quite a narrow blade. Part of the natural skin remains on the rounded top side as a sort of grip point (lower end of left hand drawing). The obverse has been worked on the top side as an alternative cutting edge; stronger, wider and less fine.

(b) *The 1968 Excavation at Agop Atas*

Any uncertainty about the 1966 results was dispelled when we returned to the cave in February 1968. This time it proved possible to penetrate deeper, with active local co-operation, and so, for the first time in Sabah, to identify unquestionably as artifacts large numbers of stones *in situ*. Whereas in 1966 local feeling had made it inadvisable to excavate under the birds-nesters' huts, by 1968 the Madai people were familiar with our methods and were confident that the work would not provoke any hostile supernatural manifestations. It was most useful that Johan bin Bognor, the leader of all birds-nesters in the area, had been taken to visit the Niah excavations in Sarawak, so that he now understood what was involved. Consequently, in 1968, it was possible to excavate directly downwards. Here, between 24 and 36 inches down, the deposit is highly impregnated and stiffened with lime which has formed a sort of seal under the late neolithic and iron-age layers (see details of stratification in Chapter III, 9(b)). This seal could only have formed over a considerable period and at a time when the cave floor was not being disturbed by human frequentation. The inference seems to be that centuries elapsed between the formation of the lower level and that of the upper: an inference supported by the fact that nothing below the seal revealed any trace of late stone age material: there is no polished stone, no metal, no imported stoneware, and no soft earthenware of local manufacture, all of which are so characteristic of the later human phases everywhere else in this part of the world. Everything under the seal indicated something earlier and culturally rougher. A radio-carbon date of about 8800 B.C. was obtained for material below the seal (see discussion in (c) below). From the seal right down to 60 inches and beyond, there are many thousands of pieces of worked stone. They are associated and completely intermixed with quantities of animal bone and shell, which could not have got there naturally. This bone and shell has been fractured and was heavily carbonised or mineralised or both. We, ourselves, provisionally identified the following: Sumatran Rhinoceros (see also Chapter III, 10(d)—Lobang Ting-alan), Sambhur Deer, Barking Deer, Wild Ox, Wild Pig, Gibbon and Monkey of various species. This is the kind of assemblage found at pre-neolithic levels at the Niah caves, except that Agop Atas produced a striking number of large fragments from antlers. Antlers are generally uncommon in Borneo excavations. The food-shell is mainly riverine, principally *Thiara* and *Clea*, both of which are found in the Madai River. Some estuarine species, such as *Unio* and *Cyrena*, were also found. Marine shells were found only in the upper levels above the seal, not in the earlier stone age deposit.

What makes the site exciting is the great abundance of extraneous stone. This is the first time that what is obviously a stone age "workshop" has been identified in Borneo. The material was so rich that 150 cubic feet of excavated deposit produced nearly half a ton of extraneous stone. The excavations would have to be considerably extended before distinctions of quality and style of workmanship, between the top and bottom of the deposit could be drawn with confidence. The overall impression, however, is one of uniformity rather than of diversity. Some three quarters of the stones may be chips or fragments or large unworked pebbles. If it is correct that this was a workshop, many finished stones would have been taken away leaving a higher proportion of debris, than would have been the case with an ordinary frequentation deposit. It may be therefore that none of the artifacts recovered are perfect examples of stone tool-making at Madai. Nevertheless, they prove that stone tools were made in Sabah well before the neolithic period.

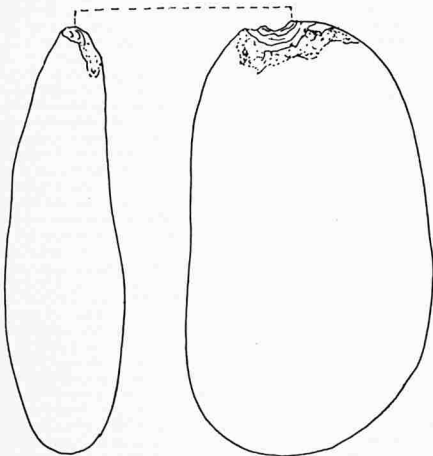


Fig. VI|5: Pebble "Hammer" from Agop Atas, Madai. (Natural size).

Most of the stones are rough flakes or chips off larger blocks, averaging between $1\frac{1}{2}$ and $2\frac{1}{2}$ inches long. There are big unworked pebbles as much as six inches across and weighing several pounds, which would have been used as hammers or anvils. As with the subterranean side channel, already described, the greater part of the stone is a reddish chert, which occurs in the river in the immediate vicinity. Dr. Wilford examined a large sample of the 1968 material and found that 99% was of this red chert. There was also a little black chert and a few buff or pale brown pieces. Eleven stones of other material, all occurring within a short distance of the cave and available in local stream beds, were also identified, as follows:

<i>Depth layer in inches</i>	<i>Stone material identified:</i>
24-30	one well-rounded pebble of gabbro, two well-rounded pebbles of iron-rich basalt.
30-36	one pebble of vein quartz, one pebble of gabbro.
36-42	one pebble of vein quartz, one pebble of hard red mudstone, (haematite, probably from inside the cave), one well-rounded pebble of black quartzite, one flake of green basaltic tuff, one piece of green andesitic tuff.
42-48	one piece of ferrous-impregnated fossiliferous tuffite.

From the large sample examined by Dr. Wilford, a hundred specimens were selected and taken to Manila and studied in connection with Dr. Fox's cave excavations on Palawan Island. The results are given in Section 5 below. A small selection was then taken to the United States and examined by leading authorities at Cornell and Harvard Universities and in California.⁴ The stones were drawn at Cornell by Miss Selene Fung (see Figs. VI/5-18).

The consensus of the views supports our own initial conclusions: the stones are without doubt artifacts. Many do not show evidence, such as chipping or notching along working edges, of having been used, but some do. Except that it was rough, the basic technique of working the stone remains uncertain. Perhaps simple "smashing" was involved. However, some of the examples show evidence of percussion flaking, that is striking one stone with another to get a deep fracture. Many show no signs of having been re-worked or refined, but this might be because they are workshop discards. A number show distinct signs of retouching and improvement of the edges by the method known as pressure flaking. This method has been described by Dr. William

Howells, one of the experts who examined the stones at Harvard, in his "Back of History", as follows:

"Instead of a small chip being struck off the flake by a blow, it was pressed off with a small bone tool in some way, which would produce no shattering effect and made it possible to apply just the same pressure for every chip at exactly the place wanted. So for giving final shape to an implement, it was something like using a pen-knife for whittling in place of trying to whittle with an axehead.

The raw flakes struck from the core were used like a key maker's blanks to make all the other kinds of tools needed, by this pressure retouching. You might want a knife; you would hardly use the sharp untrimmed blade because you would be as likely to cut your fingers as your chop. So you would dull one edge simply by bruising and blunting it. The working edge, also, would be too sharp, being likely to nick and break down, to say nothing of leaving little chips in the food. So you strengthened it by working it back with pressure retouching, which thickened the edge while still leaving it quite sharp enough to be efficient. A deliberate duller and steeper edge gave a scraping tool, for cleaning the flesh away from the inside of an animal's hide with less danger of accidentally cutting through the hide itself, and so spoiling it. An easier scraper to use was an end scraper, from a flake with blunted sides and a rounded, steeply flaked end [compare Fig. VI, 1]. A spearpoint was made by retouching both edges and bringing them to a point, re-shaping the tool as much as necessary."

(Howells, 1963: 96-97.)

Pressure flaking reached its peak late in the Pleistocene period, that is the later part of the early stone age. This accords with the dates obtained for the Agop Atas tools.

Archaeologists classify stone tools by style and by function. The present material is still insufficient for such a classification in Sabah. It is possible so to classify certain single artifacts, but taking the assemblage as a whole, there is no clear pattern.

Two of the archaeologists who examined the Agop Atas tools thought they were possibly "Clactonian", that is, very early in the middle Pleistocene period. A third emphasized "step-flaking" as a special feature not noticed by the others. A fourth saw a relationship with some early tools from East Africa. None felt certain: but this is not surprising as the stones were so different from the standard sequences so well-established in the west. To quote Howells once more:

"Tools appeared in the Far East about the same time as the Abbevillian of the West, but not in the form of a hand axe, in China, Burma, Malaya and Java. The earliest are Chinese (those of Pekin Man), in the form of a largish pebble tool. The general type of implement from the whole Far East is related to this, being a fair-sized chopper having one edge flaked along one side and constituting something quite distinct from the two-faced hand axe of the West. There were some local variations on this, owing in part to the kind of stone used (in Burma the choppers or cleavers were made of petrified wood). There were also some flake tools. But the whole area stands independent of the West, with a boundary in India. Furthermore, it seems to have taken a late start, and to have lagged behind in developments, as did South Africa from this time on".

Two of the large Agop Atas stones could be called "chopper tools", but may equally be cores—stones from which flakes have been struck leaving an unworked residue (see Figs. VI/6-7). Many flakes show the "bulb of percussion" (see Figs. VI/8-12 and Plate 39). One (Fig. VI/5) is a large unbroken pebble with percussion marks at one end. This may have been used in the percussion flaking process, though it is rather high in the deposit.

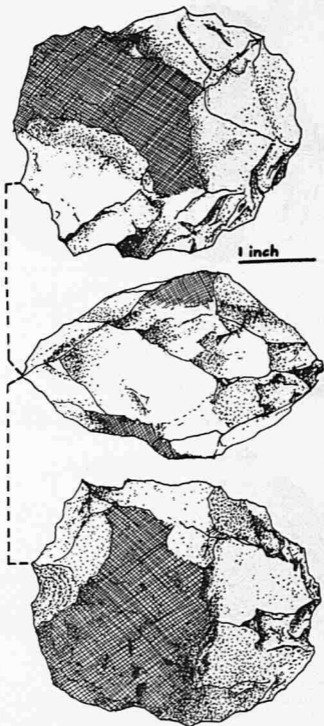


Fig. VI|6: Chopper tool or core, from Agop Atas, Madai.

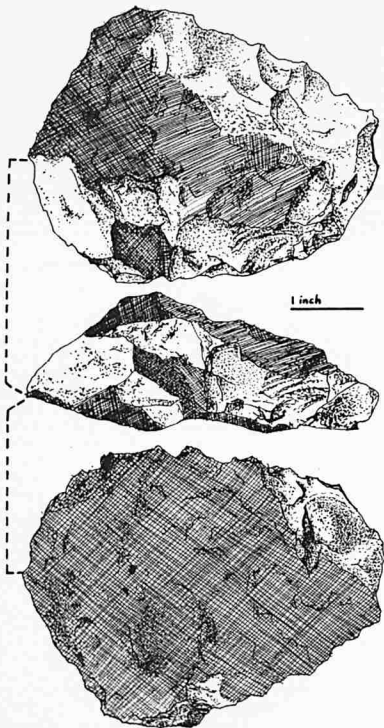


Fig. VI/7: Chopper tool or core, from Agop Atas, Madai.

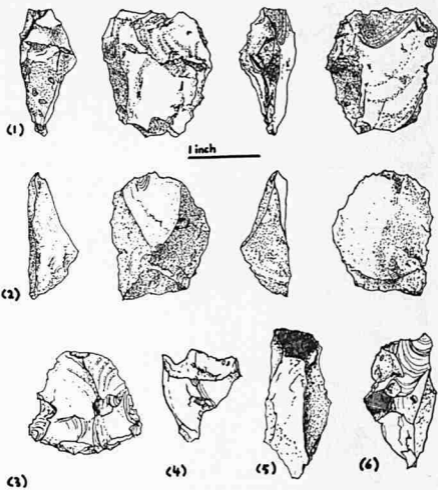


Fig. VI|8: Six flakes from Agop Atas, Madai, with pronounced bulbs of percussion.

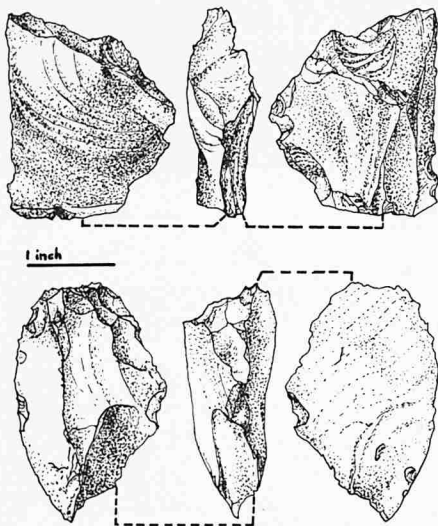


Fig. VI/9: Two larger flakes with pronounced bulbs of percussion from 42' level, Agop Atas, Madai.

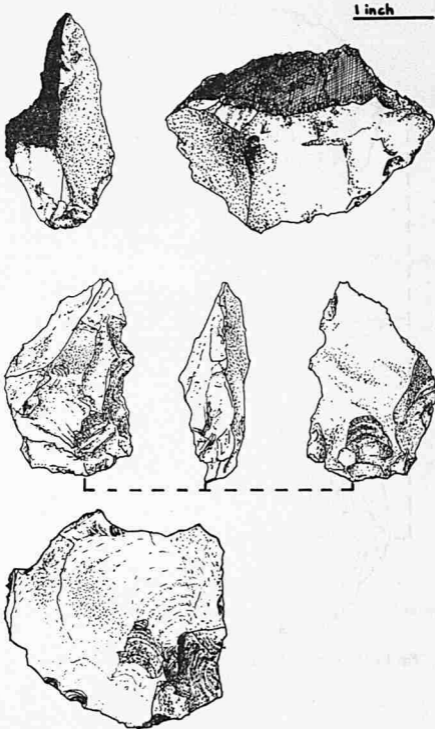
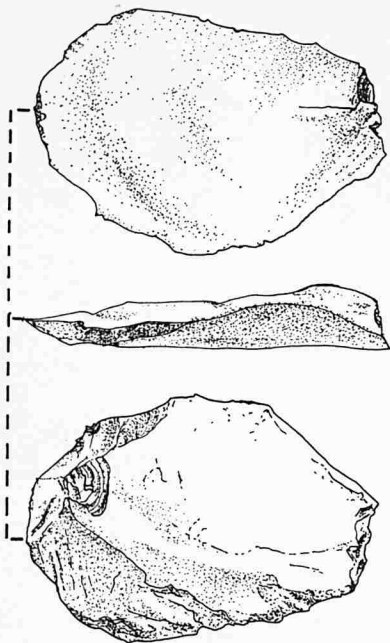


Fig. VI|10: Four large, well-shaped flakes from Agop Atas, Madai.



*Fig. VI|11: Large, well-shaped, deep flake from Agop Atas, Madai.
(Natural size).*

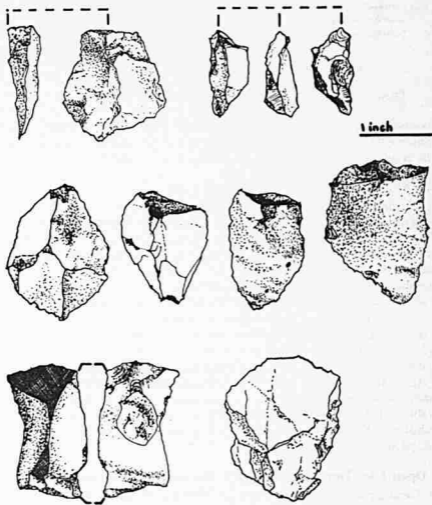


Fig. VI|12: Eight rough flakes of various sizes from Agop Atas, Madai.

A cross-section of Agop Atas stones is listed below:

<i>Approximate "Type"</i>	<i>inch-depth</i>	<i>Code-number in layer</i>	<i>Reference text figure</i>
(i) "Hammer"	24	1	VI/5
(ii) Choppers or Cores	36	1	VI/6
(iii) "Flakes"	36	2	VI/7
with pronounced	30	1-6	VI/8
bulbs of percussion. Large, well shaped	42	1-2	VI/9
	30	9	} VI/10
	42	3-4	
	48	1	
	54	1	VI/11
Rough, of various sizes	eight examples from all depths		VI/12

To summarise, the Agop Atas stones may be described as late survivals of primitive techniques, modified by Borneo conditions, geology and technology. The result is a multitude of forms, seldom very distinct.

(c) *The Date for Agop Atas: 10,800 years B.P.*⁵

A sample of food-shell from a depth of 54-60 inches was tested by the radio carbon C-14 method at the Isotopic Laboratory Institute of Geophysics, University of California, through the courtesy of Dr. Libby and the laboratory's director, Dr. R. Berger. The result was 10,800 years B.P. (Before Present) plus 100 and minus 2000 years. The plus and minus figures express margins of error. Normally, a sample of this sort would have a margin of error of about 100 years either way. In the present case, the only material available was shell of the genera *Clea* and *Thiara*. As freshwater shells are more liable to contamination than other material, the margin of error of minus 2000 years had to be quoted. The important fact, however, is that the shell was 8,000 to 10,000 years old, that is, between 6800 B.C. and 8800 B.C. Thus, on the basis of Agop Atas, the many other flake finds and the open site at Tomanggong Estate, about to be described, a pre-neolithic period in Sabah is clearly established. This is an important step forward in the reconstruction of Sabah's prehistory. (See also previously, the Tapadong date c. 8,000 B.C. in Chapter III, 7(f)).

4. Open Site, Tomanggong Estate, Lower Segama⁶

AT Tomanggong Estate there is the only known open stone age site in Borneo. It has considerable promise for the further illumination of the island's prehistory. Stones, which can hardly have got where they were naturally, are scattered over a wide area. Some of them are unquestionably artifacts. They were first found during 1968. Investigations are still continuing at the time of writing. It can be said however that the Tomanggong stone tools confirm the tentative conclusions drawn from the Agop Atas excavations.

Large scale plantation development on the lower reaches of the Segama River, well below Tapadong (Chapter III, 7) has necessarily involved road

construction and jungle clearing. The southerly extension of an earth road from the Tomanggong Estate factory revealed a number of stones in an otherwise soft soil. They were so placed and arranged in a setting of alluvial clay and sand, away from any naturally occurring hard stone, that it is not conceivable that they were a natural occurrence.

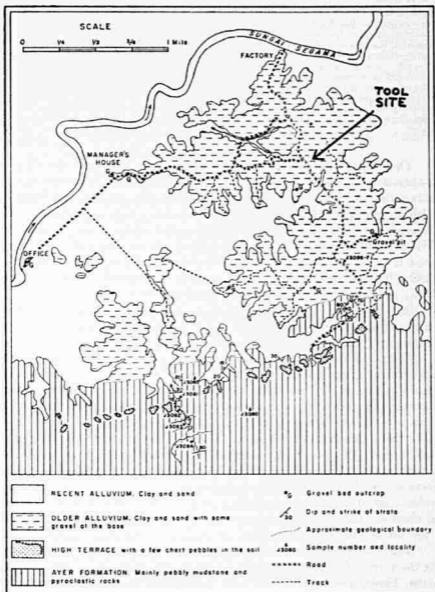


Fig. VI|13: Geological sketch map of Tomanggong Estate, Lower Segama.

As a good supply of hard stone was required for road and building construction, the Geological Survey studied the distribution of these stones in the hope of finding such a supply. The following is an extract from their report:

"These stones occur at a fairly uniform depth of about 2 ft. in the clayey soil on the summits and upper slopes of dissected terraced hills which rise to a uniform height of about 50 ft. above the level of more recent alluvium. . . . Along the single road examined, the "flakes" appear to have been haphazardly scattered, a 50-foot long road cut revealing an average of about 10 flakes in the undisturbed soil profile. No evidence was seen to suggest that they were more common in one area than another although one of the surveyors working on the Estate mentioned the presence of a concentration of flakes at a locality (not visited) off the road. The relative uniform depth of the flakes in the soil can be explained by downward percolation from the surface due to organic activity, and especially to falling trees up-rooting soil. The chert flakes could be of local origin. Chert-bearing gravel is present at several localities near the base of the hills on which the flakes have been found. However, this gravel is predominantly red chert and the pebbles are less rounded than those from which the flakes have been made. An alternative and perhaps more likely source are scattered larger well-rounded, predominantly white chert pebbles found associated with a high terrace near the southern boundary of the Estate".

(S.S.G. 102-24.)

This occurrence was brought to our notice and illustrates the value of co-operation between surveyor, geologist and archaeologist which has happily characterised all this activity in Sabah ever since the first significant find on Pulau Burong (Chapter IV, 1). Finding open sites is largely a matter of luck. Archaeologists will naturally search in caves and certain other places which obviously had advantages for man in the past. In a country of tropical rain forest it is very difficult for the archaeologist to know where to begin to search. In fact, despite similar co-operation in Sarawak and Brunei over twenty years, no such open site has been found there.

Individual tools, usually neolithic, have been found in the open before, some of them in Sabah (as detailed in the following sections). However, Tomanggong was something both earlier and more extensive.

There is a natural temptation to relate these open site artifacts to the concentrated material found at Madai. This is especially so in view of the possibility that most of the Madai stones are discards and rejects, whereas the Tomanggong specimens are so scattered and formed as to suggest the remains of an encampment rather than a concentrated workshop. The stone looks unlike that at Madai in that most of it is pale yellow or even white. But, as at Madai, nearly all of it is chert, and part of the pale effect is, according to the geologists, due to weathering in the open and in the ground. While most pieces are of whitish to orange-coloured chert (Geological collection, samples J30686), about one in ten are pink to red. Some of these are very close to the chert at Madai (e.g. the chopper tool in Fig. VI/16 and Plate 35 below). A few are of grey chert and there was one piece of fractured veined quartz.

Nearly all the stones recovered are between one and four inches long, but there are a few rough pieces of chert up to 7 inches long and 4 inches across. These, however, have not been finished and may have been used for striking. None of this is to suggest that there is a direct association between Tomanggong and Madai. Although the two places may not look far apart on

the map, it must be a good week's walking from one to the other. To go by water requires sea-going boats, which have never been attributed to the pre-neolithic period in this part of the world. Rather, the Agop Atas cave material and that from the open site at Tomanggong are two separate examples of fairly early tool making in an area rich in hard stone compared with Brunei and Sarawak.

Apart from the pale colour of the Tomanggong stone, there is one other notable and possible significant difference between Madai and Tomanggong. A high proportion of the Tomanggong stones are evidently made from fairly small pebbles, and so worked that a good deal of the pebble skin remains. This is also a characteristic of the early stone-age chopper tools from Niah. On the other hand, at least one of the Tomanggong tools has been elaborately worked into a form which has eliminated the skin. The procedure adopted for the study of these stones was the same as for Madai, that is sorting and study in Sabah, further inspection and discussion in Manila with Dr. Fox and others, and examination of selected pieces by experts in the U.S.A.

The results of this study may be summarised as follows:

- (1) The Tomanggong stones are artifacts.
- (2) They include the simple forms as at Agop Atas, though with fewer absolutely crude fragments and more that are more carefully worked.
- (3) The lack of typing and range of form suggests that the same stone was used for many different purposes.
- (4) The date may be about the same as for Agop Atas though there is no evidence to support this, and it could be much earlier. It is unlikely to be much later.
- (5) As at Agop Atas, there are retouched edges and use-marks and signs of both percussion and pressure flaking.

Ten examples are illustrated. (See Plates 35, 38 and 39 which complement the line drawings in the accompanying Figs. VI/14-18.)

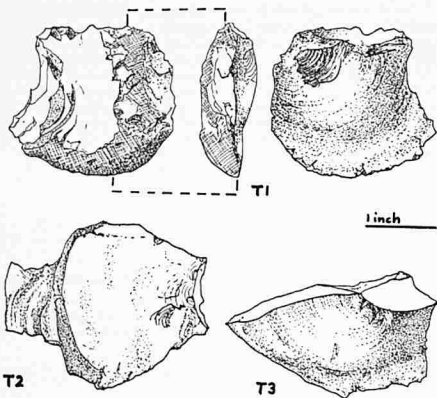


Fig. VI/14: Three finely worked early stone age tools from the open site on Tomanggong Estate, Lower Segama.

T₁—A nicely finished form, which could be described as a scraper: a large flake has been knocked off the core, then retouched; the big bulb of percussion and vestiges of a striking platform can be seen on the side view drawing. (The cross-hatched areas indicate natural skin of the pebble remaining.)

T₂—A rather thin flake, with a turtle-neck effect; perhaps a casual product of striking a core.

T₃—Quite daintily worked into a sort of flake-knife, a good tool.

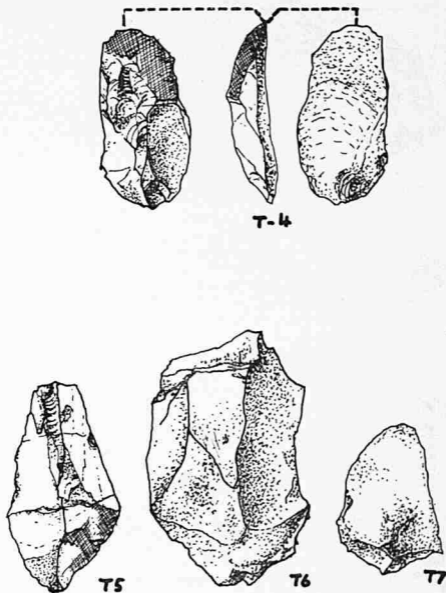


Fig. VI/15: Four rougher flakes from the open site on Tomanggong Estate, Lower Segama.

These four flakes numbered T4-T7 are illustrated at natural size.

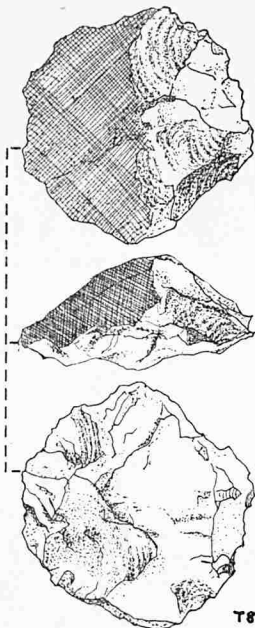


Fig. VI|16: A larger finely worked tool from the open site on Tomanggong Estate, Lower Segama.

T8—Approximating to a chopper tool, or even a Sumatralith, or core, but with a markedly formed monofacial cutting edge reminiscent of the larger tools excavated at Niah in Sarawak. Much of the skin is characteristically intact (cf. Howells, 1963:69 on this aspect, quoted above). This is of pink chert, much like that of Agop Atas, Madai. Natural size.

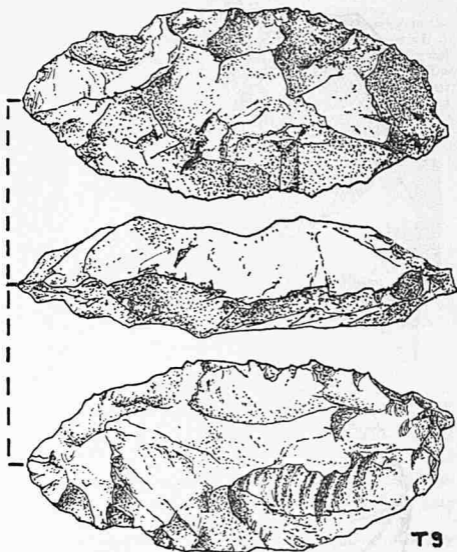


Fig. VI/17: The most completely finished pre-neolithic tool from Sabah, perhaps definable as a "chopper", from the open site on Tomanggong Estate, Lower Segama.

T9—From a smallish core a large flake has been completely worked on both sides, and the edges further carefully retouched to give a highly effective (skinless) tool. This is the one tool one feels was made to a definite standard of desired shape and style. Natural size.

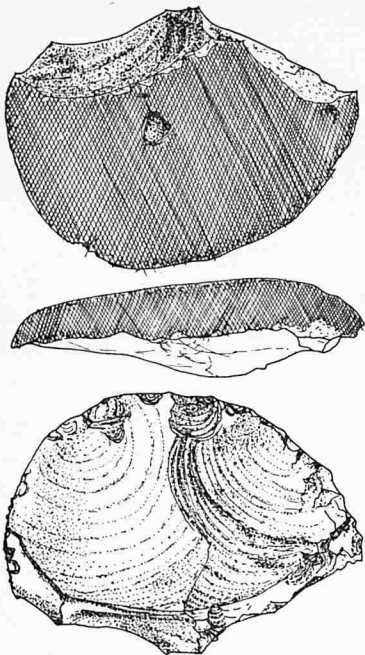


Fig. VI/18: Part of a deliberately smashed flat pebble from the open site on Tomangong Estate, Lower Segama.

T10—This large sharp flake could have been used as a knife or scraper since it is quite sharp. Natural size.

5. Early Sabah Stone Tools compared with Palawan and New Guinea

(a) Palawan

Palawan in the Philippines and Borneo were joined together in the Pleistocene era, that is within the time span of human evolution (Chapter I, 2). Both Palawan and Sabah have an abundance of hard stone suitable for tool making, notably cherts, whereas in Sarawak such stone is very sparse. It is therefore not surprising that Sabah stone tools have characteristics similar to those of stone tools excavated from Palawan caves by Dr. Robert Fox and his colleagues of the National Museum, Manila.⁷



Fig. VI/19: Palaeolithic flake of chert from Tabun Cave, Palawan, Philippines. (Natural size.)

A close parallel to Sabah tools from Madai cave and Tomangong open site. Natural size. Compare especially Figs. VI/8 (2-3) and VI/11 at pp. 163 and 166. Reproduction by courtesy of Dr. R. Fox, National Museum, Manila.

The characteristics common to both may be summarised as follows:

- (i) There are no "prepared cores" of the kind common in many palaeolithic areas.
- (ii) Stones are worked in a less orderly way than usual. Few are carefully trimmed off.
- (iii) Thus, recurring shapes and a definite typology of tools are absent.
- (iv) Indeed, the stones may be almost any shape permitted by the stone's cleavage and other qualities.
- (v) Any sufficiently large surface may be used as a striking platform and any piece of stone made into one or more tools.
- (vi) Worked faces that have been used may be reworked to sharpen the tool, though not to produce a formal shape.

- (vii) Consequently, the range of forms is enormous.
- (viii) There is no long series of tools and often not even a significant similarity within a group at any one time-space location.
- (ix) Such tools continued to be made over a very long period.
- (x) Such informal artifacts have been found dating from very early in the palaeolithic period (before 38000 B.C. in Palawan) up to the start of the late stone age and even later.
- (xi) The middle stone age is obscured and cannot be identified by distinctive stone tools (cf. Chapters II, 2 and IV, 2 above).
- (xii) Further study may show that before the neolithic period, there were changes of style with time, as is suggested in the comparison of Tomanggong with Agop Atas. The statistical analysis of a whole series from one site (like Tabun Cave in Palawan) and its comparison with others is required for this.
- (xiii) The neolithic period saw a drastic change in tool typology, clearly influenced from outside, with a rapid transition to the metal age in a much shorter and more dynamic phase than that of the pre-neolithic stone craftsmanship.

(b) *New Guinea*

Dr. Richard Shutler, who helped considerably in the preceding analysis and has an exceptional knowledge of Pacific pre-history as a whole, has drawn our attention to some stone tools from an open site in southern New Guinea, which are at present being studied by him. They are as yet undated and an account of them is to be published.

There is a striking resemblance between the peaked "flake-chopper" tools from Tomanggong (already illustrated at Fig. VI/17, T. 9) and of the New Guinea examples. There is also a resemblance, though less close, between our "chopper/core" (Fig. VI/16, T. 8) and a better-worked, bifacial tool in Dr. Shutler's series. There are also affinities between large flakes from Agop Atas and New Guinea examples.

This is not the place to digress more widely on Sabah stone-tool comparisons. The reference to New Guinea is made in passing, as worth thinking about, and to correct any impression that the only parallels may be with Palawan.

6. Late Stone Age Tools: Polished Adzes, especially "Trapezoidals"

THE MUCH more sophisticated polished tools of the late stone age provide clearer evidence for Sabah's prehistory than the earlier material. The material also has the advantage of being consistent. In fact, the typology of neolithic tools for Sabah is in some ways simpler and more consistent than for other parts of Borneo and much of South-east Asia. It is also remarkable that not a

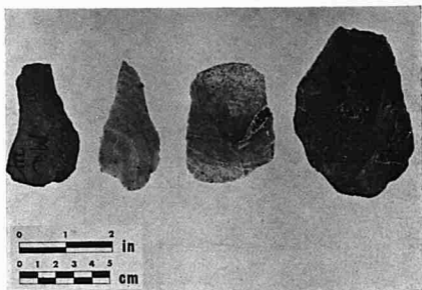
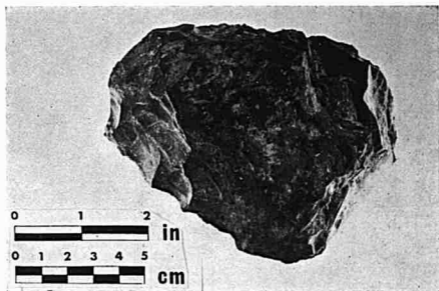


PLATE 35. Worked pebbles and rough flakes showing 'bulbs' of percussion from the Madai Caves and the open site at Tomanggong Estate indicate an early stone age predilection for making rough tools with unworked residual surfaces. (Compare with Text Figures in Chapter VI, 3 and 4). *V. Lieft*



PLATES 36. Chopper tool from Agop Atas cave, Madai where Sabah's earliest prehistoric date of 8,800 B.C. has been proved. The chopper above complements Figure VI/7 in Chapter VI, 3(b) p. 162. *V. Lieft*

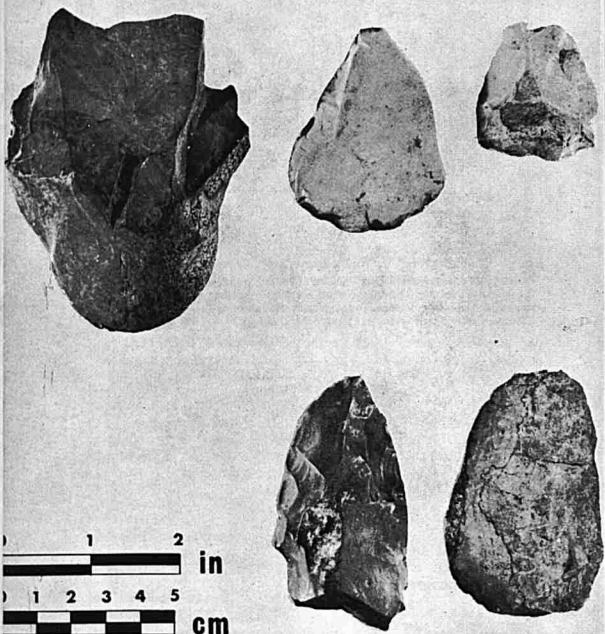


PLATE 37. Same as for Plate 36. The tools above can be further compared with Figures VI/8-12 in Chapter VI, 3(b) p. 163-167.

V. Licht

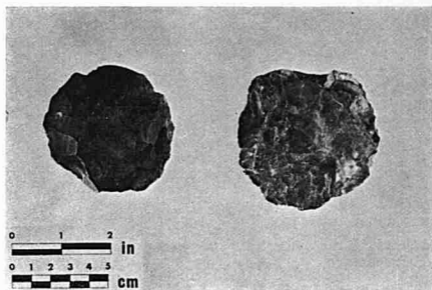


PLATE 38. Chopper tools or cores of chert found while road construction was taking place on Tomanggong Estate, Lower Segama. These were amongst many other well preserved tools found in this important open site so far unique in Borneo. (Chapter VI, 4 p. 174 particularly Figure VI/16). *V. Lieht*

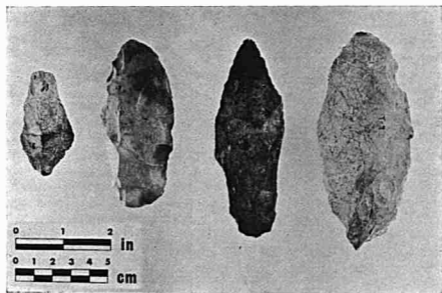


PLATE 39. Fine pre-neolithic scrapers from the open site at Tomanggong Estate. The stone tool (extreme right) is the most completely finished example from Borneo of a 'scraper-chopper'. (See Figure VI/17 and Chapter VI, 4 p. 175). *V. Lieht*

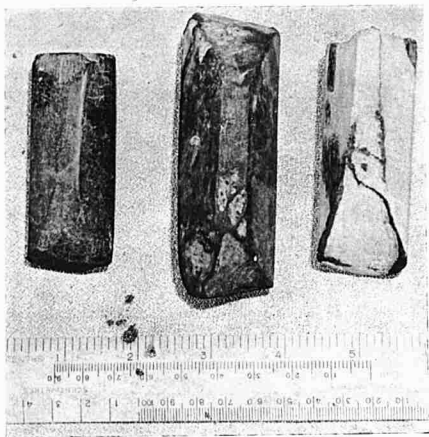


PLATE 40. Perfect polished adzes and a gouge (extreme right) excavated from a late stone age burial at Pusu Lumut, Tapadong on the Segama River. (Chapter VI, 6 p. 180).

R. Goh, Sabah Museum



PLATE 41. Small trapezoidal adze from Pusu Lumut, now in the Sabah Museum, made from the same stone occurring further up the Segama River as those in the I.H.N. Evans collection in the Sedgwick Museum, Cambridge, England. (Chapter VI, 6 p. 180).

R. Goh, Sabah Museum

single example has yet been found in Sabah of the so-called "quadrangular axe", the commonest and most widespread stone tool in South East Asia and one that is generally regarded as characteristic of the whole period.

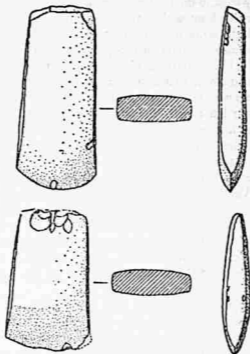


Fig. VI/20: *Quadrangular axes from Baling, Kedah (upper) (natural size), and from S. Tembeling, Pahang (lower) (half size).*

Fifty-one years ago, the Royal Anthropological Institute published a report by the late I.H.N. Evans on a collection of stone artifacts purchased from Bajau and Illanun Mohammedans on the Tempassuk River up to Kota Belud, ten miles inland from the north-west coast of Sabah.⁹ These were either functional hard adzes, chisels and gouges of hornstone and basalt, often brightly coloured; or "soft tools", probably used for burials, made from clay-stone—in which last respect they are related to many tools later collected from native sources further south in Brunei, Sarawak and Kalimantan (see 11 below). The Evans collection, which was divided between the University Museum of Archaeology and Ethnology at Cambridge and the Raffles (now National) Museum in Singapore, has until recently remained unique for northern Borneo. It includes a nice series of rather small, squat, highly polished adzes of the form Dr. van Heekeren has lately called "roof-shaped", but perhaps better described as 'trapezoidal'—a clearer adjective; a roof normally has a sharp ridged top and these artifacts do not.¹⁰

Such trapezoidal adzes have a relatively wide, flat lower surface. The upper surface rises evenly from both sides at an angle of less than 45° (usually much less) to a well-marked central flattened 'ridge' up to $\frac{1}{2}$ inch (usually $\frac{1}{4}$ inch) wide. This flattened ridge is the distinctive feature of the type; it either runs evenly back to the butt or tapers slightly in width. However, some of these attractive looking tools have been much re-worked and reduced, obscuring this effect. In one instance, there is a central 'waist' effect along the ridge, as there is also in some distantly related Polynesian material. The working face is flat, finely polished, with a straight forward edge running right across the base, and sloping back at an angle of 25° or less, to form a near-triangle with open apex (the forward end of the ridge). The butt is commonly either cut off flat or left rough—in sharp contrast to the finish elsewhere on the tool. The length is seldom more than twice the width, often much less.

The general effect is of an artifact significantly and consistently different in technique and tradition from the familiar quadrangular adzes, round axes and stepped adzes which dominate the region but which have not yet been found in Sabah. Van Heekeren recognises this type from East Java, Bali, the Moluccas, Ambon and Ceram: that is south-east and south of Sabah. Chisel-form variants, also found by Evans near Kota Belud, occur in the Philippines as far north as Luzon and are common on Palawan (13 below), while there are at least superficially related tools in east Polynesia, dominant in Samoa, sparingly on Pitcairn and the South Island of New Zealand. Anything very similar has yet to be found in Sarawak.¹¹

In September 1964 excavations were made at the Pusu Lumut Cave, Tapadong (Chapter III, 7(f)), on the upper reaches of the Segama River. Below sterile guano and leaf dust, nine perfect adzes, one gouge and many fragments associated with a few metal items and distinctive native earthenware were recovered. There was no porcelain, stoneware or glass; no signs of habitation, food-shell or food-bone: in brief, a burial cave of the late stone age and early metal age (with an underlying fragmentary earlier element). (See Plates 40 and 41.)

The Pusu Lumut adzes are similar to those of the Evans' collection, and are often of the same stone, which occurs naturally a little further up the Segama River; but they are comparable with the smaller size-range of Evans' material:

	<i>Length × width (max. in mm)</i>	
	<i>Evans Collection (8 perfect)</i>	<i>Pusu Lumut Finds (9 perfect)</i>
Longest	73 × 44	68 × 21
'squarest'	58 × 40	42 × 31
shortest	52 × 32	35 × 25
approximate median	65 × 41	42 × 31

The smaller Pusu Lumut adzes are probably no more than a local variant. One of them is distinctly waisted and shows signs of having been lashed into a

haft—so, clearly, it was a used tool. The grooves cut deeply into the sides and are up to 8 mm wide. The whole tool is 41×32 mm and it was excavated at 18 inches.

Apart from usefulness, native peoples value and keep the larger artifacts, which almost throughout Borneo are considered to be thunderbolts. They are esteemed for a wide range of mystical uses: notably for protection against smallpox, as fertilizer for crops, and worn strapped to the waist, for invulnerability in battle. There is clear evidence that other east Sabah caves have been looted over the last five centuries and that stone tools were amongst items taken and traded. It is also possible that smaller, broken or worn tools were especially selected as burial furniture.

It must be noted here that the single small trapezoidal adze (44×33 mm) excavated on Pulau Burong in 1960 fits, stylistically and geologically, the Pusu Lumut series. This stone age burial site was also characterised by painted and incised earthenware (Chapters IV.i. VII, 3(ii) and Fig. IV/3). It is remarkable that not one of these Sabah stone tools is an axe. The monofacial adze is the commonest form, the gouge next.

7. Gouges (Plate 40).

THE GOUGE found at Pusu Lumut was excavated from 11 inches. It is similar to the longer trapezoidal adzes, with the same upper body and roof. However, instead of being flat with a triangular forward face and corresponding flat under-surface, it is curved to give a concave gouging effect for scooping and scouring. Some of the material purchased by Evans from natives around Kota Belud is comparable, for instance:

Evans (i)— 91×35 mm; butt irregular, partly worked.

Evans (ii)— 81×32 mm; butt showing secondary breaks.

Tapadong— 76×32 mm; butt worked flat.

These gouges are much longer and more rounded, almost cigar-shaped and thus very distinctive. In 1947, a magnificent piece was obtained for the Sarawak Museum from Tagal Muruts near Merapok, 10 miles behind Brunei Bay. This (No. 3086) measures 10.1×1.35 inches and is illustrated here, reduced in size.

These gouges are particularly suitable tools for boat building. But some of them are in quite soft stone and could have had ritual, perhaps of phallic significance. Similar phallic pebbles occur in the upper neolithic levels at the Niah Caves.¹²

Both the gouges and trapezoidal adzes are so nicely finished that one finds it a little difficult to visualise them being used functionally in the everyday life of the late stone age. Moreover, at Pusu Lumut, they occur in association with both bronze and early iron. On the other hand the gouges are frequently broken and sometimes re-worked, which suggests they did get real use. Except for easy breakage, they present minimum handling and hafting problems.

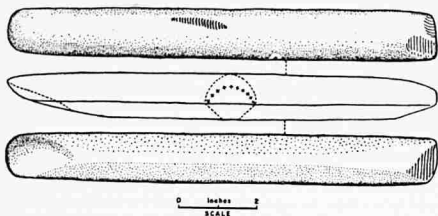


Fig. VI/21. Elongate gouge from Merapok, 10 miles inland from Brunei Bay.

In October 1967, when land was being cleared at Rumidi Estate on the Labuk River, Michael Chong found, for the first time in an open site, one of the long gouges.¹³ The gouge is very like the Evans and Tapadong examples, though more beautiful than any seen before. It is of green, pink and reddish chert, rather similar to that of some of the Pusu Lumut adzes. The flat top is narrow, the curved blade wide and slightly chipped on one side; length 3.85 inches, width 1.4 inches. It has been worked at the butt end, like the Pusu Lumut one. Its associations suggest an early iron age date. The site was probably a small burial ground, though, owing to disturbance of the soil, this can no longer be ascertained. A number of other items was found in the vicinity of the hillock where the gouge was found. They are now in the Sabah Museum and include:

- one large stone bark-beater;
- some other extraneous stones, including one with a hole;
- six pieces of iron slag;
- large quantities of coarse earthenware sherds;
- one plain, indistinct fragment of imported stoneware;
- one stone (cornelian) and two monochrome glass beads (small "seed" beads, pale green and dark blue).

At one side of the hillock there were also numbers of quartz pebbles arranged in circles, possible as grave covers. These may be compared with similar stone arrangements on Usukan Island (Chapter IV, 3).

All this shows that there was widespread use of highly developed and specialised stone tools in Sabah, at the end of the stone age. This use continued after the introduction of metal and on into the continuing ritual life of the people. There was no clear-cut division between stone and iron age, especially

in Borneo. In the Kelabit uplands for instance, men were using stone tools to work iron as late as 1945. In New Guinea, people in the interior are still using stone tools, though the coastal belt has used iron for a long time.

8. Bark-beaters

BARK-BEATERS were used to pound the bark of *Shorea* and other large trees to make the bark-cloth which was the everyday wear of most Borneans until quite recent times, and is still used for loin-cloths by a few old Murut men in the far interior. Although usually made of stone, beaters are also made of hard-wood, deer's horn and other materials strong enough to beat the tough bark fibre into pliable material. Only the bark-beaters of stone survive long. They are stone-tools, but not necessarily stone age. If one is found on the ground or in Murut hands today, it may have been in use in historical times—thus differing from the adzes and gouges, whose actual use has not been seen and recorded.

Few stone bark-beaters have survived from any part of Borneo though some have been excavated in caves in Sarawak, showing that they do date from the stone age, as well as from the iron age. None has yet been excavated in Sabah, though three have been discovered by chance on the surface and reliably recorded.

The first of these was reported by Mr. H. G. Keith shortly after World War II. He found it, along with another less distinctive stone, in Murut country near Tenom and illustrated it in an article.¹⁴ It has been discussed in connection with a second found near Keningau, in the same general inland area. The Keningau beater is of quartzite, nearly a foot long, with a pronounced stepped handle and five long ribs on the pounder surface. It was obtained from the Kwijaus north of Keningau by Mr. K. P. Tabrett, who provided this note on it:

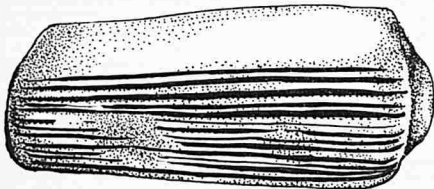
"The name of this beater in the Kwijau dialect is "Pakakang". The bark cloth resulting therefrom is "Pakaangon". The beater originated in the old Kampong Keningau area, about a mile from the present Keningau Offices. Legend has it that this old Kampong was deserted many years ago during an epidemic, perhaps smallpox, and the people moved a mile or so to the present Kampong Keningau. Nowadays they count themselves as being Dusuns, but seem to be somewhat mixed with Murut ancestry, as least as far as language goes. The beater is a hard grey stone, and has a rather river-washed appearance. It looks as if it was originally a conveniently shaped river stone, worked up by hand into its present form".¹⁵

Both Tenom and Keningau beaters were made from a long pebble, with grooves for the beater face cut lengthwise along most of one side. With these two examples from only 30 miles apart, we could reasonably suspect a northern type of beater tool, not found in Sarawak and Kalimantan. The Sarawak Museum's good collection of beater tools contains none like those from Sabah. The Sarawak examples are normally cut on a roughly conical stone. The beater face is never on the side but always on a rounded base; and the cut lines are criss-cross.

In 1967, a further specimen was found on the Rumidi Estate on the Labuk River. It was revealed when levelling the ground (cf. 7 above). The Rumidi beater conforms to the pattern of the other Sabah tools: the beating

surface consists of a series of deeply incised lines, cut parallel on the slightly flattened side of a long, naturally rounded pebble with a curved back. There is no criss-crossing. The eleven grooves are about 4 inches long. They form a band from $1\frac{1}{2}$ inches to just under 2 inches wide.

The wider end of the stone has what appears to be a deliberately shaped bulbous protruberance, $\frac{1}{4}$ inch high. This is not functional, though it may be the broken-off part of a once longer handle, as in the Keningau beater. The bottom end of the Rumidi beater is merely flat. It could easily have been rubbed quite flat if so desired. In all Sarawak examples, this is the surface which would have been cut and gridded to serve as the face for beating the bark. Here it has not been touched.



1 inch

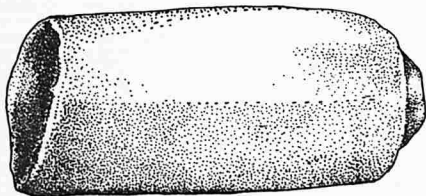


Fig. VI/22: Stone bark-beater from Rumidi Estate, Labuk River.

It seems that there is a consistent difference between northern and southern beaters, as has already been shown for the adzes and gouges. Thus there appears to be a genuine and consistent difference in the development of stone tools at the end of the stone age between Sabah and the rest of Borneo.¹⁶

9. "Arrowheads"

BLOWPIPES AND poisoned darts are the characteristic hunting weapons of all Borneo, where they reach a high state of development and efficiency. The bow and arrow found in many parts of South-east Asia has yet to be reliably recorded in Borneo. Nor does it feature in Dayak, Murut or Kadazan folklore. It is quite possible that the bow was replaced by the blowpipe in comparatively recent times: really good blowpipes can only be made from hard wood with iron tools, so they could hardly have been stone age weapons.

The excavation at Pusu Lumut cave of a single stone shaped like an arrowhead is therefore significant. The arrowhead is from a green chalcedony available in the Segama. Pusu Lumut produced several other nice "points", including one of chert in three colour tones. However, they could be classed as scrapers rather than arrowheads. So many accidents or coincidences can occur, working with stone, that their original function may easily be misinterpreted. Another plausible arrowhead was found in an unstratified situation at Agop Atas 1966 (Chapter III, 9(b) and 3 above). It is smaller than the Pusu Lumut one, at just under 1 inch long.

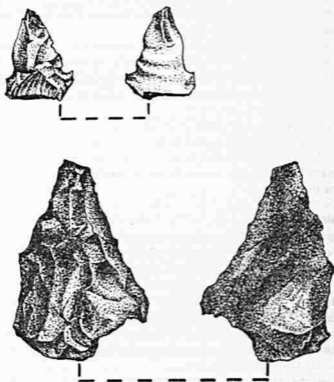


Fig. VI/23: Two points, possibly arrowheads, of banded chert, from Agop Atas, Madai (upper), and from Pusu Lumut, Tapadong (lower). Natural size.

It is possible that Sabah had the bow and arrow before the late stone age, when Sarawak, Brunei and Kalimantan did not. This weapon was well developed in Celebes where quantities of arrowheads have been excavated in the Taole caves. There are evident links between north-east Sabah and Celebes at the end of the stone and beginning of the metal age, particularly reflected in some of the earthenwares and bronze (see following chapters). Stone arrowheads from Sampung Cave in Java differ appreciably from the Celebes sort, which are usually smaller, flatter, and generally chipped on one face only—as is the case with the Sabah examples. Some from Taole are barbed, others not. All Sabah "arrowheads" are unbarbed.

Early "specialisation" in Sabah would be consistent with the advanced development of the other types of stone-tool, so that the absence of arrowheads further south would by no means preclude their presence in the north.

10. Mortars, Pounders, and Pot-Stones

THE VERY nicely finished mortar, probably used for pounding red haematite ore for burial rites, found in the small cave of Pulau Burong and now in the Sabah Museum, has already been discussed (Chapter IV, 1(d) and Plate 26). A similar, inferior one was excavated at Pusu Samang Tas, Madai, in an early iron age context (Chapter III, 9(g)).

Other stones from island and cave sites include large extraneous pebbles probably used as hammers, pestles, pounders, and rubbers for domestic purposes. It is not possible at this stage of our knowledge to classify them, though we can surmise that they were important in the past, as people took the trouble to transport them.

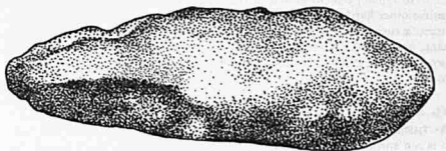
Naturally rounded large river pebbles suitable for "pot-stones" i.e. for holding inside a pot while the clay is beaten from the out-side, have been excavated at Tapadong Caves and Pulau Burong. They are naturally associated with native earthenware and continued to be used from the neolithic period into modern times.

11. Soft Tools¹⁷

SOFT TOOLS form an interesting bridge between the end of the stone age and the period of iron and other metals. They were generally made from softer types of limestone, andesite and other commonly available local stone, in "imitation" both of old stone forms and of new metal ones. They were used by pagans as ritual objects, especially for cave burials, and as magical paraphernalia by shamans, augurs and "magicians" generally, up into this century. At their most distinctive they are finely finished and polished, being found in all shapes and sizes. Often they disintegrate when put in the ground with burials, and are then difficult to identify.

Credit must again go to I. H. N. Evans for noting that some of the stones which he obtained, could not have been used. One other curious example is in the Queensland Museum of Brisbane, Australia, where there are two stone tools catalogued as collected on the Segama River in 1888. One is the "flake"

already discussed (2 above). The other is a sort of rough "round axe", not otherwise recorded in Sabah, though known in Sarawak. It is $5\frac{1}{2}$ " long but of soft stone and unusable: a puzzle in its own right.



1 inch

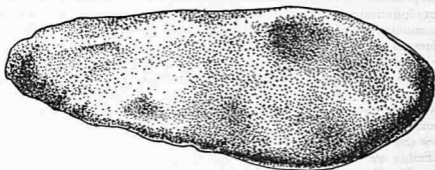


Fig. VI|24: "Soft" stone tool in the shape of a round axe, from East Sabah.

Mention must also be made of several curious flat softish stones, each with a carefully made deep groove around most of the broad edge. These were first found by Evans in his purchases from Kadazans and Bajaus and are illustrated in his 1911 paper (they are now in the Cambridge University Museum). Several others were obtained by T.H. in the same way from the Malay and Murut area round Lawas in Sarawak, close to the Sabah border, after World War II. None has been found by excavation, nor is any known south of Brunei Bay. Their function also remains unexplained, though it may be ritualistic. There is a fairly remote relationship with the much larger "waisted stones" used as hammers in the prehistoric iron industry of the Sarawak River delta.

12. Fire Strikers

SMALL PIECES of quartz crystals are often found in Borneo cave excavations and examinations. The smallest fragments found may be less than 5mm, the

largest up to 35mm. The finest are of pure quartz taken from river beds or weathered blocks of agglomerate rock and their presence in caves is one of the surest indications of fire making in the past.

No typology or evolution of these strikers has yet been suggested, for, unlike other hard stone, quartz is too hard and usually too fragmented to be manufactured into classifiable tools. Quartz strikers have remained much the same over many thousands of years and have continued into use into modern times (e.g. they are to be seen in use by some of the people of the Interior today).

13. Late Sabah Stone Tools compared with Palawan

AS THERE are similarities between Sabah and Palawan early stone age tools, it is not surprising to find that the late stone age polished tools found from Brunei Bay round to the east coast of Sabah are closely matched in Palawan. They are not however found in the remainder of Borneo. Cultural divisions do not always follow the obvious boundaries. This is relevant not only to the prehistory and stone age of northern Borneo, for the process has continued into historical times. The results are to be seen in the living culture, politics, economics and languages of Sabah today. Although continuous with Brunei, Sarawak and Kalimantan, and sharing a century of British colonial tradition with Brunei and Sarawak, Sabah retains highly distinctive cultural patterns. Until Sabah and Sarawak joined Malaya to form the Federation of Malaysia in 1963, there was little contact between the two superficially similar states. Within Malaysia they remain largely dissimilar. This situation, which has puzzled politicians and at times misled scholars, has evolved not just over a few centuries of history but over the millenia of prehistory. The stone tool affinities are only one indication of this evolution.

The Palawan neolithic tools include some made of shell (so far not discovered in Sabah). The sophisticated, fully "finished" tools are primarily adzes. They can be placed in among a series of Sabah trapezoidal adzes and pass as the same. We examined trapezoidal adzes excavated from Tabun Caves in South Palawan with Dr. Fox and were unable to define any major feature differing from the widely scattered Sabah examples. There is a tendency for the Palawan adzes to be a little heavier, but this is largely due to geological factors. All the main factors, however, are common:

- bottom flat or slightly recurved;
- sharply angled, long sides;
- butt end left rather rough (flattened in one from Tabun);
- top ridge dividing flat side faces is, carefully but not meticulously, flattened (to form the "roof"). This top flat level opens out into the blade.

The largest Tabun trapezoidal adze is 93 mm, the shortest 65 mm, compared with 73 mm and 35 mm for Sabah.

The long gouges of Sabah have not yet been reported in Palawan. This may be significant in so far as it implies that this whole neolithic technique was not simply imported into Sabah from Palawan or vice versa. The implication is rather that both continued to share a common tradition from earlier times but that a slowly evolving diversification within the common frame, together with the advent of iron, higher populations and increased mobility, produced the larger differences which (exaggerated by colonial divisions since 1521 A.D.) seemingly mark the cultural distinctions of today.

VII. Earthenware

1. Pottery Background

THE TERM "pottery" is usually employed to describe objects made basically from clay, shaped wet and then fired to form a heat-hardened vessel (or other form) which will hold water and is durable over a considerable period. From the pre-historian's viewpoint pottery is divisible into two main types.

- (i) *Earthenware*: the earliest to be developed by man (in some Asian places are early as 7,000 B.C.); generally heat-hardened on an open fire at a fairly low temperature, the pottery is not very hard and therefore is rather easily broken—as in the Sabah caves.
- (ii) *Stoneware*: developed primarily in China during the Iron Age. The clay was fired in a kiln, to get the high temperatures that produce a vitrified, hard and durable ware. (*Porcelain* is a further and more refined development of stoneware, often translucent, colloquially called "china" in Europe and elsewhere.)

Earthenware has been made from the stone age through into historic times in Borneo. It reached standards of considerable elaboration late in the neolithic period. The massive coloured urns for burial use from the Niah caves are striking results of the earthenware potters' craft, now on display at the Sarawak Museum. Size and form tended to decline with the introduction of stonewares brought from China and elsewhere after 700 A.D., as these were more durable as well as more elaborate in range of colour and forms. Earthenware gently lapsed into more strictly functional shapes, primarily as cooking pots, though some quite intricate styles persisted, notable the lidded boxes and small cooking "stoves" of the Bajaus (see 7 below).

All Sabah pottery seems to have been made with a wooden paddle-beater and pot-stone held inside, not by the coil process or on a wheel, though there are traces of a "slow wheel" on a few sherds. The outer surface is usually decorated with fairly simple designs, applied either directly from the carved face of a paddlebeater, or from string, basketwork or other material put onto a beater. There are, however, curious design forms like "turtle-ware" (see 5 below). There are descriptions of pot-making in this century for the Bajaus, Dusuns, and Muruts by I. H. N. Evans, John Alman, Alastair Morrison and T.H., respectively. In recent years cheap metal cookpots have almost entirely replaced the native-made article. Prior to that, there is much evidence that Sabah earthenware of historic times continued the prehistoric tradition, with the gradual loss of variety and dynamism. In this chapter we will use a single phased separation to distinguish stone age and iron age earthenware made in Sabah or adjacent terrain by time rather than absolute style. In a following chapter (IX) we will consider the stonewares—all iron age imports from the mainland.

2. Earthenwares of the Neolithic Tradition

THE EARTHENWARE excavated or collected from cave sites so far in Sabah consists with one exception—the assemblage from Pusu Lunut at Tapadong (to be described at 4 below)—of casual material from trial trenches. This material can tell us rather little about former shapes and sizes, or the numbers of vessels originally deposited in one site. In comparing these sherds with archaeological assemblages from Sabah's immediate neighbourhood however, notably with the earthenwares excavated from Niah and Palawan Caves to the south-west and north, many parallels arise pointing at cultural links and interchange as well as indigenous specialisations.

During the neolithic and into the first centuries A.D., local pottery making was highly developed. Burial wares were made, often right inside the caves where they were later put to use—especially the large burial urns and jars which were difficult to transport. Fragments of raw, baked clay have been excavated alongside broken and collapsed jars in the Great Cave of Niah. Parallel evidence was obtained from Agop Atas in Madai (Chapter III, 9(b)) where five pieces of baked clay came from 12 to 24 inches (neolithic and early iron occupation) levels. Although minor deposits of marl and loam are abundant in Madai, the Idahan occupants of today are unaware of this existence, because they do not consider them in a pot-making context. They have not made pots "since they can remember", obtaining their needs by trade from Bajau and other peoples who specialised in this (see 7 below).

The earthenwares from the Sabah caves include stone age sherds of simple functional pots, of sophisticated beautifully decorated pots, and of specialised funerary vessels. Techniques of production may include one or several of the features here listed:

- (i) Pottery *paddles* (for beating the wet clay outside) may be plain, carved or bound.
- (ii) *Carved* paddles are most commonly incised with rectangular or diamond crosspatterns. Ribbing may be present, but is rare.
- (iii) "Bound" paddles include cordwork and "basket" weave varieties—that is, cord or basketry are fixed over the paddle to make the designs.
- (iv) *Damar* or other gum resins are in use to glaze and/or seal, inside and outside surfaces of a vessel.
- (v) *Painting* with "slip" with one or more colours, always including red (haematite); or alternative staining with haematite dust is common. A pot may be coloured wholly or in part (rims; or to emphasise sections of the body).
- (vi) The incised and impressed patterns come in *curvilinear* or *geometric* bands or outlines, which may be alternately filled with dots, circles, strokes or pitting; impressions may also be applied simply to emphasise angles, especially rims.
- (vii) Ring-stands, handles, spouts may be separately moulded and applied

- (viii) Polishing or burnishing of plain and paddle-decorated pot surfaces (the latter with the effect of largely obliterating former paddle impressions) is common, especially on funeral wares.

3. A Cross-Section through Neolithic-Type Sabah Sherds

A REPRESENTATIVE sample to illustrate most of these features is the 240 sherds from a 5 × 10' trench (labelled AA₂) excavated at Agop Atas in Madai, at 12-24' level, just above the "seal" of hard soil accretions which separates pottery bearing strata from earlier stone age finds (Chapter III/9 (b)). These may be classified as follows:

TABLE I
NEOLITHIC EARTHENWARE FROM AGOP ATAS CAVE

	Number of Sherds	Percentage of Total
(a) Plain surface:		
plain and indistinct	135	
plain and polished or burnished	17	
plain and haematited	7	
	159	66%
(b) Paddle decorated surface:		
crossed	58	
ribbed	1	
cord-marked	3	
	62	26%
(c) Incised (and impressed):		
incised only	4	
incised and haematited	1	
incised and impressed	14	
	19	8%
<i>Total</i>	240	100%

A fair percentage of these plain and paddle-decorated sherds from Agop Atas are of utility wares soiled with soot. The cooking vessels are round, of small or medium size with everted or straight rims. Some of the common crossed paddle variety (over 50% of the total) are extremely thinly potted, of small size and sharply angled, not sooted and probably used as funeral pots. Only three cord-marked sherds were excavated and are all from one finely polished vessel. The single ribbed sherd is crude and compact, possibly from a different source than most others. Smoothly polished and burnished sherds appear to connect with larger jars. One impressed (notched) rim-sherd belongs to a plain and haematited body.

Incised and impressed patterns appear mainly on rim and shoulder fragments of smallish vessels. Some of them are sharply angled and none have been used for cooking. The patterns include a crude incised "leaf"—an oval divided lengthwise by a straight line, a band of meander superimposed with impressed strokes, a band of open triangles and a series of strokes under a horizontal line from which diagonal lines rise upwards connecting mouth and shoulder of a vessel (the main body of which has a crossed paddle surface) (see Fig. VII/1 (a-d)).¹

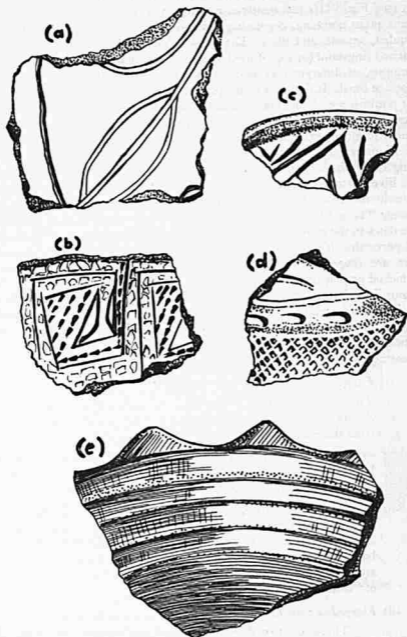


Fig. VII|1: (a—e) Incised and impressed patterns on earthenware fragments from Agop Atas, Madai. (Natural size).

Five sherds belong to a smoothly polished basin with sculptured scalloped rim (see Fig. VII/1 (e)) moulded ridging on base and sides emphasised by needle-point notching, decorating rim and base on the outside. The inside is rounded, smooth and black. The outside base shows marks of a formerly attached ringstand (or top, if used as a cover rather than a basin). This vessel is unique, of different clay structure than all others, of varying shape and elaborate finish. It does not compare with Sarawak or Palawan material. Nor is it reminiscent of any Malayan neolithic material. It does however find an interesting parallel in some pottery "cups" (similar, smaller basins on ring stands) found in excavations on Lamma Island, Hong Kong, illustrated in the *Transactions of the Oriental Ceramic Society* (1948/9), Plate 17d). The Hong Kong site is mainly neolithic, with early metal (bronze) relationships.

Five related examples of incised and impressed patterns supplementing the evidence from Agop Atas came from other caves, notably from Pusu Samang Tas at Madai. Although the main pottery assemblage of this Madai cave dates to the iron age before the advent of mainland imported stonewares and porcelains, it includes elements of the earlier tradition. As at Agop Atas, there are fragments of finely made, smallish vessels, some haematited, burnished or polished. The special aspect (which is also represented at Pusu Lumut, Tapadong: see Section 4 below, Fig. VII/4 k, l and m) is a *strongly emphasised shoulder* which may be angled, flanged, stepped or specially moulded in addition to incised and impressed decorations applied to them and connecting up to the vessel's rim. These decorations vary, one variety normally appearing on one vessel only.

(i) *Flanged or raised pie-crust shoulders*

There are two kinds of this variety, both differing in form and decoration. The first is represented at Pusu Samang Tas, the second from there and from Baturong, Pusu Lumut, and Agop Atas as well.

—the first is a finer, smoothly polished pot with a shallow, rounded base; the shoulder recedes strongly towards a narrow mouth, deeply incised with densely placed, parallel lines; the rim is sharply everted.

—the second is a plain, roughly finished pot with a deeper, rounded base; the rim rises straight upwards from the shoulder, incised with a central vertical line dividing it into two horizontal bands. Each band is incised with parallel diagonal lines. Fields between the lines are filled with dots or vertical strokes giving them the appearance of "ladders".

(ii) *Flanged or raised notched shoulders*

There are two distinct kinds of this variety, one from Bird Island (see Chapter IV, 1 above), the other from Pusu Samang Tas cave. The flanged or raised shoulder is emphasised with an angle built up slightly, and simultaneously notched with small diagonal impressions to give it a rope-like effect.

The example from Bird Island (see Fig. IV/4 at p. 123 above) is part of a larger vessel indicating a diameter of c.30 cm., a strongly receding shoulder and an indistinct mouth rim. The vessel has been stained deeply with haematite and possibly sectionally painted with lime and other colours.

The example from Pusu Samang Tas is also partly haematited and polished throughout. It is a smallish pot with strongly receding shoulder, incised with double zig-zag lines. Spaces between the lines are filled with densely placed dots and strokes. The mouth is flaring.

(iii) *Flanged and ledged shoulders (see Figs. VII/2 and VII/4 k, l m)*

This variety has a strongly emphasised shoulder, built up as a raised ledged band. The band is decorated with an incised decoration. One example from Pusu Lumut, Tapadong is incised with meander-type incisions. The other, a plain, partly haemetited vessel, is incised with open triangles divided by vertical strokes running up and down from each triangle point.

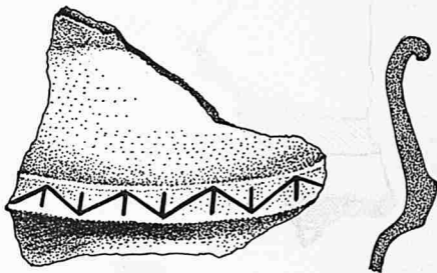


Fig. VII/2: *Ledged shoulder with incised decoration, on an earthenware sherd from Pusu Lumut, Tapadong. (Natural size).*

(iv) *Pots painted in two or three colours (see Fig. VII/3)*

The same motif of bands of open triangles combined with vertical strokes has been applied on a larger vessel from Pusu Samang Tas, but on this sherd the bands—which appear in three tiers on a strongly recessed shoulder part—have also been painted alternately in haematite red and charcoal black. The decorative

emphasis of using haematite (red) slip and charcoal black in conjunction with the natural buff-coloured surface in a three colour pattern on the incised and impressed parts of a vessel—reminiscent of the striking Niah burial urns and smaller funerary pots—is rare on Sabah sherds. One other example, again the recessed shoulder part of a medium sized bottle or pot, came from a primary burial exposed at Lobang Tingalan, Baturong, in 1968. The burial, much weathered and deteriorated by dense roots growing through the deposit, was associated with a shallow bronze bowl. The painted sherd, deposited prominently with the bowl, was apparently used ritually—an important relic of distant times which retained funerary value even as a single sherd.

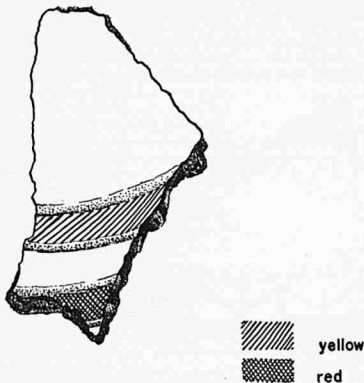


Fig. VII|3: Earthenware sherd painted in red and yellow from Lobang Tingalan, Baturong. (Natural size).

(v) *A flat-bottomed vessel*

Fragments of a heavy-bodied earthenware box or jar, c.21 cm. across the possibly oval mouth rim, were excavated at Pusu Samang Tas, Madai. The jar has a unique (in Sabah) *flat* base (though not turned on a wheel), sharply angled shoulders and a straight neck

rising up for a lid to be fitted. The shoulder carries moulded, heavily projecting, pierced "ears". Related earthenware boxes are known from Palawan.

This cross-section of sherds will serve to indicate the rich profusion of shapes and styles in Sabah's neolithic tradition, based largely on random finds. Now let us look at fuller material from a single cave.

4. The Assemblage of Pusu Lumut, Tapadong (see Fig. VII/4)

THIS cave, as we have seen, (Chapter III/7 (f)) has been fully excavated. It contained 10,114 earthenware sherds (no stoneware), studied in detail with the help of Mrs. Eine Moore at the Sarawak Museum (the material is now in the Sabah Museum). The material is neolithic, with an overlap into bronze and early iron. The sherds, which weighed 70 kilos, are believed, after careful analysis, to represent between 158 and 180 vessels. The main data are set out in the following table:

TABLE 2
DISTRIBUTION OF SHERDS BY WEIGHT, NUMBER AND COMMON TYPE
IN PUSU LUMUT CAVE DEPOSIT (EXCLUDING UNMARKED SHERDS)

Depth (inches)	0-6"	6-18"	18-30"	Total or Average
Weight (kilos)	9.26	52.89	6.84	68.99
Sherds (number)	1,007	7,914	1,193	10,114
Sherds per kilo	109	149	175	149 (av.)
Sherds of some common types:				
Mainly plain	818	7,362	1,100	9,280
Crossed paddle	52	192	18	262
Basket	15	92	4	111
Turtle bone marked	63	67	21	151

This simple enumeration correctly reflects the broad site pattern, not only for earthenware, but also other artifacts. The main bulk of the material including the stone tools, is between 6 and 8 inches. It then tapers out downwards, with sterile soil reached in parts of the cave as early as 21 inches; only three sherds were found below 27 inches.

TABLE 3
ESTIMATED NUMBER OF ACTUAL POTS OF EACH MANUFACTURED
TYPE REPRESENTED AT PUSU LUMUT CAVE, ALL TRENCHES

Type	No. of Pots	Percentage of Total
Mainly plain	92-104	58%
Mainly paddle-decorated		
Crossed paddle	26	
Other carved paddle	1	
Basket marked	6-7	
Cord-marked	2	
Incised and cord-marked	3-4	
Combed over—cord-marked	8-10	
—crossed paddle	8-10	33%
Incised and impressed	1	
Turtle bone marked	11-15	8%

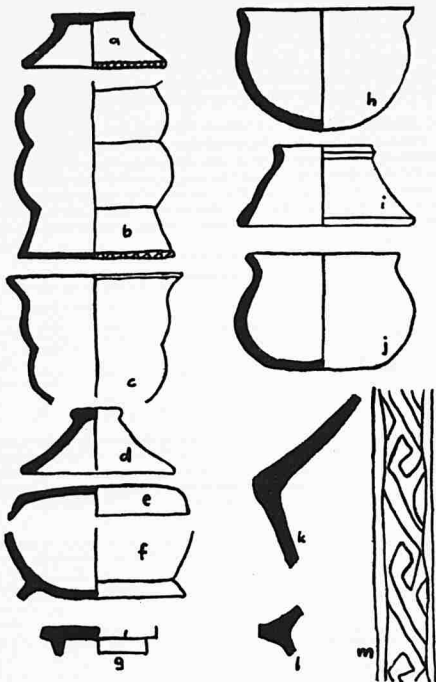


Fig. VII|4: Reconstructions of mainly plain earthenware sherds excavated at Pusu Lumut, Tapadong. (Not to scale)

There are proportionately fewer plain pots in this, than in the smaller Agop Atas sample, while paddle-decorated pots are more numerous (compare Table I above). It will also be noted that the specialised turtleware (see 5 below) is not at all represented in the former. Further study may prove that this is a local specialisation within a broad neolithic tradition.

The mainly plain pots have been analysed to represent special forms and shapes, including the following varieties:

(i) *Small round pots with a flaring rim*

These small pots (less than 5" in height), plain with a rounded side and base and a flaring rim are probably the most common form among the plain pots. They vary slightly; one pot has a slight angle on the side where its separately made upper and lower part are joined, and small incisions have been made over the joint to strengthen it. Some pots of this type probably had a footing (see below).

(ii) *Small pots with a double curved side*

This unusual form is found on small, finely made pots (height about 4" diameter 3"-4") and is seen on at least four vessels. One of them has a flat base from which the side rises first conically, then spreading to form two curves. The rim is missing but is probably flared. The flat-based pot has small incisions decorating the edge of the base.

(iii) *Large pots with a high neck*

This is probably the most common form among the larger plain pots (more than 5" in diameter); the neck is straight or narrowing, fairly high, the shoulder spreads out of it to form a probably rounded side and base. Usually the rim is plain, everted or thickened and rounded, occasionally notched.

(iv) *Large pots with an angle, often flanged, on the side*

This outstanding type of pot has an exaggerated angle on the side, often emphasised with an extended ledge which is sometimes decorated with vertical incisions. Unfortunately it has not been possible to reconstruct these particular pots enough to see what kind of top and base they have. One partially reconstructed measures 7" in diameter. Few examples of this group have a polished surface and a red slip.

(v) *Special features of plain pots*

(The following characteristics are not definitely or exclusively assignable to any of the above groups as such).

Footring

A number of footrings were found, ranging in size from the height of less than $\frac{1}{4}$ " and the diameter of 2" to the height of over 2" and the diameter of 5". They are always made separately and then stuck on; they are therefore usually separate from the broken pot. The base is mostly left rounded. The footring is usually splayed, rarely straight.

Handles

A number of small handles, 1"-2" wide and protruding about $\frac{1}{4}$ " from the side of the pot, of the lug-handle type, were among the sherds, some with a small hole pierced through them, some solid. Some of them are probably parts of large plain pots with an emphasised angle on the side. They come from the neck or shoulder of the pot, not the rim.

Lids

Several small lids were found but cannot be definitely assigned to any pot. The most common form seems to be that of an inverted flat-bottomed flared bowl, in which the flat bottom is spread at the edge to form a flange for gripping. Two lids of this type have a hole pierced through the top, and some other lid fragments have perforations on the rim. Another type of lid has a raised solid knob with a conical spreading end. (See Section 7 below)

Ring stand

A small ring-shaped pot measuring 1.2" in height and about 5" in diameter, is probably a ring-stand. The stand is splayed and its upper edge flared narrowly to receive the rounded base of a pot.

Perforations

A number of small pots have a series of round or square perforations. In some cases they are clearly meant for suspension or to help to tie on the lid. Sometimes, however, they seem to render the whole pot useless, like the perforations all over the side of a small bowl, but as this is funerary pottery, there could well be a "spirit release" meaning. The most usual place for the perforations is on the side, just below the rim or on the footring. A small polished bowl has holes regularly placed on its out-turned rim.

Applied bands

Two, possibly more, vessels have applied strips of clay attached horizontally to the side, decorated with vertical incisions similar to those found on the ledged angle of some large pots. The strips are usually placed at the joint on vessels made in two parts and they serve to strengthen the joint. No pots of this type could be reconstructed.

Decorated rims

Simple decoration on the rim is common on the plain pots. Triangular or lenticular notches, regularly cut, in groups or all along the rim are used on plain pots. Rims are also frequently finished with series of small incisions or impressions.

The Pusu Lumut material proved sufficient to enable at least a preliminary comparison with other well documented excavation material in the Sarawak Museum. The following tables summarise the results of a careful comparative study, updated to 1969.

TABLE 4
SABAH (PUSU LUMUT) AND SARAWAK (NIAH AND OTHER)
PREHISTORIC EARTHENWARE COMPARED

Type (as described above)	Sabah Tapadong	Sarawak	
		Niah	Other
Mainly plain pots			
a. small, round with flaring rim	very common	common	common
b. small, with double curved side	common	absent	absent
c. large, with high neck	very common	common	common
d. large, with flanged angle	common	absent	present
e. (i) Footring	common	very rare	very rare
(ii) Handles (Pusu Lumut)	common	absent	present (delta)
(iii) Lids			
— inverted flared bowl type	common	absent	absent
— solid knob type	common	rare	common
(iv) Ring stand	present	absent	absent
(v) Perforations	common	very rare	very rare
(vi) Applied bands	present	absent	common (Sireh)
(vii) Decorated rims	common	rare	common (Sireh)
Decorated pots			
Crossed paddle	common	very common	common
Other carved paddle (fish-bone design)	present	absent	common
Basketry-marked	common	present	common
Cord-marked	present	common	present
Incised and cord-marked	present	absent	absent
Combed decoration over cord-mark or crossed paddle	common	present	absent
Incised and impressed	rare	common	present
Turtle bone marked ("TurtleWare")	common	rare	absent

Seen in a wider context, these main comparisons are relevant:

TABLE 5
MALAYSIAN PREHISTORIC EARTHENWARE COMPARISONS

Characteristic	Malaya	Sarawak	Sabah
<i>Surface treatment:</i>			
cord-marked	very common	present	common
basket impressed	rare	present	present
carved paddle-ribbed	very rare	present	very rare
carved paddle—crossed	very rare	common	common
polished—inner surface	common	present	absent
polished—outer surface	common	present	present
red slip	present	present	present
<i>Decoration:</i>			
notched rims	present	present	present
simple incised and impressed	present	present	present
Arca shell impressed	present	very rare	absent
coloured rim	rare	present	present
<i>Form:</i>			
angled bowls	common	present	rare
oval pots	present	common	common
out-turned rims	common	common	common
complex and double rims	common	present	absent
cylindrical jars	present	present	present
flat bases	present	present	rare
rims made separately	present	present	present
spouts	very rare	common	absent

5. "Turtle Ware" (see Plate 42)

THIS is earthenware where the pattern seems to have been obtained by pressing on certain bones from large turtles, though this is unproven. Since identifying the type as new at Pusu Lumut (see Table 3 above), other sherds have been found on re-examining old material from Gomantong Caves in the Kinabatangan River and from Lobang Angin, a cave in the Niah group, Sarawak. We have described this peculiar ware in separate articles to which the interested reader is referred.³ Such specialised wares, in all cases from a neolithic context so far, again illustrate the variety of early earthenware techniques, and how some of them completely vanished in the iron age. It may never be possible to recapture a full idea of what the stone age achieved in these craft fields, but certainly they were diverse, experimental and vigorous in such matters, far from following a single, tried method or a few simple styles. And if this were so for pottery, it must have been so for a wide range of other crafts whose products have perished with time.

6. Simpler Earthenwares of the Iron Age Tradition (see Figs. VII/5 and 6)

THE RICHEST iron age site as far as earthenware is concerned, is Pusu Samang Tas, the high cliff-cave in the Madai formation (Chapter III, 9(g)). From a 5 ft. 5 ft. trial trench excavated here, 981 sherds were recovered between 2 and 24

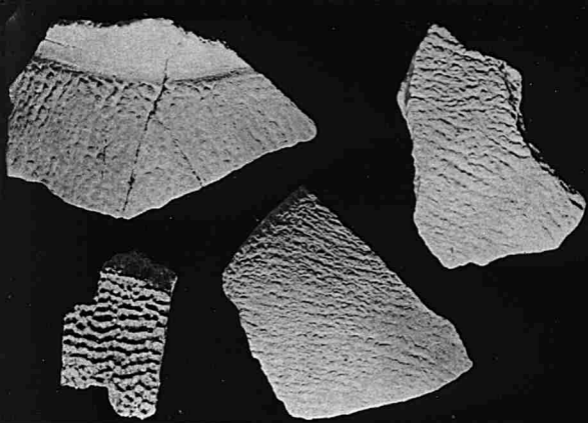


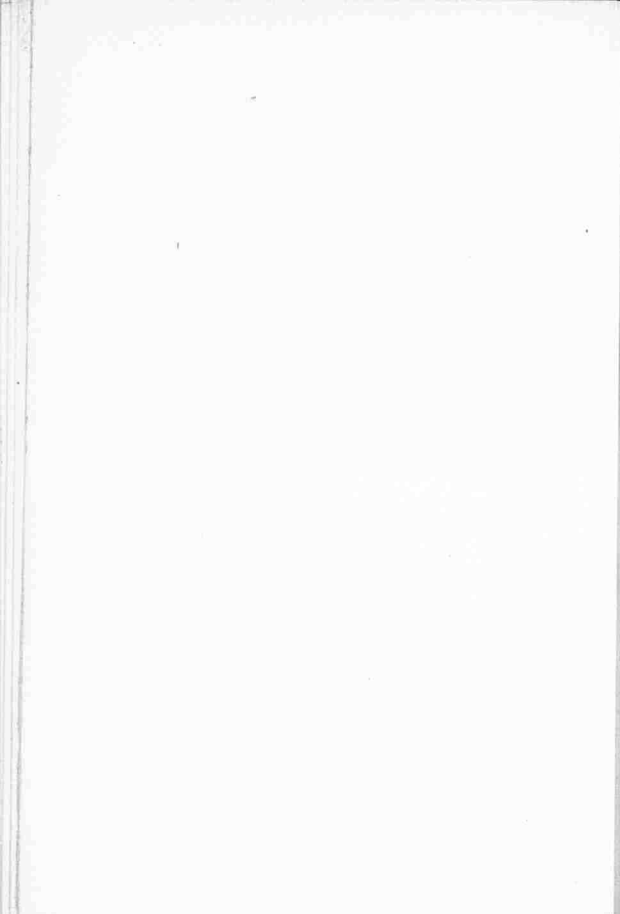
PLATE 42. 'Turtle ware' sherds were found at Pusu Lumut and other Sabah caves. The peculiar rough surface is believed to have been made by using turtle bones as beaters. A fragment of such a bone (lower left) is illustrated. (Chapter VII, 5 p. 202).

R. Goh, Sabah Museum

PLATE 43. Earthenware pots as made by the Bajaus of Sabah today, with prominent lids and strongly shaped knobs suggesting a continuing tradition from the stone age, with parallels in western Sarawak. (Chapter VII, 7 p. 206).

R. Goh, Sabah Museum





inches under the surface. Ninety five percent of these are of rather simple—plain and paddle-decorated—rounded cooking pots. The remainder are of more specialised vessels, more finely potted and decorated. These have already been described (see Figs. VII/1, 2 and 3) and text in Section 3 above) because they conform with the “neolithic traditions” and have parallels in earlier-dated levels. They date at Samang Tas to *about* the first millenia A.D.—that is to a time before imported stonewares and porcelains came into use in the Madai area.

The great majority of simpler vessels with which we are here concerned are rough, though well made and fired, on an average 0.5 cm thick and between 6 and 11 cm high. Heights and maximum diameters are roughly corresponding. The pots have rounded bottoms, sloping or slightly angled shoulders, low necks and usually everted rims. Eye-judgement places them into one common source of manufacture. Powdered shell is used as a hardening agent for the body clay.

The pots were originally deposited whole, placed in clusters of several together, mouth pointing upwards, under a thin earth cover. Breakage occurred through surface disturbance by people frequenting and using the cave and through dense, sub-surface root-systems affecting the pottery-bearing deposit throughout.

A classification of these pots is best undertaken by distinguishing types of surface decorations. The main body is plain or paddle-decorated, with a ratio of 2:1 in favour of the plain type as indicated in Table 6 below. All rims have plain surfaces.

TABLE 6
MAIN BODY DECORATION ON SMALL, ROUNDED POTS AT
PUSU SAMANG TAS, MADAI

	Number of sherds from depth				Total Sherds
	0-6	6-12	12-18	18-24	
Plain	103	240	106	23	472 = 50%
Paddle-decorated					
(a) crossed	35	134	16	5	190
(b) cord-mark	13	18	0	1	32
(c) ribbed	7	9	3		19
					241 = 26%
Indistinct (including plain rim sherds)	46	132	43		221 = 24%
Total	204	533	168	29	934 = 100%

The paddle is usually applied from the neck downwards, where it may be bordered by incised decorations. The most common crossed paddle-decorations include rectangular and diamond crosses of varying sizes between 0.2 and 0.5 cm. Cord-marking is well moulded and narrow.

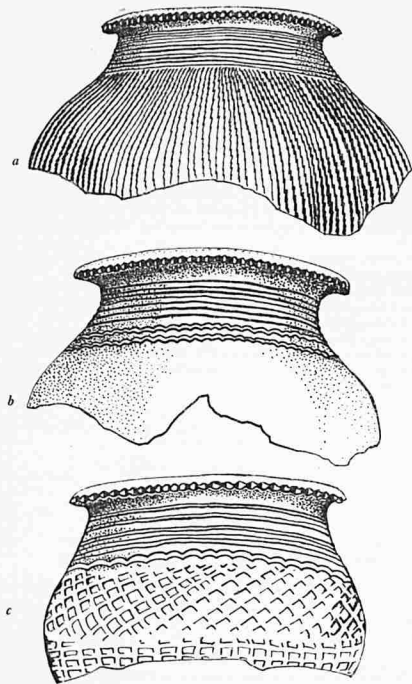


Fig. VII|5: (a—c) Earthenware pots excavated at Pusu Samang Tas, Madai. (Not to scale).

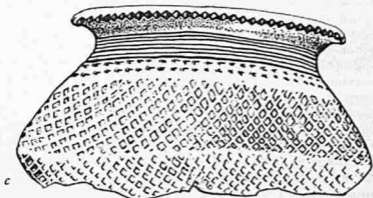
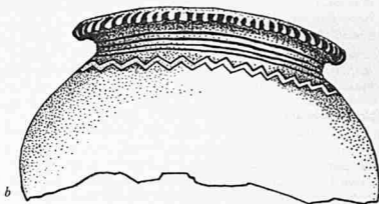
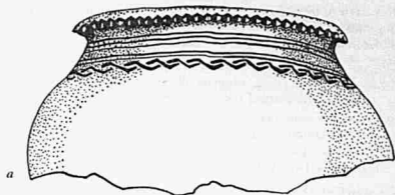


Fig. VII/6: (a—c) Variations of patterns on simple, round pots associated with iron age burials at Pusu Samang Tas, Madai. (Not to scale).

Only a few of these pots (1%) have no decoration at all. The majority—including those with a plain body surface—have distinctive incised and impressed decorative features which may occur singly or in combinations with this range:

- (i) incised single strokes applied diagonally against the lips of the thickened, out-turned rim; 120 sherds;
- (ii) (i) above combined with up to six deeply incised parallel lines running around the neck of the vessel (see Figs. VII/5a); 176 sherds;
- (iii) (i) and (ii) above combined with a single or double incised wavy line below (see Figs. VII/5b and c); 133 sherds.

The wavelines of (iii) are in some cases replaced by the following variations:

- (iv) impressed arcs set against each other in a row, featuring stylised waves (see Fig. VII/6a); 3 sherds;
- (v) a band of open triangles (see Fig. VII/6b); 5 sherds;
- (vi) a row of impressed circles with or without a dot in centre, (49 sherds). This variety may carry an additional incised line as a lower border (see Fig. VII/6c).

7. Prehistoric Pots and their Persistence

As shortly yet as descriptively as possible, this chapter has presented the available evidence in prehistoric Sabah earthenware pottery. Further study will fill large gaps in our knowledge, but it is already clear that we have here a rich and varied native tradition and that there is much local specialisation—(a single potter could have produced the sort of effect just described with the incised and impressed decorations of Pusu Samang Tas). There has also been much contact and exchange of pots between different communities and peoples, sometimes overseas, as eastward with Celebes and the Philippines; but that over all there are broad traditions of potting which persist over long periods of time, out of the craft's beginnings even into the present, and make it always difficult and usually impossible to date any earthenware when it is identified in either an archaeological or an ethnological setting.

A fair example of a persistence involving both group specialisation and maritime contact may suitably conclude this chapter in a rather different way. This is also one of the few cases in Borneo where something more than the simple cooking pot has survived out of the stone age tradition and through the iron age into the second half of the twentieth century. We refer to the round lidded pots of earthenware still being made by the Bajaus around Kota Belud. The upper, lid part of these is commonly decorated with a rather heavy, conspicuous top. The top is well represented in Bajau specimens made after 1950 (see Plate 43). When these are compared with earthenware lids found in prehistoric situations, the parallel is extremely close—and there is nothing else quite like them in the area's potting.

Hundreds of miles to the south-west in the Sarawak River estuary, such knobbed lids are found in sites which there began with the introduction of an iron-smelting industry, leading into the massive iron age upsurge through west and north Borneo. In that delta context, the pronouncedly "phallic" shape of the knobs on the lids has given rise to much interest and speculation; it is believed that these forms do indeed reflect some sort of sexual symbolism, perhaps connected with an outlying contact version of Tantric Buddhism. Be that as it may, it looks exactly as if the knobs on the lids which have so strikingly survived among the Sabah Bajaus as functional but very unusual earthenware today are direct carry-overs from a much older tradition—in much the same way as the wooden figures on the rice fields of Penampang continue a prehistoric megalithic tradition within sound of Sabah's capital (Chapter V, 5). Whether such articles were exclusively made by Bajaus in the past and traded by them widely down the coast—specimens have also been found inland at the headwaters of the Sarawak River in old Land Dayak country—or were once made widely by different peoples but now persist only with the Bajaus, remains a matter for conjecture. We believe the former is the more likely situation, since there is much evidence that the Bajaus were once extremely active as traders and craftsmen, living in their boats and roaming the seas from the Burma coast at one end of a vast activity arc which at the other end reached over to the north coast of Australia. If this is so, the Bajaus pioneered from the end of the neolithic period, journeys which brought them in contact with mainland pottery traditions and this contact influenced the development of the region's pottery out of which the aforesaid specialisations evolved.

Let us, then, conclude with a folk-epic of Bajau prehistory, against the background of the Sabah coast and Brunei Bay, where Brunei's Awang Alak Betatar (already met with in Chapter II, 5(a); and to be encountered again in Chapter XI, 1) transformed into "Datu Amid Bahar". Here is part of the Datu version recorded in Salut in 1952, which will display the "international" nature of ancient Bajauism from Sabah across South-east Asia. The storyteller is a Bajau aristocrat:

"There were three brothers in Johore and they had one sister. One was named Dato Amid Bahar; one Dato Amiril Mukminin. The name of the third brother, who remained in Johore, is unknown. The sister was named Dayang Bulan. Dayang Bulan eventually went to Brunei, having married a Brunei man (name unknown) and from them the Brunei rajahs are descended. Dato Amid Bahar went to Suluk and became rajah there, while Dato Amiril Mukminin came to the Kudat neighbourhood of North Borneo.

The sister said to her two brothers: "Let us go and play in the large "ajong" (sailing vessel); so they played at the Johore (river mouth) for a week. They had with them a breech-loading cannon. The removable breech carried the powder charge, and had a touch-hole. The cannon-ball was loaded from the mouth of the weapon. There were two removable breeches. The name of the cannon was "Bujang Paling".

When the two brothers and their sister returned from the mouth of the river after seven days, the other brother would not receive them again, and they sailed away in seven *ajong* to where Kudat now is. While they were on their journey the girl said to her brothers that she would like to disembark upon an island called Tindakan Dayang, now known as Batu Mandi. She wanted to get down there because she felt that her menses were coming on and she did not wish to have them in the boat.

When she had re-embarked in the *ajong* they sailed again for another week without any definite plans then they made for what is now Kudat; and there they built a hut.

After a while there came a man from Brunei in a sailing ship and, as he was passing, he saw a sheet of thatch that was floating in the water, and on it were husks from pounding rice and a single woman's hair. So he made for the river-mouth and met the two brothers and their sister and asked if he could stop with them, as they were the first arrivals. They replied "Why not? We are only newcomers ourselves and are not settled in the country".

Now when the man from Brunei, the *jeragan* (master) of the *ajong*, saw Dayang Bulan, he asked for her hand in marriage from her brother Dato Amid Bahar. When they were married, Dato Amid Bahar, the elder brother, sailed away for Sulu leaving his younger brother, his sister and his brother-in-law behind. It is said that the Sulu Sultans are descended from him.

Then the *Brunei pengiran* said to Dato Amiril Mukminin "If I trade, and make a profit, can I take my profits back to my country?" and Dato Amiril Mukminin replied, "Certainly you can. If you make a profit, you will surely want to take your gains home". So the Brunei sailed away with his wife, and it is said that his descendants are the Brunei rajahs".

(Evans, 1952: 50).⁴

For sure, the good woman carried pots! While as for the Brunei relationships, the Royal Archives of the Sultanate are full of Bajau exchanges and marriages, though not always so flattering to the northerners. For on this account, the Bajas of Sabah might well lay claim to lands in Sulu and Brunei, instead of vice versa!

VIII. Metal: From Bronze Tools and other Forms, into Iron¹

I. Bronze and nearly Bronze Age

THE DISTINCTION sometimes made between a "bronze age" and an "iron age" may well apply in mainland Asia but cannot be satisfactorily clamped onto the more complicated changes in human technique found on the islands to the south including Borneo (see Chapter II, (d-f)).

In Borneo, iron came to revolutionise methods of winning a living in the great, rich, quick-growing equatorial rain-forest, which is far from easy to control, even with iron—let alone anything less durable, pliable and strong cutting.

This is not to say that bronze—and other early metals—did not have a place in our Sabah story. They did, but on the whole it was a modest one, compared to the overwhelmingly important role which iron quickly came to play, once it was available widely, probably from after 700 A.D. in coastal Sabah (though later, of course, in the interior hinterland).

But even if the bronze age was locally telescoped in a rapid stone to iron age transition, the metal had its beauties and charms which survived on their own account. By that token, fine bronze casting by the *cire-perdue* (lost wax in mould) method still survives in Brunei, where it has had a continuous evolution out of a venerable tradition of metal craftsmanship. There are even some reasons for thinking that an extensive bronze skill grew up in Borneo (not necessarily only in Brunei) many centuries ago; this produced the great bulk and high quality of the jewellery, ornaments, gongs, jars, betel boxes, ceremonial water-pots and kettles and above all, highly dischargeable cannon, which spread to the remote corners of the island seas and mountainous hinterlands.

This bronze craft spanning many centuries, with roots at least partly in an ancient Chinese or Indo-Chinese tradition, as well as largely in an endemic, native, insular genius, also had links with the Celebes. In Celebes a strong bronze tradition is known to have been developed to meet similar consumer demands, though this apparently declined under modern pressures earlier than in Borneo. Moreover, there is a tradition on the east coast of Sabah that many of the bronze and brass vessels valued there, some of them ancient, were made somewhere around Tarakan in Kalimantan to the south, or at least traded from there. This three-pronged flow, complex and still little documented, affected the value of Sabah bronzes. These things became status symbols and heirlooms which competed with the overseas imports of ceramics from China and elsewhere. Many pieces of bronze or brass vessels, usually in poor, eroded condition, are found associated with later coffin burials in Sabah caves.

It is therefore perhaps, no accident that the first bronze tool actually proved in an excavation deposit anywhere in Borneo, came from Sabah's east coast, from Pusu Lumut Cave at Tapadong with its strong indications of Celebes and Philippine links, even back into the stone age (cf. Chapters VI and VII above).

2. The Excavated Bronze Axe and Cast-mould

A BEAUTIFUL bronze axe, 46 × 37 mm, with a curved cutting edge, hollow so that a handle can be inserted fully inside, was excavated in the 12-18 inch layer at Pusu Lumut, Tapadong (see Chapter III, 7 (f) and Plate 44). It is very much like others known in Indonesia² and is a typical bronze tool of the region.

What makes the Tapadong axe exciting is that it is the first bronze tool excavated *in situ* in Borneo, or for that matter anywhere in the East Malaysian or Indonesian region. Plenty have been found, either casually or in native hands, and have thus got into Museum collections over the years, but even at the Niah Caves with the rich sequences there, we never before succeeded in locating a bronze axe in succession. That means that, until now, we could never be certain these axes were part of a real local frequentation, usage pattern on the spot. For such small, fine things can easily be—and often are—carried about as valuables or charms, even over long inter-island journeys and for generations. The find in the cave at Tapadong strongly indicates a local provenance, if not manufacture, which was greatly strengthened as a probability, indeed certainty, by the excavation of part of a mould for casting another bronze tool, in the same small cave deposit of Pusu Lumut. This cast is made of sandstone (see Plate 45). It was found deposited a few feet away and higher up in the deposit, at 3 inches under the surface, at a point (E/5) where the deposit has been eroded by a drip from the cave roof.

The soft stone form was evidently used to make a bronze gouge, somewhat cruder in form than the axe. Pusu Lumut at Tapadong is a burial cave mainly of the late stone age. The mould may have been of sufficient value to have been put in as grave furniture which was presumably why the bronze axe—which is unbroken—was left there, too. The presence of such a mould for use by the *cire-perdue* (lost wax) technique more than suggests that there were people working bronze by such methods in the vicinity.

Sabah now needs more bronze evidence from further excavations, to fill in a tantalising picture of promise. It remains to be seen also, how far Sabah bronze will be found to overlap with late stone tools and with the earliest iron, as it certainly does at Tapadong (see Chapter VI above and section 4 below).

These bronze tools, few in number here or anywhere in island South-east Asia, do not suggest a distinct period when man depended on bronze as a primary source of artifacts—as was the case on parts of the mainland between the stone and iron ages (cf. Chapter 2); but they do show that bronze had a value, and that the bronze tools of northern Borneo are in the common tradition of



PLATE 44. Ancient bronze axe, excavated at Pusu Lumut, Tapadong. It has a curved cutting edge and is hollow so that a handle can be inserted. It is similar to others found in the Indonesian region and is the first bronze tool discovered archaeologically in East Malaysia. (See Chapter VIII, 2 p. 210) *Sarawak Museum*

PLATE 45. Part of mould made from sandstone, used for casting a bronze tool by the *cire-perdue* (lost wax) method, excavated at Pusu Lumut alongside the bronze axe (Plate 44 above), although not of the same pattern. (Chapter VIII, 2 p. 210). *Sarawak Museum*





PLATE 46. Small bronze kettle-drum collected before 1936 by G.C. Woolley, and part of his founding collection for the Sabah Museum. A fine example of so-called 'moko' in South-east Asia. (Chapter VIII, 3(a) p. 211).

the area. As *tools*, these played little or no part in the overall battle of Sabah life: the battle with the rain forest, for which the bronzes we found here are barely effective. By the same token, the earliest iron tools, which overlap the bronzes, were scarcely functional objects either (see 4 below).

3. Other Sabah Bronze Finds

(a) *An important kettle-drum (see Plate 46)*

THE OUTSTANDING non-excavated bronze from Sabah is a small kettle-drum collected before 1936 by the late G. C. Woolley of the North Borneo Administrative Service, now part of the valued Woolley collection in the Sabah Museum. This is a small drum, 53 cm. tall, 28 cm. in diameter across the top of the beating face (tympanum) and a fraction more across the foot. Four big loop-handles push out from the upper half as far as 6.35 cm. and connect over the waist to the lower half, which is detachable, socketed into the upper half.

The upper part of the outer side is decorated with large, circular and crescentic relief designs, having a broadly "Islamic" inference but very like some Sabah Bajau and Sarawak Iban treatments of vegetation symbolism (i.e. by no means strictly Moslem).

The lower half is in considerable contrast to the upper, particularly with a 12.7 cm. high relief human figure, entirely non-Islamic in character. He holds, in a six fingered right hand, the handle of a thick wand (but not a knife) which unevenly arches over to the left hand, both bent up at the elbow to reach the top of the head, in a striking, splayed posture.

The head treatment suggests a "sun-god" feeling; or a form of diabolism—with wide nose, grinning thick-lipped mouth and flame-like hair style. From the throat down is a quite elaborate system of lines which could be an "x-ray type" exposure of the viscera or alternatively, a pendant ornamentation including a large plaque (of shell?) over the lower chest. Below this comes a floral, fiery treatment, unmistakably intended to signify energetic male genitalia of no mean intent. The legs repeat the bent-at-right-angles manner of the arms in reverse, giving a final, grotesque touch to the whole. Though the other designs are repeated with minor variation, this "shamanistic wizard" is only shown once, squatting on the upper rimline of the drum foot.

The lower part *inside* the foot rim is hollow. The top, tympanum surface is about 2 mm. thick and quite crudely finished. A series of carefully incised (sometimes doubled) rings have been drawn round a slightly sunken centre point on this top surface. It does not look as if there had ever been any attempt at design between these lines, but the approach here is reminiscent of the Shan drums of the Asian mainland and of the bronze-age drums of Dongs'on. This Sabah kettle-drum is neither a Dongs'on nor a Shan piece, of course, but it is inside that tradition, modified, presumably made nearer home. Though Brunei is a good guess for the source of any such non-ferrous metal work in Borneo, no comparable piece is known from there; nothing

like it exists in the large collections now being accumulated by the Brunei Museum.

A somewhat similar but smaller kettle-drum from Alor Island is figured by Dr. van Heekeren (1958: Pl. 5)² along with a larger one from Java, which is near the well-known "Heger" series derived off Dongs'on. This Alor miniature appears to have a spread-eagled human figure etched on the upper half—though the illustration is unclear. Handle and waist arrangements seem certainly close to the Woolley piece. Heekeren's text gives a general survey of the subject (pp. 12-34) and also refers to the ancient metal working of the Celebes Toradja which may be of relevance to our Sabah piece. In Alor the so-called "hour-glass" drums are regarded as later and classed as *moko*—a word not known in Sabah. They were certainly cast somewhere in Indonesia, says Heekeren, and adds correctly:

"It is remarkable that the largest and most beautiful drums are found in the most eastern part of the Indonesian Archipelago". (p. 18).

John Bastin, previously at the University of Malaya, is continuing research into kettledrums in the region. Preliminary correspondence indicates further confirmation of our belief in a local, island origin for the *moko*, rather than for any mainland source of importation. There are also indications that these may not be very ancient in manufacture. The same applies, of course, to the much better-known related Brunei cannon, none of which could possibly have been made before the 15th Century. A preliminary report from Dr. Bastin is promised in the *Straits Times Annual* (Singapore).

(b) *Bowls from Lobang Tingalan, Baturong*

Lobang Tingalan in the Baturong formation is among the most important sites described in this study (Chapter III, 10 (d)). It is a dry, open terrace under a rock-overhang rather than a true cave, a camping ground of hunters and cavers over a very long period of time, stone age to now. Among the wide range of artifacts from this place are two smallish, saucer-shaped bowls of bronze. These are associated with two extended burials which pre-date the present Idahan population of birds-nesters and their usage of Baturong as a burial place, for the deposit of coffins on the surface, since the 12th-13th century A.D.

Thinly cast, simple in form and plain with slightly worked rims (as described already in Chapter III, 10(d) (above)) they were probably made somewhere in the area. They are unlikely to have been brought from any remote land in this delicate and insubstantial form.

(c) *Other prehistoric bronze pieces*

The other and most interesting sorts of old bronze work in Sabah—apart from the well-known Brunei and Tarakan types of later make—are the curious, small sheets and slabs of alloy, sometimes perhaps pure copper, which the Rungus Dusun of Kudat district value as sacred in connection with their shamanist rituals. There are two, probably from the Rungus but incompletely

identified in the Sabah Museum's Woolley collection (completed in 1936), and Dr. G. Appell of Harvard has collected one set (which we examined in the U.S.). The sheets seem to relate to similar bronze objects used by the Land Dayaks 500 miles away in southern Sarawak, now in the Sarawak Museum. The Land Dayaks also used them for shamanist purposes, but the whole subject requires further study. No doubt more pieces remain to be found and described fully.

4. The Earliest Iron

THE EARLIEST proven piece of prehistoric iron in Sabah comes, like the bronze axe (2 above), from Pusu Lumut cave on the Segama River, where it was excavated in the *same* 12-18 inch layer as the axe, overlapping also with advanced polished stone tools and earthenware pottery. The switch from stone to iron is, we believe, accurately reflected in the ground as in past life. The first iron came in *before* the main flow of imported stonewares and porcelains. Stone continued to be used after the advent of iron too—ending up, as symbolic reminders of the past, in the curious metaphor of the soft stone tool (Chapter VI, 11).

This very early piece of iron from the Pusu Lumut deposit is delicate, nearly paper thin, a slender spear blade, almost fine enough to be a large arrow head (59×24 mm). It is worn by corrosion, probably while in the cave deposit. We have not seen so fine a blade, either in use or excavation, elsewhere in Borneo. Both the metal quality and the workmanship suggest a special object, made perhaps as a value token for burial with an important chief in the earliest iron days.

Somewhat similar blades have been found in the Palawan Caves, excavated by Dr. R. Fox and his Philippine colleagues. One of these, which we have examined in Manila, is dated by radio-carbon to about 800 B.C. In "feel" it resembles the Pusu Lumut example. There is a distinct possibility that this kind of iron came, like the beads, from the west. In any case, it clearly predates the mass-use of local iron, by which we characterise the full "iron age".

5. Gold

NO GOLD object is yet known from Sabah, though the important Limbang Hoard of gold jewellery, probably dating from about the 12th century A.D., was found just south of the Sabah border. The Limbang Hoard is now in the Brunei Museum.³

6. Massive Iron—a Revolution in the Rain Forest

ONCE ESTABLISHED and locally available in bulk, iron quickly became the material of absolute must, the necessary tool for those beset amidst rain forests or coastal swamps. Iron opened up new incentives to success and speed in achievement. No other metal played such a significant part in the later Sabah story. Gold, important further south, seems to have passed the north by—though deer with gold antlers play a moving part in the folklore of caves and

other places (Chapters II, 5 and XI). Silver, developed as a later day craft in Brunei, scarcely touches the Sabah story at any point. Iron is the key to late prehistory and the door to history here.

No early iron-*smelting* sites have been located in Sabah, comparable to the enormous ones excavated since 1947 in the Sarawak River Delta. Smelted ore or finished tools may have been brought up the coast by Bajau and other maritime carriers at first. But before long, people even far inland learned not only to work raw iron into the fine tools (such as the *parang ilang*) of the hill folk, but also to find out and smelt their own crude ore from stone wherever it occurs—which is, in Borneo, widely.⁴

The introduction of iron technology involved both western ("Indian") and northern ("Chinese") influences. Iron was also soon and deeply intermixed with northern ceramic wares in a common barter traffic which to a lesser degree, included western glass as well. This great trade can suitably be dealt with as the subject of our next two chapters.

IX. Stoneware and Porcelain, from China and Siam¹

1. A Trade in Ceramics over Thirteen Centuries

CHINA BECAME the world centre for the manufacture of fine ceramics as early as 700 A.D., largely at a rural, semi-peasant level. She continued to serve a great part of the world and all the eastern islands in hard stoneware and porcelain for eight centuries, until the arrival of the Europeans, and in many areas long after that. Europe learned to make good, cheap, hard pottery—which they then called “China”—long after Magellan’s ships were met by caparisoned elephants bearing Ming jars filled with gifts when they called at Brunei in 1521 A.D.

Annam and Siam learned the craft from their northern neighbour at an early date. Chinese potters migrated extensively in later centuries, including to Borneo—where, after 1880 A.D., they established new workshops, for example near the railway line between Beaufort and Papar in western Sabah. Here they made big brown-glazed dragon jars for the hill peoples—many almost exact replicas of forms centuries old—as well as crude stoneware cups for the collection of latex in coastal rubber plantations. Meanwhile, the native population continued to produce their own soft earthenware pottery on a declining scale, as we have seen (Chapter VII).

The analysis and classification of Chinese ceramics has always been linked with the chronological list of Chinese dynasties during which certain techniques of manufacture, forms and decorations became established. These are:

T'ang Dynasty	618-906 A.D.
Five Dynasties	907-959 A.D.
Northern Sung Dynasty	960-1126 A.D.
Southern Sung Dynasty	1127-1279 A.D.
Yuan Dynasty	1280-1368 A.D.
Ming Dynasty	1369-1644 A.D.
Ching Dynasty	1645-1912 A.D.

In general discussions, the second to fifth periods above are all grouped within the Sung Dynasty: that is the procedure we shall, for convenience, follow in this Chapter. Although the wares of each one of these periods have certain unique characteristics, only a few remained tied to a specific time-span. Each period carried forward old traditions as well as introducing new trends. Many of the simpler export wares in particular—such as brown “dragon jars” and blue-white plates and dishes—tended to be conservative in style after becoming firmly established on overseas markets.

The relics of this trade remain in the ground, as broken potsherds, at cave and open burial sites in Sarawak, Brunei and Sabah, and also to the north and east in the Philippine Islands and Celebes. At the other end of the trade in value, and for which the jungle folk bartered all sorts of produce, rhinoceros horn and hornbill ivory, birds-nests and beeswax, kingfisher feathers, damar gum, camphor and other woods, pearls and shells, are the fine pieces which still remain in the uplands, often secretly lest outsiders seek to pressure the owners to sell their beloved heirlooms.

Chinese ceramic sherds have been excavated in Sabah on the offshore islands, in some places along the coast and the rivers, and in Gomantong, Tapadong, Madai and other caves. None of the places yet compare to the Sarawak or Brunei archaeological sites in scale. The general picture we get of these scattered ceramic finds in Sabah is that the earlier wares—dating from the T'ang and Sung Dynasties—which were brought in quantities to Sarawak, did not significantly penetrate north beyond Brunei Bay. Only a few isolated sherds of these have been found on the eastern coast. Their range is limited and of the kind which was mass-manufactured on the Asian mainland over centuries, making their precise dating difficult.

There is an appreciable change in the tempo of ceramic imports when we get to the Ming Dynasty in the middle of the 14th century A.D. The wares at that time included monochrome vessels of numerous shapes in a wide range of colours, and blue-and white decorated wares from South China, as well as the monochromes and painted wares from the Sawankhalok and Sukothai kilns of ancient Thailand. These Ming wares are more easily identifiable from either isolated sherds or small assemblages, because techniques of producing shapes and decorations were extended and included many of the common trade wares.

The trade continued on a lesser scale into the Ching Dynasty with new shapes and techniques, including the use of abundant colours. These wares occur in caves where burial rites continued after the advent of Islam and well into the 19th century A.D., often in conjunction with later Japanese and European-made ceramics. All these also survive in fair numbers and are in use by the native peoples of Sabah.

2. The Early Wares of the T'ang and Sung Dynasties

(a) "Dusun Jars" (see Plate 47)

THE most striking of the earlier wares are the powerful large "Dusun Jars" of hard stoneware, some of which remain intact in the possession of inland peoples. They come in various sizes, but are rarely less than 2 feet high. The largest are called *tompok* in Sabah and will easily accommodate a corpse. These are too heavy to be carried by one man. They have survived because their solid stoneware body is nearly unbreakable.

"Dusun Jars" are of a particularly heavy, grey, fine-grained stoneware of an almost cement-like consistency. As with most early jars, they have a

smallish mouth and narrow base, a fairly slender appearance, with sloping rather than swelling shoulders. They have a pale, grey-green glaze, sometimes peeling. The foot is normally concave and left unglazed.

Kadazan folklore has it that these jars were brought up originally from the *east coast*—long, long ago. One fabled jar, '*apui-apui*', took ten men to carry it. It could shed light, as its fiery name implies—and this is a common idea about other sorts of ancient jars found with the Kelabit-Muruts further south. The Kadazans, especially those in the Tuaran and Ranau-Tambunan districts, have long been famous for the value they set on these jars. Spenser St. John described two bought at Tuaran over a century ago for \$3,500 (Malayan), which was a great deal of money in those days.² Owen Rutter reckoned over half a century later that not more than thirty survived of the top classes, including *tompok* and the smaller *laing-laing* sort, together classed as *gusi*, when people gave up to \$2,500 (Malayan) for them. I.H.N. Evans refers in 1953 to a *tompok* which had already been used as a burial jar—that should theoretically obliterate its value—priced at \$800 (Malayan). A fine specimen on display in the Sarawak Museum obtained long ago, has attracted much attention from visiting Sabah politicians in recent years. Twice one of these gentlemen has offered over \$1,000 on the spot. The decline in value over the last century well reflects a general devaluation of the traditional in favour of modern functional or mechanical ostentation.

The ancient tradition surrounding these "Dusun Jars" is well founded. They have been regarded as T'ang or Five Dynasties by informed authorities—including the late Nanne Ottema at the Leeuwarden Museum in Holland where there are several, all collected from Java.³ Only few however, are dated in an archaeological context. Fragments of a small jar of that type came from the Painted Cave at Niah which are dated at about the end of the T'ang Dynasty. Jars resembling *tompok* in shape and style are also featured on the temple carvings of Borobudur inside Java—the glorious buildings completed before the end of the T'ang Dynasty. Here others have lately been excavated near the temple by the Indonesian Archaeological Service, confirming this venerable association.

The origin or provenance of these jars remains uncertain. No kiln sherds or similar source information trace them back to a specific site. It is probable that they were made in ancient southern China, possibly in what is now northern Indochina. Curiously in Borneo, they survive mainly in Sabah. We have never seen one intact in Sarawak or Kalimantan since 1945. They are perhaps the finest expression of an ancient special tradition which—like the megalithic culture around Kota Kinabalu—has continued into the present out of an ancient past, with an antiquity which can be measured over the best part of 1,000 years.

(b) *Other early Jars*

Border wars and internal strife inside China brought about the gradual downfall of the T'ang Dynasty from the 8th century onwards. By 907 A.D.,

the entry of the Mongols from the north caused the disintegration of China into various kingdoms. The period terminated with the foundation of the Sung Dynasty and its capital Kaifeng in North China. Because examples of classical Northern Sung wares are rarely encountered in Bornean, Indonesian and Philippine archaeological sites it was speculated that trading from China during the Northern Sung period was limited. But recent discoveries suggest that the types represented in these sites may well date back to the Northern Sung period. They are products of kilns located in provinces south of the Yangtze River and as far as the territories bordering Annam.⁴ The removal of the Sung capital to southern Hangchou in 1127 A.D. created a strong impetus towards the development of ceramic kilns in Chekiang, Kiangsi, Szuch'uan, Kwantung and Fukien. It is from these southern regions that most other early jars found in Borneo originate. Here also, the first jars were decorated with relief dragons—a decoration to continue as a favourite theme from the Ming period onwards and lasting until the present century.

Dragon jars dating earlier than Ming are only few and distinct in style: they have single, slender-bodied, snakelike dragons, placed fairly high on sloping shoulders. The jars are otherwise plain, usually glazed brown. The type is particularly valued among the Muruts of the Sepulot and Pensiangan

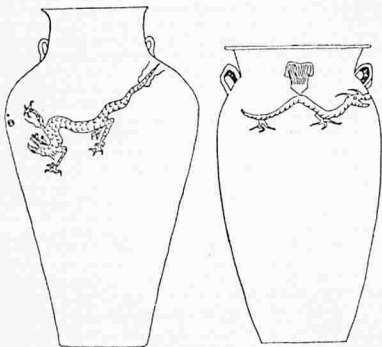


Fig. IX|1: Two ancient "dragon jars", from a Murut longhouse (left) and from excavation in the Philippines (right) display typical early features. (Not to scale).



PLATE 47. Two 'Dusun' jars are of a type ancient and venerated by certain Sabah peoples. Of cement-like stoneware with a pale green glaze, they date into the Tang Dynasty between 618-916 A.D., but their exact source of manufacture is unknown. (Chapter IX, 2(a) p. 216).

R. Goh, Sabah Museum

PLATE 48. Sawankhalok ware sherds, Thailand, late 13th to 15th centuries from the burial site of "Maharadja" Gemarang at Mandag Awan cave, Tapadong (right sherd) and from Sipit on Darvel Bay. (See Chapter IX, 3(a) p. 221)

R. Goh, Sabah Museum

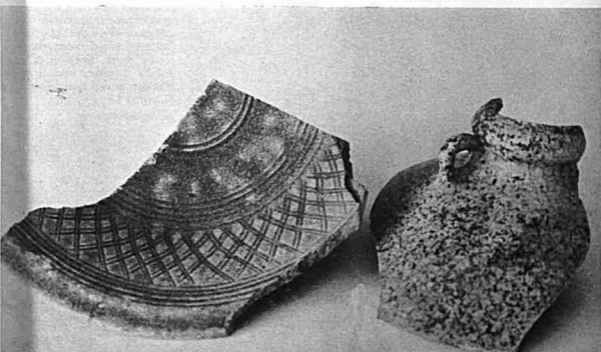


PLATE 49. 'Martabani' jar with a running peacock framed by "pie crust" borders and marked ear-loops, dates from the 17th century. Such jars were manufactured in Southern China and exported to island South-east Asia over centuries, where they were much used as burial furniture in the Sabah caves. (Chapter IX, 3(b) p. 221).

R. Goh, Sabah Museum



PLATE 50. 'Saddle ware' jars are numerous in Sabah and much valued by her people having been imported from the 18th century onwards. The decorations of raised dots and lines imitate buttons and seams in leather work. They are coloured similar to leather work i.e. blackish brown and yellow. (Chapter IX, 4 p. 224).

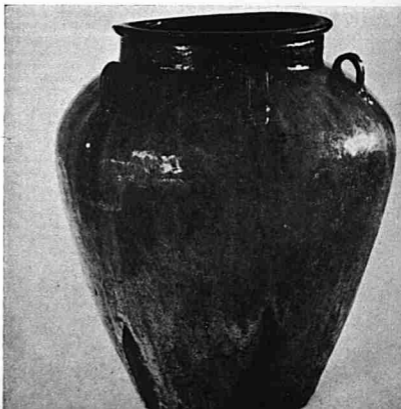
R. Goh, Sabah Museum



PLATE 51. Shanghai jars and bowls, slip-decorated and a characteristic olive brown and yellow in colour were exported in the 18th and 19th centuries from China as food containers. Sherds of this type of jar have come to light in several late burial places in Sabah. (Chapter IX, 4 p. 224).

R. Goh, Sabah Museum

PLATE 52. Kwangtung jars, with a streaked glaze of brown or green, imported until the turn of this century, are still used in the kampongs for storing water, brewing rice wine and as burial jars. (Chapter IX, 4 p. 224).



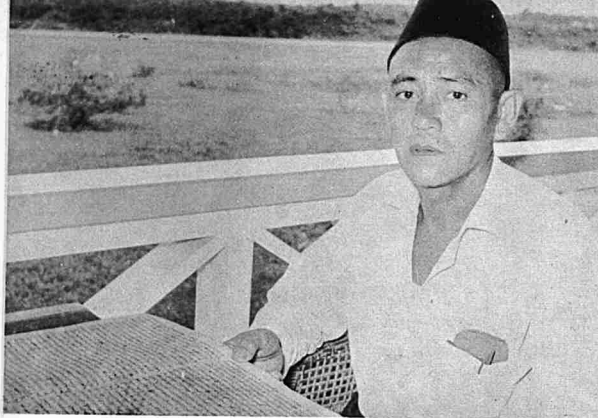


PLATE 53. Imam Injir, of Kampong Sapagaya near Lahad Datu, is today's owner of Sabah's oldest document, the genealogy of his Idahan forefathers (Summarised in Figure XI/1 and more fully in Chapter XI, 1 p. 229).

B. Harrison

PLATE 54. Unique documentary link into Sabah's prehistory and mythology, the yellowing pages are written in *Jawi* script in the Idahan language. Clover leaf designs in red separate lines of descent from folk-tale heroes. (Chapter XI, 1 p. 230).

B. Harrison



districts in the southern interior of Sabah where they are called *terawan*. The Sarawak Museum has several, obtained from the Kelabit Muruts further south over the border. A particularly fine example, with amber-coloured glaze streaked with green, was excavated from Puerto Galera up in the Philippines. Mrs. Locsin, with whom we examined it, describes it as of coarse, buff-grey stoneware. She says its "glaze and body are, to all appearances, ascribable to the T'ang period. However, the shape of the jar is unlike any recognised T'ang example and has a recessiveness more akin to the Sung style". Her line drawing of it alongside another of a monochrome brown jar seen in a Murut longhouse near Sapulut illustrates the close affinities between the two.

Jars like these and a large variety of later examples were extensively used for funerary rites in Sabah and all over Borneo. There are two main ways of doing this: cutting the jar open (with a red hot wire, by some Muruts) to take in a whole body tied up in crouched position; or placing the exhumed bones in the jar (which is secondary burial, following primary burial of the corpse in a coffin). In either case, a jar may have been bought for the occasion or already have been in family possession over centuries. The Sabah Museum has acquired a few such heirloom jars, mainly from areas behind the western coast (see Plate 49).

Broken, isolated sherd pieces of large burial jars are usually hard to identify for three main reasons:

- (i) only a minority of fragments belonging to one original vessel have identifiable features (such as parts of the base, lip, handles; distinct parts of decorations);
- (ii) they frequently occur (in grave sites) side by side with ceramic sherds of a later date;
- (iii) they were manufactured with minor variations, throughout centuries, onward from the end of the Sung Dynasty.

Thus the five plain, green-glazed sherds excavated at Lobang Tingalan, Baturong (Chapter III, 10(a)) indicate a Sung date for that site and level, because they are closely similar to wares known to us from innumerable comparable sherds excavated in the Sarawak River delta and elsewhere in Sarawak. But the sherds are indistinct in indicating size, shape and decoration of the formerly complete vessel; there is no other ceramic evidence to support them; and they are of a coarse, "brittle" stoneware made over a long period, predominantly during the Sung Dynasty.⁵ A few similar sherds of that type occurred at Bagdapo Cave in the Tapadong formation (Chapter III, 7(d)), where they were found associated with others dating from the early Ming period.

Lobang Tingalan is thus the *only* one of sixteen Sabah sites bearing imported stoneware and porcelain where a Sung date may be indicated. Nine others qualify for a Ming; six for a Ching date (see Tables below). Conspicuously absent in Sabah are other types of Sung wares, notably the fine celadons from Lung Chuan, the coarser "proto-celadons" from Yueh, and

plain and decorated white stoneware and porcelain, such as, the Ch'ing Pai and early Te Hua wares. All these have been excavated in great quantities in Sarawak to the south and the Philippines to the north. The lack of this material strongly suggests that Sabah was either not on the main trade route for it at the time or perhaps at its tail end where there was little left to trade.

3. Ming Wares from Indochina and China

(a) *Sawankhalok and Sukothai wares*

ACCORDING TO Thai history as reflected in a stone inscription, Chinese potters were brought into Thailand in 1290 A.D. during the Yuan Dynasty of China. They started to manufacture in two kiln complexes north of the walled town of Chiengmai, close to the Chaliang kilns where coarse-grained, heavy wares glazed dark brown were already made by Khmer potters at the time of the immigrants' arrival. The Chinese potters settled in three groups: the first to produce a ware now termed "Sukothai": heavy plates, bowls and dishes painted in blackish brown under a transparent, greenish glaze; the second to produce a ware termed "Sawankhalok": a wide range of bowls, plates, bottles and jars, lidded boxes and toy figurines with either a celadonic or brown glaze. The third group of potters specialised in building materials, such as roof tiles and Buddhist temple ornaments.

Sukothai and Sawankhalok wares captured the South-east Asian market during the early Ming Dynasty in a big way. They have been excavated in Malaya, Sumatra, Java, Celebes, the Philippines and Borneo—usually in association with 14th and 15th century blue-white wares from Ming China. The best authority on Siamese pottery, Charles Nelson Spinks, believes that the ceramic production of ancient Siam ceased sometime around the middle of the 15th century as a result of intermittent wars between the cities of Chiengmai and Ayudhya. Because they were so widely traded and popular, their occurrence or non-occurrence in an archaeological site has often been useful as an age indication. If a site, for instance, contained them alongside indistinct Ming wares from China—as in two Sabah sites—a date not later than the middle of the 15th century is probable. Alternatively, if a site contains indistinct Ming wares *without* Sukothai or Sawankhalok additions, a date *after* the middle of the 15th century is perhaps indicated—when the Siamese kilns ceased operations.⁶

No absolute conclusions of this nature are possible in sites with only sparse material to support a broader picture. We must always emphasise that a pot or jar used for or deposited with a burial may have already been an ancient heirloom at the time when the burial took place. Thus if we find a Ming burial jar in association with other ceramics dated, say, 19th century Ching, we date the burial 19th century assuming that the culture of the people concerned included sophisticated ceramic traditions. If on the other hand, ceramic materials from one site fall into one broad period—say, Ming—we date the site Ming using the presence or absence of Sukothai and Sawankhalok wares as an indicator of an earlier or later date within the period.

Sukothai and Sawankhalok sherds came from three cave sites on Sabah's east coast. Large fragments of a two-eared rounded pot of Sawankhalok celadon, found under coffins at Mandag Awan cave, Tapadong (Chapter III, 7 (a); see Plate 48) support a 15th century date rather well as this is the burial site of a distinguished Idahan ancestor, "Maharadja" Gemarang, who, as 12th generation, is likely to have lived during the 15th century (see Chapter XI below). The second site, Samang Itay cave, close to Mandag Awan, is likely to be contemporary. Here several fragments of Sawankhalok celadon and painted wares were recorded. The third site, Sipit, a small cave on the shore of Darvel Bay, had a single large fragment of a Sawankhalok celadon bowl (Chapter III, 8; see Plate 48).

(b) *Wares from South Chinese Kilns*

The Yuan Dynasty signalled the first appearance of blue and white underglaze painting. Blue-white ceramics attained real popularity during the 15th century. By this time, export trade had expanded to such proportions as to warrant their mass production for the Near East and South-east Asian markets. Blue-white wares traded into Borneo originated from a large number of kilns operating at the time in the Chekiang, Kiangsi, Fukien and Kwantung provinces of southern China. A small proportion came from as far south as Tonkin in Annam—a type identified by a distinct way of painting and a chocolate-coloured wash on the base of these vessels. Monochrome stonewares continued to be manufactured and exported alongside the blue-white wares, including a wide range of browns, celadons and white-glazed wares. The demand for brown "Martabani" type jars—useful for storing water, food, and as burial jars—was especially extensive throughout Borneo. Some of these were very large. Decorations varied from applied, dragons, incised waves, "fish-scales" and clouds, to elaborate floral and animal designs; some had relief "piecrust" borders (see Plate 49). They were mainly exported from Kwantung province, probably from Canton or another southern port.

Specific trading stations overseas for the ceramic trade, such as Brunei and Sulu, adjacent to Sabah, were seasonally visited by Chinese trading junks at the time. Native traders from outlying areas came here to pick up and barter these wares throughout the country. An early Chinese record, dated about 1225 A.D., tells of how this was done:

"When (Chinese) trading vessels enter the harbour, they cast anchor in front of the "official market" designated as the spot for all bartering transactions in this country. The natives board the vessels and mix freely with the Chinese traders. By day the native chief carries a white umbrella, and so the Chinese traders must offer an umbrella as a present. In trading the procedure is as follows: the barbarian traders arrive in a throng and take away the goods in bamboo baskets. At first the Chinese cannot recognise their customers, but gradually they learn how to identify those who have removed the goods, and when they do, the goods are never lost. The barbarian customers transport the goods to other islands for disposal. As a rule, they begin to come back in eight or nine months' time, using what goods they have obtained in exchange to repay the overseas traders. Some natives, however, do not return within the customary time limit. . . ."

(Chao Ju-Kua, in his *Chu-fan-chi* (Record of Barbarous Nations) completed in 1225 A.D.).

The Sabah Museum has recovered and collected Ming porcelains and stonewares from numerous places. The nine burial sites recorded by us give a picture only of the wide range of their distribution. They include caves on and beyond Darvel Bay, at Madai and Tapadong, several caves on the Kinabatangan River, as well as open sites on Eno Island off the northwest coast and on the megalithic plain stations near Kota Kinabalu:

TABLE 1
SABAH BURIAL SITES DATING FROM THE MING PERIOD OF CHINA

Site	Location	Wares recorded	Ref. Chapter
1. Suluk Caves	Batu Puteh, lower Kinabatangan River	blue-white wares; brown, buff and white monochromes indicating a late Ming date and carry over into Ching.	III, 4(b)
2. Agop Budgado	Batu Supu, lower Kinabatangan River	brown and buff monochromes indicating a late Ming date.	III, 4(c)vi
3. Mandag Awan	Tapadong, Segama River	Sawankhalok celadon, brown monochromes indicating an early Ming date.	III, 7(a)
4. Samang Itay	Tapadong, Segama River	Sawankhalok and Sukothai wares, blue-white wares, brown monochromes indicating an early Ming date.	III, 7(b)
5. Bagdapo	Tapadong, Segama River	brown and grey-green monochromes indicating an early Ming date.	III, 7(c)
6. Sipit Cave	Darvel Bay	Sawankhalok celadon (single specimen)	III, 8
7. Pusu Samang Alag	Madai Group of Caves	blue-white wares, brown, black and white monochromes indicating a late Ming date.	III, 9(d)
8. Eno Island	off Labuan	blue-white wares, brown and white monochromes indicating a late Ming date.	IV, 2
9. near Penampang (Mile 6)	Kota Kinabalu megalithic plain	blue-white wares, brown and buff monochromes indicating a late Ming date.	V, 2

All these ceramic sherds represent heavy, mass-produced wares of simple forms. Small or delicate cups, plates and saucers, lidded boxes and jars, wine bottles and ewers—of sorts, excavated for instance, at Brunei's ancient capital, Kota Batu, and at some Philippine burial sites near Manila—are lacking. One reason for the limited range in Sabah may have been the way in which Ming barter trade operated; the probability that finer, more attractive pieces became exhausted in principal trading stations where the main traders anchored, and where the population included prosperous aristocrats and residents with high status—leaving the bulk of cruder, simpler wares to be carried away on lesser vessels and carriers, further along their way up the coasts, rivers, and into the mountains.

This view is unlikely to be complete, however. Much of Sabah's interior population was prosperous and progressive, demanding the best for themselves then as now. One important factor in operation throughout these past centuries

since the Ming Dynasty in Sabahan burial sites has been extensive looting, leaving only the smallest, least attractive fraction of the materials once deposited *in situ*. Our six later burial sites, operative from the Ching period onward, well illustrate a progressive loss: those still in operation have plenty to show after only a few decades of use. This looting factor is a major obstacle to prehistoric reconstructions in northern Borneo. Looting deplorably continues into recent times because no legislation has been enforced to ensure preservation of the national heritage.

Two other factors add to the recent incompleteness of our picture: (i) the lack so far as an adequate search of potential sites on the east coast and its off-shore islands away from the caves; and (ii) the high degree of population movement and mobility due to wars and shifting cultivation which must have caused a vast amount of pottery loss.

4. Ching Dynasty Chinese, Japanese and European Ceramics—a later and lesser Trade

THE ADVENT of European influence in South-east Asia—starting with the Spanish dominance of the Philippines in the second half of the 16th century and the formation of the Dutch East India company based on Java—had disastrous effects on the great China trade. Junks were seized on the high seas, lesser vessels sunk. General unsafety, war and piracy resulted on all maritime trade routes. The galleons of the Spaniards, Portuguese and Dutch, though warring and competing for local alliances and markets, gradually took over most of the big trade. Nevertheless, Chinese ceramics remained in great demand throughout the islands—right up to the second half of the 19th century—as the main source of good, cheap porcelain and stoneware. The migration of Chinese potters to Borneo to cater for local demands on the spot; and the advent of good, mass-produced ceramics from Europe and Japan, imported by regular steam traffic, finally challenged the ancient Chinese monopoly. Today, mainland Chinese, Hongkong, Japanese, European and locally produced wares are sold side by side in Sabah shops all over the country. But although the demand is considerable, ceramics are much challenged nowadays by the availability of unbreakable, lighter, cheaper, plastic and metal containers. These new goods have taken the fancy of modern Sabahans during the last decade. They are also to be seen increasingly in present-day burial grounds, deposited sometimes alongside an heirloom jar or pot of the late Ming or early Ching period.

Ching wares (1645–1912 A.D.) resemble those of the Ming in multiple ways. Blue-white plates and bowls, brown, black and ochre jars continued to be produced in the old tradition. But increasingly, massive outputs of stereotyped, quickly decorated, simple forms, rather than the production of carefully executed works of art became a necessity in most Chinese kilns. The introduction of new, vivid colours, painted in various combinations over the glaze—adding to a basic blue-white pattern outline under it—was the main innovation of the Ching period to become fashionable.

Another technique which grew popular gave jars combining a basic brown glaze with a second lighter, yellowish colour, often emphasising moulded or carved panels, applied dots and raised lines. "Saddle-ware" jars, so named because the combined dots and lines decorating them were imitative of buttons and seams in leather work, originated from the Soochow kilns in Kiangsu province. They became Ching Dynasty favourites in Sabah, similar to the "Dusun Jars" of the T'ang and Sung periods earlier on. The Sabah Museum has several fine specimens (see Plate 50), some collected from burial grounds. The better known slip-decorated varieties of olive brown and yellow jars and bowls made in the same kiln area near Shanghai, (see Plate 51) from the end of the Ming period onwards, are still in production. As probably then, they are mainly exported containing food. The ware is represented, broken, in some of the late burial places in Sabah.

Much further south in Kwantung province, another type of jar—known as Kwantung or Canton ware—was produced. It was glazed brownish or blue-greenish with a streaky or mottled effect, imitative of the classic "Ch'ün Wares" of the Sung period. Such jars, often massive, with numerous, carefully moulded ears, (see Plate 52) were exported to Sabah up to the advent of local kilns. They were also used as burial jars.⁷

The only *European* ceramics to become firmly established in Sabahan native use were plates and bowls made in Holland, decorated with simple, multicoloured floral designs—a ware still sold in the shops today. Japanese ceramics, largely imitative of Chinese blue-whites, combining blue-white and overglaze colour designs, were introduced in the form of small jars, plates and bowls.

One or more facets of this varied ceramic trade was recorded in the following six caves:

TABLE 2
SABAH BURIAL SITES OF THE CHING PERIOD

Site	Location	Wares recorded	Ref: Chapter
1. Tobi Dayang	Gomantong	blue-white plates and bowls Chinese, early Ching	III, 2
2. Agop Keruak*	Lower Kinabatangan River	brown and green monochrome jars blue-white and white plates, Chinese, Ching	III, 3(a)
3. Miasias	Lokan River	brown and white monochromes, Chinese, later Ching	III, 5(a)
4. Miasias Darat	Lokan River	brown and green monochromes, blue-white and poly-chrome overglaze wares, Chinese, early and late Ching; Dutch wares	III, 5(b)
5. Agop Sarupi	Upper Kinabatangan River	Chinese, European and Japanese wares of the late Ching period	III, 6
6. Batu Blas	Segama River	Chinese, European and Japanese wares of the late Ching period	III, 7(g)

* Agop Keruak is *not* a burial site. The recorded ceramics were deposited as offerings by the birds-nest owners harvesting the cave.

X. Beads

1. Prehistoric Beads: From Stone Age Bone to Western Glass¹

MOST BEADS found in Borneo today are of glass. Some of these came here in prehistoric times, others are later "fakes" imitating the older types which the European traders found highly valued by many native peoples. Nearly all, old or new, "genuine" or copy, came more or less from the west: the early ones probably from India and the Middle East, (we can only tell for sure by an Asian-wide series of exact chemical and spectographic analysis); the later ones mostly from Venice and Holland. The later copies are often visually indistinguishable from the models; they had to be well made to deceive the keen eye of the native collectors.

Whatever their sources, these glass beads were themselves from earliest times, also in a sense fakes. For the first outside traders of the early iron age found the Sabahans using beads made from bone and stone, gums and seeds. Glass beads followed this old fashion in a new way—just as Chinese stoneware largely replaced the less durable and decorative local earthenware in ritual or luxury use. Hard glass largely replaced the less lasting or less variable early materials for living neck head and ear ornamentation and for putting on the bodies of the dead.

2. Pre-glass Beads (Neolithic)

Three types need to be separated: bone, vegetable and stone.

(a) Bone Beads

THE earliest common beads in Borneo were made of bone, usually the arm-bones of larger birds, which are hollow, straight, light, yet quite strong. These date back before the neolithic, and were interestingly reproduced among the pale yellow glass beads of the same shape which appear on the earliest iron age scene, not only here but in other parts of South-east Asia (see 3 below). In Sabah we have in addition to the usual long bone beads, several records of larger, rounded ones made from what seems to be vertebral discs concave at each side and *drilled* through to provide the hole.

(b) Vegetable matter

Vegetable matter as a bead base is quite regularly found in stone age deposits, though normally so decayed as to be beyond exact analysis. Some native resin gums, notably that of *damar* (yielded by the genus *Shorea*), an export from long ago and still of commercial value are more durable. The material can be shaped with a blade, easily bored or moulded if warmed. Big round lumps with a semi-transparent, often yellowish or pale gold look can thus be reproduced. None of these are known from Sarawak excavations,

but interestingly there are two from Sabah's less complete survey and thus, by inference, they are more common here (also at 4, below).

(c) *Stone Beads*

A few stone beads are found in stone age contexts, though some stone (such as the pinkish opaque cornelian, or black and white onyx) have been in use from the stone age and are still to be found on Murut necks in Sabah—they were probably made latterly in India. Common early local materials are gypsum, which is white, translucent, easily bored and occurs naturally in the limestone strata of caves; quartzite, a handsome crystal which is very difficult to bore but is sometimes secured with a string around the facet angles to make a pendant: and forms of a jade-like stone which occurs widely on Sabah's east coast.²

Two good stone beads occurred in the Pusu Lumut Cave excavations at Tapadong (Chapter III, 7(f)), in close association with the bronze axe. One is a small tubular bead, probably of chalcedony of a not uncommon type. The other is one of the finest stone beads we have seen in this part of the world, large (23 mm long), of a polished blue stone resembling lapizlazuli, and probably not of local origin.

There are no glass beads at Pusu Lumut, which is too "early", being basically a late stone age cave overlapping into bronze and early iron. No prehistoric *metal* beads have yet been reported in Sabah.

3. Glass Beads³

IN A purely stone age setting, you would not "expect" to find glass, which came into Borneo along with stonewares, though from a different source (cf. 1 above). A few glass beads did get in with the earliest iron, before the really big mainland trade began. A bead is, after all, a highly mobile, barterable souvenir, or gift capable of travelling almost on its own, from neck to neck.

One of the early glass beads proven for Sabah is the small, spherical, yellow one—a type called "seed bead" in the trade, for it follows the seed vegetable style—found with a burial at Lobang Tingalan at Baturong Caves, associated there with early bronze and iron tools (Chapter III, 10(a)). Several other broken, small glass "seed beads", probably later, were found at Agop Bugdado, Batu Supu Caves on the Kinabatangan (Chapter III, 4(c) iv).

But (as indicated above) the earliest of all glass beads in the area are probably the tubular orange ones, which closely follow a neolithic bone tradition and are still called "*manik tolang*", "bone beads", by the Lun Daya Muruts in the headwaters of the Padas at the south-west corner of Sabah. This particular type, clearly represented at Pusu Samang Tas in the Madai formation, never more than 3/4 inches long, has been found in almost every early iron age excavation from the Gulf of Mergui and the Isthmus of Kra through the Malay Peninsula into the islands as far north as the Philippines. A close relative, now called *labang* by the Muruts of the Padas and eastwards

to Sapulut and Pensiangan, is darker, rather coarser, and a little later, perhaps. It is also represented at Pusu Samang Tas (see 4 below).⁴

The glass beads here mentioned and *all* other known early ones from Sabah are characterised by being:

- Small.
- Round, tubular or otherwise simple in form.
- Monochrome—one colour only per bead.
- High in silica and sodium content on analysis.
- Very low in lead, and lacking in barium.

The last quality is significant in that early Chinese glass generally contains much lead—and is therefore heavy, measurable by a simple specific gravity test; and also often contains barium, an element very rarely found in “western” glass. Some of the basic research on glass content for the area has been done through the Sarawak Museum and the University of Malaya, leading to the conclusion that most early glass in South-east Asia is not of Chinese origin. We therefore have a doubled trade bringing two of the most important and surviving articles of outside material content: “western” glass from one or more places, still unidentified, but quite possibly Persia (and certainly pre-dating Islam by many centuries); and “northern” stoneware, first from China and Indo-China, starting at least by 700 A.D. This dual-source trade confirms the belief that at least a large part of the early traffic was not carried direct from either north or west, but by more local intermediaries, such as the Bajaus and other maritime folk latterly classed as “Sea Nomads” (cf. Chapters II, 4 and VII, 7). Some Chinese glass did reach Borneo: but there is no trace of it in Sabah so far.

There is no sign that glass was ever made or worked anywhere in Sabah.⁵

4. The Bead Assemblage from Pusu Samang Tas, Madai

THE CAVE that gave the best range of bead types *in situ* was Pusu Samang Tas. The quantity is small, owing to the limited space excavated (5 × 5 ft.).

BEADS AT PUSU SAMANG TAS CAVE

Material/Colour	Condition	Numbers by depth			Total Nos.
		0-6"	6-12"	12-18"	
GLASS:					
Orange: tubular, small	whole		1		
Orange rounded, small	whole	1			
Yellow; tubular, small	worn			1	3
DAMAR GUM:					
Orange-yellow, round large	half		1		1
BONE:					
Colourless, round, large	fragment		1		
Colourless, discoid, small	fragment			1	2
Total		1	3	2	6

The glass beads are of both *manik tolang* and *labang* types, as discussed at 3 above. The resin gum bead is a handsome ball of moulded damar. The bone fragments are of the vertebral type. The assemblage reflects the transition from the end of the neolithic into iron.

5. A Note on Illustrating Beads

BLACK AND white drawings or photographs of beads seldom indicate their character satisfactorily, let alone assist identification for the interested reader. Only if coloured are such illustrations helpful, though even then they can be misleading. Funds do not permit colour illustration in this publication. We therefore refer those wishing to pursue the subject to other publications which run to plates showing beads relevant to the Sabah prehistoric scene:

- (a) Colani, M. "Les Megalithes du Haut-Laos", 1935 Vol. II, with plates.
- (b) Fox, R. "Report on the Calatagan Excavations" *Philippine Studies* 1959, VII, 3 Plate B.
- (c) Lamb, A. *J.M.B.R.A.S.*, XXXVIII, 1965, 2: 87-124, with plates. (See Chapter III, Note 3).
- (d) Locsin, L. & C. "Oriental Ceramics discovered in the Philippines" Tuttle Co. Tokyo, 1967, Plate 5.

Colani's book is in French and now hard to get, but shows Laos beads very close to the common early forms of Sabah and South-east Asia generally. Fox's plate gives a good range of "western monochromes", though the colour is rather pale on the block. Lamb shows clear *manik tolang* and others from the Malayan Peninsula. The Locsins' handsome new book shows only a few deep blue glass "seed beads" of another widespread sort. This plate also shows four blue and green glass bangles of a type common in the Philippines and not uncommon in Sarawak. They have not yet been identified from Sabah—(but no doubt will be in due course).

BRIDGES FROM PREHISTORY¹

XI. The Idahan Story

1. Sabah's Oldest "Document"

THE IDAHANS of the Lahad Datu district preserve a unique document written in Arabic *Jawi* script and using the Idahan language, which tells the Idahan story of origin—tracing their genealogical descent from a mythical ancestor, Besai, who lived, long ago, on the Kinabatangan River. The seventh generation after Besai includes Apoi, brother of the Golden Deer, who led him to discover all limestone caves of Sabah's eastern coast. The first Moslem Idahan, Abdullah, in whose hand the present document was probably first written appears, as the tenth generation. Folk hero and saint of the present-day Moslem Idahans, he is supposed to have lived in the early 15th century; to have acquired the faith on Darvel Bay in 1408 A.D. from Machdom (a descendant of the Prophet Mohammed), who allegedly brought Islam to Sulu in 1380 A.D. and travelled widely on merchant-missionary expeditions in the following decades. This was also the time of the first Mohammedan Sultan in Brunei (Awang Alak Betatar) when Islam became the state religion there and when the Chinese Admiral Cheng Ho made his voyages—the first connections with his fleet in Sulu are supposed to have inaugurated the trade in edible birds-nests from Sabah's eastern coast.²

Having traced numerous family branches of ten generations after Abdullah, the Idahan record ceases without a reliable connection to present-day Idahans. Apparently, it has not been up-dated for five or six generations. If this assumption is correct, we get fourteen or fifteen generations after Abdullah to the present day—or a time span of roughly five hundred years—in accordance with the document. This, in theory then, places Abdullah into the second half of the 15th century. But as we shall see, the method of "multi-lineal" genealogical reckoning adopted in the document is extremely complicated to follow without introducing mistakes. One reason for discontinuing the record may have been its very complexity—it became eventually confusing rather than helpful to try and follow it.

The present document consists of 140 foolscap pages, ancient, yellowed, partly frayed, European-imported, strong paper, both sides covered with *Jawi* (Arabic) script in faded ink, now shading to brown, with some insertions in red. Its present owner is Imam Injir of Kampong Sapagaya near Lahad Datu (see Plate 53), who inherited it from his father and grandfather. Imam Injir confirms that the genealogical part of the document was discontinued "a very long time ago". The section has become obsolete through the establishment of Government registers listing owners of birds-nest caves early in this century—now the only legally recognised source in ownership disputes. The document once exercised a similar function amongst the Idahans of the Lahad Datu area.

But it was mainly used by the local Imams as aide-memoir to Islamic teachings, reflections and prayers—over a time when printed religious books were unavailable outside towns and courts.

The document has been re-written many times since it was first started. Some parts, especially those relating to the distant, pagan past, were gradually reduced under the pressure of Mohammedan influences and replaced by Islamic prayers and teachings brought into the district by outsiders and copied on the spot. The Imam in current charge of the document normally undertook to copy such parts or sections becoming illegible or spoilt during his lifetime. The present text runs continuously, on the same kind of paper throughout, incorporating the following contents:

<i>Page Nos:</i>	<i>Contents:</i>
1- 55	Description of padi land, planting and other agricultural data. Astrological observations.
55- 67	The Idahan legend of origin merging into Idahan genealogy.
68-140	Religious assortments, mainly teachings and prayers copied from other sources.

Eleven pages present the Idahan legend of origin. The remainder was fully inspected in 1967 with the Imam at the Religious and Literature Department in Brunei whose able Director, Datu Haji Jamil, thought it to be a typical assemblage of religious information copied from various sources over a period of time, with numerous parallels in the Brunei Archives, though of course, none of these use the Idahan language. Imam Injir had some difficulties in reading the origin story and genealogy because, as he said, it was in a terminology largely out of date. He therefore copied this part of the document, using *Jawi* script and modern Idahan in order to be able to work smoothly. His workbook then served as a basis for our lengthy discussions (in Malay) and the preparation of the English text (the relevant portions of which follow here).

The legend of origin established two main branches of Idahan descent and follows them fairly smoothly until the appearance of Abdullah in the 10th generation. This part of the document is quoted verbatim. After Abdullah, the genealogy becomes more complicated. The interruption of one branch and taking up of a new line of descent is here indicated in the text by a "clover leaf" sign in red (see Plate 54). The first ancestor of a new line of succession is usually (but not always) introduced by tracing his descent backwards several generations, mostly without indication of a previously established link. Thus names earlier stated re-appear, especially those connected with heroes such as Apoi or Abdullah. But the references to past generations often introduce "mistakes" or variations to previously stated successions. Some lines of descent remain totally unconnected with previously established lines.

The Idahan family tree includes only some names clarified as male (m) or female (f) (see Fig. XI/1). This is in accordance with the document, which only occasionally distinguishes the sexes.

2. The Origin Myth: Man-fruit, Girl-egg, Golden Deer

The text, here translated for the first time, reads:

"Once upon a time, very long ago, there lived a man on the Kinabatangan River whose name was Besai (1)*. Besai was the first of our forefathers of whom we know. He was married to Mnor. They had no children.

However, Besai was told in a dream how to set about getting children. He dreamt that he should go up the Kinabatangan River and there search for a magical fruit. This fruit, the name of which was given to him as *Tegokgua*, belonged to the tiger if it happened to fall on the ground; and to the crocodile, if it fell into water. But it could also magically transform into a human being.

Besai did as he was told in his dream. He went upriver and searched the jungle for the fruit. He found its tree and sat down under it. He waited for a long time. When a fruit finally fell to the ground near him, a tiger came out of the jungle. The animal pounced on the fruit, ready to devour it.

Besai fought the tiger with his spear and killed him. He collected the fruit and carefully brought it home. He wrapped it into leaves and bark, then sat to wait. After seven days and nights the fruit burst open its shells and human twins emerged. One, a male, was called Teripo(2).

At about the same time but in a different place, lower down on the Kinabatangan River, lived a man by name of Semurong Tegar Kun(1) who, like Besai, was childless. He also was told in a dream how to search for children. He dreamt that he should go and look for the egg of the Garuda bird³—the *Tegokgua* tree having disappeared after Besai had found it—on the top of a mountain, and to collect it.

Semurong Tegar Kun found the egg, brought it home and wrapped it in leaves and bark; then sat down to wait. After seven days and nights the egg burst open and a woman emerged whose name was Dulit(2).

Teripo, the male twin from the fruit, and Dulit, the female issue of the Garuda's egg, now got married. They begat a son and a daughter—Marekko(3) and Lubag Pato Kasu(3). From their daughter issued the next two generations, Seriga(4) and his son, Maringan Lepasan(5), both in the male line. Maringan Lepasan married Tanad Jau(5) and they had three children, Dulit(6), a daughter, and Simun(6) and Katundung(6), both sons. There may have been other siblings whose names are forgotten.

It was from Dulit, the eldest daughter, from whom many other generations descended. But Dulit has a special story of her own also. She was really called Dulit Nipon Wong because she possessed terrible powers to bite with her vagina. She had no less than six husbands. All died in coitus with her.

A seventh husband was finally chosen by her parents for her. His name was Teripo. He was of course, very afraid of marrying her. However, before his marriage was due, he dreamt that he was to collect *Beluno* fruit in the jungle and that he should use the fruit to help him in his difficulties. He went to collect the fruit and kept it ready for his marriage day. When the day came and he lay down next to Dulit, he thrust the fruit into her vagina. Her vagina closed over the fruit biting into it and at that moment Teripo tore it out again with all his strength, breaking the teeth of Dulit's vagina in doing so. It is since then that all *Beluno* fruit are bitter.

Teripo thus saved his life but in order to protect himself well into the future, he changed his name into Lepas di Teripo(6). He married Dulit properly and his first issue was a son, Apoi(7). His second issue was a dog, Sind Rapod, and his third a deer with a golden hide, Payau Mas. The deer grew up quickly and ran off into the jungle, leaving Apoi and his brother-dog behind.

Apoi grew up to become a keen hunter. He was always accompanied by his dog. One day, while out hunting, they spotted a golden deer. The deer ran swiftly, leading him through the jungle, to mountains and into caves. Apoi followed the deer's lead to Gomantong, Batu Timbang, Tapadong and finally to Baturong, Tagarong and Madai.† When Apoi reached Madai Caves he found the golden deer exhausted and waiting for him. The deer then spoke, saying that its name was Payau Mas, that he, Apoi, and the dog, Sind Rapod, were all blood brothers. He asked Apoi not to kill him. He also told him that he was to rule over the Madai area; that he and his dog were to be leaders of their people. The deer predicted that all caves henceforth to be visited by Apoi were to become his property and should forever remain so for all his descendants. Having thus spoken, the golden deer disappeared into Madai caves and was lost. Apoi and his dog returned home.

* The numbers in bracket, refer to the numbers of successive generations indicated in the genealogical tree reproduced as Fig. XI/1, between pp. 234 and 235.

† Batu Timbang is on the Kinabatangan River, Tagarong on the Segama. Compare also Orof's verbal version of the Golden Deer story at Chapter II, 5(e), and discussion of cave linkage there.

Dulit of the biting vagina and her husband Lepas di Teripo, having brought forth Apoi, the dog and the golden deer, had another male child whose name was Lenom(7). Lenom married Kidum(7) and they had five children. One of them a girl Putut(8), carried the next generations. She married Abong(8) and with him had Ibong(8-9) and Sindin(9). Sindin, her daughter, married Lepitenu(9) and they had three children: Marami(10), Podibang(10) and Abdullah(10).

It is Abdullah who first converted to Islam and from whom many other generations descended. Abdullah married Berambun(10) and had with her two sons, Lag(11) and Terassa(11).

This ends the Idahan origin story, written but nevertheless a folk-tale. It is necessary at this point to bring out the importance of three main trends in the text in this level of native culture generally.

3. Three Trends in the Folk-roots

(a) *THE fruit-birth* side of the story closely relates to the origin myths of the Kayans and related peoples who now live to the south over the Kalimantan border. The nearest are today located in the tidal reaches of the Batang Kayan, opposite Tarakan—a little over a hundred miles by sea from Lahad Datu.

The name of the originator of this branch, Besai, indicates the advent of iron. There is every indication that the Kayans acquired iron and the technique of smelting it from their own ore at an early stage. Provisionally we estimate that the present refined Kayan-Kenyah iron working industry of the Batang Kayan has its origins around 1200 A.D. if not earlier. Allowing for the lengthening of early generations in the pre-Islam part of the genealogy, an even earlier date seems indicated.

The Idahans themselves do not smelt or work iron. In their own estimate, they have always imported their iron tools from the Kayans to the south up until the advent of industrialised, cheap iron and steel.

The voracious vagina of Dulit Nipon Wong, suggests a possible relationship with the palang or penis-bar, devised partly for female satisfaction and dominant among the Kenyah-Kayans.⁴

(b) *The egg-descent* finds many parallels in northern Borneo, none to the south. Some Kadazans, most Muruts and less directly the Bajaus, are implicated in egg origin myths (Harrison in Smythies, 1960; Rutter 1929; Evans 1953). The Idahan however, introduce a distinct "Hindu" note—specifically using the work "Garuda", usually lacking elsewhere.⁵

The title "Semurong" and "Maregko" (cf. generations 1-8 on the "egg-side") may represent the impact of an outside ideology where Besai implies an equivalent in technology. "Semurong" is a word found among the Muruts of the Brunei Bay area. In Brunei *sila-sila* it appears to have a connotation of a Hindu aristocrat. Similarly "Maregko" is possibly a Hindu title.

(c) *The Golden Deer* impact is third and probably latest of the three. The idea of twin birth of human and animal occurs frequently in Borneo Moslem folklore. We have already referred to a very full Brunei Malay origin story telling how "Alak Betatar" (the name for the first Mohammedan Sultan, possibly coinciding with Abdullah (10)) pursues a wild ox all through the headwaters of the rivers draining into Brunei Bay and northward in an epic

which gives him eventual authority over all these lands (cf. Chapter II, 5(c)). It is possible that variants of the Idahan story have been influenced from Brunei, which dominated the area at that time. Alak Betatar's brother, Akhmed, who married the daughter (or sister) of Ong Sum Ping from the Kinabatangan River and became "second Sultan of Brunei" relates to another folk story by which some Kadazans trace Chinese ancestry through the "accidental" underwater copulation of "Rajah China" with the "Sultan of Brunei's daughter", on a visit to Borneo: they slipped twice, and the consequent boy and girl mated to found the Dusun dynasty (Rutter 1929: 249).

Significantly, the Golden Deer story is told variously,⁶ not just connecting with Apoi. In the version already quoted (Chapter II, 5(e)) the hunter pursuing the deer is called Gomorid, his dog-brother Siod Rapod. "Gomorid" probably equals Gamerikinau(6) in the Idahan genealogy, a collateral of Apoi(7) and local hero of fair standing.

No doubt several distinguished lines of descent expressed the wish to associate themselves with magical powers and glory in this way.⁷

4. Idahan Identity and Suluk Propinquity

TODAY THE Idahans number about 3,000 in their own definition. Owing to overlap with the Suluks by marriage, exact numbers are hard to come by. The Idahan are poorly represented in Borneo's English literature. Though living in a rich and accessible coastal district, they remain one of the least known people on the island. Spenser St. John collected a vocabulary for them as *Ida'an* (1862: 383) but no fuller linguistic or ethnological work is known. Owen Rutter refers to them—in connection with the Segama Dusuns—as "Idahans, Islamized Dusuns in the same area" (1929: 38). He also refers to the term "*Ida'an*" as a general Bajau term for all coastal pagans (1929: 30). This second point is a good one. Idahan may be one of many old terms used by one native people of another which were later adopted as descriptive of a particular group. It may well have originated as quite general description by outsiders of large, uncorrelated pagan groups. Old, native peoples converted to Islam have tended in Sabah to retain their separate identities, often for topographical reasons. When the ownership of birds-nest caves was involved, this tendency has been accentuated to identify such ownership against outside encroachment by other, incoming Mohammedans (such as the Suluks).

The Moslem laws of inheritance involve continual fragmentation in each generation of already small cave properties. This is where the written genealogy played its most important role—prior to the advent of colonial government. Keeping down conflict, especially where there are many siblings in a family (an increasing difficulty with improved survival of births) is a difficult matter, even with modern cave registration. All agree that in the past there were not more than 1,000 Idahan. By no means all had cave rights, which were restricted to definite "discoverer"-families centred round Mt. Silam on Darvel Bay—at the foot of which lies Kampong Sapagaya, present-day centre of the descendants of these families, where the Idahan document is held.

The Suluks, like so many early aggressive Moslems, linked religion with trade. The Sulu Archipelago specialised in birds-nest trade—so much so that the first European to attempt trade with the Suluks, the Englishman Alexander Dalrymple, in 1762 A.D. listed this as the number one item of all goods he was expecting to export. Datu Jinurain, the Native Chief of Lahad Datu and of mixed Idahan-Suluk ancestry, represents one in a long line of Suluk penetration—incorporated, in fact, into Idahan aristocracy.⁷ The Idahan, to survive, had to become Moslem and to concede considerable prestige and trading rights to the Suluks to avoid being overrun. The related Sungeis, so often encountered further north-west (in Chapter III), failed to make the concession. Remaining determinedly pagan and intractable until recently, they were isolated inland and lost many cave and other rights. To this day it is a Sungei grievance that this Suluk aggression, linked by upperclass intermarriage with the Idahans, has meant that the best caves in the Segama River, Tapadong, are now owned by the Idahans of the topographically remote Lahad Datu district. To a lesser extent, the Idahan nurse a mild resentment against the Suluk because they feel that they pressured themselves into Idahan territory and possessions. Imar Injir put it this way:

"The Suluks in the old days had quite a different way of doing things. Their code of conduct was not like ours. What they could not get by asking they took by force. They were tough; many. We were few. If they liked the look of a woman they asked for her. If this was not accepted, they would kill. So they took some of the best women for wives, and their sons became living parts of our community. Only Suluks dare do this. We could resist any others".

Under these rugged conditions those who failed to adjust themselves to the powerful newcomers in boats carrying locally made cannon could do nothing but perish or vanish inland. There are good grounds for thinking that at least one strong element in the present inland population of north central Sabah originated in this manner, as a retreat from the coast within the past five centuries.

5. The Idahan Genealogy after Abdullah: a Canopy of Doubts

WORDING AND style of the Idahan document suggest that the story of origin and lines of descent were first written during Abdullah's lifetime—before his children Lag(11) and Terassa(11) were married; that further additions were made from time to time by succeeding generations who recorded separate lines of descent—six, sometimes less, generations at a time—often without identifying a link with antecedent individuals. In these cases, past culture heroes, such as Maregko Mandag Awan(3), Seriga(4:7)*, Apoi(7), Gameri, Kinau(7) and Abdullah(10) are referred to by going back several generations indicating a direct link. Some lineages of back-tracing are inconsistent, implying that they were recorded from memory without reference to what had been written previously. In such conflicting cases, the earliest version appearing in the document was used as the more likely in the assemblage of the Idahan genealogical tree (see Fig. XI/1). Some names appearing in the

* The male wooden figure at Hagop Bilo, Baturong (III, 10(e)).

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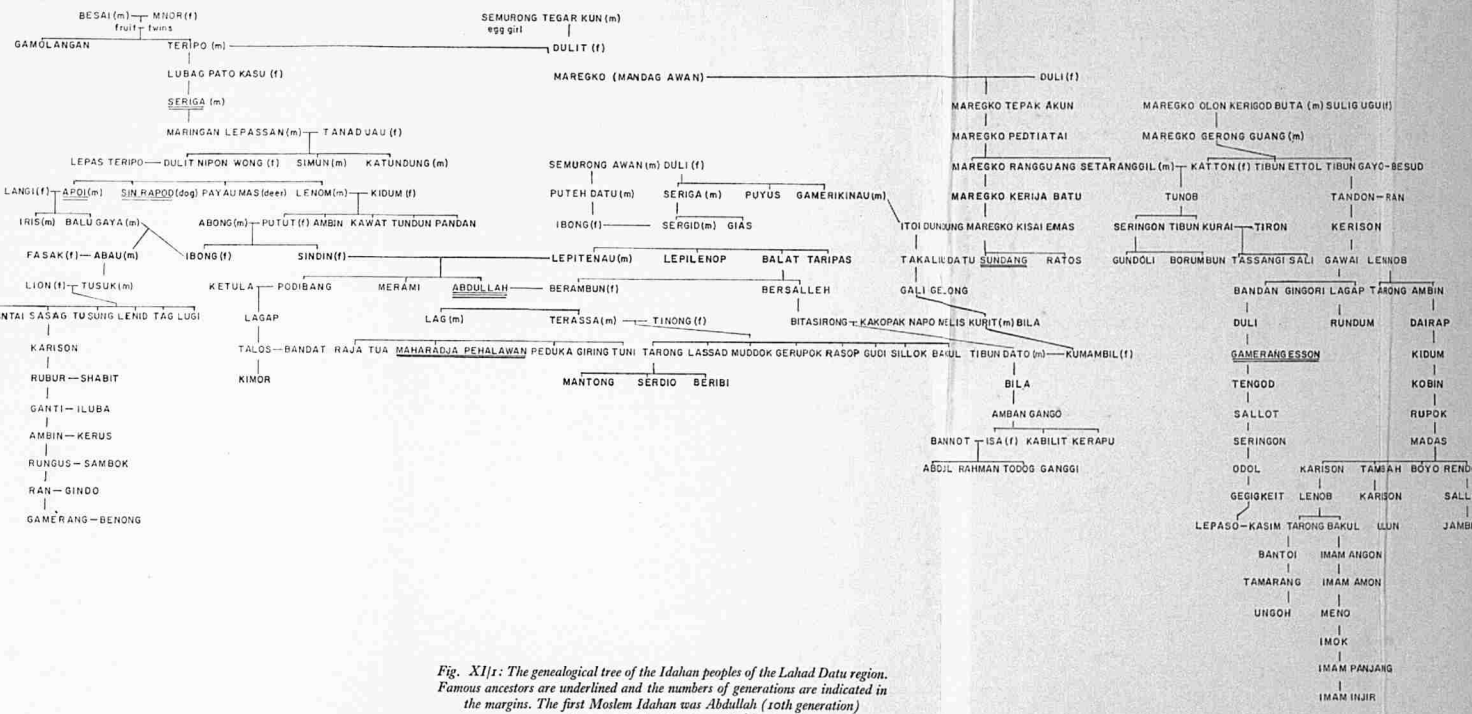


Fig. XI1: The genealogical tree of the Idahan peoples of the Lahad Datu region. Famous ancestors are underlined and the numbers of generations are indicated in the margins. The first Moslem Idahan was Abdullah (10th generation) who converted to Islam in 1408 A.D.



latter part of the document could not be linked at all (owing to lack of connections through names of siblings, spouses, etc. established in the same order in another line of descent). For clarity, these names are deleted from the family tree as here published.

Naturally, many distinguished Idahan Moslems wish to establish a direct ancestral link with Abdullah(10). Both Datu Jinurain and Imam Injir thought they could trace themselves back to him. But if Datu Jinurain connected only six generations to one of Abdullah's two sons as stated in a previously published genealogy,⁷ other branches of Idahan descent followed in our document down to the 17th and 18th generation after Besai(1) and Semurong Tegar Kun(1) should, in theory, be alive today; or at least remembered by present-day oldsters. But this is not the case. And none of the names in the Datu's immediate ancestry as previously published appear in the present document. A similar difficulty applied to our friend, Imam Injir, who recalls six generations in his own line of descent, the name of his first ancestor being "Bakul". As Bakul(12) appears in the document as Abdullah's grandson, Injir was inclined to connect his own family tree right on there. But if this were truly so, his lifetime memory should include at least some of the names mentioned last in the document. A more likely connection exists with Bakul(18), eight generations after Abdullah(10), which would place Injir as 24th generation after Besai, tentatively.

Looked at it another way, it is remarkable that only three direct descendent generations of Abdullah(10) are listed in the genealogy, although both his sons had numerous children. Curiously, his own daughter-in-law (Lag's wife) is not mentioned, whereas her two eldest sons carry titles: 'Raja' Tua(12) and 'Maharadja' Pchalawan(12). The latter implies authority and status on other islands to the north and east. It is therefore possible that this branch of descent migrated away from Sabah to become absorbed in Palawan and Sulu.

Others better equipped must now seek to further enlighten this intricate past and its delicate issues. We can only sketch a skeleton, a shadow outline of a mighty tree—drawing on a few pages from so far back in time, the branches tangled into that intricate canopy of near-history, pre-history, fantasy and faith, which is so very much a living part of the dying past in Borneo.

XII. So, into History

THE Idahan alone of Sabah people have an old written record in their *oton* language. Although it is by now a copy of copies, it is something unique. Probably there were many such texts when the Moslem missionaries came in force in the 15th century, and the Christian ones later. Local writing in the local language became for most, ridiculous in face of highly developed widely interchangeable, comparatively durable printed texts in Arabic, Malay, Spanish, Portuguese and English. With the Spanish, the last three of these came fully into Sabah history, in the sense defined by our opening chapter. With the Spanish and Portuguese, a remote power rapidly usurped many of the functions of coastal local authority (notably overseas trade). With the English, this power spread through the interior and completed a basic disruption of the old culture (outlawing numerous "pagan" practises as unhygienic, immoral or improper).

Let us end this preliminary study on a more general note, reflecting the prehistorian's necessary but limited use of excavation, artifact, and folklore (and guess work to link the three), by another acceptable historical account of what the white man first saw and sensed when they sailed down the west coast of Sabah and into Brunei Bay to start that "history" some 450 years ago.

Pigafetta, who sailed with Magellan on that historical circumglobal voyage, has already been quoted on the wonders of Brunei Bay in 1521 A.D. (Chapter II, 5(a)). His account is the first-hand document that has survived uncorrupted for Borneo. Another shorter description of the voyage was written at second-hand by the scholar Maximilian of Transylvania, based on his interrogations of several of the voyagers on their safe return to Europe. Maximilian calls Brunei "Porne" and his text goes on to emphasise the island's role as the source of civilization for the area—a remarkably "liberal" view in those days of Catholic contempt:

"Porne must be considered of more importance than any of the other islands which they had examined, and seemed to be the source whence the others received their good customs and civilization, I have resolved to touch, in a few words, upon the customs and laws of these peoples. All these islanders are Caphrae, that is, heathen, and worship the sun and moon. They ascribe the rule of the day to the sun, but that of the night to the moon; the former they call male, and the latter female; and them, too, they call the parents of the stars, which they deem to be all gods, though small ones. They salute the rising sun with certain hymns before they worship it. This they do also to the moon, when it shines at night, to whom they pray for children, and fruitful increase of cattle, and abundant fruits of the earth, and other things of that sort.

But they practise justice and piety, and specially do they love peace and quiet, but war they greatly detest, and they honour their king as a god whilst he is bent upon peace. But if he be too desirous of war, they rest not till he has fallen by the hand of the enemy in battle. Whenever he has determined to wage war, which is rarely done, he is placed by his subjects in the vanguard, where he is compelled to bear the whole onslaught of the enemy. Nor do they fight against the enemy with any spirit until they know that their king is dead; then, first do they begin to fight for their liberty and for their future king, nor has there ever been seen among them a king who began a war who has not died in battle. Wherefore they rarely wage

war, and think it unjust to extend their territories; but the special care of all is not wantonly to attack either the neighbouring or the distant peoples. But if at any time they are attacked, they meet force by force. But lest the mischief should spread farther they look immediately to making peace. There can be nothing more honourable among them than to be the first to ask for peace."

After more on this theme, Maximilian deals specifically with forms of trading over four centuries ago:

"Some carry on traffic in the neighbouring islands to which they go in junks; some devote themselves to hunting; some to fishing; and others to agriculture. They have dresses of cotton, and almost all the animals that we have, except the sheep, the ox and the ass; but their horses are very small and feeble. The produce of camphor, of ginger, and of cinnamon, is great among them. Thence our men, having saluted this king, and heaped him with presents, directed their course to the Moluccas, which had been pointed out to them by the same king."

This was the situation in northern Borneo 99 years before the 'Mayflower' sailed the Atlantic to initiate the United States of America, in the process incidentally destroying the native culture of the indigenous people—some of whom, like the Iroquois (in what is now New York State) lived in long houses with an elaborate agriculture and art, social organisation, and intelligent leadership. The rest, on both sides of the world, is counted as history.

APPENDICES

Chapter Notes

Abbreviations used are:

J.M.B.R.A.S., *Journal of the Malaysian Branch, Royal Asiatic Society.*

S.M.J., *Sarawak Museum Journal.*

A.P., *Asian Perspectives.*

Chapter I. The Ancient Setting

- (1) A summary of Dalrymple's original observations on Sabah and the hitherto unpublished manuscript by James Rennell (great-great grandfather of the present Lord Rennell of Rodd) were given in "The unpublished Rennell Manuscript—a Borneo Philippine Journey, 1762-3", *J.M.B.R.A.S.*, XXXIX, 1966, 1:pp. 92-136. This paper is useful in linking prehistory and history for the Northern part of Borneo and may be further referred to in what follows.
- (2) The Idahan text is further considered in Chapter XI, as it is something almost unique in this field.
- (3) An excellent example of the ideas and insights to be gained from a lexicostatistical approach is S. A. Wurm's "Linguistics and the Prehistory of the South-western Pacific" in *Journ. Pac. History* II, 1967, pp. 25-38; an important recent exercise in a similar field for South-east Borneo is Prof. A. Hudson's "The Barito Isolects of Borneo", *Data Paper No. 68, South-east Asia Program, Cornell University* 1961, pp. 1-112, which also contains a useful bibliography. The subject of language in general is outside our present scope. The existing information is very inadequate for Sabah, as summarised in "Critical Survey on Studies on the Languages of Borneo" by A. A. Cense and E. M. Uhlenbeck (the Hague, 1958). See also G. N. Appell in *S.M.J.*, XIV, 1966, 28: pp. 376-388 (at p. 377).
- (4) Sabah is particularly rich in local arguments about the derivation of place and person's names. Twenty years listening to individual explanations of this kind have reluctantly convinced us that they cancel themselves out in the end. In his recent book "Archaeology in Sarawak" (Heffers, Cambridge, 1968) Dr. Cheng Te-K'un has indicated how far one can go in the direction of special emphasis, when he remarks: "Some scholars have noted that the prevailing customs practised by certain of the coastal elements in the Dusun people in Sabah who described themselves as immigrants from China, are quite similar to those of the Po and Shan minorities in South-west China". See also on Api-Api as a name, K. P. Tabrett in *Sabah Soc. J.*, Vol. III, No. 4 p. 301.
- (5) Dillon Ripley's "Tropical Asia" (Life Nature Library Series by *Time Inc.*, New York, 1964). It is a clear and beautifully illustrated introduction to the

- whole geological, ecological and biological background for South-east Asia and is particularly rich in information about Borneo, including Sabah. The general reader will find this a helpful background to the material briefly sketched in this section of our text. For the geological side, see I. K. F. Umbgrove in *Proc. Pacific Sci. Congress*, 1, 1929: p. 105.
- (6) The best general account of the Java "related" information on early man is Professor G. H. R. von Koenigswald's book "Meeting Prehistoric Man" (London, 1955). For a more recent clear academic discussion see Dr. Kenneth Oakley's "Frame-works for Dating Fossil Man" (London, 1964); especially Part II, Chapter 6-7, where the Niah Cave finds and other ideas for the area are also discussed. Earlier background in H. Movius, *Trans. American Philosophical Soc.*, 38, 1948; pp. 329-420. Also von Koenigswald in *S.M.J.* VIII, 1958, 12: pp. 620-626.
 - (7) The important archaeological work carried out in Palawan has been under the direction of Robert Fox of the National Museum in Manila, which has issued some preliminary reports; the main results remain to be published. The present writers have been given every facility to examine the excavated material in Manila and T.H. has visited Palawan with Dr. Fox.
 - (8) Dr. D. A. Hooijer of the Rijksmuseum in Leiden, Holland, and Lord Medway, University of Malaya have published a series of papers on studies of the stone-age food bone excavated by us in the Niah Caves; on the tapir specifically, see Medway in *S.M.J.* IX, 1960, 15: pp. 356-360. A previous British Resident of Brunei claimed to see tapirs on the old golf-course there of a weekend! But otherwise there are no authenticated records for Borneo in historic times.
 - (9) *Manis palaeojavanica* was a monster version of the familiar Pangolin (Malay: *Tengiling*), often seen on Borneo roads, even in towns; and extensively killed for its scales, which are used in Chinese medicine (see T. Harrison & Loh Chee Yin in *S.M.J.* XII, 1965, 25: pp. 413-418, and D. A. Hooijer in *S.M.J.* IX, 1960, 15: pp. 350-355 for the extinct giant remains).
 - (10) Although the earliest proven date for Madai is only some 10,000 years (see Chapter III) there is good reason to expect earlier dates with further research. In any case, apart from Niah Caves this is the earliest date for Borneo or Malaysia so far.
 - (11) The main report on this Niah skull is by D. R. Brothwell of the British Museum published in *S.M.J.* IX, 1961, 15: pp. 323-349. It has been widely discussed elsewhere (see for instance Oakley at Note (6) above) and is currently on loan exhibition at the Smithsonian Institution, Washington. See also William Howells's "Back of History", now available in paperback (Anchor Books), at p. 89. Dr. Howells of Harvard visited Sabah and Sarawak; his several books make the best introduction to early man in general. An alternative, more English orientated, is Grahame Clark & Stuart Piggott "Pre-historic Societies" (Cambridge, 1965).
 - (12) Professor John Corner, F.R.S. of Cambridge University has made major contributions to our knowledge in the Kinabalu area in recent years.
 - (13) These remarks are based on a collection of old maps made while T.H. was Curator of the Sarawak Museum and now housed in their Archives. See

- also discussion of other recent changes and some observations on mud volcanoes in the paper noted at (1), and G. E. Wilford recently *Sabah Soc. J.* Vol. III, No. 3 pp. 132-135. An important paper on the related subject of earthquakes, the latest of which shook Kota Kinabalu in May 1966, is "Earthquakes and related Phenomena in North and West Borneo", *S.M.J.* XIV, 1966, 28: pp. 1-5 by Dr. John Milne, an Australian expert. For old maps see also Prof. Jan Broek in *Imago Mundi*, 16, 1962: p. 129 and *S.M.J.* XI, 1964, 23: pp. 649-654.
- (14) Mr. J. Maxwell Hall, sometime Chief Justice of Sabah, retired to live outside Kota Kinabalu. He published several small books printed locally. The extracts here quoted are from his "Labuan Story" (Jesselton, 1958). See also his "Kinabalu Guerillas" (Kuching, 1949) and "Makan Siap" (Singapore, 1950), and in *S.M.J.* VII, 1966: pp. 275-282 on "Sabah and Sheba".
 - (15) The Muruts in the interior of Sarawak's 5th Division have a dramatic folk story of a great battle between the mountain of fire and of water, which took place somewhere around Brunei Bay in earlier times, and probably itself reflects one much larger volcanic episode. On folklore in general there is only one useful book for Northern Borneo: "The Religion of the Tempasuk Dusuns" by the late I. H. N. Evans, (Cambridge, 1953). Evans also made the pioneer stone age discoveries in Sabah (as we shall see in Chapter II). He died in Labuan in 1959. One of the few shorter relevant papers, and the best, is by George N. Appell on a Rungus folktale, *Sabah Soc. J.* Vol. I, No. 4, 1963: pp. 9-15.
 - (16) For further discussion of *Maragtas*, see Chapter II, 5 (c) below.
 - (17) The book by Professor O. W. Wolters "Early Indonesian Commerce" (Cornell University Press, 1967) is a stimulating introduction to this side of the problem; see also his paper in *The World Today*, 19, 1963: pp. 540-552.
 - (18) The strong effects of stone shortage during the stone-age have been discussed by T.H. in connection with Borneo in two general papers published by the Royal Anthropological Institute (*Man* 57, 1957 p. 166; and *Man* 59, 1959: pp. 1-8). See also a more general discussion in *Journ. Royal Society of Arts*, 112, 1964: pp. 174-191 (by T.H.).
 - (19) Tektites of the Billitonite type (named after an island of East Borneo) have also been found used in jewellery elsewhere in the island. An amulet with a Borneo tektite is illustrated by Lacroix in "Les Tectites de l'Indochine" *Arch. Mus. Nat. Hist.* Paris, VI, 1932: p. 180; fig. 22. Dr. G. E. Wilford, while in the Borneo Geological Survey, several times drew attention to the subject in the Department's reports. Professor G. H. R. von Koenigswald has re-examined some of the problems in an interesting paper on "The origin of Tektites", written in English but published by *Koninkl. Nederl. Akademie van Wetenschappen*, Series B, 70, 1967, 2: pp. 104-112 in Holland, where he distinguishes four great tektite showers of the Pleistocene era of which the largest is the "Indoaustralian" extending (we quote) "from the Thailand-Burma border in the north, covering Malaya, Indochina, the Philippines and all of Indonesia, extending south to Australia and Tasmania. Specimens have been reported by reliable persons from New Guinea, but no material is available at this moment. With the exception of Darwin glass

from Australia (which here is not regarded as tektite glass) all specimens are black. While the morphology in the various regions is different, there is a clear inter-gradation. The potassium/argon age for all sites is the same 710,000 years. On four sites tektites have been found in layers containing a mammalian fauna of Middle Pleistocene age". It is to be expected that tektites may be found in Sabah, specially in gravel quarries. This would be of great value in dating a horizon for early hominid types in the area, far back beyond our present time span for man-like creatures in Borneo. For a fuller introduction to the subject see the volume of essays edited by J. A. O'Keefe: "Tektites" (Chicago University Press, 1963). (Numbers have been found again in Brunei during 1968-9.)

- (20) This is a feature which seems to distinguish what can still be learnt of the past through Sabah folklore when associated with what we know of Sabah archaeology by excavation and casual finds. On the whole it looks as if a good deal of Sabah, including part of the the *interior*, did not have a very ancient settled population. There is strong evidence that quite large numbers of people were living on root crops in the heart of Kalimantan and Sarawak long ago. There is as yet no good evidence for this in Sabah. Most of the evidence for regular human activity comes from the coastal plain and often very close to the coast as well as the subcoastal hills and rivers—not the mountains. This is partly, of course, because it is easier to search for clues under coastal conditions and on the limited funds available for this work (see Preface); relatively little has been done far inland. All the same, it does look as if most of the inland people of *today* have not been there a very long time even by their own reckoning. It is possible that some of this hinterland and the plains were very sparsely inhabited until the advent of bulk iron and the new techniques for jungle living which it allowed after about 700 A.D.—and in some places much later than that (see below, also Chapter II, Note (28)).

Although this is the present state of knowledge according to the evidence, we must be extremely careful not to discourage research in the interior which can be either extremely rewarding from this point of view or disappointing. It should be remembered and emphasised that, further east, over one million people were living fully in the stone age, technologically untouched, into the second half of this century, in New Guinea. It is only in the last decade that from research directed by Dr. J. Golson and others, largely out of the Australian National University in Canberra, we are learning not only about the tremendous wealth of this interior stone age culture, but also that its antiquity is greater and more varied than generally accepted. To quote from a recent report which could well prove relevant to inland Sabah from the foothills of Kinabalu southward:

"Because of the similarity of the field ditches discovered and of the accompanying artifacts, flat-sided adzes, pointed wooden digging sticks and paddle-shaped wooden spades, to the accoutrements of modern dry-land sweet potato agriculture in the same area at European contact, no great age was expected for the flat-land systems, even though these had been abandoned before that contact. The date of about 350 B.C. for the earliest of the prehistoric systems, the first direct date for agriculture in New Guinea, puts the agricultural activity a thousand years earlier than the presumed introduction of the sweet potato, now the staple of Highlands subsistence. The evidence suggests that agriculture was more important in the Highlands economy before the sweet potato arrived than some formulations allow and that the sweet potato when it did arrive was incorporated into

an agricultural system with well-established tools and techniques. The implications of these discoveries are so great and the potential of the area where they have been made so high that a large scale attack on the problem is being planned by archaeologists and biogeographers in the Research School of Pacific Studies of the University". (*Pacific Scientific Ass.*, Info. Bull. 20, 1968: 2).

- (21) There is a considerable descriptive literature of the nomadic peoples south of the Sabah border, though it has been too concerned about the definition of groups; and there is still no good account of how the Punans or Penans live, and have long lived with success, without the benefit of any form of cultivation, firearm or domesticated animal other than the dog (which has probably been acquired in fairly recent times?) Dr. R. Needham of Oxford University has done three periods of fieldwork among some of these groups and his major publication is eagerly awaited. It certainly seems unlikely that there have never in the past been any nomadic food-gatherers roaming through the less inhabitable parts of Sabah in view of their considerable numbers and successes in Sarawak, Brunei and a large area of Kalimantan. This is not, of course, to suggest that such people should be "negritos", any more than the present-day Punans further south, who in fact tend to be tall, pale-skinned and long-haired; the opposite to "pygmy". For a good statement of a more formal view on pygmies; see Carlton Coon's standard work "The Living Races of Man" (New York, 1965) which also contains a picture of a Punan from the Sarawak Museum. For a recent account of almost the last full nomadic Punans see *J.M.B.R.A.S.*, XXXVIII, 1966, 2: pp. 67-86 (T.H. on the Punan Busang of the Sarawak-Kalimantan border in the Rejang head waters)—and see Preface, new literature.

Chapter II. The Present Outline

- (1) For a full description of the known "Indian" objects found in Borneo up to mid-century, see *J.M.B.R.A.S.* XXII, 1949, 4: pp. 33-110; recent finds in the Sarawak River delta now require some re-evaluation of the earlier survey, particularly with respect to the possible influence of Tantric Buddhism as noted in the text here and discussed in detail by Prof. O'Connor and T.H. in *S.M.J.* XV, 1967, 30: pp. 197-217. A first full-length study of the Sarawak River delta sites by the same authors is now available at Cornell University as *Data Paper* 72, 1969. See also A. B. Griswold, *S.M.J.*, X, 1962, 19: pp. 363-371 and S. O'Connor, *S.M.J.*, XII, 1964, 23: pp. 565-567.
- (2) We are grateful to Profs. Stephen Jacobs and Robert Ascher of Cornell University for helpful discussions on artifacts from this point of view.
- (3) The artifacts mentioned will be discussed, like all others, in the relevant Chapters of Part C. (VI-X).
- (4) Any enquiries as regards the law should be addressed to the Curator, Sabah Museum, Kota Kinabalu, Sabah, Malaysia, and no action of any kind should be taken prior to such an enquiry and the necessary authority, being granted.
- (5) The classification in Section 2 of this Chapter is based on experience of the requirements of practical work in Borneo and may not in all respects suit a wider academic approach. This is one of the unavoidable difficulties in this sort of discussion. Of necessity, archaeology, anthropology and other fields are being taught in an overwhelmingly western metaphor. This will have to

be reconsidered to quite an extent when there is more field-work and more developed theory in South-east Asia. We are caught in an intermediate phase. It is very hard to satisfy two needs and please two masters simultaneously at this stage. For an excellent recent statement on parallel difficulties in adjacent Palawan, particularly the "mesolithic", see Robert Fox in "Studies in Philippine Anthropology", Quezon City, 1967, p. 107 etc.

- (6) The bronze age has caused more confusion than any other single "period" in South-east Asia and probably requires complete re-thinking in the near future. Meanwhile, the real, excavated, controlled evidence is pitifully poor through the islands, as is a good deal on the southern mainland. Of particular recent interest is the work of Dr. W. G. Solheim in Thailand, where he is dating bronze much earlier than had been "expected"—around 2,500 B.C.:

"This would mean that bronze was being worked in North-eastern Thailand nearly one thousand years before it is now considered to have begun in Shang China and one hundred or more years than it started in the Harappa Culture of the Indus Valley in India". (W. G. Solheim in *Current Anthropology* IX, 1968, 1:62; see also our Chapter VIII, note (2)).

There are other indications as indicated later in the main text, for an ancient tradition of bronze working in Borneo, perhaps related to that of Celebes and other islands. It may be necessary to re-state the whole generally accepted sequence which has bronze technology and art entirely derived from China and Indochina so far as the islands are concerned. It is quite possible that there has been a two-way relationship, at the least—and that Borneo with Celebes played a significant part in this.

- (7) For a fair statement of the possible confusions covered by the term "iron age" see Per Sorensen's "Archaeological Excavations in Thailand" (Copenhagen, 1967; II: p. 17). There, as here, we can sub-divide no further for prehistory in our present state of knowledge. With new advances, it is likely that the term will be outdated as confusing and even counter-productive (cf. Note (6) above).
- (8) Here and elsewhere we are indebted to Prof. David Sopher of Syracuse University, N.Y., for helpful ideas and discussions, as well as the mass of valuable if sometimes confusing information in his monograph "The Sea Nomads" (*Memoirs National Museum*, Singapore 1965, No. 5). We have also had valuable discussion on the subject—including while in company with Dr. Sopher—with Prof. O. W. Wolters (see Note (17) of Chapter I, also note (5) of Chapter VII).
- (9) These very rough datings, which will be further discussed in later parts of the text, may usefully be compared with Dr. Richard Shutler's resumé "Radiocarbon dating and Man in South-east Asia, Australia and the Pacific" (*Asian and Pacific Archaeological Series*, University of Hawaii, No. 1 of 1967).
- (10) See "Pleistocene Studies in South Nevada" by R. Shutler, *Nevada State Museum*, 1967. It is good to remember that the first known population of North America came down from North-east Asia overland around the same time that the long established hominids of South-east Asia were cut off from the mainstream in glacial repercussions. It is also worth remembering that the first move from Siberia down the west side of the U.S.A. is estimated to have taken place only 1,500 years:

"Once south of the ice border, man dispersed from California to Massachusetts and southward into Mexico in less than 1,000 years". (Vance Haynes in *Science* 25, 1964, 145: pp. 1-6).

By that time, too, man had already with some difficulty, reached Australia—at least as early as 16,000 B.C. (see D. J. Mulvaney in *Antiquity* 38, 1964, on "The Pleistocene Colonisation of Australia").

- (11) Professor J. Treistman was writing in *Science*, 160, 1968: pp. 853-856.
- (12) See Sorensen reference in Note (7) above.
- (13) The Shutler reference as at note (9) above. The literature of these sea voyages is numerous and often controversial. Much attention has been paid to the wider reaches of the Pacific Ocean east of Borneo with correlated research; the subject has been treated in a more subjective fashion around Borneo and westward to Java, Sumatra etc. The general consensus is that the present Pacific populations came from the west, largely through Micronesia. This is mainly believed because the Micronesians show physical, cultural and archaeological features rather easily related to the Melanesian and Polynesian cultures further east and south. This explanation is probably too simple, although it is more difficult to find the parallels and analyse out the relevant trends in the past when considering the great islands of present highly mixed populations like Borneo, Celebes or Palawan. For further reading on this subject see Andrew Sharp's "Ancient Voyages in Polynesia" (Oxford, 1954) and other writings, some available in paperback, and several authors who disagree with his approach. Dr. Roger Green has thoughtfully re-examined this problem in the volume "Polynesian Culture-history" (Honolulu, 1967: pp. 216-240). For a good general survey see Douglas L. Oliver's "The Pacific Islands" (revised edition of 1961, now in paperback), although he fully accepts the classic view of sequential movement which has been damaged by Sharp.

It is rather difficult to imagine that Sabah was not one important turning point or resting point as these movements took place. Moreover, North Borneo itself is a likely situation from which small boat-loads of persons would have moved in the general direction of Melanesia and Australia once boating became a regular activity—and specially before boat-men were fully skilled and equipped to withstand the danger of being carried off by the great storms that can ravage these seas out of season.

- (14) Prof. George Murdock's text, here cited from his paper "A key to Oceanic Culture History" in *Ethnology*, III, 1964, 2: pp. 117-126. He has elsewhere written extensively on the subject, including movements between Borneo and supposedly East Africa, notably Madagascar. There is certainly a striking if superficial parallel between some aspects of some Borneo and Malagasy culture features; this is examined from a point of view of iron age technology, based on new evidence from the Sarawak River delta excavations (as indicated in Note (1) above). Here lexo-statistical comparisons should prove particularly illuminating as with the continuing study by A. Hudson (cf. Chapter I, Note (3)). Elizabeth and John Alman's book on "Handicrafts in Sabah" (Kuching B. L. Bureau, 1968) uses the same old "waves of migration" rather unfortunately (pp. 8-20). For a better background see G. A. Chatfield, "Sabah: a general Geography", London, 1967 (3rd edition).

- (15) For the Bajaus, see Sopher's work already cited at Note (8) above. New fieldwork on these people will shortly be reported on by Clifford Sather of Vassar College, who made his study on the east coast of Sabah; Thomas Keifer, who completed two years fieldwork in the Sulu Archipelago, published his thesis recently. See also Note (21) below and Chapter IV, Note (7), as well as A. H. Nimmo's new work referred to in Chapter VII, Note (5). Also Sather in *Sabah Soc. J.* Vol. IV, 1965, 4: p. 194 and Abdul Ghani in *S.M.J.* V, 1950, 2: pp. 196-200.
- (16) The late H. Otley Beyer is largely outdated by new Philippine research. He pioneered in this field and produced many stimulating ideas which retain their value. The reference cited is from his booklet "Early History of the Philippines' relations with foreign countries, especially China" (Manila, 1948).
- (17) There is a large but somewhat uncertain literature on these early Chinese contacts which is reviewed in Dr. Cheng's new book (cf. Chapter I, Note (4)). For a more general literature there is Wang Gung-Wu, "The Nanhai Trade: A Study of the Early History of Chinese Trade in the South China Sea" (*J.M.B.R.A.S.*, XXXI, 1958, 2) which deals primarily with T'ang; and Paul Wheatley's "The Golden Khersonese" (Kuala Lumpur, 1961) and his "Sung Maritime Trade" (*J.M.B.R.A.S.* XXXII, 1959, 2: pp. 1-40). Both authors have depended on texts which can be extremely misleading at this remove in time and place if unsupported by archaeological and other evidence from the ground, however fine the scholarship.
- (18) The first and still the best early Brunei text version was published by Sir Hugh Low in *Journ. Straits Br. R.A.S.*, 1880, pp. 10-31. Other material was intelligently presented by R. Hughes-Hallett in his "A Sketch of the History of Brunei", (*J.M.B.R.A.S.* XVIII, 1940: pp. 23-42).
- (19) The *Brunei Annual Reports* started summarising the Brunei past in 1946 when W. Peel was British Resident, but has since been discontinued (Appendix II, "Chronological List of the Mohammedan Sovereigns of Brunei" is here quoted). Much new research in Brunei's major role in area history and prehistory is now in progress at the new Dewan Bahasa dan Pustaka under its Director, Dato Dr. Haji Mohammad Jamil, as also through the new Brunei Museum and its Curator, Pengeran P.M. Shariffuddin. Donald Brown of Cornell University has been researching this field, 1966-8. A rather good popular account of the Sultanate's history was provided by A. Aziz bin Malim, in the *Borneo Bulletin* of 3rd August, 1968.
- (20) Admiral Cheng-Ho can be directly linked with the symbolic idea of stealing the jewel from the dragon of Kinabalu. To quote Dr. Wheatley's "Golden Khersonese" (cf. Note (17) above):

"The desire of this court for foreign luxuries such as precious stones, fragrant woods, spices and rare objects of all kinds, coupled with the need to re-establish the prestige of the Chinese Empire abroad, led the Yung-lo Emperor, third of the Ming dynasty, to dispatch a series of naval expeditions to the Indian Ocean. Between 1403 and 1433 at least seven of these expeditions sailed, not counting minor ones. Some of these fleets, comprising no less than sixty-two vessels and carrying 37,000 soldiers, reached as far west as Mecca, Aden, Mogadishu and Juba. All were under the direction of a Court eunuch named Cheng-Ho, a Muslim, popularly known as San-pao T'ai-chien or the Three-Jewel Eunuch" (p. 88).

Indeed, the Kinabalu story may have arisen from the popular name of the great Moslem Eunuch himself. However, the symbolism of the pearl goes very deep into Chinese and other folklores. To quote Edward H. Schafer's fascinating T'ang study "The Golden Peaches of Samarkand" (University of California Press, 1963):

"Pearls, then, stood for wealth and beauty and supernatural power. In metaphor, accordingly, a pearl was also a person of great worth, as when the painter Yen Li-pen called Ti Jen-chieh "a pearl left by the glaucous sea", honoring a talented youth and future minister. A pearl was also, especially under its Sanskrit name *mani*, a symbol of the Buddha and his law. In Sino-Indian lore it was also a wishing jewel, granting the desires of its possessors. Moreover, Chinese and Indians alike saw a special affinity between the pearl and the moon. In China, the pearl was the congealed yin (female/negative/lunar matter) embodied in the oyster, and it was alleged that the "foetus of the pearl" within the oyster waxed and waned in accordance with the phases of the moon". (p. 243).

It is of particular interest that early historic reports of the Brunei Sultanate frequently describe the presence of "marvellous pearls" not subsequently substantiated. There is also much about pearls in the most relevant of all Chinese texts which have been adequately translated, the *Chu-Fan-chi* by Chao Ju-Kua (transl. by Hirth & Rockhill, St. Petersburg, 1911, now becoming available in popular editions). See also the story of the "ladder to the top of Mt. Kinabalu" in Owen Rutter's "The Pagans of North Borneo" (London, 1929) which is the only attempt to give a comprehensive survey of the modern Sabah population, but is heavily outdated through new and extensive field surveys by George Appell, John Landgraf, Jay Crain, Robert Harrison, Ivan Polunin, T. Rhys Williams and others.

Perhaps even more to the point is Schafer's citation from a popular T'ang story in which the young hero acquires a pearl in the course of wonderful adventures. He comes to Canton to sell his pearl in the "Persian bazaar":

"This is the Solar-Kindling Pearl, the treasure of my country Tadjik. Long ago, at the beginning of Han, Chao T'o sent a stranger to scale mountains and navigate seas, and he robbed us of it and returned to P'an-yu. That was just a thousand years ago. In my country there are persons skilled in arcane figures, and they said that in the coming year the national treasure would be returned. Therefore my king summoned me to equip a great argosy and to take weighty resources and go to P'an-yu in search of it. And indeed today it has come into my possession". (p. 239).

For more on symbolically vital Cheng Ho see Chapter III, *passim* and in Chapter XI, where he or his associate is given special powers of subaquatic sexual intercourse.

- (21) The most useful Celebes study from the Sabah point of view is probably the several volumes by W. Kaudern "Art in Central Celebes" (Goteborg, Sweden, 1944); especially Vol. VI. An interesting text for the Bugis, though difficult to obtain, is the recent work by Dr. P. Tobing, an Indonesian scholar of Batak origin, published from the University of Macassar, Celebes, "Hukum Pelaraan dan Pergagan Amama Gappa" (1961).
- (22) The *Maragtas* have been somewhat underestimated in Philippine scholarship, partly for reasons of local pride and politics which can be readily understood. Thus the best available texts are published in the *S.M.J.*, in issues now unfortunately out of print *S.M.J.* VII, 1956, 7; pp. 22-42, Father Santaren's version; and *S.M.J.* VIII, 1957, 10: pp. 51-99, Manuel Carreon's version, the most important. New work is now in progress on this subject in the Philippines, by Dr. Scott especially.

- (23) A summary of existing knowledge about the Bisayas was published in the *Sabah Soc. J.* 1962: pp. 1-8 by T.H. This includes a bibliography for those who wish to learn what little is known about these neglected people, so far as Sabah is concerned.
- (24) The quotations from Magellan's voyage are taken from the Pigafetta version edited by C. E. Nowell (North-western University Press, Evanston, USA, 1962; pp. 187-190). This and other versions are also printed in the Hakluyt Society, London Edition, further cited in Chapter XII below.
- (25) The statement in quotation marks is summarised from the many and conflicting statements we have heard on the subject at various places in Sabah. The curious distribution of horses may also be borne in mind in this connection. These occur and have an established place among Moslem Bajau and inland non-Moslem peoples of Sabah and Sulu, but are not in use by any of the Sarawak, Brunei or Kalimantan native peoples (see further in Schafer, pp. 58-70; title cited in Note (20) above). See also the paper by G. S. de Silva on Sabah elephants in *Sabah Soc. J.*, Vol. III, 1968, 4: pp. 169-181.
- (26) Like the horse and the elephant, the origin of the dog in this part of the world is far from clear at present. We have a small dog, unrelated to the modern and dominant "pye" dog of Borneo, from the Great Cave at Niah and from smaller caves, 300 miles to the south near Kuching. This little dog was evidently common at the end of the stone age and later overwhelmed by the ubiquitous pye, more useful for hunting deer and pig. It is likely that as with most things in prehistoric Borneo, the local dog originated from various sources in different incidents over a long period of time. The pagan peoples living south of Kinabalu have a lovely folk-tale where a woman gives birth to a dog and a crocodile who jointly slay a most objectionable dragon. This is recounted in the best of Sabah's folk-tale sources "The Religion of the Tempasuk Dusuns of North Borneo" by the late I. H. N. Evans (Cambridge, 1952; pp. 479-482). Evans made a major contribution to the understanding of Sabah ethnography and alas died on Labuan Island before we could consult him in detail about some of the problems arising in the present study. Long before his death, Evans wrote two other books which contain some fragmentary but important information on Sabah prehistory and folklore, both unfortunately difficult to purchase and rare in libraries: "Studies in Religion, Folklore and Custom in British North Borneo and the Malay Peninsula" (Cambridge, 1923), and "Among Primitive Peoples in Borneo" (London, 1922). On dogs see also Schafer (as cited in Note (20) above; pp. 76-78)—an excellent insight for the mainland. The Kelabit-Muruts just south of the Sabah border believe that before they had dogs they domesticated and trained the vicious Yellow-throated Marten (*Martes flavigula*), relative of the European ferret, which often hunts in pairs and can "bring down a Sambhur buck weighing 200 lbs. by persistence and hanging on to the testicles" (*S.M.J.*, XIV, 1966, 28: p. 142) For the extinct "Lap dog" in Borneo cave remains of the stone age see Dr. J. Clutton-Brock in *S.M.J.*, IX, 1959, 15: pp. 143-145.
- (27) This version is from the text recorded by Pastor Orolfo in *S.M.J.*, X, 1961, 17: pp. 270-273.
- (28) The inference of these Golden Deer and Golden Ox stories is that there were no effective people living in large parts of Sabah at the time of events which

might very roughly be postulated as occurring somewhere around 1,000 A.D.? This might or might not be so, in line with the under-population of the interior already mildly postulated at Chapter I, Note (20).

- (29) A fine analysis of an underlying theme to Chapter II—and this study as a whole—came to hand since our main text went to press. This is "Invasion, Diffusion, Evolution?" by William Y. Adams, in *Antiquity*, 167, 1968: pp. 194-213, a study focussed on North Africa. The basic argument (on the relative unimportance of "outside influences" as against indigenous evolution) is equally applicable to South-east Asia, in our view. See also Graham Clarke's similar challenge to the long accepted invasion hypothesis in Britain (in *Antiquity*, 40, 1966: pp. 165-171).

Chapter III. The Caves

- (1) "*Agop*" means "cave" in this part of Sabah; "*sarupi*" is the word for "remembrance". See also Section 6 in this Chapter.
- (2) Until recent times, two *belian* hardwood trees (*Shorea*) grew on this spot in the lower Kinabatangan. At first one and then the other, were felled.
- (3) The "*Keruaik*", or White-breasted Waterhen (*Amaurornis phoenicurus*), is a common and noisy bird of wet land, often coming into the open around villages and these caves, close to the river and swampy land.
- (4) Some species of fig ("*nonok*" or "*nunuk*") grow to great sizes in Sabah and several of them favour limestone outcrops. There are many caves where they largely obscure cave mouths and throughout the island caves are often named accordingly. There may also be an association with the "*Nunuk Ragang*" (Red) which features in Sabah dragon folklore as a point of origin. Some dispersal of the hill peoples took place from this semi-mythical centre many generations ago (see for instance in I. H. N. Evans's Tempasuk study (1953), pp. 187, 457, 472 etc.; cited in Chapter II, Note (26)). This is a reverse version of the Golden Deer story previously told in our Chapter II, 5. A very old man had no less than seven generations of his descendants still alive. He liked to play with them and presently got involved with various animals in a complicated series of events (Evans (1953), pp. 458-462) which lead to a whole saga of adventures concerning, among other things, the most sacred jar called *apoi-apoi* (cf. note (20) below and our Chapter IX, 2). If we follow Evans and take this saga seriously it may in fact represent memories of an earlier movement out of lowland caves into the interior, from the eastern coast.
- (5) "*Samang*" means a burial locally and by extension a burial place, often used in connection with caves, and similarly "*bubuah*" means "haunted".
- (6) The British East India Company's search for a suitable base from which to develop a trade with Southeast Asia as a complement to its China trade, led to its seeking and obtaining from the Sulu Government, both before Alimuddin's restoration and afterwards (Muhammad Alimuddin I, Sultan of Sulu, 1735-1773 A.D.) various concessions and grants of territory in northern Borneo, Palawan and adjacent islands, particularly Balambangan. H. de la Costa, S.J. in *J.M.B.R.A.S.* XXXVIII, 1965: pp. 43-76, cf. Cesar Abid Majal and

- Dr. Nicholas Tarling's related papers in the same volume. See also the story on elephants in our Chapter II, 5 (d) above.
- (7) For a discussion of the buffalo motif and of Celebes links generally, see our Chapter II, 5 (d) above. The buffalo, like the horse and the dog, has an uncertain history and prehistory in Sabah and—like the horse—disappears from the context of everyday native life as one moves south across the border into Kalimantan or Sarawak.
 - (8) These notched sticks and other wooden objects and their possible significance are discussed in detail in a separate paper by B. H. "Marker Devices in East Sabah Burial Caves". *S.M.J.* XIII, 1966 27: pp. 323-334.
 - (9) See also the story about Torongari told among the Orang Sungai of the Segama River at Section 7 below; in *S.M.J.* XII, 1965, 24: pp. 117-127 by B.H. and M. Chong for other tales of this sort.
 - (10) All through this chapter we have used as background Dr. G. E. Wilford's "The Geology of Sarawak and Sabah Caves" (Kuching, 1964). At many points, however, the present account differs in detail, especially in terminology since this is essentially a human, not geological account. A large number of caves not in Wilford are here reported for the first time; others in Wilford seem irrelevant prehistorically and therefore are not discussed.
 - (11) For a detailed description of Niah burials see *S.M.J.* XV, 1967, 30-31: 126-200 by B.H.
 - (12) Details of this interesting Tapadong cave can be found in a series of papers published in *A.P.* VIII, 1964: 171-180, *S.M.J.*, *Sabah Soc. J.*, and *Sarawak Gazette* by T.H., B.H. and Eine Moore; see also in late Chapters on the bronze and stone tools, and the interesting "turtle ware pottery" from this excavation (see Chapter VII, note (3)).
 - (13) B.H.'s re-visit occurred shortly after the largest flood known in historic times. This reached a height of 16 ft. above normal in the main Kinabatangan river and up to 45 ft. above normal in the Segama River causing tremendous damage to the estates and small holdings in the area. A vivid account is given in the *Malaysian Press Bulletin* for 15 February 1968. There is every indication that this flooding is exceptional if measured against an earlier background. Recurrences may be expected if the present rate of jungle felling, timber extraction, estate development and other new land usage continues to accelerate.
 - (14) At Agop Sarupi Cave on the Kinabatangan River an umbrella was placed *shut* near coffins (see Section 6 above).
 - (15) Dr. Kirk's "Cave 2" as described in Wilford, 1964: p. 171, see also Note (25) to chapter III, below.
 - (16) The Sandakan Birds-nest Register records 116 locations—not all of them "caves" in the normal sense of the word.
 - (17) This is the material which gave a provisional radio-carbon date of 8,820 B.C., as further discussed in conjunction with stone tools at Chapter VI.
 - (18) A sample of these particular shells was taken for radio-carbon C-14 analysis at the University of California Laboratories (cf. previous note and Chapter VI).

- (19) Arrangements were made at Berkeley in August, 1968 through the good offices of Dr. Kenneth Kennedy, a distinguished physical anthropologist who has helped us in this and other ways during the present study.
- (20) "Hot rain" may refer to volcanic ash-rains rather than hot water. The red colour is widely connected with death in Borneo. All interior peoples further to the north and west give the red colour the quality of heat which is necessary to continue life after death. One must not let life get cold. Dead people must not get too cold or they will come back to haunt the living. Coldness implies death, causes petrification, a punishment following hail and rains which come down from the sky exterminating forever whole communities who refrain from observing taboos associated with this belief and fail to take the prescribed precautions (cf. the various petrification tales already referred to in this Chapter). The name of Madai's hero, Apoi (i.e. "fire") implies warmth and strength. The same quality survives in Scriga, the Baturong figure, four generations before Apoi (cf. *aso* note (4) above). It is noteworthy that Dr. Donn V. Hart of Syracuse University has found this hot-cold idea extremely important and widespread in the Philippines, especially among the Visayas. He has suggested that the belief originates there through the introduction of Hippocratic medical standards by the Spaniards in the 16th century A.D. (personal communications and discussions, 1968; paper in press). For northern Borneo at least, we believe that this important set of hopes and fears dates back earlier—deep into the indigenous past. It is in a way, another reflection of the idea about the mountain of fear and even the name "Api-Api" (for Sabah) already discussed in the text of Chapter I, 4. See also in Evans on this for the Tempasuk people, p. 118; and in B. E. Smythies "The Birds of Borneo" (Edinburgh, 1960: pp. 23-24—a Chapter by T.H. with special reference to the Brahminy Kite as a symbol of heat in interior Sabah). The Kelabit-Muruts just south of the Sabah border have an antidote to the climactic impact of coldness, thus:

"Petrification begins immediately after the act which triggers it. As this act may have been performed away from the long-house, during the day, the first warning most people get is a sudden drop in temperature. This is quickly followed by raging wind, hurling down freezing cold lumps of rain, hail, which is also Balio. Hail is extremely infrequent (snow unknown), even in this the highest settlement in Borneo. Its appearance justifies near-panic. Three things must be done at once. Everybody must get indoors. Every gong in the long-house must be beaten as loudly as possible. And at least one of the two doors out from the verandah must be blocked with the most valuable, aristocratic and oldest dragon jars in the place.

The clamour of gongs, accompanied by wailing and crying, must continue as long as the hail. It is possible that this alone will prevent the long-house slowly turning into stone. But if that does happen all those who got safely in have now a second chance. For when once the hail has stopped and the petrification settled, everything is sealed in an enormous rock *except* that the venerable stone-ware jar cannot be conquered by stone. It is stronger than anything else anywhere. So when all other hope is lost and the people trapped, the owner of the jar shall smash it. Where it was fixed in the small square doorway, there is now a round hole as wide as the jar at its widest. Through this all may crawl out into the open and safety".

(T.H. in "World Within" London, 1959).

- (21) Peaked caps are mourning headdresses, coloured white, worn by the principal mourners in accordance with traditional pagan Sungai custom (see Section 10(e) iv below). Similar headdresses also occur on wooden Melanau figures. One closely resembling the Baturong style was collected from a Melanau graveyard near Oya in Sarawak's IIIrd Division. They are probably mourning

caps in this context also. The most informative reaction came from Djalong Liban, a leading aristocrat of the Leppo Tau, the senior clan of the Kenyahs and the leading community in the Batang Kayan. Djalong accepted the head-dress as the traditional mourning cap, *Tidong*, made of bark, which is worn by mourners and also put on top of the head of a dead person *before* Mamat graded society rites have taken place (see D. Galvin in *S.M.J. Special Monograph No. 1, 1966*: pp. 296-304). The corpse is otherwise dressed in a red-tinted barkcoat; the *Tidong* cap itself is undecorated and in natural colour. After headhunting has taken place and the community is ready for Mamat rites, *Tidong* mourning caps are removed. In this sense, the peaked cap marks a prohibition period after the primary disposal of the dead and before the observance of other rites either directly or indirectly connected with secondary burial. Although there is nothing particularly remarkable about such a shape of headdress in general, in Borneo parallel usages are few and none seem relevant to the present discussion.

- (22) Male sexual organs are seldom represented on three-dimensional carvings in Borneo. This is, in some parts, a concession to outside Moslem influence, though there are other reasons. Melanau figures for instance, are nearly always "sexless" or doubtful. A clear representation of an upright penis with testicles is only frequent among the Kenyahs and Kayans. A curious *stone* figure at Long Po in the upper Batang Kayan, unique in its kind and of uncertain origin, has genitals in much the same position as Seriga at Baturong. These are an indication of emphatically non-Islamic activity here. Such "Dusun" carvings as still exist and known to us do not have comparable features. Compare also the wooden carvings which are used as occasional substitutes for the megalithic stone erectons discussed in Chapter V, 15 below.
- (23) Confirmed by T.H., 1952 and 1960.
- (24) Rutter's photograph of Batu Punggol is in "The Pagans of North Borneo" (London, 1929). Another cave-mouth is in Osa Johnson's "Last Adventure" which, though published in London in 1967, must have photographed during the Johnsons' visit to Sabah in the early thirties. The picture facing page 90 shows a number of coffins crowding a narrow rock cleft. The caption reads: "A Dyak burial ground. By means of the projecting poles the natives carry the log coffins to the caves". It is not possible to identify the site from the text, which is highly unreliable. It could be any one of the Miasias shelters of the Lokan River (cf. Section 5 above).

Chapter IV. The Offshore Islands

- (1) We suggest that at a more convenient time it might be productive to investigate the islands in Darvel Bay from this point of view. Results might relate also to the caves near that coast (see Chapter III, 8 previously).
- (2) Much help was given on this occasion by Mr. Kenneth Toms, then divisional surveyor; Mr. Roy McLean, then D.O., Labuan; and Mr. George Nielson of the Borneo Company in Labuan.
- (3) Valuable assistance in identifying the material from Bird Island as well as from Eno Island following was received from Dr. D. Sandosham (teeth) and

Dr. W. G. Solheim, now at the University of Hawaii, who has been closely associated with the work of the Sarawak Museum on neolithic pottery over some years and has helped clarify wider thinking on this subject in several directions (see further in Chapter VII on Earthenwares, below).

- (4) For Maxwell. Hall see Chapter I, Note (14).
 (5) The Brunei records as summarised in the State's *Annual Report* (cf. Chapter II, Note (19)), contain some other clues which point northward into Sabah, including to Kimanis (spelled "Kemanis" in the following extract):

"Raja Besar Abdul was killed at Labuan by order of his brother Sultan Abdul Jalil-ul-Jebar, but there would seem to have been a civil war before this event at the Pengiran Maharaja Legal, the son of the Pengiran Di-Gedong Besar, as son of Sultan Hassan by one of his concubines, and consequently a cousin of Raja Besar Abdul, is said in the Selesilah to have been extremely courageous and enterprising, and it was he who was able to fight against the son of the Merhoum Tuah, the Raja Besar Abdul.

Sultan Abdul Jalil-ul-Jebar was the second son of the second wife of his father. This lady was a Javanese Princess, named Siti Kaisa. He had been called Pengiran Tengah, and is known as Merhoum Tengah, for his being the second of the three children of his brother, the eldest having been son named Omar, and the youngest a daughter, who had no family.

Sultan Jalil-ul-Jebar had also a third wife and family consisting of Sultan Muaddin, another son of Pengiran di-Gedong Damit and several daughters.

The eldest son of Sultan Abdul Jalil-ul-Jebar was named Amat, and he died at Kemanis for want of a supply of opium, and is buried there". (p. 88).

See also Hugh Low in *J. Straits B.R.A.S.*, V, 1880; 21, 27; probably about 1680 A.D. for this event.

- (6) We had hoped to carry out a further excavation on this island with local support in 1966, but were precluded from doing so by pressure of other work. It should not be a difficult excavation and deserves the early attention of the Sabah Museum.
 (7) This habit of stone use may well relate to the deeper megalithic culture of the main island (as described in Chapter V) though modified by Islam. In a similar way, Islam has modified the custom of secondary burial in stoneware jars which are still represented in wooden carved forms at the Bajau cemeteries on the eastern coast of Sabah as well as in Sulu. A fine example was presented to the Sabah Museum by Dr. Clifford Sather, who is publishing an account of Bajau burial customs and his photographs of these interesting artifacts with obviously pre-Islamic content (cf. Chapter II, Note (15); see also Sopher's "The Sea Nomads" (Singapore, 1965) at p. 25 and elsewhere, *passim*.)

These Bajau wooden substitutes in turn probably relate to the "grave markers" of stone, stoneware and wood found in some caves, of the east coast and far inland (to be indicated in Chapter V Note (11)).

Chapter V. The Megalithic Belt

- (1) The references in the text are to Sir Grafton Elliot Smith's "Human History" (London, 1930), W. J. Perry (London, 1939) and Colin Renfrew writing in *Antiquity* 41, 1967; pp. 276-288. For a recent statement in our area, see Philip Rawson "The Art of Southeast Asia" (New York, 1967) whose paragraph contains some of the major confusions we have discussed in previous chapters,

while the inadequacy of the last sentence is (incidentally) the theme of this present chapter:

"The Dong-son culture of Tonkin and Annam took its inspiration from China, while to the west of the mountain spine lie many sites containing megalithic monuments, urns, dolmens and menhirs, forming part of a whole megalithic complex running from southern Arabia, through southern India, southern Assam, into modern Siam and Laos. The urns, carved from white sandstone, are often decorated with designs and animal figures. They were tombs; when excavated they often contain ashes and are surrounded by pots. These megaliths may perhaps be associated with numerous unexplored earthworks, and it has been suggested that both may be related to the early Mon people. Final dating of the megalithic culture is not possible but it is probable that it persisted into the Christian era". (Rawson, p. 12).

- (2) The association between irrigation and megalithic activity was long ago suggested as originating in China around 1,000 B.C. by Dr. R. Heine-Geldern. A general association has been with rice agriculture. Unfortunately, the evidence as to the arrival, source and date of rice is unsatisfactory for Borneo. In our own view, based primarily on work further south in Sarawak, grain crops came late into the island, (as perhaps was the case for elaborate lowland agriculture of any kind in a terrain where it is possible for considerable bands of people to live by food gathering alone cf. Chapter I, Note (21)). On the present evidence, it would appear that the Kelabits of the interior uplands may be the people who have stayed longest in the same place without major modification. All present indications are that they originally cultivated root crops, partly by irrigation (as in much of Melanesia) and only acquired rice relatively late. G. A. Spencer of the University of California has recently demonstrated the complexities of rice evolution and suggested that present irrigation and terraced areas were originally developed for crops like taro and later converted to rice—but with increasing difficulty and even failure as the equator was approached (cf. his "Migration of Rice" in J. Barrau's "Plants and the Migration of Pacific Peoples" (Honolulu, 1963)).

This is in agreement with our Borneo observations and may also have a good deal to do with the inadequacy of modern rice growing methods, so often commented on by western administrators and scientific advisers. As Spencer states succinctly: "The chief rice landscapes of [the islands] are, therefore, a rather recent development in which rice agriculture often is not yet really mature or fully practised".

The relationship between the evolution of rice and the longhouse is another question of prehistory which has barely been considered as yet, although much has been written about the social structure of the longhouse as a community looked at purely in terms of the present time (whereas it is essentially a relic situation, in some ways increasingly ill-adapted to modern needs, particularly extensive rice agriculture by the slash-and-burn method). But to pursue this would lie well beyond our present brief in the absence of factual or artifactual evidence for prehistory.

- (3) For the background of the Sapulut stone see "Ethnological Notes on the Muruts of the Sapulut River, Sabah" (by T.H.) in *J.M.B.R.A.S.* XL, 1967, 1: pp. 111-129.
- (4) In Rutter's "The Pagans of North Borneo" (London, 1929: p. 238) there is a good deal about other such stones. I.H.N. Evans in his "The Religion of the Tempasuk Dusuns of North Borneo" (Cambridge, 1953) specially refers to

- the function of "guardian stones" as protection against evil spirits and epidemics in the Kiau area under Mt. Kinabalu (pp. 149-159).
- (5) The eruption of Krakatau by which this and other informants used to be—but are now, of course decreasingly—dated, began on May 20, 1883 and continued to February 20, 1884. As of 1969 therefore, anyone old enough to remember it by personal experience would be not less than 90 years old.
 - (6) For the Negri Sembilan report here referred to see *S.M.J.* X, 1962, 21: pp. 376-382. The main authority on the subject is Mubin Sheppard in Malaya (see his "Megaliths in Malacca and Negri Sembilan" in *Fed. Mus. J.*, VII, 1962: pp. 70-85) with whom we earlier cooperated in photographing these megaliths and who has often helped with relevant ideas from western Malaysia.
 - (7) It seems extraordinary that these striking figures in a readily accessible and easily visited open terrain close to the capital have hitherto escaped serious attention. Credit should be given to Miss Monica Glynn-Jones who, while a graduate student at the London School of Economics, worked for a term in the area in the 1950's as an anthropologist. Regrettably she has not published her field-work. But in a manuscript text filed in the Secretariat at Kota Kinabalu we found a relevant comment on boundary stones: "Where the (land) boundary was questionable, *wooden posts or small stones* were set up as markers" (p. 13; our italics).
 - (8) Although it is far from certain that the wood substitutes themselves have a venerable antiquity, it is likely that they were negatively stimulated early in this century when the Chartered Company legislated a monopoly on the quarrying of stone and minerals, making it an offence to take stone from one place to another.
 - (9) Mention should also be made of a large rounded river pebble found in the jungle at Balongan, behind Kota Kinabalu, in 1963 and now in the Sabah Museum. This seems to be something between a megalith substitute and a "guardian stone" as discussed by Evans (see Note (4) above). It is crudely decorated with a cut and pointed human face, still in fair condition when originally viewed *in situ* by E.J.H. Berwick and T.H.. It is probable that there were many such objects littered around the Sabah landscape escaping attention and preservation largely because there was then no effective Sabah Museum to focus interest on such matters. The presence of wooden carvings in the Baturong Caves (Chapter III, 10.) in parallel with the wooden substitutes for the Kadazan megaliths points in the direction of a very wide usage of this kind.
 - (10) Some useful general ideas on the evolution of megalithic activities in South-east Asia have been put forward by Hiram Woodward, in a recent paper for Professor Chang of Yale, of which he was good enough to send us a copy (June 1968). Mr. Woodward has drawn considerably on the Kelabit upland reports from Sarawak (in *S.M.J.*, VIII, 1958: pp. 394-401 and pp. 694-702; IX, 1959: pp. 14-20; X, 1962: pp. 376-382; see also *Geographical Journ.* (London) 130, 1964, 3: pp. 329-336). Other area references of value include papers by I.H.N. Evans about West Malaysia in *J. Fed. Malay States Mus.*, IX, 1921; and XII, 1928 (Negri Sembilan and Perak stoneworks); G. de G. Sieveking in *J.M.B.R.A.S.*, XXIX,

1956: pp. 79-138 (Malaya). More broadly these five books give the wider context for a fascinating problem:

Madelaine Colani, "Megalithes du Haut-Laos" (Paris, 1935) 2 Volumes.

A.N.J. van der Hoop, "Megalithic Remains in South Sumatra" (Zutphen (Holland), 1932).

H. R. van Heekeren, "The Bronze-Iron Age of Indonesia", (The Hague, 1958), *passim*.

Walter Kaudern, "Megalithic Finds in Central Celebes", (Goteborg (Sweden), 1938).

Peter Swann, "Chinese Monumental Art", (New York, 1963).

See also item 3 in new books listed in our preface.

- (11) This chapter has not discussed the historical use of stone for grave-markers in a separate context from that of the menhirs of the coastal plain. A number of stones probably placed for this purpose are located in the Kota Belud area, notably at the village of Sarambutan, in association with small "grave houses" which are common to most of the inland peoples between Keningau and Mt. Kinabalu. These were briefly described and illustrated by A. G. Keith in *J.M.B.R.A.S.*, XX, 1947; 1: pp. 16-18 (see also Chapter IX, note (7)). Some are balanced against the sides of the grave-houses not embedded in the ground, so that they fall back flat when the wooden uprights rot away. Keith also mentions "some roughly hewn 4-sided stone pillars used for house posts", though we have not been able to locate any of these since. See also F. W. Burbidge "The Gardens of the Sun" (London, 1880: 288). It is clear that these continued in local use until about 1940, but they are not mentioned by recent observers and we have not seen any that could be recent. Whether or not they belonged to a deliberate and basically prehistoric megalithic activity remains uncertain. Certainly, the stones were locally interchangeable with stoneware jars similarly used as grave markers (see further at Chapter IX below). Interesting variants are the grave markers used in some of the east Sabah caves; in this case use of wood instead of stone or stoneware; these are fully discussed and illustrated by B.H. in *S.M.J.*, XIII, 1966, 27: pp. 323-334; see also Miasias, Batu Puteh Suluk and Tempadong (Pusu Lumut) caves in Chapter III previously, as well as Chapter Notes III (8) IV (7) above and IX (7) below.

Chapter VI. Stone Tools

- (1) In this and the following chapters of Part C we shall not necessarily go into detail for every artifact of prehistoric origin for Sabah, especially where these have been described in detail in their site situations during preceding chapters. This particularly applies to coffins and other wooden materials for which there is no certain history but which cannot be said to be undoubtedly prehistoric. Similarly, we have discussed the important and definitely prehistoric wooden figures from Baturong in their site context (Chapter III, 10). It will also be clear to the reader that there are huge gaps when we come to any attempted classification of Sabah prehistoric artifacts. This particularly applies to bronze and other early metals at this stage.
- (2) The previous literature for Sabah stone tools consists of a paper by I.H.N. Evans (cf. also Chapter II, note (26)) in *Man* 1918, and a short note by H. G. Keith in *J.M.B.R.A.S.* XX, 1, 1949, pp. 16-18. Both refer to late neolithic tools,

to be examined further on in this chapter. There is no comprehensive work on stone tools or the stone age in general as yet for Borneo. To remedy this gap for western Borneo is the concern of the present writers over the next few years. Many papers on stone tools have already been published in *S.M.J.* and elsewhere since 1947 and anything that is relevant from these and related sources has been used in the present consideration of the more limited Sabah material. The only attempt at a comprehensive treatment for the islands of South-east Asia is H.R. van Heekeren's "The Stone Age of Indonesia" (Leiden, 1957), a useful compilation covering a lot of ground. But it is not well illustrated and does not refer to Sabah. Excellently illustrated and helpful to the interested reader is M. W. F. Tweedie's "The Stone Age in Malaya", published in *J.M.B.R.A.S.* 1949, but available as a separate booklet from the National Museum in Singapore. However, there are major differences between the mainland and the islands which can be confusing. *J.M.B.R.A.S.* is the most useful periodical for archaeology in the area as a whole and has published many papers on area prehistory in recent years, notably by Drs. Brian Peacock and Lord Medway from the University of Malaya, Dr. Alistair Lamb from the University of Leeds and various contributors from Sarawak. Likewise in the more recently re-established *Fed. Mus. Journ.*, published from the National Museum in Kuala Lumpur but in fact confining itself to western Malaysia (Malaya) so far. On the other hand, the general literature in *English* for the Chinese mainland further north is extensive and excellent. You can choose between the leading British-Chinese archaeologist Cheng Te-K'un and his "Archaeology in China" published by Heffer's, Cambridge, in a series of volumes commencing 1959; or the single volume by the leading American-Chinese archaeologist Kwang-chin Chang "The Archaeology of Ancient China" (Yale University Press, 1964).

Some of the best world-wide surveys of the stone age and stone tools have already been cited in Chapter I and we shall have further occasion to refer to William Howell's "Back of History" at Section 3(b) in the text.

- (3) The basic question of defining stone tools and stone age activities generally is examined in three important recent papers:

Robert & Marcia Ascher, "Recognising the emergence of Man", *Science* 147, 1965: 243-250;

Robert A. Benfer, "A design for the study of archaeological characteristics", *American Anthropologist*, 69, 1967: 719-740;

Jane B. Lancaster, "On the evolution of tool-using behaviour", *American Anthropologist*, 70, 1968: 56-67.

- (4) Thanks are due to those who examined the Agop Atas and other stone samples on loan from Sabah, particularly Robert Ascher and Tom Lynch at Cornell University, W. W. Howells at Harvard and Richard Shutler at the University of British Columbia; as well as to Robert Fox and his colleagues at the National Museum, Manila. We have benefited greatly on previous occasions from the interest and expert opinion of Hallam Movius of Harvard, perhaps the principal authority on palaeolithic cultures (see for instance his "Early Man and Pleistocene Stratigraphy in Southern and East Asia" Papers of the Peabody Museum, Cambridge, Mass., 19, 1944) although he has been primarily concerned with the earlier phases not yet represented in Sabah.

- (5) The dating information discussed in this sub-section was made possible through the generous cooperation of Dr. Rainer Berger, in correspondence during the summer of 1968 as summarised in the text. Dr. Richard Shutler kindly assisted in submitting the material for analysis. For more on the shells which constituted this material see earlier at Chapter III, 9(b).
- (6) The original initiative for identifying the stone artifacts from the Tomanggong site was taken by Gerry Jacobson, a Government Geologist working in the area. He has been most helpful in obtaining this material, just as the Sabah Museum has been most helpful in allowing for a sample to be taken abroad. It would have been impossible to make this report without these facilities. Indeed, over the years, the free interchange of research materials between Sabah and Sarawak as well as internationally has been an indispensable part of the process of extending our knowledge of prehistory and bringing in the cooperation of experts for whom funds are seldom available to come to Borneo even if they had the time and inclination to accept.
- (7) The latest carbon-datings from Palawan include one for 28,550 B.C., based on a charcoal sample from Tabun Cave, submitted to Dr. Berger by Robert Fox and Richard Shutler. This is associated with a flaked tool which we have examined in the Philippines and which closely resembles some of the Sabah material, at least superficially. Several other Palawan dates are over 20,000 years. In view of the points made in Chapters I and II on Palawan—Borneo communication in the ancient past, the implications for Sabah are evident. See also Dr. Fox's general report "Excavations in the Tabun Caves and some problems of Philippine Geochronology" in "Studies in Philippine Anthropology" (ed. M. D. Zamora); Quezon City, 1967: pp. 88-116.
- (8) Much of the general literature of the area supposed that there are "round axes" as an intermediate phase between the rougher tools and the fully polished adzes of the neolithic. It should therefore be mentioned that although this phase is represented further south in Sarawak it so far appears absent in Sabah (as in some other parts of the South-east Asian islands). Indeed, the absence of axes (blade with two faces and set parallel to the handle or haft), as compared with the abundance of adzes and gouges (single-faced to the blade, set at right angles to the handle) is a notable feature in Sabah, though one that should not be over-emphasised until there is more data to hand.
- (9) For *Evans* see note (2) above, first sentence.
- (10) Dr. van Heekeren's remarks are in his "The Stone Age of Indonesia" (Leiden, 1957). There are various methods of classifying neolithic stone tools in Asia and the Pacific basin. Probably the most satisfactory method has been put forward by Dr. Roger Duff working primarily from New Zealand up the Pacific islands—see his paper in the volume of essays "Anthropology in the South Seas" (Sydney, 1959: 121-147); also Per Sorensen's "Archaeological Excavations in Thailand" (Copenhagen, 1967: pp. 85-88) which shows that several of Duff's types occur mixed up together in Thai caves—including rectangular, triangular and trapezoidal forms! Such classifications tend to be strictly artificial and to break down when objectively and statistically checked in the field under the sort of conditions which have been described for Borneo. Fortunately, the polished tools position in Sabah looks relatively simple, as the

main text shows. But this could be misleading and the situation could be changed by new finds and the larger excavations which are required in the future. A particularly interesting commentary on classification is provided by the anthropologist Karl Heider, in a paper entitled "Archaeological assumptions and ethnological facts" (*Southwestern Journ. of Anthropology*, 23 1967: pp. 52-64) where he demonstrates for the central New Guinea people still living in the stone age that they "ignore both outline and cross-section". He also demonstrates how gouges—quite significant in the Sabah neolithic—differ in use in adjacent valley populations of the same broad ethnic group. Everything that we say here about typology for Sabah must be considered with these major qualifications.

- (11) Another Pacific archaeologist, R. C. Suggs, has attached particular importance to what he terms "roof-shaped adzes" which relate to the Sabah trapezoidals. Partly based on this and to other stone age typologies he favours a theory of culture movement from the Philippines into Micronesia and then out into the Pacific ("The Island Civilisations of Polynesia", N.Y. 1960). But Sugg's theories are not generally accepted. There is as yet no one overall theory that fits the fact for neolithic tools—largely because the facts themselves are still far too few for adequate scientific conclusions.
- (12) This and other papers for Niah have appeared in a long series of *S.M.J.* issues since 1954. This publication is available in most libraries locally and the main international research centres concerned with this part of the world. There are so many papers relevant to problems affecting Sabah that the serious student of the area should seek copies from the Sarawak Museum in Kuching if not available locally. The *Sabah Society Journal* started much later but has built up an important set of publications rich in source material for future reference.
- (13) M. Chong's report is now published in *J.M.B.R.A.S.*, XXXIX, Pt 2. 1966.
- (14) H. G. Keith, see note (2) above, first sentence.
- (15) T.H. in *S.M.J.* XI, 1964, 23: p. 597.
- (16) For bark beaters more widely in Borneo and a good treatment of the subject in the area see "Ornamented bark-cloth in Indonesia" by Dr. S. Kooijman (Leiden, 1963), and our review of same in *Asian Perspectives* IX, 1966: pp. 171-172; also *S.M.J.* XI, 1964, 23: pp. 597-601. For mainland Malaysia compare G. de G. Sieveking in *J.M.B.R.A.S.* XXIX, 1956, 4: pp. 78-85; and a general survey of bark-beaters by Mary Man-li Ling in *Academia Sinica* (Taipei), Monograph No. 3 of 1963 (Ethnology).
- (17) For a general discussion of soft tools see T.H. in *Man*, 1949.

Chapter VII. Earthenware

- (1) All these are published in the *S.M.J.*; see specially VI, 1955, 5.
- (2) A major study of prehistoric earthenware in South-east Asia has been conducted by Dr. W. G. Solheim. Outside this present publication there is nothing previously on Sabah earthenwares except in the *S.M.J.* as stated. Dr. Solheim

- worked for more than a year in the Sarawak Museum after earlier Philippine studies on the classification of this difficult pot material and has published a series of papers which embrace the whole of Far Asia. Particularly useful are "Pottery and the Malayo-Polynesians", *Current Anthropology* V, 1964: pp. 360-403; "The Sahuyuh-Kalenay Pottery Tradition; Past and Future Research" in *Studies in Philippine Anthropology*, ed. by Mario D. Zamora, pp. 151-174. He has lately extended his field studies to Thailand and elsewhere on the Asian mainland with good results (cf. Chapter VIII, Note (2)).
- (3) A more detailed treatment of "Turtle Ware" is published by T.H. in *S.M.J.* XII, 1965: pp. 63-67, with an updated version in *Asian Perspectives* IX, 1966: pp. 134-139. For the type site at Tapadong, see Chapter III, 7(f) in main text and also Pacific (Fiji) comparison in *S.M.J.*, 1969.
 - (4) Evans's paper in *J.M.B.R.A.S.* XXIV, 1951 should be read against the background of Sopher's wider "The Sea Nomads" (cf. Chapter II, Note (8)). See also Evans on Sabah-Bajau pottery of modern make in *S.M.J.* VI, 1955, 5: pp. 290-294.
 - (5) H. A. Nimmo has pointed out that all Sulu Sea Bajaus originated from outside that area. Some locate this origin in Johore, as is common in Sabah; but others look northward to Zamboanga in the Philippines. This author, who in 1967 completed two years fieldwork with the northern Bajaus, considers that "quite possibly the Johore legend is simply a good story which appealed to the Bajau imagination". (*Philippine Studies*, 16, 1968, 1: p. 41; also his paper in *Ethnology*, 4, 1965, 4: pp. 421-440).

Chapter VIII. Metal: From Bronze Tools and other Forms, into Iron

- (1) There is virtually no earlier literature on this subject for Sabah. But see *Sabah Soc. J.* 4, 1965: pp. 151-159 and *S.M.J.* XI, 1964, 23: pp. 655-665 (T.H.). Also *S.M.J.* XII, 1965, 25: pp. 143-147 and XIV, 1966, 28: pp. 151-155 (with a bibliography on bronze finds in Borneo generally). Another and previously overlooked item is I.H.N. Evans reporting on a second kettle-drum obtained in the Tempasuk district and now in the Cambridge Museum of Archaeology and Ethnology. This is illustrated in *Man*, 18, 1918, and mentioned in his "The Religion of the Tempasuk Dusuns of North Borneo": Cambridge, 1953, p. 458. Some others are also noted in folk-lore. The influence here as elsewhere with valued metal objects in Borneo, is that they were once much more common and important than is now the case.
- (2) Van Heekeren's 2nd volume "The Bronze—Iron Age in Indonesia" (The Hague, 1958) is a very useful compilation of existing known artifacts but woefully inadequate as regards excavated archaeological specimens. Archaeologists have overwhelmingly concentrated on the stone age throughout South-east Asia taking the metal age problems too much for granted. This mistake should be avoided in future in Sabah, if possible. Without adequate understanding of the early impact of metal, the most important prehistoric developments—leading directly into the contemporary situation—cannot be fully understood. See also T.H. in *J.M.B.R.A.S.* XXXVIII, 1965: pp. 256-260; and *S.M.J.* XIV, 1966: pp. 150-155. Important new discoveries on mainland bronze dating, affecting

the islands, have lately been made by W. G. Solheim (*Journ. Siam Soc.* LV, 1967, 1: pp. 87-88; *Antiquity*, 40, 1966: pp. 8-17; see also Chapter II, note (6)).

- (3) Compare the 1949 survey in *J.M.B.R.A.S.* (cf. Chapter II, note (1)).
- (4) An excavation of an iron working site in Sabah could be the most rewarding of all projects in the near future. For the parallel work completed in Sarawak—see titles cited in postscript of our preface and again Chapter II, note (1).

Chapter IX. Stonewares and Porcelain, from China and Siam

- (1) There is a very large literature on this ceramic subject for South-east Asia generally but nothing previously published for Sabah where even the Museum collection is as yet limited in this field—as compared, say, with the display and reference collections in the Sarawak Museum.

The literature from elsewhere in Borneo and relevant to Borneo has been surveyed in a long paper by C. Zainie and T.H. in *S.M.J.* XV, 1967, 30: pp. 30-76; it also proposes a classification for earlier stoneware types found in Sarawak and likely to be found in Sabah.

Extensive research is also being done on the subject in the Philippines, where most of the same wares occur as in Borneo, and in great profusion. A handsome volume with many coloured plates has recently been published by L. & C. Locsin "Oriental Ceramics Discovered in the Philippines" (Tokyo, 1967). For wider background reading easily the best all-round work is still "The Ceramic Art of China and other countries of the Far East" by W. B. Honey (London, 1957). Interesting for South-east Asia is also Dr. T. Volkar's "Porcelain and the Dutch East India Company" (Leiden, 1954; in English). For Sabah specially, see *S.M.J.* XII, 1965, 25: pp. 69-74 and XIV, 1966, 28: pp. 156-161.

- (2) Spenser St. John's two-volume "Life of the Forests of the Far East" (London, 1863) is the best of the early European accounts of the Borneo interior, especially the area behind Brunei Bay, in the first half of the last century. See also Chapter III, note (20).
- (3) The late Nanne Ottema was one of the first and (until recently), few people in Europe to appreciate the merits of the so-called "export wares" from the mainland to the islands. The Museum he founded in Friesland, Holland is fortunately flourishing and expanding further under the directorship of Dr. J. Romijn. Ottema's "Chineesche Ceramiek Handboek" (Amsterdam 1964) and publications of the Prinseschof Museum in Leeuwarden—all in Dutch—have made these collections famous in the west. See also Romijn's recent paper in *Oriental Art*, XIV, 1968, 1: pp. 1-5.
- (4) Locsin was cited in note (1), above.
- (5) Zainie and T.H. as in note (1) above.
- (6) The foremost authority for Siamese ceramics is Dr. C. Nelson Spinks whose "The Ceramic Wares of Siam" (Bangkok, Siam Society, 1965) is invaluable—a new edition is now in preparation. Professor A. B. Griswold, to whom we are indebted for help over the years, put forward other new ideas in this field, enunciated at a seminar in May 1968 and shortly to be published.

- (7) The big stoneware jars which began to be made in China in the T'ang Dynasty and continued into modern times, were extensively associated with burials, almost throughout Borneo. The tradition began before the overseas trade, in the stone age, when earthenware vessels were used, and by 500 B.C. the local people were making low-fired burial urns, impressive in size and form. The largest of these, 3 ft. high, from the cemetery at Niah Great Cave, has recently been dated at 1,225 B.C. by Geochron Laboratories; this is illustrated in *S.M.J.* XV, 1967, 40. Pl. XXXV (paper by B.H.). The arrival of high-fired and more hardy stoneware jars evidently met a real Bornean need after 700 A.D. In Sabah, various sorts of jar burial have survived into this century, mainly among the Kadazan-Dusun peoples of the northern interior. Several interesting records of such jar use are given by I.H.N. Evans in his "The Religion of the Tempasuk Dusuns" (Cambridge, 1953). The cave cemeteries of eastern Sabah, which we have fully described in Chapter III, use coffin burials and rarely contain fragments of large jars. But there is clearly a connection between such jars and the striking megalithic uprights on the western coastal plain and we have suggested an ancient burial association there (Chapter V). H. G. Keith has also implied a similar connection between some more casual stone uprights and jars, both left out in the open as "grave markers" at Sarambutan, near Kota Belud (*J.M.B.R.A.S.* XX, 1947, 1, caption to Plate XVII, where it is emphasised that the jars illustrated are "used as markers and not as burial jars"). That is not to suggest that jars are *only* used as markers, even in this area. A number have been found in the open in situations where they have clearly been used to contain human remains, more usually as a form of "secondary burial", to take the bones or ashes transferred from an earlier "primary burial" in a coffin. Sometimes however, the jar is opened up to take the whole corpse in a primary burial. A number of excellent examples are now in the Sabah Museum, including a fine early one discovered near the Kota Belud race-course by Mr. John Boles. See also Chapter V, note (11).

Chapter X. Beads

- (1) There is no previous special literature on Sabah beads, though Rutter, Evans (*J.M.B.R.A.S.* XXIV, 1951, pp. 168-171) and others mention them in passing. None of the Sabah people in modern times put a great value on glass beads, whereas these were prime status symbols and barter items further south: (the Kenyahs and Kayans of northern Sarawak and central Kalimantan at one time valued certain beads as equalling a human life). This relative paucity of valued old glass is in line with the relative infrequency of old stoneware and procelain. These two commonly go together in Borneo and more widely in South-east Asia.
- (2) Cornelian (or carnelian), a translucent, usually reddish form of chalcedony, occurs in quantity naturally in India, especially near the Gulf of Cambay, but also in Burma, Japan and elsewhere. Beads of this stone are common throughout Borneo and still to be found in Murut and other necklaces (several examples in the Sabah Museum). On earlier traffic in bead stone see Paul Wheatley, in *J.M.B.R.A.S.*, XXXII, 1959, 2: p. 93, also Edward H. Schafer, "The Golden Peaches of Samarkand", University of California Press, 1963: p. 228. Some

- good agates occur and have long been exploited in Java (S. Raffles, "The History of Java", London 1817; Oxford reprint 1965).
- (3) A good deal of attention has been paid to glass beads elsewhere in Malaysia. Detailed analyses of excavated beads have been published for Sarawak by T.H. in *Man* LXIV, 1964, 50: p. 374 and *Asian Perspectives* XI, 1967: pp. 110-125; also *S.M.J.* V, 1960, 2: pp. 201-220; and for Malaya proper by Alastair Lamb, *Fed. Mus. Journ.* VI, 1961: pp. 1-90 (*passim*) and (in detail) 1966: pp. 87-124. It is unusually unsafe, if not actually impossible, to judge the antiquity of beads by eye alone. Chemical or spectographic analyses are needed. A basic text is Earle R. Caley, "Analysis of Ancient Glasses", Corning, New York, 1964.
 - (4) These tubular beads are dealt with further in the papers cited at Note (3) above. Comparable examples from Sabah would be especially interesting for analysis to assess if they are really the same as the southern ones.

Chapter XI. The Idahan Story

- (1) This chapter is based on extended visits to Lahad Datu by B.H. between 1965 and 1968. Imam Injir came to Brunei as our guest in 1967, where the study was generously assisted by Dato (Dr.) Haji Jamil at the Dewan Bahasa and elsewhere in the State. We recognise that this treatment does scant justice to the source material, but much of it lies outside the bounds of prehistory.
- (2) See earlier on Cheng-Ho in Chapter II, 5 (c), Note (20); and Chapter III, 5, Note (6); also later in the present chapter.
- (3) The relationship to the man-eating eagle-monster Garuda, so important in Hindu mythology, can hardly be ignored. This Idahan tale is, in effect, a mixture of *all* the main idea impacts on to indigenous animism and leading out into Islam.
- (4) Two papers by T.H. on the *palang* or penis-bar in *J.M.B.R.A.S.* XXXVII, 1964, 2: pp. 162-174; and XXXIX, 1966, 1: pp. 172-174. A third from George N. Appell of Harvard, is in the same *Journal*, in press.
- (5) See footnote (6) below.
- (6) As with Garuda of Hinduism above, so with the Golden Deer and Buddhism here. This is one of several elements in Idahan eastern Sabah folklore which show the influences, although weak and probably indirect, from such a source. Compare, for instance, the famed "Garland of Jatakas", a Buddhist text written before 400 A.D. which places great emphasis on animals as helpers of man—ungrateful man, who always slays the creature in the end. One of these is the Ruru-deer:

"With his large blue eyes of incomparable mildness and brightness, with his horns and hoofs endowed with a gentle radiance, as if they were made of, precious stones, the rurudeer of surpassing beauty seemed a moving treasury of gems. . . herefore, knowing this today to be a very desirable thing, and aware of the pitiless hearts of men, he would frequent such fresh ways as were free from human company, and because of his keen intelligence he was careful to avoid such places as were made unsafe by devices of huntsmen".

(Ananda K. Coomaraswamy "Buddha and the Gospel of Buddhism", London & New York, 1964, Part V).

Ideas closely similar to the Idahan deer and Murut ox are found further south among the Kayans and Kenyahs of Kalimantan and Sarawak, but often with a more "kindly" conclusion—for instance, in the great Kenyah saga of Oyau Ambing Lian, who follows a beautiful sow in much the same way as Apoi in Sabah (T.H. and Stephen Wan Ullok in *S.M.J.* X, 1961, 17-18: pp. 191-213).

- (7) S. Holly's "The Origin of the Idahan People", *S.M.J.* III, 1949; pp. 257-262, which is here revised. Mr. Holly, then an administrative officer, did much to arouse interest in these and related matters in Sabah.

Chapter XII. So, into History

- (1) The Maximilian text is from the Hakluyt Society Edition; ref. Chapter II, note (12). The same volume contains the fuller and first-hand Pigafetta text. This is essential reading for the serious student of Borneo's past and is surely overdue for reprinting in a more popular and available form, preferably with an up-to-date commentary.
- (2) So into History: the main text here is K. G. Tregonning's "Under Chartered Company Rule: North Borneo, 1881-1946" originally published in Singapore, 1958, then in London, 1959—now available in a soft-cover edition, slightly revised. This may be read in conjunction with Sir Steven Runciman's better Sarawak history "The White Rajahs" (Cambridge, 1960). In earlier chapters we have referred to Owen Rutter, J. Maxwell Hall and others who combine historical and other material. The "Pretyman Diaries" reproduced serially in the *S.M.J.* between 1956 and 1959 (in four instalments) give a vivid idea of early "colonialism". Less available but of great interest are Alexander Dalrymple's early accounts of the Sabah coast, specially the Tuaran area, in 'Oriental Repertory' (2 vols), London 1794. This, like Pigafetta, deserves to be reproduced in a modern and inexpensive edition. See also Chapter I, Note (1) for Rennell's account on one of Dalrymple's pioneer voyages and many references there given. The outstanding and most beautiful volume about Sabah is J. Whitehead's "The Exploration of Mount Kinabalu" (London, 1893), now a collector's piece—also surely worth a popular new edition. Finally, for the whole area, there is D. G. E. Hall's "A History of South-east Asia", which can hardly be beaten despite its rather narrow approach to prehistoric sources. A revised 1968 edition is published by Macmillan (London) and is now available in paperback (though not in the U.S.A.). Incidentally, Kinabalu was first climbed by a Brooke officer from the south, Hugh Low, in 1851 (cf. his earlier excellent book on "Sarawak" (London, 1848)); he was later knighted for distinguished services in South-east Asia.

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