

Tom Harrisson, North Borneo, and Palawan: A PRELIMINARY ASSESSMENT

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INTRODUCTION

PERHAPS THE best place to begin any assessment of the contributions of Tom Harrisson to the archaeology of northern Borneo is to point out that he was not an archaeologist. He brought to the task of unveiling Borneo's past none of the extensive academic background that today is considered essential to a career in prehistory. He was not concerned with the problems of sampling, typology, taxonomics, statistical manipulation and evaluation of data, and models which consume so many of the waking hours of "new archaeologists." He proceeded throughout his career as if he had never heard of them. He was very ill-prepared and untrained for the large challenge and responsibility he took on in the late 1940s. As a result it is unusually easy to criticize his work (Hutterer 1977) and give public vent to the frustration it created (Kress n.d.a). Yet, however we might cavil, nothing can detract from the man's stature as a pioneer of boundless energy and vision. In fact, an understanding of his shortcomings in academic prehistory can help us to appreciate fully the immense value of the large body of literature on Bornean prehistory that he left behind.

We live and work in an age of extreme academic specialization. The proper course for the proper scholar is to claim for himself a precisely defined area of interest and to remain strictly within those boundaries. Woe be unto him who steps beyond—intellectually or geographically. He is regarded with suspicion and mistrust by his colleagues. He has lost his label. One difficulty we experience in understanding Tom Harrisson's career is that he never had a label. We cannot define him by discipline. If we could corner him now and badger him about it, he might prefer to be remembered as an ornithologist. It was in ornithology that he began his scientific career

(Harrisson 1933), and he maintained a keen interest in it throughout his life (Smythies 1960; Harrisson 1972). But his paramount interest was in Borneo. Every aspect of it fascinated him—its land, its people, its plants, its wildlife, its history. As an ethnographer he understood better than most that the lives of no people could be fully appreciated without some knowledge of their past. It was inevitable that his catholic interests would eventually engross him in Borneo's prehistory.

I would not attempt now to present a full review of Bornean prehistory. Harrisson's publications on the subject are numerous and span more than a quarter of a century. More were in press or in the planning stage when he was killed. Many of the publications deal with only minor points, and, although some periods are fairly well described under a single cover (Harrisson and O'Connor 1969, 1971), Harrisson showed little interest in synthesis. In several articles he summarized his work in the palaeolithic period, concentrating on the caves at Niah (Harrisson 1972, 1974, 1975, 1976), but in only one article (1970) did he cover the full range of Bornean prehistory. I will briefly compare the archaeological sequence from northern Borneo as reconstructed from the work of Harrisson with that of Palawan based on the work of Robert Fox (1970) and the author (Kress 1977). I will restrict myself to the earlier periods—up to and including the iron age—because these are the best represented in both sequences.

BORNEO AND PALAWAN

There are several reasons that make a comparison of Bornean and Palawan prehistory interesting at this point. Although the two islands are separated politically, in all other respects they have very close affinities. Biologically, Palawan can be considered a province of Borneo (Merrill 1922–26; Dickerson 1928). Its biota is much more closely related to that of Borneo than it is to that of any part of the Philippines. This biological similarity reflects the geological history of the two islands. Together, Borneo and Palawan (including the Calamian Group) constitute the easternmost extension of the great Sunda Shelf, and the two islands were undoubtedly connected to each other as well as to the mainland during periods of eustatic depression.

The two islands are also cultural backwaters. Even today they are the most thinly populated parts of their respective nations—the Philippines for Palawan, and Malaysia, Indonesia, and Brunei for Borneo. Nonetheless, both islands have received continuous technological and cultural stimuli from various parts of the Asian mainland and in some periods probably were technologically superior to islands to the south and east. Thus their prehistory adequately reflects that of the mainland.

The two islands constitute the southern boundary of the South China Sea and are similarly situated to receive technological innovations from Asia. Geologically, there are similarities between at least the northern part of Borneo and Palawan. In these areas large outcrops of heavily karstified limestone predominate, albeit to a much greater extent in Palawan. The caves in these areas provide a large portion of the world's supply of swift's nests which have delighted Chinese palates since perhaps as early as the Sung dynasty. And the two biologically similar islands possess many of the same resources. The geography of Borneo, however, is much

more diversified than that of Palawan. As one of the world's largest islands, its land mass is many times that of Palawan. Large rivers have created a fertile coastal plain along the northern coast. The narrow island of Palawan lacks such rivers, and habitable coastal areas are small and unevenly distributed. The coastal plain and river deltas of northern Borneo have allowed for easier overland transportation and contiguous settlement, whereas settlement in Palawan is concentrated around the small tidal rivers with large uninhabited areas between.

Differences in size and geography are also reflected in the present-day ethnography of the islands. The diversified upland and coastal habitats of Borneo have produced numerous ethnically distinct groups. Moreover, Brunei was an early center of Islamic high culture in the last centuries before the arrival of Europeans. In contrast, only two major ethnic groups inhabited Palawan, the Pala'wan and the Tagbanwa. In spite of their dispersed settlement, both groups are reasonably homogeneous throughout their range. A few hundred Batak near Puerto Princesa constituted the only other ethnically distinct group.

Finally, and most importantly, the two areas have been relatively well studied archaeologically—Sarawak by Harrisson and Palawan by Fox. The parallels between these two remarkable careers are numerous and will one day make a fascinating study. For the present, we are interested in the results of their work.

THE EVIDENCE

Borneo

Harrison divided the archaeological sequence of northern Borneo into five periods (1970). I will give a brief synopsis of each period here.

Early Stone Age

Data concerning this period of Bornean prehistory come almost exclusively from Niah Cave. It is extremely difficult to interpret the material from Niah because the publications have been so scanty (Brothwell 1960; Harrisson 1957, 1958, 1959, 1964*a*, 1974, 1975, 1976; Harrisson and Medway 1962; Solheim 1958; Wall 1967). No really detailed maps have been made available, and the distribution of the excavations and the artifacts and human remains as published (Brothwell 1960; Harrisson and Medway 1962) are meaningless to the reader.

Harrison's discussions of typology are equally vague. Hutterer (1977) has pointed out some of the major difficulties. On the basis of typology, however, Harrisson was able to distinguish two phases in his early stone age—the first characterized by large quartzite flakes and chopper tools (*sic*), the second by smaller quartzite flakes. The first phase began about 40,000 years ago, the second about 10,000 years later. It is as yet impossible to make any meaningful correlations between descriptions of faunal remains (Medway 1958, 1959, 1960; Koenigswald 1958; Hooijer 1960*a*, 1960*b*) and the cultural materials (Harrison and Medway 1962). On the basis of the wide variety of both large and small faunal remains that have been described, these early groups appear to have been extremely opportunistic hunters (trappers) with but little ability to take arboreal game.

Later Stone Age

Harrison's second major chronological division is actually three periods distinguished and ordered, it would appear, by typological considerations and largely unsupported by stratigraphy. Several radiocarbon dates from a large series of burials at Niah provide the basis for the dating of these periods, and the data are very incomplete (B. Harrison 1967). The first phase of the later stone age began, according to Harrison (1970: 40), 12,000 years ago. The diagnostic artifacts are edge-ground pebble tools. The earliest recorded example was recovered from a flexed burial covered with powdered hematite at the West Mouth of the Great Cave. It occurred between two strata dated at $4,040 \pm 70$ B.P. and $19,570 \pm 190$ B.P. (B. Harrison 1967: 134). The date of 12,000 years ago is evidently just a very rough estimate. Because these tools appear more "sophisticated" (Harrison 1970: 35) than those described by Colani, Harrison concluded that the Hoabinhian never reached Borneo. About 4000 B.C. roughly polished, Melanesian-type "round" axes were introduced into Borneo. The context of this tool type is not well described, and, as with the preceding phase, no reconstruction of subsistence or settlement patterns can be attempted.

About 2500 B.C. what prehistorians of Southeast Asia have called the full neolithic reached Borneo. It is characterized by polished stone tools (axes and adzes), ceramics, and a wide variety of artifacts of personal adornment. Quadrangular adzes appear to be more common in Sarawak, at least at Niah, while trapezoidal forms predominate in Brunei and Sabah (Harrison 1970: 36). The most detailed descriptions of this phase are in B. Harrison's (1967) classification of the burials from the Great Cave at Niah. An extraordinarily wide variety of burial customs has been assigned to this period—single extended burials, multiple burials, cremations, burials in coffins and baskets, and jar burials—but it appears to be impossible to determine the order of introduction of these various mortuary practices or to determine the relationships between them.

Again we have only a very narrow picture of the livelihood of these people, as no habitation sites have been described, but a fairly good picture of the technology can be gleaned from the grave goods. The people were very highly skilled in techniques of polished axe manufacture, in the arts of ceramics and mat weaving, in wood-working (B. Harrison 1967), and undoubtedly in boat building (Harrison 1970: 35). This period was one of rapid technological development and increasing diversity during which new habitats were penetrated—offshore islands and the Kelabit uplands—and population apparently grew considerably.

The earliest ceramics so far reported from northern Borneo are apparently those associated with the jar burials at Niah mentioned earlier. These have been well described (Solheim, B. Harrison, and Wall 1959; B. Harrison 1967) and exhibit a wide variety of formal and decorative variation which can be related to the Sa-huynh-Kalanay pottery complex (Solheim 1959).

The Advent of Iron

Metallurgy appears first in northern Borneo in the form of two bronze artifacts from the Great Cave at Niah. Barbara Harrison was able to date one of these objects, a small knife found in a coffin burial, between 400 B.C. and the time of Christ. The second major occurrence is at Tapadong Cave in eastern Sabah

(Harrison 1964*b*). It is interesting to note that in both places the bronze implements occur in association both with neolithic tools and with iron (Harrison 1964*b*: 175–176). Harrison himself apparently had a minor change of heart about the significance of these associations (contrast Harrison 1967: 200 and 1970: 36). He also noted strong “Celebes links” at the Tapadong site (1964*b*: 177, 1970: 36). Presumably, he was coming to the conclusion that bronze metallurgy was first introduced into Borneo from the Celebes in the latter half of the last millennium B.C., and that iron metallurgy first appeared shortly thereafter. He did not believe that a “Bronze Age” comparable to the Dongson of Mainland Southeast Asia ever existed in Borneo or that metallurgy had any really strong impact on Bornean society for another thousand years after its introduction, when, in the seventh century, a local iron technology became well established in the Sarawak River delta. Strong influences from both China and India have been well described for this period as has the iron technology itself (Harrison and O’Connor 1967, 1969), but as with the earlier periods, complete site reports are not available.

The relationships between the early bronze technology and the introduction of iron were not clear in Harrison’s mind on the basis of the present evidence. He pointed out that a highly sophisticated bronze industry persists to this day in Brunei. He apparently believed that this modern industry represents a fairly recent development in Borneo rather than being the descendant of an ancient Dongson-type technology.

Harrison’s approach to prehistory can, in my mind, best be described as technological. (For a contrary opinion see Solheim 1977.) He was interested in tool types and their relationships to chronology. In recent years, under the influence of geochronologists (Sabels 1966; Petersen 1969; Ashton and Ashton 1972), he developed an interest in ecology (Harrison 1972, 1976) and began to try to interpret the faunal data from the Niah Caves and to integrate it with the cultural materials. His task was made more difficult by the inconclusive nature of the climatic data, which in some instances were contradictory (Petersen 1969; Ashton and Ashton 1972), and his conclusions were very tentative.

But there remained large areas of prehistory into which he never ventured. He seldom asked of his data questions about subsistence or settlement patterns, cultural change and innovation, or social organization. In this last area his knowledge of Borneo’s people would seem to have been invaluable, but his interest in ethnology appears to have been concentrated primarily on ritual and oral history, and it was in these two areas only that he was able to integrate the two sources of data.

Palawan

Robert Fox’s archaeological work in Palawan spans roughly a decade. His interest in the area began with a description of Tagbanwa religion and ritual (Fox 1954), but earlier work in ethnobotany had given him an interest in cultural ecology (Fox 1952). In his 1970 monograph he published a chronology of Palawan prehistory. In 1977 I published a slightly revised version incorporating some new data. Here I will concentrate on the major divisions of Fox’s chronology, as the minor divisions are simply an ordering of individual sites or of components within sites.

Lithic Traditions

Upper Palaeolithic. Fox's upper palaeolithic data, like those of Harrison, come from a single site, Tabon Cave. On the basis of vertical distribution, he was able to distinguish four well-dated assemblages ranging in age from $30,000 \pm 1100$ B.P. to 9250 ± 250 B.P. Fox estimates a lower component containing just a few tools to be 45,000 to 50,000 years old. These assemblages are uniformly composed of flake tools. The tools exhibit a wide range in both size and formal characteristics. Unlike Niah Cave, the raw material is primarily flint, although quartzite was occasionally used. Unfortunately, conditions of preservation are very poor in Tabon Cave and almost no faunal remains have been recovered.

In 1969, my excavations at Pilanduk Cave yielded an upper palaeolithic culture of very different aspect having three closely related components dated from 19,000 to 18,000 B.P. (chronologically between assemblages II and I at Tabon Cave). All were composed primarily of flint flakes, but they were generally smaller than those from Tabon Cave and those from a lower local component, and contained a high degree of patterned formal variation and retouch. A rich associated fauna demonstrated a strong reliance on deer (extinct in post-Pleistocene Palawan) and pig as food items. Several smaller mammals and reptiles were represented as well as a wide variety of freshwater mollusks. To distinguish this phase of the upper palaeolithic from the earlier phases at Tabon and Pilanduk, I called the latter the Unspecialized Palaeolithic, the former the Specialized Palaeolithic. Assemblage I at Tabon Cave (9250 ± 250 B.P.) has some weak affinities with the specialized phase.

Early Neolithic. The archaeology of this phase is extremely complex. Three important sites, all shell middens, contain fully excavated components dated to this phase—Guri Cave, Duyong Cave, and Sa'gung Rockshelter. The first two were excavated by Fox, Sa'gung by the author. The molluscan fauna of the first two have not yet been fully analyzed but Sa'gung yielded more than 60 different species from six distinct micro-environments.

Duyong Cave contained two components: the midden itself, dating from 7000 ± 250 B.P., and an intrusive burial dating from 4630 ± 250 B.P. (A surficial metal age component will be discussed below.) In the midden is what Fox called a small flake and blade assemblage. The raw material is flint. Flakes, often less than 6 cm in the greatest dimension, show frequent signs of edge damage from use, some so regular it could be retouch. There are no statistics for either size or frequency of edge damage. The term blade is probably a misnomer in that it implies indirect percussion, but there appear to be in the collection a large number of flakes struck radially from a prepared core so that the dorsal configuration of each flake is bilaterally symmetrical from a central ridge (Fox 1970: fig. 18 i-l).

The skeleton in the intrusive burial was in a flexed position. Found with the body were ornamental disks manufactured from *Comus* shells and a large, partially polished adze made from the shell of the giant clam, *Tridacna gigas*.

The midden near the entrance of Guri Cave yielded a flake-tool assemblage very similar in some respects to that of the more recent components of Pilanduk. It is my belief that the radiocarbon date from the midden, 4070 ± 80 B.P., and Fox's chronological placing of the component (5000 B.C. to 2000 B.C.) are much too late. The presence of deer remains at the site reinforces this belief. It probably represents

a very late Pleistocene expression of the Specialized Palaeolithic, but the wide variety of vertebrate and invertebrate remains suggests a much broader and more recent (marine invertebrates) economy.

Sa'gung Rockshelter is in many respects a typical Hoabinhian site—continuous, deep deposition of cultural remains, crude flake tools in the lower levels, edge-ground axes and adzes in the upper levels, a wide variety of faunal remains, large concentrations of ash, and so forth. Five associated burials were flexed. The three later ones contained edge-ground tools; one lower grave contained no goods, but the other was covered with objects of burnt clay. Some of these are small spheres, possibly similar to those reported at Spirit Cave by Solheim (1972). Flakes struck from a prepared core are rare but they do exist. The important common element is that all three sites indicate a new type of economy much more diversified than that of earlier ages.

The designation of this material as Hoabinhian contradicts current opinion (Solheim 1974 and n.d.; Harrisson 1970), but of all the listed attributes which have withstood the test of time (Matthews 1966; Gorman 1970) the only one missing from the Sa'gung collections is the "outils souvent tailles sur une seule face" (*Praehistorica Asiae Orientalis* 1932: 11). Unifacially flaked tools very similar to those from mainland Hoabinhian sites do appear farther east, however, at Pintu Rockshelter in Nueva Viscaya, Luzon (Peterson 1974).

Late Neolithic. The late neolithic is represented at three and possibly four or five sites. As in Borneo, it appears that polished stone tools and ceramics were introduced at the same time, probably toward the end of the third millennium B.C. The custom of jar burial arrived a few centuries later. Unfortunately, all the sites are burial sites, and although technological developments are well documented we have no real idea of their ecological implications.

Metal Traditions

Early Metal Age. Like Harrisson, and undoubtedly owing to his influence, Fox does not believe in a bronze age in Palawan. However, there are at least three sites where bronze is the only metal represented, in surficial deposits in Duyong and Guri Caves and a relatively thick deposit in Uyaw Cave. All three are jar-burial sites with very rich grave goods including ornaments of jade, glass, and gold, and one polished stone adze at Uyaw. Bronze implements include adzes and spear points. Fox places all these sites in the last half of the first millennium B.C.

Developed Metal Age. Fox clearly believes that iron became important in Palawan much earlier than the seventh century A.D. date proposed by Harrisson for Borneo. A date of 2140 ± 100 B.P. for a jar-burial assemblage containing iron tools in Manunggul Cave strongly supports his assumption. There are numerous sites in Palawan that can be assigned to the iron age. Most are burial sites, but the upper levels of Sa'gung Rockshelter provide rich documentation of an iron age living site, probably dating from the sixth century to the eighth century A.D. The technology of these early iron age peoples is familiar to the contemporary Pala'wan and Tagbanwa. Not only can they readily name a wide variety of ancient iron tools and describe their functions, but identical tools are still in use. Vertebrate and inver-

tebrate remains at Sa'gung portray a life-style similar to that of contemporary peoples: a mixed hunting, fishing, gathering, and farming economy. Although no direct evidence was found at Sa'gung, it is logical to conclude that agriculture was practiced (Kress 1977).

The predominant ceramic style in Palawan from the end of the late Neolithic on belongs to the familiar Sa'huynh-Kalanay Ceramic tradition. Although archaeological work in Palawan has been restricted to two areas, Quezon Municipality and El Nido, the ceramics seem much more homogeneous in form and decorative style than do those in Borneo. Many typical north Bornean ceramic features are exceedingly rare or missing in Palawan and as yet direct links are difficult to establish.

CONCLUSIONS

It is clear that there are strong differences in the two sequences presented by Harrisson and Fox. But I believe that as work continues these differences will diminish. In the earlier palaeolithic the differences would appear to stem from a lack of flint in northern Borneo. The technological diversity of the Specialized Palaeolithic of Palawan could find no expression in Borneo in the absence of that tractable material. Moreover, the richer fauna of Borneo might discourage the degree of hunting specialization that developed in Palawan.

A word or two must be said about the early human remains found by Harrisson at Niah Cave and by Fox at Tabon Cave. Hutterer (1977) has strongly criticized the attribution of great antiquity to both skulls. Neolithic burials were common in Niah Cave and Iron Age burials were present in Tabon Cave. It is eminently possible that skeletal remains from these later eras worked their way into the lower levels of both caves. The case for the antiquity of both skulls would be helped by the publication of detailed maps showing the relationship between the site of the skulls and that of the later burials. For the present, however, the question must be left open.

In the light of the Pilanduk material I naturally disagree strongly with Harrisson's conclusions about the disorderly nature and lack of recurrent forms in the Palawan Palaeolithic (Harrisson 1972). Nor can I place any faith in impressionistic comparisons of the Palawan material with that of Borneo (Shutler and Kess 1969). I am further convinced from my own examination of the Tabon material that Harrisson's conclusions would not have withstood a thorough analysis that included metric data. Harrisson cannot really be blamed for failing to understand the technicalities of lithic analysis. It has long been the almost exclusive domain of Western European archaeologists and has been virtually ignored in Southeast Asia. Until detailed typological analyses are done of the material from both Niah and Tabon caves there will be no real basis for comparison.

The same remarks can be applied equally to the lithic materials of later periods, particularly the Hoabinhian. The terminology which has been applied to it has been vague from the very inception of the concept. It has long been recognized in ceramics that method of manufacture can be as revealing about cultural relationships as the form of the final product (Solheim 1964). The same is equally true of lithic materials where the knapping techniques are reflected in the final form. Unless more precise methods of description are applied to Hoabinhian flake and core tools, the

concept will continue to perplex archaeologists. For the present time, it is my firm belief that secondary "Hoabinhian" characteristics—the distribution of sites, the nature of the deposits, the associated faunal remains, the nonlithic artifacts, and the reconstructed ecology of the people—are equally if not more important for determining the relationships between assemblages in the early Recent period in Southeast Asia. In my mind, the parallels between Spirit Cave in Thailand and Sa'gung Rockshelter in Palawan are too striking to be ignored, and Harrisson's insistence on the absence of the Hoabinhian in Borneo is very premature (Gorman 1970, 1971; Kress 1977, n.d. *b*).

There are some differences in the sequences in the neolithic period. Harrisson believed that edge-ground tools first appeared at Niah about 12,000 years ago, six or seven millennia earlier than I would date their first appearance at Sa'gung Rockshelter. In neither case is the dating firm. In northern Borneo ceramics are first seen in the context of jar burials at Niah. In Palawan at Leta Leta, El Nido, ceramics (discounting the nonpottery ceramics at Sa'gung) were found in association with extended burials and polished adzes. Moreover, these ceramics bear little resemblance to those of the great Sa-huynh-Kalanay tradition (Fox 1970). These facts raise a number of interesting possibilities about the early history of ceramics in this area.

Only future work can clear up the discrepancies that surround the arrival of metals in this area. Although Fox is properly hesitant about proposing a "bronze age" on the scale clearly recognizable in the archaeological record of Mainland Southeast Asia, the evidence supporting one is clearly stronger in Palawan than in Borneo. It is also probable that the introduction of iron into Borneo will eventually prove to be much earlier than Harrisson suspected.

As to Harrisson's view of the relationship between Borneo and the entrance of people into the Philippines and Oceania, I would take strong exception to one point. He wrote of the possibility of a land bridge between Taiwan and Luzon as an explanation for the presence of certain proboscidian fossils east of the Wallace line (Harrisson 1976: 22) in eastern Indonesia and in Mindinao and Luzon where they are possibly associated with human remains (Fox and Peralta 1974). Merrill (1922-26) pointed out that the phytogeography of northern Luzon almost precludes the existence of a land bridge in this area at any time during the Cenozoic, much less as recently as the Pleistocene. However, the extreme instability of landforms in the Philippines east of the Calamian group and in southern Indonesia makes the migration of megafauna and man into the Philippines via a southern route (most likely the Sulu Archipelago) the more likely and parsimonious explanation.

Ecologically, Borneo is the big sister of Palawan. Throughout its earlier geological history there can be no doubt that plants, animals, and eventually humans reached Palawan through Borneo. With the advent of seafaring, however, the issue is no longer so clear. There can be no question that a long series of cultural influences reached Borneo and Palawan from the mainland of Southeast Asia. It is easy to assume that because Borneo is closer to the mainland and more easily accessible by coastal voyaging, those cultural influences reached it first and were then passed on to Palawan. Yet this assumption remains to be substantiated by the archaeological record.

Borneo and Palawan are two of the wildest, most sparsely populated areas left in the Asian tropics. They are also two of the most spectacularly beautiful and fascinating places on earth. Tom Harrisson devoted much of his adult life to the exploration of northwest Borneo. He brought its natural and cultural riches to the attention not only of scientists but of the world at large. For this achievement alone his career has enriched our lives.

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