

# Language and Culture History: Two Case Studies

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Received 9 October 1985

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## INTRODUCTION

COMPARATIVE-HISTORICAL LINGUISTS have long recognized the potential contribution of their discipline not only to an understanding of the prehistory of language but also to the general study of prehistory. Under the labels *Wörter und Sachen* (words and things) and *linguistic palaeontology* reconstructed vocabulary has formed the basis for a variety of inferences, some sounder than others, about the natural environment and cultures of prehistoric peoples.<sup>1</sup> As Saussure (1959), Sapir (1968), Hockett (1948), and others have noted, the *Wörter und Sachen* technique must be used with circumspection, but these warnings in no way vitiate the method as such. Widespread cognate sets, for example, leave little doubt that speakers of Proto-Indo-European in the fourth and third millennia B.C. were familiar with the horse and the wheel. Similarly, \*saRman 'outrigger float' and associated lexical reconstructions show that speakers of Proto-Malayo-Polynesian (PMP)—a language that could not have been spoken later than about 3000 B.C.—already possessed the outrigger canoe.<sup>2</sup> Typically, the *Wörter und Sachen* technique is concerned with vocabulary that refers to distinctive characteristics of the natural environment (the homeland problem) or to nonuniversal features of culture (culture history). Because culture tends to appropriate features of the material environment that have no cultural significance in themselves, however, the culture-historical value of the *Wörter und Sachen* technique is by no means limited to words whose original referents can be called "cultural." Anttila (1972:137) cites the well-known example of English *pen* < Middle French *penne* 'feather, wing, pen', and ultimately Latin *pinna/penna* 'feather, wing', a semantic change which even without documentary support could be taken as a fairly reliable indication that the modern pen in all its variant forms has developed from a feather quill prototype.<sup>3</sup> The purpose of this paper is to show that through the study of semantic change and opacity, reconstructed vocabulary of a seemingly neutral type can sometimes yield culture-historical insights of genuine value to the prehistorian.

## PROTO-MALAYO-POLYNESIAN \*liaŋ

Among the more than 2200 lexical reconstructions in his comparative dictionary of Austronesian languages, Dempwolff (1938) posits \*liaŋ 'hole, aperture, cave, hollow'

(German: *Loch*). Dempwolff's reconstruction is based on reflexes in Toba Batak, Javanese, Malay, and Ngaju Dayak of western Indonesia, but the distribution of reflexes known today is considerably wider. Table 1 presents a representative sample of data that can be taken to support PMP \**liɑŋ* 'cave, grotto; den'.<sup>4</sup>

What makes PMP \**liɑŋ* of potential culture-historical importance is the occurrence of phonologically corresponding forms in several languages of northern Sarawak with the general meaning 'grave' (cf. Table 2).<sup>5</sup>

Faced with this semantic discrepancy, the comparative linguist must decide between the following alternatives: (1) the similarity of forms in the two tables is fortuitous, hence the words in Table 2 are unrelated to those in Table 1, and (2) the words in Table 2 derive from PMP \**liɑŋ* 'cave, grotto; den' with change of meaning.

Before proceeding it is worth remarking that PMP \**liɑŋ* almost certainly did not mean 'hole, grave'. The specific sense 'cave' is clearly indicated in Table 1, and better candidates are available for both of the other meanings.<sup>7</sup> Moreover, attested reflexes of \**liɑŋ* in Kenyah, Kayan, and Berawan typically refer to an artificially elevated tomb that is raised on massive, elaborately carved ironwood pillars. Neither the single-post nor the double-post *lijeŋ* among the Berawan bears any physical resemblance to a cave or excavated grave. Indeed, the former looks far more like some misplaced Bornean version of the totem pole, and the latter is essentially a miniature house with gabled roof raised on twin piles (cf. Metcalf 1976*b* for photographs). For just this reason the proposed semantic connection between 'cave' and 'grave' is particularly striking. But it is not therefore any less convincing; the transfer of meaning from 'cave' to 'burial post' in northern Sarawak was simply determined by functional rather than structural similarity.

As support for considering the forms in Tables 1 and 2 cognate, we need only note Tae' (Southern Toraja) *liɑŋ* to see that where cave burial was practiced in other parts of Island Southeast Asia the word for 'cave' was sometimes extended to 'cave burial'. The Kenyah, Kayan, Kelabit, and Berawan forms differ from Tae' *liɑŋ* in that they typically refer to noncave burials. These data, then, suggest a sequence of culture changes as follows: (1) cave burial was introduced, leading to a semantic change from \**liɑŋ* 'cave' to \**liɑŋ* 'cave burial', (2) cave burial was abandoned, with generalization of the meaning of \**liɑŋ* to 'grave, burial site'. Tae' speakers appear to have undergone change 1, whereas Kenyah, Kayan, Kelabit, and Berawan speakers have undergone both changes 1 and 2. The associated semantic changes are schematized in Figure 1.

STAGE 1	STAGE 2	STAGE 3
cave	cave burial	burial

Fig. 1. Semantic evolution of PMP \**liɑŋ* 'cave' in northern Sarawak.

Such a schema has the merit of clarifying three questions that we will be obliged to ask and attempt to answer: (1) how discrete should we expect such stages to be in the actual process of cultural/semantic change? (2) to what reconstructed language(s), if any, can we attribute the semantic changes reflected at stages 2 and 3? (3) what is the probable chronology of these stages?

We will return to these questions at the end of this section. For now it is enough to note that the semantic evolution schematized in Figure 1 has potentially valuable implications for the archaeology of central and western Borneo, since it implies the former

TABLE 1. REFLEXES OF PMP \*liaŋ 'CAVE, GROTTO; DEN' IN ISLAND SOUTHEAST ASIA AND THE PACIFIC

	REFLEX	MEANING
PHILIPPINES		
Isneg	liyaŋ	cave, cavern
Bontok	liyaŋ	cave
Kankanay	liáŋ	cave; cavern; grot; grotto
Maranao	liaŋ	cave
WBM	liyaŋ	a hole in the ground with vertical sides that is large enough for a person to get into
MICRONESIA		
Palauan	fi	cave
	ieŋ-él	its cave
Chamorro	liyaŋ	natural cave, cavern
BORNEO		
Busang	liaŋ	cave, cavern (in a mountain)
NgD	liaŋ	hole in which crocodiles, snakes, and other wild animals stay
MALAYA		
Malay	liaŋ	orifice, aperture
SUMATRA		
Karo Batak	liaŋ	hole, cave
Toba Batak	liaŋ	hole, cave
JAVA		
Sundanese	liaŋ	opening, hole
OJ	lyaŋ	hole, burrow, opening
Javanese	lèŋ	small hole (as of an insect in the ground), eye (of a needle)
SULAWESI		
Sangir	liaŋ	cave, or small hole in a stone wall
Banggai	leeŋ	cave, grotto
Tae'	liaŋ	cave burial, opening hewn in the face of a cliff in which the dead are buried
Makasarese	leaŋ	cave, grotto, hole
LESSER SUNDAS		
Manggarai	liaŋ	cave
Rembong	liaŋ	cave; hole in the ground
Ngadha	lia	cave, hole, opening
Sika	liaŋ	hole in the ground (as for a mouse); cave
Kambera	liaŋu	hole, cave
Savu	lie	cave
Erai	liaŋ	hole, cave
BISMARCK ARCHIPELAGO		
Emira	liana	cave
BANKS ISLANDS		
Mota	lia	hollow in or under a rock; cave, den

Note: WBM = Western Bukidnon Manobo; NgD = Ngaju Dayak; OJ = Old Javanese.

TABLE 2. REFLEXES OF PMP \*liaŋ 'CAVE, GROTTO; DEN' IN NORTHERN SARAWAK

	REFLEX	MEANING
Long Anap (Kenyah)	liaŋ	grave
Long Wat (Kenyah)	liaŋ	cemetery, burial place
Baram Kayan	liaŋ	burial post or grave; cemetery (modern)
Kelabit	liaŋ tanem	grave
Batu Belah (Berawan)	ləjaŋ	wooden house-shaped coffin raised on pillars
Long Teru (?) <sup>6</sup>	lijeŋ	single-use post or pillar tomb

practice of mortuary customs among ethnolinguistic groups that have not typically practiced them within the ethnographic present. Viewed somewhat differently, reflexes of \*liaŋ can be used to *predict* that future investigations into the prehistory of the Kenyah, Kayan, Kelabit, and Berawan (perhaps among others) will uncover evidence of cave burial as a centrally important means for the disposal of the dead among the linguistic and cultural forbears of these modern groups.

As a first step toward testing this prediction it will be useful to assemble representative published references to cave burial in Borneo. These references, ordered chronologically by publication date, can then be placed within the wider context of mortuary practices, particularly methods of interment, throughout the island, and some tentative conclusions about historical development can be suggested.

In 1878-1879 A. Hart Everett was sent to Borneo by the Royal Society to investigate the limestone caves. In the hope of finding clues to "the origin of the human race," Everett examined some 32 caves, "of which two were situated in Mount Sobis, up the Niah river, and the remainder in Upper Sarawak proper" (Everett 1880:275).<sup>8</sup> Traces of man, including human bones in association with "works of art," were found in eleven of these. Most noteworthy was the cave on Ahup Hill, situated some 30 m above the valley floor on a limestone cliff between the Sambas and Sarawak rivers. Here fragmentary and scattered human bones from individuals of various ages, some of them "bearing the marks of fire," were found in association with broken jars, cups, and cooking pots. Everett also mentions beads and armlets of dark blue glass, and bits of iron, gold, and charcoal in probable association with the human remains. He concludes (Everett 1880):

No tradition is extant among the natives with regard to these relics. No tribes in Borneo make habitual use of caves either as domiciles, or as places of sepulture, or for any other purpose. The character of the earthenware, however, and the use of iron and gold point to a very modern date indeed for the people who left these signs of their presence. (p. 281)

As Everett indicates in a footnote, his statement regarding the absence of cave burial in Borneo was based on information supplied by H. Brooke Low, at that time perhaps the leading authority on the ethnology of Sarawak. However, in 1880 Sabah was very imperfectly known, and the inaccuracy of Low's information soon became apparent.

In 1887 W. B. Pryer described the "Booloodoopy" (Buludupi), "Era'an" (Ida'an) and Sabahan ethnic groups of eastern Sabah, who owned traditional burial caves along the Segama and Kinabatangan rivers. While Pryer did not report the use of the caves for burials in his time, it was clear that they had been used for this purpose within the very recent past (Pryer 1887:232):

In some of the birds'-nest caves mouldering coffins are to be seen, rudely carved with grotesque figures, said to have been deposited there in bygone days by the old Sabahans: many of them are on ledges of rock at considerable elevations.

A decade later Creagh (1897) related an account of his visit to the caves of Batu Puteh on the Kinabatangan River. In the upper cave (20–25 m up the perpendicular face of the limestone cliff) he found about forty ironwood coffins carved with figures of buffalos, crocodiles, lizards, and snakes. Inside were skeletons of men, women, and children and in association with them was a wealth of grave goods, including blowpipes, spears, native pottery, Chinese jars, and brass ornaments.

The reports by Everett, Pryer, and Creagh are cited and the above passages quoted by Roth (1896), who adds no new information.

The next published report of cave burial, or something closely resembling it, in Borneo is that of Nieuwenhuis (1900:2:111, 116ff), who visited several burial places of the Penihing (written Pnihing) on the Mahakam River in Kalimantan. At Liang Nanja, a limestone massif in the far interior of Borneo, his Kayan guides led him to a rock shelter containing hollowed log coffins of the Penihing; the coffins were strewn with baskets, hats, shields, weapons, and other funerary offerings. Penihing burials were also reported in the caves of Liang Karing and at other sites on or near the Mahakan and its tributary the Tjehan. Nieuwenhuis' use of "Liang" in place-names suggests that among the Penihing he visited this term refers to the limestone massif as a whole rather than to the caves that often honeycomb such formations.

Lumholtz (1921), who partly retraced Nieuwenhuis' route some two decades later, reported the Penihing burial caves to be still in use. In addition he alludes in passing to both local variations in mortuary rites and differences in the rites appropriate for upper and lower class burials (1921:1:242). These reports on the use of rock shelters and caves as burial places by the Penihing and some other central Bornean groups are reiterated by Kennedy (1935), Stöhr (1959), and Lebar (1972).

A decade after Nieuwenhuis' remarkable narrative, Barth (1910) published his dictionary of "Busang," a Kayan dialect of the upper Kapuas River. In it the term *lian* appears with a double meaning, the first of which is cited in Table 1 ('cave, cavern in a mountain'), the second, given as 'cemetery (because the encoffined corpses are placed in caves)'. Perhaps because it occurs in a linguistic rather than an ethnographic source, this reference to modern cave burial among at least some Kayans has to my knowledge been overlooked in all subsequent discussions of the subject.<sup>9</sup>

Kaudern (1944:79, 82ff), citing Roth (1896), draws attention to close structural parallels in the artistic motifs and design of coffins then in use among the Western Toraja of the Lindu District in northwest central Sulawesi and those described by Creagh from eastern Sabah (erroneously called "Sarawak"). Unlike other Toraja groups, however, the Western Toraja did not place their coffins in burial caves.

In 1949, after a lengthy hiatus, T. Harrisson and Tweedie reopened the exploration of the cave deposits of Borneo. They did so in one of the two areas initially examined by Everett some seventy years before them, introducing systematic excavation for the first time. At Gua Bungoh, a limestone cavern in the gold-mining Bau District of Sarawak's First Division, they uncovered extensive evidence of prehistoric habitation but little evidence of burial. Although bat bones were abundant, human remains "were confined to some limb bones of uncertain character" (Harrisson and Tweedie 1951:184).

At about the same time, T. Harrisson commenced archaeological reconnaissance in

the second area visited by Everett: the caves of Gunong ('Mount') Subis—a limestone "island" some 16 km inland on the Niah River, between Miri and Bintulu in Sarawak's Fourth Division. The spectacular results obtained by him, including evidence of nearly continuous human habitation in the "Great Cave" of Niah from 40,000 years ago to the recent past, are well known and need not be detailed here (cf. T. Harrisson 1957, 1958, 1959, 1967, 1972, 1976; B. Harrisson 1959, 1967). What I wish to emphasize is that the Great Cave at Niah clearly was in use prior to the arrival of Austronesian speakers on the island—indeed, prior to the existence of Borneo as an island separate from other elevated areas on the Sunda Shelf. A critical problem in the broad historical interpretation of the archaeological record in Borneo, then, is how prehistoric remains that are best attributed to Austronesian speakers are to be distinguished from those that are best attributed to an ethnographically unattested population (or populations) that preceded them on the island.

T. Harrisson (1959) proposes a "preliminary phaseology" of human habitation and burial at Niah that includes nine periods. It begins with the Middle Palaeolithic, characterized by a "Mid Sohan" flake dated to over 40,000 B.C., and ends with the Early Iron period, characterized by iron tools, imported ceramics, and glass beads dated to about A.D. 700–1300. Prior to around 4000 B.C., the periods are classed as palaeolithic and mesolithic, and are characterized by stone tools and human remains with "Melanoid" dentitions. From about 4000 to 1000 B.C. round axes occur. Little else appears to differ, although the description of this period is vague. Then, beginning around 1000 B.C., there are significant changes. Quadrangular axes begin to turn up in association with extended burials showing "Mongoloid" dentitions, pottery, mats, and nets (fragments of which were preserved in the dry cave interior). One coffin burial tested in 1958 yielded a radiocarbon date of  $2455 \pm 65$  years ( $^{14}\text{C}$  dates referred to have not been calibrated or otherwise corrected). According to T. Harrisson (1959:6), although burial "at the main mouth of the Great Cave seems to cease prehistorically near the start of the Christian era," burials belonging to a similar cultural tradition continue for over a millennium in other grottos at Mount Subis. In a smaller cave higher up the limestone massif at Niah, the Harrissons found remarkably well-preserved extended burials in hollowed log boat-shaped coffins reminiscent of the modern Ngaju Dayak "ships of the dead," together with hematite wall paintings (the first prehistoric paintings found in any part of Borneo) that appear to commemorate such burials (T. Harrisson 1958:585ff, 1959:7). No date is given, but in a later publication Barbara Harrisson (1967:152) indicates that some of the coffins eventually were  $^{14}\text{C}$  dated to "between 1045 and 2300 years old at the time of felling the tree (which may be as much as 500 years)." Intriguingly, the use of burial caves throughout the Mount Subis area ceases suddenly around A.D. 1400 (T. Harrisson 1958:585).

Stöhr (1959:168–172) provides a comprehensive and detailed overview of Bornean eschatology. In discussing the distribution of methods of interment, he states that burial in caves or rock shelters appears in two widely separated areas: along the coast of north Borneo (viz. Niah Cave) and among some "Bahau" tribes of the Mahakam River. The first is prehistoric and cannot be connected with any "Dayak" group ("mit keinem Teil der Dajak in Verbindung gebracht werden"). The second is historically verified, but it is restricted to the lower classes, the upper classes among the Bahau being interred in tombs of the *lian* type (elevated coffin atop a single ironwood pillar). Finally, Stöhr mentions the cave findings in Southwest Sarawak (viz. Gua Bungoh), noting that these show no clear relationship with the other areas.

Stöhr's (1959) work is an invaluable synthesis of the literature on burial practices in Borneo up to the late 1950s and I do not wish to detract from it. However, at least with regard to cave burial, it contains an important statement in need of qualification and a significant oversight. First, while it may be literally true that the "ship of the dead" coffins from the Painted Cave and culturally similar remains from the Great Cave at Niah cannot be connected with any specific Dayak group in the ethnographic present, it is virtually certain—as will be seen below—that these are remains of Austronesian speakers. Significantly, some of the coffin burials date to at least 500 B.C., a period when an ancestral form of a number of the modern languages of northern Sarawak, including Kenyah, Kelabit, Berawan, and perhaps Kayan, probably was spoken in coastal areas near the mouth of the Baram River, some 60–65 km to the north of Niah (Blust 1974). Second, Barth's (1910) reference to cave burial among the Busang is not mentioned.

T. Harrisson's 1962 publication is largely a critical-sympathetic review of Stöhr from the viewpoint of a researcher closer to the field and hence aware of unpublished material not readily accessible to the armchair scholar. Two points made in this review are noteworthy. First, recorded burials for a single relatively homogeneous ethnic group show a good deal of variation. In his years of residence among the Kelabit, for example, T. Harrisson recorded no fewer than 20 variations in burial form, including five in which the remains were deposited in a grotto (artificial) or crevasse, or placed under a rock shelter (K53, K56, K57, K58, K60). Second, Harrisson takes Stöhr to task (T. Harrisson 1962:18) for not laying more emphasis on *modern* cave burial in Borneo, since Sarawak Museum records on cave burial "now cover at least eighteen areas (cf. Stöhr's three, p. 169)." Unfortunately, Harrisson does not indicate these areas, nor is the matter raised again, to my knowledge, in any subsequent publication.

Perhaps part of the archival records mentioned by T. Harrisson are the posthumously published manuscript notes of A. C. Haddon (1964). Among Haddon's scattered observations is the following: "Punans bury in log coffin put in cleft in hill-side cave, or very often in ground or without coffin" (Haddon 1964:555). The referent of *Punan* is not specified, nor does the material make it clear whether cave burial was a central or a marginal feature of the burial rites of this group.

In the early 1960s attention turned again to the long-known, long-neglected burial caves of eastern Sabah. Following a brief mention of the need for cave archaeology in the area by Williams (1962), Barbara Harrisson commenced an important series of excavations that, in their own way, turned out to be hardly less spectacular than the finds at Niah (B. Harrisson 1964, 1966; Harrisson and Bambi bin Ungap 1964). Along the middle course of the Segama River she found an extraordinary wealth of *recent* archaeological material, attesting to the use of a number of birds' nest caves as burial sites from the fourteenth century to the present. At Tapadong Cave, ironwood coffins were found dating from approximately the fourteenth to the seventeenth centuries. According to the oral traditions of the indigenes (Orang Sungai or "river people" in Malay), this cave was a traditional burial site of their people.<sup>10</sup> Then, some 12 generations before B. Harrisson's visit, Tapadong Cave had been appropriated by Suluk birds' nest collectors from the southern Philippines, forcing the Orang Sungai to shift their burial activities to Batu Balas, some 3.2 km down-river. What Harrisson found in Batu Balas was astonishing (B. Harrisson 1964:228–229):

All available space here is filled with coffins, piled over each other to more than a man's height in all places; the latest on top, crushing the older ones underneath and finally into

decay, at the bottom of the pile. . . . 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.

In a later publication, B. Harrisson reported similar burial caves further north on the Kinabatangan River and its tributaries. Of more than twenty caves surveyed "almost every suitable site contained coffins with associated funerary gifts" (B. Harrisson 1966: 323). The cave archaeology of this entire area is conveniently summarized in Harrisson and Harrisson (1971).

The Great Cave and the Painted Cave at Niah were only the first of a number of burial caves found in Gunung Subis, and the wealth of material required more than a decade to excavate and classify.

In an important paper published in 1967, B. Harrisson attempted to introduce a measure of classificatory order into the data then available on burials in the Great Cave at Niah. Based on a sample of 166 excavations, she identified seven not always mutually exclusive "types" of burials (flexed, seated, with mutilations, extended, multiple, cremations, "burnt"), determined their most distinctive cultural associations, and placed them within a broad quadripartite chronological sequence (palaeolithic, "mesolithic," neolithic, and early metal).<sup>11</sup> Perhaps the most important result of this classification is the strong correlation of flexed and seated burials (22) with "mesolithic" stone and bone tools, and of extended burials (66) with the neolithic to early metal periods, including associations with stone tools, earthenware, wood, textiles, and a single bronze artifact. Among B. Harrisson's principal conclusions are the following:

All flexed burials are deposited *below* strata C-14 dated at 4,040 B.P. ( $\pm$  70 years); three are below strata C-14 dated 19,570 B.P. ( $\pm$  190 years); the majority, thirteen, in strata between these two horizons. (p. 134).

All flexed burials are outside the range of earthenware. (p. 136)

No flexed burial is superimposed on any neolithic burial type. (p. 137).

All (extended) burials are situated below the subsurface "seal"—a clear, thin line with increased charcoal and ash content separating modern guano and loose surface debris and more compact ancient deposits below. This surface seal has been C-14 dated at two points: 2,025 B.P. ( $\pm$  60 years; GRO 1963), 2,460 B.P. ( $\pm$  70 years; GRO 1905). (p. 147)

The principal containers for extended burials at Niah were wooden coffins and bamboo caskets. Corpses were wrapped in pandanus mats and in some cases additionally wound in spun cotton textiles, surviving fragments of which are said to resemble modern Iban *ikat*. Some of the latter were radiocarbon dated to around 500 B.C. and three radiocarbon dates were obtained from a multiple burial in an ossuary, providing a median value also of about 500 B.C. B. Harrisson (1967:187) suggests the following approximate time range for extended burials at the Great Cave:

earliest start	: 1200 B.C.
concentrated usage	: 800-400 B.C.
slow replacement by	
secondary (burnt) burials	: 400-0 B.C.

At about the same time, Tom Harrisson reported two more recent radiocarbon dates for extended burials in "death ship" coffins from the Painted Cave, one of 1045  $\pm$  75

years B.P., the other of  $1180 \pm 80$  years B.P. (T. Harrisson 1967). If accurate, the radiocarbon chronology suggests that the Painted Cave at Niah was used for "death ship" burials for 1000 to 1500 years. If B. Harrisson's estimate for the beginnings of extended burial at Niah is correct, the Niah Caves as a whole were used as burial sites by people of similar culture from roughly 1200 B.C. to A.D. 1400.

The type of coffin in the Painted Cave, the presence of pottery and *ikat*-like textile fragments associated with extended burials in the Great Cave, the dentition of the skeletal remains, and the chronology leave little doubt that the archaeological culture that B. Harrisson sees emerging around 1200 B.C. at Niah was that of an Austronesian-speaking people. In an earlier publication (1962), B. Harrisson suggests that the burials at Jeragan Cave, some 3 km from the Great Cave, radiocarbon dated to  $3070 \pm 410$  B.P. and  $4300 \pm 160$  B.P., show "Melanoid types of dentition," and represent "Negritos" in the colloquial sense at least."<sup>12</sup>

Other caves in the extensive Subis formation suggest use by people of a different culture who appear also to have been Austronesian speakers. At Magala, a series of burial grottos some 8 km south of Niah Great Cave, the Harrissons found evidence of two cultural horizons. The earlier of these, radiocarbon dated to about 1130 B.C., was characterized by secondary cremated burials with hematite, quadrangular polished adzes, and earthenware that included double-spouted vessels. The later horizon, containing imported stoneware sherds, was dated at A.D. 1300–1600. A secondary jar burial at Upiusing Cave in the vicinity yielded a <sup>14</sup>C date of A.D. 1650–1675 (B. Harrisson 1965; Harrisson and Harrisson 1968).

Based on palaeoserological evidence and <sup>14</sup>C dates on a sample of 34 burials from the Great Cave, Brooks et al. (1979:30) propose that "extended burials in coffins or wrapped in matting do occur through time, beginning about 3000 B.C. and continuing to around A.D. 1000." Their date for the beginning of extended burials at Niah is some 2000 years earlier than the beginning of the cultural sequence proposed by B. Harrisson, but 10 of the 17 extended burials tested were dated later than 1000 B.C., 12 were dated later than 1450 B.C., and 14 were dated later than 1780 B.C.

Finally, Schneeberger (1979:35, 84) reports (1) jar burial in "a natural rock shelter or in an individual or communal pavilion" among the Dusun and some Murut groups of Sabah, and (2) the use of burial caves in the Sinapar Valley of the Apo Kayan plateau in Indonesian Borneo. It is unclear from his report whether the latter were in modern use, and if so which ethnic groups used them. Among the types of single-stage burial used in central and northeast Borneo, Schneeberger reports the *abris sous roche* (for *abri sous roche*?) or *lian*, which is attributed to various Kenyah, Kayan, Bahau, and Penihing groups.

Though far from exhaustive, the foregoing survey establishes a strong *prima facie* case that an Austronesian-speaking population practiced cave burial along the coast of northern Sarawak from at least 500 B.C. and possibly a good deal earlier, until the early historical period (around A.D. 1400).

In several earlier publications (Blust 1969, 1972, 1974) I have proposed a "North Sarawak" subgroup of Austronesian languages with four primary branches: (1) Kelabit-Lun Dayeh, (2) Kenyah, (3) Lower Baram (Berawan, Kiput, Narum, Miri, etc.), (4) Bintulu. North Sarawak (NS) in turn is embedded in a larger subgroup that includes the indigenous languages of Sabah. Iban, the Land Dayak languages, and the Barito languages (Ngaju Dayak, Ma'anyan, etc.) were clearly excluded from NS, but the position of Kayan and Melanau in relation to the NS group was considered indeterminate.

COGNATE PERCENTAGE			IMPLIED SEPARATION TIME (years B.P.)
LgA	: LgJ	40.4	2160
LgA	: BIN	37.5	2340
LgJ	: BIN	36.6	2400
BK	: LgA	36.5	2400
BK	: LgJ	32.6	2670
BK	: BIN	29.2	2920

Fig. 2. Estimated separation times for primary branches of the North Sarawak language group.

Proto-North Sarawak almost certainly was spoken in coastal areas near the mouth of the Baram River (about 64 km north of Mount Subis) early in the first millennium B.C. A detailed justification of this claim cannot be given here, but some of the more important pieces of supporting evidence will be noted.

Three considerations bear on the probable location of Proto-North Sarawak. The first of these is the geographical distribution of primary NS subgroups. If for the moment we exclude Kayan and Melanau as indeterminate, representatives of two primary NS subgroups (Bintulu, Lower Baram) are found in coastal areas or along the lower course of the Baram River and its major tributaries, the Tutoh and Tinjar.<sup>13</sup> Kenyah languages have a wide distribution along the middle and upper courses of the Baram and its tributaries, and Kelabit-Lun Dayeh is spoken in the far uplands, at or beyond the headwaters of the major river systems. A center of dispersal somewhere in the lower or middle Baram basin would offer the most economical hypothesis to explain this distribution. Second, we know from the wider culture historical picture (Blust 1976) that Austro-nesian speakers reached Borneo by sea and hence must have established a coastal beach-head before attempting to penetrate the interior. If Proto-North Sarawak was spoken in the lower or middle Baram basin, an ancestral form of the language must have been spoken nearer the coast. Third, some members of the Lower Baram group have what appear to be directly inherited reflexes of Proto-Malayo-Polynesian words that imply an unbroken familiarity (from PMP to the present) with coastal areas or tidal estuaries (e.g., Miri *rebab* < \*Ruab 'high tide'). It is more difficult to establish the date of Proto-North Sarawak. The only absolute dating technique that has been advanced in linguistics—that of glottochronology—is, like the lexicostatistical theory of which it is a part, a highly controversial procedure and cannot be relied on alone. Nonetheless, for whatever it is worth, the cognate percentages shown in Figure 2 have been calculated between representatives of each of the four well-established primary branches of NS (BK = Bario Kelabit, LgA = Long Anap [Kenyah], LgJ = Long Jegan [Berawan], BIN = Bintulu; for details cf. Blust 1974).

As can be seen, the separation times implied by these percentages range from about 2200 to over 2900 years ago. Whether we take this range as is or average the figures (to roughly 500 B.C.), it is clear that the chronology of splits within the NS group corresponds very closely to the radiocarbon dates for the extended burials in hollowed log coffins with pottery and textile associations at Niah. If one can point to disagreement at all, it is that the glottochronological time-depths are somewhat more shallow than might be expected. As argued in Blust (1981), however, the standard lexicostatistical retention rate of 81 percent per millennium for the Swadesh 200-word list varies widely among

Austronesian languages, and for the average Western Malayo-Polynesian language, it probably ranges between 83 percent and 86 percent per millennium. If we take 84.5 percent per millennium as a more likely retention rate for typical languages in the Philippines and western Indonesia, the median cognate percentage shared between primary subgroups of North Sarawak (35.5) translates into a separation time of just over 3000 years.

There is no direct way to test this proposed separation time, but one other observation suggests that it cannot be far wrong. The dated inscriptions of Kedukan Bukit (A.D. 683) and Talang Tuwo (A.D. 684) establish the presence of a dialect of Malay in southern Sumatra approximately 1300 years ago. On linguistic, geographical, and cultural grounds it appears very unlikely that this dialect was ancestral to the modern Iban dialects of Borneo, which are closely related to Malay. Modern Malay and Iban have thus been separated for at least 1300 years. Yet lexically and structurally Malay and Iban share far more similarities than are shared between any two primary branches of North Sarawak. Impressionistically, the divergence time between primary branches of North Sarawak appears to be at least twice that between Malay and Iban, hence perhaps 2500 to 3000 years.

Whatever the exact chronology for the dispersal of Proto-North Sarawak, there can be little question that it is broadly consistent with the chronology for the extended burials at Niah. Moreover, Proto-North Sarawak, whether we view it as a homogeneous language or as a dialect chain, must have been spoken in coastal and/or estuarial portions of northern Sarawak. PNS \**liaŋ* 'grave' derived from a word that had earlier meant 'cave', and perhaps still retained this meaning, thus implying cave burial by Proto-North Sarawak speakers. If the people who left the extended burials with associated pottery and textiles at Niah were not speakers of Proto-North Sarawak and some of its early descendants, they must have been culturally and linguistically similar—contemporaries and neighbors.

The three questions raised by Figure 1 have now been partly answered. If Kayan and Penihing are NS languages, PNS \**liaŋ* apparently meant both 'cave' and 'cave burial', and the Busang and Penihing reflexes have changed little during the past three millennia. Given the gradual character of most semantic changes, this is what we would expect: an expansion of reference prior to an actual shift from one fairly distinct semantic category to another. If Kayan and Penihing are not NS languages, it is unclear from the available evidence whether PNS \**liaŋ* meant 'burial (primarily in caves)', or whether it continued to include 'cave' among its referents.

More important for our purposes is the question when the semantic shifts 'cave' to 'cave burial' and 'cave burial' to 'burial' took place. Although cave burial appears to be absent in Formosa and nearly absent in the northern Philippines,<sup>14</sup> Lebar (1972, 1975) reports it among the Hanunóo of Mindoro (also cf. note 7), among various ethnic groups in Mindanao, and throughout Sulawesi, excluding only the Western Toraja and Moslem lowlanders such as the Makasarese and Buginese. Similarly, according to Linton (1933:177), among the Tanala of Madagascar, tombs "are of three types: natural caves, rock shelters and houses. Caves are used when possible and if a good one is discovered within a reasonable distance of the village the dead are often moved into it." Pit burials are resorted to only if caves or rock shelters are unavailable. What is noteworthy in view of these reports and the semantic history of \**liaŋ* is the rarity and relative unimportance of cave burial in Borneo within the ethnographic present.

The foregoing observations raise two distinct but interrelated questions: First, what

are the roles of independent invention and common origin in creating (1) the attested distribution of cave burial among Austronesian speakers and (2) the semantic shift from PMP \**lian* ‘cave’ to \**lian* ‘cave burial’ or ‘grave’? Second, and perhaps most important in the context of Bornean prehistory, what is the relationship, if any, between the distinctive artificially elevated tombs found over much of central and western Borneo and the seemingly sudden disappearance of cave burial?

Given the linguistic evidence for a Malagasy origin in Southeast Borneo (Dahl 1951; Dyen 1953), it is tempting to see Malagasy cave burial as the continuation of a practice brought from Indonesia some 1500 to 2000 years ago. Based on the similar practice in Sulawesi and the southern Philippines, we might attribute cave burial to a community ancestral to many of the ethnolinguistic groups of the southern Philippines, Sulawesi, and Borneo. Metcalf (1976a) adopts a comparable line of argument in attributing secondary treatment of the dead in Borneo to a single innovation that was proliferated over time by linguistic and cultural fission. However, such a view provides no methodological controls on borrowing and independent invention as alternative explanations of the distribution of culture traits. In fact, the late beginning dates (fourteenth century) proposed by Barbara Harrison for the cave burials of eastern Sabah suggest that in Borneo alone cave burial probably has been innovated more than once. The same could, of course, be true of other areas with limestone formations that afford extensive caves (as Sulawesi), and the shift of \**lian* from ‘cave’ to ‘cave burial’ would follow naturally—at least in a certain percentage of languages—as a consequence of the type of burial adopted. There is thus little basis for an inference that PMP \**lian* shifted to the meaning ‘cave burial’ in Proto-Western Malayo-Polynesian or one of its early descendants; it is equally likely that the similar semantic shift in Tae’ *lian* ‘cave burial, opening hewn in the face of a cliff in which the dead are buried’ and Busang *lian* ‘cave, grotto (in a mountain); also grave (because the encoffined corpses are deposited in caves)’ is an independent development. By contrast, independent development of cave burial in pre-Kenyah, pre-Kelabit, pre-Berawan and perhaps pre-Kayan appears unlikely, since the archaeological evidence indicates that cave burial was a common practice in the period during which Proto-North Sarawak probably was spoken near the mouth of the Baram River.

Given the published evidence on prehistoric cave burial in Borneo, our language-based prediction that future investigations into the prehistory of the Kenyah, Kayan, Kelabit, and Berawan will uncover evidence of cave burial might better be considered a postdiction. In principle, however, the prediction would have been possible and equally motivated prior to the excavations at Niah and other caves in northern Sarawak. Moreover, it has yet to be established that any of the Niah remains are historically connected with any of the NS languages. To extend our prediction beyond the immediately confirmable, then, I would maintain that future archaeological work aimed at investigating the prehistory of particular ethnic groups in Borneo will ultimately confirm that the ancestors of modern Kenyahs, Kelabits, Berawans, and Kayans practiced cave burial as a major form of interment.

Last, we might ask why cave burial virtually disappeared in Borneo before the historical period. Kroeber (1927) argued that type of interment is a form of *fashion* that, like other fashions, is inherently unstable. But this leaves two important questions unanswered. First, why was extended burial at Niah apparently stable for two millennia before suddenly disappearing? Second, if cave burial was abandoned rather suddenly over most of Borneo south of Sabah, why did nothing similar happen in Sulawesi or the Philippines?

There is no satisfactory answer to the first question except to suggest that Kroeber may have overstated the lability of modes of interment. What is noteworthy is that once cave burial was abandoned in Borneo south of Sabah it appears to have been very rapidly replaced by a form of burial that shows striking agreement in many parts of the island. Throughout most of central and western Borneo within the ethnographic present the coffin was placed in an *elevated* tomb [cf. Hose and McDougall (1912) for an early survey of burial practices in Sarawak]. Two main types of elevated tomb are distributed widely in this area. Among the Berawan Metcalf (1976*b*) describes these as the *salon* (a house-like ossuary with doors that permit reopening for further depositing of bones) and the *lijen* (< \*lian). The *salon* generally is elevated on two pillars, while the *lijen* consists of a niche in a single towering ironwood pillar that is sealed once and for all following secondary deposit of the bones of the deceased. Some varieties of *salon* use a single pillar and some varieties of *lijen* use more than one pillar (cf. Metcalf 1976*b*, plates).

Although reflexes of \*lian are applied to artificially elevated tombs by both the Kenyah and the Berawan, this usage probably is a relatively recent product of borrowing. Not only are similar mortuary structures found elsewhere in Borneo, but several associated cognate sets that appear to be confined to the island cross major subgroup boundaries.<sup>15</sup> If we were to consider Berawan *lijen* and the cognate words in Kenyah and Kelabit without reference to the archaeological record or to the meaning of PMP \*lian, it would be necessary to reconstruct Proto-North Sarawak \*lian 'grave, burial post'. But such a reconstruction would imply that artificially elevated tombs were already in use by 1000 B.C., at a time when cave burial appears to have been of great importance along the coast of northern Sarawak. Although the two forms of burial could conceivably have coexisted, the archaeological indications that cave burial ceased suddenly at Niah around A.D. 1400, the areal character of artificially elevated tombs, and the associated vocabulary suggest that the use of carved ironwood pillars as mortuary structures was innovated within the past 600–700 years. If so, the semantic shift \*lian 'cave burial' to \*lian 'burial' cannot be attributed to Proto-North Sarawak, even though it is attested in three primary branches of the NS subgroup. Rather, the new form of burial took the name of the old form of burial (\*lian), just as English *clock*, a new form of time-keeping device, took the name of the old form of time-keeping device (the church bell; cp. Dutch *Klok*, German *Glocke* 'bell'). Whether this occurred independently in each descendant of Proto-North Sarawak as cave burial gave way to the artificially elevated tomb, or whether it occurred once and spread by contact is indeterminate on present evidence.

In Sulawesi and the Philippines change in interment customs appears to have been determined largely by the adoption of Islam or Christianity in coastal areas. Unlike the situation in Borneo, where the abandonment of cave burial apparently was due to system-internal innovation, such changes did not spread to groups that remained pagan.

#### PROTO-MALAITA-MICRONESIAN \*tina mate

Unlike PMP \*lian, Proto-Malaita-Micronesian \*tina mate 'orphan' (lit. 'mother dead') contains more than one meaningful element. Moreover, unlike the NS reflexes of \*lian, reflexes of \*tina mate have not changed meaning. Comparison with more familiar examples will perhaps clarify the point.

The semantic history of Kenyah, Kelabit *lian*, Berawan *lijen* 'grave' (PMP \*lian 'cave') can be compared to that of English *pen* (Latin *penna*, Middle English *penne*

TABLE 3. DESCRIPTIVE TERMS FOR 'ORPHAN' WHICH REFER TO ONE OR BOTH PARENTS

LANGUAGE	LOCATION	D*	EXPRESSION	LITERAL GLOSS
1. Ere	Manus	P	timan pwi	father none
2. Nauruan	Micronesia	B	emat etonin me inen	dead father and mother
3. Tongan	Polynesia	A	taha ʔoku tamai mate mo faʔe mate	one-PRESENT father dead and mother dead
4. Samoan	Polynesia	A	mātuaoti	parents dead
5. Hawaiian	Polynesia	A	keiki makua ʔole	child parents without
6. Kwara'ae	Malaita	P	inamae	unanalyzable
7. Lau	Malaita	P	inamae/inomae	unanalyzable?
8. 'Are'are	Malaita	P	inamae**	unanalyzable?
9. Sa'a	Malaita	P	inemae	unanalyzable
10. Arosi	San Cristobal	M	inemae	mother dead
11. Marshallese	Micronesia	M	ata-jinemje-n	mother dead?
12. Woleaian	Micronesia	M	silemas	mother dead

\*Descent. P = patrilineal; B = bilateral; A = ambilineal; M = matrilineal.

\*\*Found only in the English index.

'feather'), or *clock* (Old English *clugge* 'bell'), since in each case the juxtaposition of earlier and later meanings reveals a cultural use for the referent of the earlier form: caves for burial, feather quills for writing, bells (themselves a cultural product) for marking time. By contrast, the semantic history of \*tina mate is best compared with that of English *rainbow* or *fairy ring* (ringlike growth of fungi), since in these cases the meaning has remained unchanged but has become more-or-less morphologically opaque due to changes in the sociocultural context of language use.<sup>16</sup>

Words for 'orphan' are not commonly included in short vocabularies of Austronesian languages but do appear in many of the available dictionaries. Quite commonly, especially in western Indonesia and the Philippines, these are monomorphemic, as with Bontok *ḡóso* 'be an orphan, to have had one or both parents die', Casiguran Dumagat *ulila* 'orphan (term for a child who has at least one deceased parent)', Western Bukidnon Manobo *ilu* 'a person without parents, regardless of age', and Tae' (Southern Toraja) *biuŋ* 'orphan'. In many other cases, however, the word is descriptive, as with Paiwan *atak nu pulu* 'orphan' (*atak* 'child', *pulu* 'poor, deprived'), Bolaang Mongondow *adi? uno-unon* 'orphan' (*adi?* 'child', *unon* 'leave, leave alone'), Malay *anak piatu* 'orphan', (*anak* 'child', *piatu* 'desolate, orphaned, of people alone in the world'), Kambara *ana lulu* (*ana* 'child', *lulu* 'orphaned, poor, miserable, wretched') and Nali (eastern Manus) *noru ta:po* (*noru* 'child', *ta:po* 'miserable, wretched'). Some of these descriptive terms (a small subset apparently confined to Oceanic languages) refer to one or both parents. These are given in Table 3.<sup>17</sup>

For our purposes the material in Table 3 falls into two groups: rows 1-5 and rows 6-12.

Expressions 1-5 are historically unrelated to one another, and have a transparent synchronic morphology; expressions 6-12, on the other hand, form a cognate set reflecting \*tina mate ('mother dead'), and in some cases are morphologically opaque.<sup>18</sup> Full dictionary glosses of the reflexes of \*tina and \*mate, given in Table 4, illustrate this.

The words of Table 4, like those of Table 3, divide naturally into two groups. Languages 1-4 have replaced either \*tina or \*mate or both with a lexical innovation in

TABLE 4. WORDS FOR 'MOTHER', AND 'DEAD' IN LANGUAGES THAT REFLECT \*tina mate 'ORPHAN'

LANGUAGE	MOTHER	DEAD
1. Kwara'ae	te?a	mae
2. Lau	tē	nofia, (ma)mae
3. 'Are'are	nike-	tahuna
4. Sa'a	nike-	mae
5. Arosi	nanae, ine*	mae
6. Marshallese	jine-	mej
7. Woleaian	sil-	mas

\*In compounds; rarely used alone.

the stated meaning. In some cases a reflex of the reconstructed form is found, but its meaning has changed, as with 'Are'are *mae* 'unconscious, faint, ill, die, paralyzed, numb', *e mae noʔo* 'he is dead, he died', *noʔo* denoting that the person is actually 'dead'. In languages 1–4, then, reflexes of \*tina mate presumably are unanalyzable to the native speaker, whereas in languages 5–7 the morphemic composition of the word for 'orphan' is at least accessible to the native speaker, whether or not it is part of conscious knowledge.<sup>19</sup>

Thus far we have been concerned solely with linguistic forms and referential meaning. When we consider the manner in which descent is traced in the twelve societies of Table 3, however, an interesting near-correlation emerges. In eight of 12 cases there is agreement between the parent mentioned in the periphrastic locution for 'orphan' and the principle of descent. The four exceptions are Kwara'ae, Lau, 'Are'are and Sa'a, all patrilineal societies located on Malaita (Big and Little Mala) in the Southeast Solomons.

Before proceeding it might be worth asking why such a correlation, once established, would be meaningful. The institution of adoption in Oceanic societies has attracted considerable attention in recent years. In an introduction to the major publication on this subject to date, Carroll (1970a) has emphasized that although the generic label *adoption* is convenient for discussing a class of similar phenomena cross-culturally, the use of such a culturally loaded vernacular term can obscure significant conceptual and behavioral differences. The same is very likely true for the vernacular term *orphan*. Despite increased scholarly attention to adoption in the Oceanic context during the past 15 years, little is known about the definition of *orphan* in Oceania generally. Somewhat oddly, the near-correlation of terminology and descent in Table 3 suggests that in many Oceanic societies the category *orphan* is defined not in relation to parents, but rather in relation to descent group.<sup>20</sup> It is not at all obvious why this should be the case. As noted in Carroll (1970b) over much of eastern Oceania the children of living parents are commonly 'adopted' by close kin. Much the same appears to be true, though perhaps to a lesser degree, of the Austronesian-speaking peoples of Island Southeast Asia.<sup>21</sup> We would, therefore, have every reason to expect the surviving relatives to take in an orphan, and the death of the linking parent to have little effect on a child's relationship to its descent group. Indeed, with reference to Sa'a, Ivens (1927:64) states unequivocally that "Under these conditions there cannot be any orphans in our sense of the word." The glosses of terms for 'orphan' such as Nali *noru ta:po* 'miserable/wretched child' or Kambera (eastern Sumba, Indonesia) *ana lalu* 'poor/miserable/wretched child' nonetheless suggest that

despite the widespread practice of adoption in Oceania (or, for that matter, the Austro-nesian world as a whole), the status of an orphan is often an unenviable one even in these societies.

It is noteworthy that a paired term reflecting earlier \*tina mauri (“mother living”) is found widely in the Southeast Solomons (but not in Micronesia). Compare: LAU (C. Fox 1974) *inamae/inomae* ‘orphan, relatives dead, poor and unprotected’, *inamauri/inomauri* ‘parents alive, prosperous, important’, *inamouri* ‘eldest son of a living chief’; (Catherine Tyhurst, pers. comm.) *inomae* ‘eldest son of a deceased man’, *faa-inomae* ‘to bereave’.—ARE’ARE (Geerts 1970) *inamae* ‘orphan’, *inamauri* ‘a very big chief, a person of very great importance’.—SA’A (Ivens 1929) *inemae* ‘be an orphan, be bereft of parents, an orphan’, *inemauri* ‘be a chief, have a due succession of chiefs, a chief’.—AROSI (C. Fox 1970) *inemae* ‘child whose mother is dead, orphan’, *inemauri* ‘child whose mother is living’.

Several points of potential culture-historical interest can be made in connection with these forms. First, the Arosi expressions *inemae* and *inemauri* as given by C. Fox (1970) are morphologically transparent, and refer to the *mother*. Second, some, perhaps all of the Malaitan expressions are morphologically opaque, and some of these (e.g., Lau *inomae*, *inamouri*) refer not to the mother, but to both parents, or even specifically to the *father*. Third, the pairing of reflexes of \*tina mate and \*tina mauri in the Southeast Solomons implies that in Proto-Malaita Cristobal critical social statuses (both high and low) were determined by descent group ties through the mother.

However orphans were defined in Proto-Malaita-Micronesian, the discrepancy between the literal reconstructed gloss of \*tina mate ‘orphan’ (= “mother dead”) and attested reflexes in Malaita implies a change from matrilineal to patrilineal descent on the latter island. If so, the correlation between lexical glosses and descent principle in Table 3 becomes exceptionless.

While the foregoing conclusion is based entirely on linguistic considerations, it is not without significance that Ivens (1927:462ff) has suggested a similar historical development. The anomalous character of Malaitan (including Ulawan) social organization within the wider Melanesian context has, in fact, been recognized since Codrington (1891:22). The structural/functional question as to *why* a change from matrilineal to patrilineal descent took place in Malaita is best left to the kinship specialist. Codrington was agnostic on this point: “The particular or local causes which have brought about this exceptional state of things are unknown.” Murdock (1949:212), speaking of the transition from matrilineal to patrilineal descent in human societies generally, maintained that such a (direct) modification could occur only “under strong patrilocal cultural stresses” that themselves would require “contact with specifically patrilineal neighbors.” The problem with this explanation in Malaita is that there were no known patrilineal neighbors to set the stage for the matrilineal transition; without a *primum mobile* the explanation becomes an infinite regress. Goodenough (1955) suggested that patrilineal descent could have developed in areas where patrilocal residence came to prevail as a result of male dominance in subsistence activities. Keesing (1975:139ff) takes up this argument, noting that Malaitan societies agree with those on the island of Choiseul in the western Solomons in the presence of “patrilineal or patri-oriented cognitive descent systems.” He suggests that the atypical descent systems in these areas may have “something to do with an apparently greater reliance in Malaita and Choiseul on taro, a root vegetable that is harvested and replanted continuously year-round; and the greater reliance in Guadalcanal on yams, which are planted seasonally and stored. But

this is only a matter of degree and emphasis, and the ecological contrasts seem slight. We are left groping for an explanation.”

Social anthropologists have shown notably greater success in developing general models of social change than in explaining particular changes (e.g., Murdock 1949). In the present instance, no serious attempt has been made even to determine the historical priority of descent type in the Solomons using the methodological resources of social anthropology. Rather, it has been assumed generally, since Codrington (1891), that the patrilineal systems are historically secondary, and all explanations for change proposed to date have been predicated on this assumption. What little evidence social anthropologists have brought to bear on the reconstruction of the descent principle (as distinguished from the dynamics of change) has been almost exclusively of a linguistic character. The retreat from nineteenth-century evolutionism was not a call to abandon research on diachronic problems in social anthropology; rather it was a call to abandon a particular approach to those problems. Unfortunately, a more successful approach to historical reconstruction in social anthropology remains to be developed, and until it is, certain types of culture-historical problems will remain the exclusive domain of the comparative linguist.

### CONCLUSIONS

Culture history (at least of the non-documentary type considered here) is not, and probably cannot ever become an independent academic discipline, because it lacks an independent method for justifying inferences. Non-documentary culture history is rather the result of work carried out in disciplines that have an independent methodological basis, chiefly archaeology and historical linguistics. The study of language change through the methods of comparative-historical linguistics offers one important approach to an inferential knowledge of the human past, and its results can often be coordinated with those of archaeology. Culture-historical problems that lie within the domain of comparative-historical linguistics but outside the domain of archaeology cannot be coordinated with the results of ethnology, as no generally accepted anthropological methods have yet been developed for the inferential study of culture change. Although comparative-historical linguistics cannot explain changes in cultural practice or social organization, such as those considered in this paper, it can provide the basis for inferences as to the *direction* of change. While this is only a first step toward understanding the dynamics of socio-cultural process, it is a crucial step, for an erroneous assumption about the direction of change can seriously retard or distort all attempts at explanation which follow from it.<sup>22</sup>

### NOTES

1. Stroh (1952:97) traces an interest in the culture-historical value of reconstructed vocabulary to Jacob Grimm (1785–1863), but “Wörter und Sachen” appears to have first been used as an explicit label by Meringer (1904–1905), who founded a journal with this title in 1909 and used the expression as a rallying cry for what he evidently hoped would be a new wave in Indo-European studies. The alternative expression, “linguistic palaeontology,” is generally credited to the great Swiss linguist Ferdinand de Saussure (1857–1913). For a classic discussion of the method and its problems cf. Sapir (1968:432ff).
2. In accordance with proposals I have made elsewhere (e.g., Blust 1977, 1982) I use *Proto-Austronesian* (PAN) to refer to the hypothetical ancestor of the entire Austronesian language family and *Proto-Malayo-Polynesian* to refer to the hypothetical ancestor of all non-Formosan Austronesian languages. Malayo-Polynesian in turn divides into Western Malayo-Polynesian (the languages of the Philippines and

western Indonesia, including Yami, Chamic, Malagasy, Palauan and Chamorro) and Central-Eastern Malayo-Polynesian. The latter divides into Central Malayo-Polynesian (the languages of the Lesser Sunda Islands from Bimanes east, and of the southern and central Moluccas, probably including some languages of the Bomberai Peninsula) and Eastern Malayo-Polynesian. Eastern Malayo-Polynesian encompasses South Halmahera-West New Guinea (the Austronesian [AN] languages of Halmahera and the northern Vogelkop Peninsula as far as the Mamberamo River). Oceanic includes all AN languages of New Guinea, Island Melanesia, Micronesia, and Polynesia except as already stated. The position of Yapese is unclear.

3. Cp. French *plume*, German (*Schreib*)*feder*, Polish *pióro*, Albanian *pëndë*, Hungarian *toll* 'feather, quill; pen', where the contemporaneity of meanings in a single, polysemous form makes the culture-historical inference even more direct.
4. There is no need for detailed sources; for a more-or-less comprehensive list cf. Blust (1980a).
5. It is possible that some of these reflexes also mean 'cave', but data sufficient to determine this point are not available. Although Southwell (1980) does not include 'cave' among the referents of Baram Kayan *lian*, no dictionary has yet been published for Kenyah, Kelabit, or Berawan. For these languages I have been forced to rely heavily on fieldnotes that I collected in the Baram District of northern Sarawak between April and November 1971. For Long Anap, Long Wat, and Batu Belah, I recorded *lian*, *lian*, and *lajan* in the meanings indicated but did not elicit a word for 'cave'. For Kelabit, I elicited neither 'cave' nor 'grave' and collected *lian* only in the expressions *lian ruma?* 'space under the longhouse' and *pe-lian* 'below'. Douglas (1911) gives Kelabit *lian tanam* (with consistent failure to distinguish last-syllable /a/ and shwa), but Labo Pur (1965) lists *tanem* 'grave' for the closely related Lun Dayeh. As will be seen, it makes little difference whether a Kenyah, Kelabit, or Berawan reflex of \**lian* persists in the meaning 'cave' since, with minor qualifications to be noted, cave burial was not practiced by any of these ethnic groups within recorded history.
6. Metcalf (1976b) gives this as a Berawan term without indicating which of the Berawan dialects (Long Terawan, Batu Belah, Long Teru, Long Jegan) is intended. Batu Belah (with *lajan*) would seem to be ruled out, and although the *lijen* is said to be a characteristic mortuary structure on the Tutoh River (thus pointing to Long Terawan) Metcalf himself worked at Long Teru, and in all likelihood has generalized the term in this dialect to all comparable Berawan structures.
7. For PAN \**luban* 'hole' cp. Puyuma *ruwan* 'a hole', Paiwan *luwan* 'grave, grave pit', Tagalog *lubán* 'to plant camotes or other root crops', Kayan *luwan* 'a hole', Malay *loban/luban* 'hole, orifice'. For Proto-Western Malayo-Polynesian \**lebeŋ* 'grave' cp. Tagalog *libítŋ* 'interment, hearse; funeral; burial ground, cemetery', Casiguran Dumagat *lebeŋ* 'grave; to bury a dead person or animal', Hanunóo *libunŋ* 'grave; ground burial as opposed to cave burial', Malagasy *levina* 'buried, interred'.
8. Reported in Stöhr (1959) as J. Evans (1880). The full citation reads, "Reports on the exploration of the caves of Borneo, by A. Hart Everett; Introductory remarks by John Evans, D.C.L., LL.D.; and Notes on bones collected, by G. Busk, V.P.R.S." The article originally appeared as a report of the Borneo Caves Exploration Committee, sponsored by the Royal Society, and was reprinted by permission of John Evans, President, with Busk's addendum appearing on pp. 285-287. As related by T. Harrisson (1958:550ff; 1972:19) the initial stimulus for Everett's explorations appears to have come from A. R. Wallace, who aroused the interest of T. H. Huxley in the area as possibly affording clues to early man.
9. In an appendix to his dictionary, Barth also provides a comparative vocabulary of Busang, "Kayan" (= upper Mahakam Kayan), Penihing, and Long Gelat (= Modang). In this he cites Kayan, Penihing *lian* under both *Graf* ('grave') and *Hol(te)* ('cave').
10. B. Harrisson wavers between calling the population of this area "Orang Sungei" (a Malay name, not an autonym), and "Kadazan." Lexicostatistical lists collected by the primatologist David Horr and generously made available to me by D. J. Prentice show at least three distinct but closely related languages spoken in the basins of the Segama and Kinabatangan rivers: Idahan, Supan, and Buludupi. These languages are quite distinct both from Malay and from Kadazan, though they appear to subgroup immediately with the latter, Bisaya, Dusun, and North Borneo Murut, and more distantly with the languages I have elsewhere called "North Sarawak."
11. According to B. Harrisson (1967:168) cremations are burials in which the bones are "treated to intense heat causing them to distort, become brittle and dry, thus light in weight. These units are largely crumbled to bone dust and ash, and have a small content of distinct bone." In a burnt burial the bones are "treated to lower heat causing them to break, blacken or superficially char—a kind of burn normally caused by what is termed 'lustration' in a burial sense. . . ." The term "mesolithic" (used in double quotation marks throughout the B. Harrisson [1967] paper) refers to "pre-ceramic elements associated with worked flakes, edge-ground axes and adzes, and stratified below ceramic bearing levels, associated with polished stone tools" (B. Harrisson 1967: 131).
12. Harrisson and Harrisson (1971:11) deny any archaeological trace of Negritos in Borneo. However, the <sup>14</sup>C dates from Niah clearly indicate a pre-Austronesian population (whether Negrito or not) that may have survived into the early period of the Austronesian occupation of the island.
13. Bintulu, spoken some 100 km south of Niah, may have reached its present location by overland migra-

- tion from the Tinjar basin to the upper Kemena River, and thence downstream to the coast.
14. Solheim (1959), R. Fox (1970), and Solheim et al. (1979) have published archaeological evidence of cave burial in the Sagada region of Mountain Province (northern Luzon), Palawan, and southeastern Mindanao, respectively. The earlier burials at Sagada are enclosed in hollowed tree trunks and the more recent ones (some of which took place within living memory) in sewn plank coffins. R. Fox has a radiocarbon date of  $4630 \pm 250$  B.P. for a burial in association with stone and shell adzes from Duyong, one of the Tabon Caves of Palawan Island, and Solheim estimates the age of burials in the Asin Cave of southeastern Mindanao at "more than 2,000 years." Burials in the Makaling Cave of the same general area (Davao Gulf) are believed to date from the fourteenth to seventeenth centuries. Although no dates were obtained for the Sagada cave, it appears all but certain that all burials there—like those in the Duyong Cave and in Mindanao—were deposited by Austronesian speakers.
  15. Examples that have come to my attention are (1) Maanyan (Hudson 1966) *raruŋ* 'coffin', Iban (Richards 1981) *laroŋ*, *raroŋ* 'tomb house covering a coffin; (2nd Div.) coffin of boards, not hollowed out like *sentubong*' (also Malay (*be*)*larong* 'coffin'); (2) Maanyan *ijambe* 'a nine-day final death rite which culminates in the cremation (lustration) of the disinterred bones', Iban *jambai* 'one of the offerings at the feast for the dead (*gawai antu*)'; (3) Sekapan, Kejaman (Roth 1896:1:146) *klirien* 'single or double pillar, carved from top to bottom with niches up its side for the bodies of slaves and followers, and hollow at the top to receive the jar which contains the bones of the chief for whom it is raised. The pillar is covered with a heavy stone slab', Ot Danum (Roth 1896:1:147) *kairinŋ* 'structure raised on piles for preserving the bones of the dead'.
  16. Although it is also represented as a bridge between heaven and earth, the rainbow in early Indo-European society very likely was consciously regarded (and perhaps mythologically portrayed) as a celestial bow (cf. Sanskrit *Indracapa* 'bow of Indra', Latin (*pluvius*) *arcus* 'bow of the rain', Modern Greek *oyránion téon* 'celestial bow'). The "fairy rings" of English, like the "elfinbanken" ('elf benches') of Holland, were connected in traditional folk belief with "little people." Few contemporary speakers of English appear to consciously associate the rainbow with a bow, and "fairy ring" is apt to strike most English speakers (Americans at least) as whimsical. As will be seen, the patrilineal societies of Malaita that designate an orphan by a reflex of \*tina mate almost certainly were matrilineal when the term was innovated.
  17. Ere material was collected during a linguistic survey of the Admiralty Islands from February to May 1975, and Nauruan is taken from Kayser (1938). All other linguistic data are from standard published sources. Data on descent are from the following sources: Ere (= "Usiai" Mead 1934), Nauruan, Tongan, Samoan, Hawaiian (Murdock 1967), Southeast Solomons (Ivens 1927, 1930; C. Fox 1924). Murdock (1967) attributes ramiages ("ancestor-oriented ambilineal kin groups") rather than patrilineal descent groups to Ulawa, where a dialect of the Sa'a-Ulawa language is spoken.
  18. This cognate set was first proposed in Blust (1984), where its culture-historical implications were mentioned in passing.
  19. The first part of this claim is borne out by David Gegeo (pers. comm.), in whose native Kwara'ae dialect *inamae* has no obvious analysis, and by W. G. Ivens (1927:64), whose gloss for Sa'a *inamae* ('dead root') is either a folk etymology or a misguided historical analysis of his own. Byron W. Bender (pers. comm.) is able to recognize the word for 'mother' in Marshallese *atajinemjen*, but finds the morphology of this form otherwise opaque, a perception that presumably would hold as well for native speakers of the language.
  20. In this connection a curious statement by Ivens (1927:64) in relation to Sa'a is interesting: "The rights of parents over their children are clearly recognized, and there is no common property of children within the *komu* kindred. But the children belonging to a given *komu* are nonetheless spoken of as the children of those who compose the *komu*."
  21. As noted by Radcliffe-Brown (1948:77), very similar practices prevail in the Andaman Islands, an area that is linguistically and in many other cultural respects sharply distinguished from the Austronesian world.
  22. For a carefully argued formalist approach to semantic reconstruction and its relevance to culture history, cf. Dyen and Aberle (1974). For a critique of the formalist position, cf. Blust (1980*b*, reply 1987).

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