SOME AUSTRONESIAN MAVERICK PROTOFORMS WITH CULTURE-HISTORICAL IMPLICATIONS—I[1]

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Noting the increasing weight given to exclusively shared innovations as subgrouping criteria, this paper investigates distortions that may occur through inclusion of nonauthentic lexical innovations (which it terms *mavericks*) and correlates examples of such nonauthentic innovations with datable archaeological and historiographic data.

Protoforms for 'iron' are found to be nonauthentic, their distribution suggesting the Sulu-Sangir area as an important dispersal center, and agreeing with historiographic and linguistic evidence for considerable Philippine and Malay borrowing into Formosan languages. ˣBuŋa-lawaŋ 'clove' and ˣsalaka 'silver' are connected with the Malay spice trade since 200 B.C.; ˣpirak 'silver' and ˣ(ə)mas 'gold' with Funan overlordship in the third and fourth centuries A.D., whereby an identification of the location of protohistoric Yavadvīpa is made. Linguistic evidence on sorghum and millet suggests dispersal in the Philippine-Indonesia area between 1500 and 700 B.C., being contemporanous with the transmission of ˣbuLauan 'gold'. Data for rice are found to agree with Bellwood, although they suggest that it was a highland rather than lowland crop in the Philippine-Indonesia area.

The dispersal of ˣparij and ˣparigiʔ 'ditch around stone fortification' suggests dispersal of the late megalithic from Sulu-Sangir to West Indonesia, implying an Indonesian origin for the megalithic of South and Northeast India. Linguistic evidence is proposed for a Southeast China origin for the Austronesian double canoe, for Austronesian participation in development of the 'ship of the dead' cult in Indochina, and for an Austronesian introduction of high-seas shipping to India. A "substratum trail" tracing the migration route to Oceania is investigated. Forms for 'person' throw light upon the relationship between mongoloid and australoid Austronesians, suggesting that Proto-Austronesian was spoken by australoids.

Nonreplacement innovations are found to be unreliable as subgrouping criteria, and it is concluded that the methods of "exclusively shared innovations" and "treatment as dialect chain" should be mutually exclusive approaches to subgrouping problems. Because all subgrouping methods are susceptible to distortion, the author advocates inclusion of all available methods, in spite of the disparaties to be expected.

1. PRELIMINARY NOTES. When Dempwolff (1938) crowned his monumental work on Austronesian (henceforth An) historical phonology with the

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publication of his corpus of An protoforms, he included among these a few reconstructions that he explicitly marked as being not authentic PAn.[2] These were some early borrowings, typically from Sanskrit or Chinese, displaying a distribution of cognates in An languages that exhibited sound correspondences similar to those of reflexes of authentic protoforms. To distinguish them from authentic An protoforms, which are conventionally marked as reconstructions by an asterisk (*), the "false" or *maverick* protoforms—as I shall call them—were identified by a raised multiplication sign (ˣ).[3] In the discussion that follows, I shall also be dealing with uncertain cases, for which I shall place the multiplication sign in a circle (⊗) to indicate that the protoform is perhaps a maverick.

It may be argued that *maverick protoform* is something of a contradiction in terms. However, with regard to directly inherited reflexes in daughters of a mesolanguage in which it initially appeared, a maverick is essentially quite a normal protoform. When no external evidence for borrowing from another language family is given, it only reveals its "maverick" nature when internal cognate forms exhibit a distribution that implies greater time depth than is historically credible, an irregular pattern of sound correspondences, or some other peculiarity, such as when, for example, it is the result of propagation through contact influence within the language family, or parallel borrowing into languages of the family from an outside source that is no longer identifiable. Because irregular sound correspondences can also be observed in reflexes of authentic protoforms, excluding mavericks from the protoforms would create unsurmountable difficulties in marginal or ambiguous cases.

For example, Mly *kərbaw,* Tob *hɔrbo,* Lpg *kibaw,* OJav *kəbo* 'carabao' permit the reconstruction of the seemingly authentic "Javano-Sumatranic" protoform *kəRbau.[4] However, a comparison of cognate forms in Austroasiatic languages reveals, first of all, that the protoform is probably an early borrowing from East Austroasiatic and thus a maverick, and, second, that the present Chamic cognates (Cam *kəpàw,* Jry *kəbaw,* Rgl *kubaw*) probably result from another, independent borrowing from the same source (Mahdi 1988: 367–370).[5] The Malay reflex, in turn, was spread by Malay-speaking seafarers throughout the Malay Archipelago, generating a secondary distribution of cognates answering to ˣkarabau as their effective protoform.[6]

As this example shows, mavericks may be of external (ˣkəRbau) or internal (ˣkarabau) origin. In the latter case, the "mesoform" that, like the Malay reflex in the above example, generates a secondary distribution of cognate forms, could also reflect an authentic protoform. For example, Mly *urut* 'follow (in row), massage', reflecting PAn *SuRu[Ct][7] (for example Ami *mi-sorot,* Tag *hugot,* Nga *ohot,* Bal *huhut,* MlgMe *ótra,* Fji *uru-uru*), has apparently initiated a secondary distribution of cognates having as effective protoform ˣurut (for example, Jav, Nga *urut,* Bal *hurut,* MlgMe *órotra*).[8]

To avoid transgressions against methodological soundness, it is stipulated here that *protoform* will refer to a (typically reconstructed, and thus putative)

precursor from which a distribution of observed and apparently cognate forms is assumed to have been generated by *inheritance* and/or by *borrowing*. Correspondingly, the term *reflex* will be used in a sense that does not preclude borrowing. Actually, this is the de facto meaning these terms have had all along in Austronesian linguistics, because the share of borrowings in the database underlying the existing corpus of reconstructions is probably very much greater than generally appreciated.

It is well known that words denoting items of culture or having some significant connection to culture development are much more often borrowed from language to language than words of the so-called basic vocabulary. The likelihood that a protoform that is such a "culture word" may turn out to be a maverick is therefore much higher than one that is in the "basic" range of vocabulary. These same "culture words" in the corpus of protoforms are however of particular interest to the historian and anthropologist, for quite obvious reasons. In view of the distortions to be expected when maverick protoforms not identified as such are employed in historical and anthropological investigations, and because historians and anthropologists are not typically also linguists capable of making the necessary distinctions, particular responsibility lies with linguists in this matter.

On the other hand, mavericks in the corpus of protoforms need not represent a nuisance, or serve as nasty pitfalls for the unsuspecting reconstructionist. When duly detected by the wary and discerning eye, they may provide invaluable insight into early ethnic contacts and routes of early dispersals and trade contacts. More important for the linguist, they may also help expose early language contacts, distinguish genealogical language groupings from regional language affiliations resulting from convergence, and identify various lexical strata. This is particularly important in Austronesian linguistics, because it is concerned with languages of peoples who exhibit an intensely developed inclination for migrations over long distances, in which closely related isolects may end up as far apart as Malagasy and Maanyan, or Hawaiian and Maori. This could not fail to give rise to numerous strata in the vocabulary of Austronesian languages (see Capell 1943, Zorc 1974), running across boundaries of genealogical language groups with their distinct inherited vocabularies. The ubiquity of such strata in the Austronesian family demands much caution, for example, in the implementation of the method of subgrouping by Exclusively Shared Innovations, which is very susceptible to distortion by cross-linking strata and convergence features.

In this paper I provide illustrations of the various forms in which mavericks may manifest themselves, as well as various ways in which the study of mavericks may contribute to a better understanding of ethnohistorical processes. My main concern will be, however, to demonstrate the crucial importance of detecting mavericks in Austronesian historical linguistics, because of the uncommon complexity and uniquely high rate of recurrence of internal contacts over the whole distribution area, and during the entire history of this language family.

Modern knowledge in the historical linguistics of Austronesian and other languages sheds new light on some otherwise relatively well-known historiographic data. New results obtained in this way, placed into relation with data on maverick protoforms, make it possible to date various linguistic and ethnocultural processes of prehistorical and protohistorical times, as I shall try to demonstrate in several cases below.

Another important aspect of mavericks is the problem of nonauthentic An "protophonemes." Mavericks are apt to exhibit irregular sound correspondences and, when a given set of such irregular correspondences occurs often enough, this can lead to the reconstruction of a nonauthentic protophoneme. Specifically, $^{\otimes}$r and $^{\otimes}$z are two of Dempwolff's PAn phoneme reconstructions with respect to which serious doubts have arisen as to whether they are authentic protophonemes of PAn (Wolff 1974, 1982, Mahdi 1988). My experience in studying reconstructed protoforms containing $^{\otimes}$r or $^{\otimes}$z has been that it proves as a rule to be much more productive if one regards them as probable mavericks from the very start.[9] In the following treatment of phenomena connected with maverick protoforms I shall therefore also be concerned with exposing various ways in which sound correspondences underlying the reconstruction of such nonauthentic protophonemes may have developed.

Wolff (1974) has proposed also to exclude *d from PAn. His objections against distinguishing a *d from *D are indeed well founded, but are based on the definitions for these protophonemes given by Dempwolff (1934:§44) and modified by Dyen (1947b). Comparing data for Javanese and Madurese published by Nothofer (1975:107–108, 147–158) with the entries of the Balinese dictionary of van Eck (1876), I have come to the conclusion that the problem lies in the unfortunate definition of *D, and that under a corrected definition, the distinction between *d and *D can be maintained after all.[10] My new definitions, with that of *Z for comparison, can be summarized as follows (see Mahdi 1988:72–78):[11]

*d > (O)Jav, Bal *d-d-d,* Mad *dh-dh-t,* Mly, Tob *d-d-t,* Tag, Bis *d-r-d,* Pwn *z-ḍ-*[*ḍ*], Puy *z-z-*

*D > (O)Jav *r-r/nḍ-r,* Bal *ḍ-ḍ-d,* Mad *ḍ-ḍ-t,* Mly, Tob *d-d-t,* Tag, Bis *d-l-d,* Pwn *dj-z-z,* Puy *ð-z-z*

*Z > (O)Jav *d-d-t,* Bal *j-j-d,* Mad *jh-jh-?,* Mly *j-j-t,* Tob *d-d-t,* Tag, Bis *d-r-d,* Pwn *dj-dj-dj,* Puy *ð-ð-ð*

I consider Javanese *ḍ,* when not in postconsonantal position, to be the result either of borrowing (see Dyen 1947b:#2.4), typically from Malay (in which case it may reflect not only *D, but also *d or *j), or of back-formation (see Nothofer 1975:146). By analogy to Nothofer's symbolics for Proto-Malayo-Javanic, one may perhaps propose a provisional $^{\otimes}$ḍ as nonauthentic protophoneme for Dempwolff's and Dyen's *D.

Of the other protophonemes excluded by Wolff (1982), I fully support the view that $^{\otimes}$c and $^{\otimes}$T were post-PAn developments. The splitting off of a $^{\otimes}$c from authentic *s (for which *c would in my opinion have been a better symbol) possibly took place not earlier than in Proto-West-Hesperonesian, whereas the emergence of a $^{\otimes}$T beside *t must have been an even later innovation. The latter, only reflected in Javanese and orthographic Madurese, is however probably not the result of Indic influence. The character used in traditional-script Javanese to spell the *ṭ* (< $^{\otimes}$T) derives ultimately from Devanagari *ḍha,* and not from Devanagari *ṭa.* Furthermore, earliest Sanskrit loans in Javanese were probably borrowed via Malay (see Part II), which does not exhibit retroflex phonemes. Considering that items spelled with *t* in neighboring Balinese are actually pronounced with a retroflex *ṭ,* which has no nonretroflex counterpart, it apears likely that $^{\otimes}$T was a local development. As for *g, also excluded by the author, it is quite possible that it is likewise secondary, but some more investigation is needed, in my opinion, to decide whether contrast with *k was always an innovation, or whether the falling together of an authentic *g with *k was more widespread than has been assumed. The original articulation of PAn *j was more probably that of a preglottalized or velar lateral, rather than a velar stop. On the other hand, PAn *q was perhaps a preglottalized voiced velar stop that was related to *g as *B[12] was to *b and *D to *d. An almost ideal, but unfortunately unique, and thus probably coincidental reflection of this putative paradigmatic symmetry can be observed in OJav *h-g, w-b, r-d.* The circumstance that protoforms with *q, *B, and *D occur much more frequently than those with *g, *b, and *d, respectively, could however be an indication that the latter three were secondary developments after all, so that the problem doubtlessly deserves further study.

2. 'IRON'/'IRON UTENSIL'. The reconstruction $^{\times}$bari[] 'iron', considered at first to be an authentic protoform (Blust 1972b:#2), may serve as a first illustration of the dangers involved here. Indicating the existence of reflexes of the protoform in Formosan languages, and relying upon the widespread assumption that the latter were the first to split off from the other An languages, Blust (1977:#C3) regarded it as evidence that the Proto-Austronesians were acquainted with iron. This implied that the Austronesians had discovered iron some two millennia before the metal was employed in the Near East.[13]

At closer inspection, it appears more likely that the Formosan reflexes were borrowed from BisCb. *bari?* 'k.o. sickle', probably during the Spanish occupation of the north of Taiwan from c. 1629 until 1642 (see Ferrell 1969:19) when people from the Philippines must have been on the island as soldiers, seamen, traders, craftsmen, household servants, and so forth. The extent of the influence on Formosan languages occasioned by the Hispano-Philippinic contact, in spite of its short duration, can be appreciated from the distribution of loaned cog-

nates of Tag. *pilak* 'money, silver' (< ˣpirak), Tag. *balítok* 'gold',[14] and of Spanish *peso* (see Ferrell 1969:101, Mahdi 1988:360–361):[15]

> AtySq *pila,* AtyCi, Sdq *pila?,* Pzh *pí:la,* Sst *pa-pila?* 'money' (also 'silver'?);
>
> Pwn *vaɬitjuq* 'shiny metal object', Sar *vaɬituku,* Kkb *vanituku,*[16] Sry *vannitock* 'money' (also 'silver'?);
>
> Tso *peisə,* Ruk *paiṣo,* Pwn *paisu,* Puy, Ami *paiso* 'money'.

The cognate of *balítok* in the now extinct Siraya ('Sideia') at the southern end of Taiwan could mean that Philippine contacts already existed before the period of Spanish rule in the north. The cited form is from the Utrecht manuscript dated 1650 and, although it is not altogether impossible, there remains some doubt as to whether the word could have been recorded by the anonymous compiler if it had been introduced at the opposite end of the island only after 1629.

Pre-Hispanic Philippine contact with Taiwan is not at all unlikely. It is noteworthy that, as Reid (1982:212) indicated, the name of the Amis who inhabit the southeastern coast of Taiwan is apparently related to the protoform *qamiS 'north',[17] a designation that only makes sense when viewed from the Philippines, regardless of whether the protoform originally meant 'direction to the Amis', or the name of the Amis meant 'peoples in the north, who migrated to the north'.[18] Among Formosan loans from Philippine languages must probably be included reflexes of ˣsurat 'write, letter, paper' and ˣkarabau 'carabao', as probably also for example Pwn *paŋuḍaɬ,* RukMt *paŋuðaɬə,* RukTn *paŋuḍaɬə* 'pineapple (*Ananas sativus* Schult.)' < for example BisCb *paŋdan* 'pandanus (*Pandanus* spp., for example *P. odoratissimus* L.)',[19] and Pwn *bibi* 'duck' < Tag, BisCb *bibi* 'duck'.[20] Philippine-Formosa contacts probably also explain the distribution of Tag *bakal* 'iron', Pwn *vakaɬ* 'dagger', RukBd *bakál* 'sword', leading formally to the reconstruction of ˣ[bB]akaL.[21] These loans could however all date from the time of the Spanish occupation.

In some instances, borrowing could have been directly from Malay, for example Pwn *guritsa* 'octopus' < Mly *gurita* (irregular *g*) < *kuRita 'octopus'. Beside the noteworthy agreement of the irregular *g-*, we have here an irregular Pwn. *r* for *R . That the word for 'octopus' was among the lexical items that were likely to be borrowed from Malay-speaking seafarers is suggested by MlgMe *horíta* 'octopus', in which the irregular *-r-* likewise indicates probable acquisition from Malay.

The early date of first Malay-Formosa contacts is elucidated by information in the *Suíshū* [22] 'History of the Sui' that a Chinese naval expedition to Taiwan *(Liúqiú)* in 610 A.D. took along Malay *(Kūnlún)*[23] interpreters who understood the local language there (Wang 1958:64–65). Matsumoto (1928:29) called attention to a notice in the *Nihon-kôki (Nihon-shoki?)* of a *Kūnlún* native who drifted ashore in Japan in 799 A.D. after being swept there by the currents, indi-

cating that Malay speakers could also reach these parts involuntarily. But as a rule, of course, long-distance journeys were undertaken with deliberate destinations, and earliest reliable Chinese descriptions of Malay ships date from the third century A.D., as for example in Sima Biao's commentary on the *Zhuāngzi* and in the *Guǎngyǎ* of Zhang Yi as quoted in Hui Lin's *Yīqièjīng yīnyì* 'Comprehensive Pronunciation Dictionary' (under *bó* 'ship'; see Pelliot 1925). The *Qiánhànshū* 'History of the Earlier Han' (Pelliot 1912:458, Ferrand 1919: 451–455, 45–46, Wang 1958:19–20) dates first contacts with South and Southeast Asian polities to the reign of Emperor Wu (140–86 B.C.), and indicates also that Chinese travelers to these lands did not use their own vessels, but that "merchant ships of the (Southern and Eastern) Barbarians convey them in turns toward [their destination]."[24] This included the transportation of a living rhinoceros from India to China by sea in the year 2 A.D., giving an idea of the size and seaworthiness of these ships. Greek *kolandio phōnta,* the expression used in the *Períplous tès Erythrès thálassēs* ('Circumnavigation of the Red Sea [Indian Ocean]', also known as the Periplus, first century A.D.) for ships sailing between South India, the Ganges, and the Malay world *(Chrysē),* said to be "the biggest" *(tà mégista),* apparently reflects Chinese *Kūnlún bó* 'Malay ship' (Christie 1957). The earliest embassy from a Malayo-Indonesian polity, that from Yavadvīpa *(Yèdiào)*[25]—probably located, like the later Malayu[26] and present Jambi, on the Batang Hari river in Sumatra (Mahdi n.d., see also Grimes 1941)[27]—to the Chinese imperial court is recorded in the *Hòuhànshū* 'History of the Later Han' to have taken place in 132 A.D. (Pelliot 1904:266; Ferrand 1916:520 n. 2; 1919:455–456).

It should be kept in mind that one of the sailing routes to China, the so-called "Sabaean route," passed through the Makassar Strait and the Philippines. On the one hand, therefore, Malay-speaking shippers could hardly have failed to make landfall on Taiwan from a very early time, and on the other, early involvement of Philippine peoples in these activities cannot be excluded. Earliest Chinese mention of Brunei *(Póní),* which lies—and probably owes its ascendancy to Malay trade activities—on that route, is attested in the *Mánshū* 'Book about the Southern Barbarians' (ninth century A.D.; Pelliot 1904:287, n. 2; 296, n. 2). As I shall show below, however, the Malays probably began to intensively use the roundabout sailing route to China through the Java Sea and the Philippines, instead of the direct one through the South China Sea, in the third and fourth centuries A.D. as a result of Funan hegemony on that sea. Malay shipping through the Philippines must have persisted also after direct sailings through the South China Sea were reestablished.

That the Formosan reflexes of ˣbari[ ] 'iron' must indeed be borrowings is already suggested by the irregular sound correspondences for the final consonant:[28]

> AtySq *baliq,* Tha *báliθ,* Kvl *balís* 'iron, metal' (Ferrell 1969:90); Fvl *barieg* 'copper' (Marsh 1977:139).

BisCb *bari?,* proposed above as etymon of these Formosan forms, probably reflects *Badi? 'sharp iron utensil or weapon' (Mahdi 1988:357, Zorc 1982: #P132, see Blust 1973:#76):

> OJav *wadi* 'k.o. axe', Snd *badi?,*[29] Mar *badi?* 'machete', Bsy *m-adi* 'sword',[30] Mly, Ibn *badi?,* Ngd *badi* 'k.o. dagger'.

In view of the irregular final glottal stop in the Malay reflex,[31] Blust (1973:#76) proposed to ascribe it, together with Jav *baḍi?* 'k.o. dagger', to a doublet protoform, presumably with final *-k . However, the intervocalic *ḍ* in the Jav form tends to give the latter away as a probable loan from Malay (see Dyen 1947b: #2.4, and see above).

The irregular retention of an original final glottal stop or the appearance of a secondary final glottal stop in Malay actually occurs rather frequently.[32] In the following examples we have supporting evidence from Old Malay for a nonvelar origin of the final stop:

> Mly *datu?* 'head of extended family', OMly *dātu* 'chieftain, prince' < *Datu?; Mly *ti-da?,* OMly *tī-da* 'no, not' < *-Da? .

Dempwolff (1937:22, §70h) regarded Malay final glottal stop, when not deriving from an original velar, as reflecting a former vocative ending, but the phenomenon also involves words denoting nonpersons. Dyen (1951:#23; 1953a: 28–29) called attention to some instances in which Malay and Javanese had final *-?* instead of expected *-h,* corresponding to *-?* in Tagalog and Bisaya dialects. As Zorc (1982) showed, original final *? is retained in Iban (as in Ibn *badi?* referred to above). Adelaar (1985:75–77) has confirmed Zorc's findings with some reservation in view of exceptions, which he explains as possibly resulting from dialectal borrowing. In the other Malayic isolects, with the exception of Salako (see Adelaar 1992) and possibly also of Tioman—which appears from the limited data available to exhibit the same distinctive treatment of final laryngeals as Iban (Adelaar 1985:77)—the situation is less consistent. Zorc (1982:115) indicates for Malay the retention of final glottal stop "only in certain environments or in some lexical items." This situation is hardly surprising, considering the intensive mutual influencing of Malay dialects,[33] several of which even feature automatic postglottalization of final vowels (for example Brunei Malay, Banjarese, and some Sea People dialects).

An alignment of the Old Javanese and Philippinic forms listed above for 'sharp iron utensil' with Mly *baji* 'splitting wedge' leads to an alternative reconstruction of *BaZi? as protoform. This has the advantage of a phonologically regular Malay reflex, but the disadvantage of leaving the remaining forms unexplained. Considering the frequent occurrence of the irregular final laryngeal observed in Mly *badi?* and the relative transparency of its origin, I consider *Badi? to be the likelier reconstruction. The decision as to which of

the two reconstructions should be accepted has no bearing, however, on the identification of BisCb *bari?* as reflex of a Hesperonesian protoform meaning 'sharp iron utensil or weapon'.

The assumption that ˣbari[] is a maverick deriving from BisCb *bari?* may seem to be contradicted by the existence of further cognates to the south, as for example (Blust 1972b:#2, Ray 1913:#93):

> Pbt *bari-bári,* Tbn *bari* 'iron, metal', Ibn *bari* 'steel'.[34]

There is however no reason to exclude the possibility and even the likelihood of contacts between Cebuano Bisaya and languages of the north of Kalimantan (Borneo). The coincidence of *Bisaya* as ethnic and language name in the Central Philippines (Zorc 1977) and in Sabah (Prentice 1971:3) already suggests possible contacts as early as in the seventh to the ninth centuries. The ethnic term is considered to reflect the name of Śrī Vijaya, the Malay empire that apparently spread its power over this region.[35] In the subsequent period, up to the nineteenth century, contacts resulting from intensive trade activities of Sama-Bajaus, Ibans, and other Sea People groups under the protection of Brunei and Sulu remained equally likely. Wolff (1976:352, n. 12) called attention to a passage in Pigafetta's journal of Magellan's expedition, which indicates that in the early sixteenth century the ruler in Luzon was a vassal of the Sultan of Brunei.[36] Reid (1982) discusses linguistic traces of Sea People activities as far north as Ilokano. The extent of Sama-Bajau maritime trade to the south is elucidated by the circumstance that, of 13 indigenous Indonesian vessels calling at Port Essington (Australia) in 1840, one was noted in the port records for that year as "belonging to that singular people the Badju" (Macknight 1976:18). With the decline in the eighteenth century of the power of local Malay overlords to enforce order on the trade routes, trade activity gave way to that of sea-rovers, particularly of the Ilanun from Mindanao, who rapidly spread their sphere of action to Bangka in the west (see Horsfield 1848:315, who refers to them as *Lanons*) and to Jailolo (Gilolo) in North Maluku or even further east (Keppel 1846:16–17, 197). There thus existed ample opportunity for BisCb *bari?* to be transported into various languages of the Philippines and East Malaysia.

Several other protoforms for 'iron' can be reconstructed, all of which likewise have a limited distribution. Dempwolff's (1938:29) ˣBəsi is represented throughout West Hesperonesia and in parts of Sulawesi and East Indonesia (including Non-Austronesian North Halmaheran languages). With the exception of the West Nusatenggara and South Sulawesi reflexes, I however consider the Non–West Hesperonesian cognates as relatively recent loans.[37]

> Cam *pəthəy,* Jry *pəsəi,* Tob *bɔsi,* Kro, Mly, LpgKr, Bal, Ssk, Mir, Tgl *bəsi,* Snd *bɯsi?,* Mad *bəssɛ(h),* OJav *wəsi,* Mny *wɛhɛy* (irregular *ɛy* for *i*), MlgMe *vý* (irregular *-ý* for *-é*) 'iron';

Smb *wəsi,* Bug *bəssi,* Mak, Mdr, Sly *bassi* 'iron';

RtiTm, Bul, Swy *bəsi,* TtmBl *bisi,* Bac *besi* 'iron'.

A possible cognate has even been turned up in Oceania: Fji *vesi* 'spear' (Kern 1883:18; see Oya *bese(i)* 'spear' in Ray 1913:#172), but I cannot explain the remarkable agreement without arbitrary speculation.

If we were to implement the same formalistic principles that led to Blust's assignment of ˣbari[] to PAn, then ˣBəsi must be assigned to his PMP, because reflexes occur in daughter languages of PCEMP (Rotinese, Tettum, Buli, Sawai, etc.) as well as in those of PWMP (Cham, Malay, Javanese, Buginese, etc.). We would then need to assume the replacement of ˣbari[] by ˣBəsi for 'iron' to be a PMP innovation.[38] This would in turn mean that the non-Formosan reflexes of ˣbari[] could not be inherited reflexes, and thus that the assignment of the protoform to PAn would remain unproven. As we shall see in the subsequent discussion, further protoforms for 'iron' exist, each of which would suffice, in turn, to similarly dismantle the logical construction leading to the formal assignment of ˣBəsi to PMP, as well as that of ˣbari[] to PAn.

In a critique of the method of Exclusively Shared Innovations in a former publication, I called attention to a fundamental logical contradiction existing in the characterization of a divergent feature as authentic *innovation* (which is to say, as one that originates from the last common protolanguage of all the isolects that reflect it) when some of the daughters of the protolanguage to which the innovation is assigned can be observed to reflect the original state existing before the putative innovation (Mahdi 1988:387).[39]

Apparently in response to that criticism, a new conception was introduced, that of the so-called *nonreplacement innovation.* (See Blust 1990, for example, with regard to the continued reflection of *Caua 'laugh' in some Nusatenggara languages in spite of the assumed innovative appearance of *malip 'laugh' assigned to PCEMP.) No evidence has been brought forward so far, however, to show that partial group-inheritance of authentic nonreplacement innovation occurs in reality, or as frequently as assumed in current implementations of subgrouping by Exclusively Shared Innovations.[40] With regard to the concrete problem under examination here, the concept of a nonreplacement innovations does not carry very far though, because even with the incomplete data to be presented later in this section, it would lead to a most unlikely profusion of contemporary synonyms for 'iron' in PWMP.

The doublet ˣ[bB]asi (Dempwolff 1938:25), mainly restricted to Kalimantan with a few reflexes in South Sulawesi and the Philippines (for example Nga *wasi,* Btl, Mmj *basi* 'iron', Tsg *basi?* 'iron, steel'), must be regarded as a maverick because the distribution of reflexes, cutting quite arbitrarily across boundaries of genealogical language groups, suggests propagation by contact rather than inheritance.

Reflexes of PEHn *Həuasəi 'axe'[41] (for example Ilk *wásay,* Mar *oasai,* Sww *wuati,* Bnp *uhase,* Bug *uwase,* Mlh *wase* 'axe') in languages of the Sangir islands and the north of Sulawesi have the meaning 'iron':[42]

> Sgr *uwase,* Rth *uasey,* Gtl *uate,* Pon *oase,* Mdo *uatoi,* Tdn, Tse, Tbl, Ttb *uasey,* Tsw *oasey* 'iron'.

One apparent reflex occurs isolatedly in Southeast Kalimantan, Spt *uwasi* 'iron'.[43] All three of the last-considered protoforms perhaps ultimately derive from a common root, possibly referring to an axe, which need not have been metal originally. There is some circumstantial evidence that tends to affirm this. First, some Vitiaz forms for 'axe' at least give the impression of being cognate (Tam *ka-basi,* Mgp *na-ka-basi,* etc. 'axe'; Hooley 1971:138, 141). Second, Ferrell (1969:53) reports that some littoral Formosan ethnicities give *Vasai* as the name of their legendary homeland. The possible significance of this apparent coincidence with the PEHn form for 'axe' lies in the circumstance that the name of the protohistoric kingdom of Yueh *(Yuè)* on the mainland coast immediately facing Taiwan has a homonym, *yuè* 'k.o. axe, battle-axe, halberd', and that early inscription texts reading 'king of Yueh' sometimes spelled the latter with the character for 'k.o. axe' rather than with that for the country name (Mahdi 1988:295–296, #103). The Early Zhou pronunciation of both has been reconstructed by Karlgren (1940:#303e,d) as OChi *gi̯wăt.

In the archaeology of China, the bronze spade-shaped or fan-shaped *yuè* axe,[44] of which obviously related forms are well-known for all of Southeast Asia, is characteristic for the area south of the Yangtze.[45] It is therefore possible that *yuè* < OChi *gi̯wăt was a loan from a language of the south, as for example a mainland An language contemporary to Early Zhou.[46] Therefore, OChi *-i̯wăt perhaps represented the local reflex of *Həuasəi, and *g- may have reflected a prefix such as *qi- or *qə-. That *-i̯wăt was indeed the actual root is confirmed by the following:

> Chi *yuè* < OChi *ŋi̯wăt 'to break, amputate, cut off the feet' (Karlgren 1940:#306g, h, j, being characters of the type 'radical + phonetic');
>
> Chi *fá* < OChi *b'i̯wăt 'to strike, hew, cut down, fell' (Karlgren 1940:#307a, the character is 'man' with 'axe');
>
> Chi *xuè / miè* < OChi *χmi̯wat/*mi̯at 'to extinguish, destroy' (Karlgren 1940:#294a/b, the character (a) is 'fire' framed by 'axe', whereas variant (b) has character (a) as phonetic);

In all three one can easily recognize known An verbal affixes: the prefixes *ŋ- and *b[]-, and the infix *-[]m- . In the latter case we even find the initial *H- of the protoform rendered in Early Zhou as *χ-.

The examples suggest not only that reflexes of *Həuasəi may have occurred in now extinct An languages that have long been suspected to have existed on

the Chinese mainland,[47] but also indicate that two-way Sino-Austronesian culture relations and language contacts may already have existed during the Western Zhou period, which lasted from c. 1050 until 770 B.C. (the above-mentioned Chinese characters are apparently not attested for the preceding Yin/Shang).

A further protoform, ˣmaLat 'machete/sword', first reconstructed by Blust (1973:#218), see Sst, Ibn, KynUJ *malat* 'machete/sword', has some reflexes in Kalimantan with the meaning 'iron':[48]

> Btl, Mrk, KynUB, KnyLT, PnnRj *malat* 'iron' (Ray 1913:#93).

The distribution of reflexes in Taiwan and Kalimantan, with no, or only very few, cognates in the Philippines, resembles that of some other protoforms,

> ˣ(a-)LauiZ 'far' > Puy *ʔaðawil* (metathesis), Tso *cóvhi* (id.), TbwKl *ʔalawid,* Mny *lawit,* MlgMe *lávitra,* and so forth (Blust 1973:#68; Mahdi 1988:125, 292, #79),
>
> ˣ-a(n)[dD]uq 'cook' > Fvl *m-aṛo,* KynBu *m-aru,* Smm *ŋ-anruʔ,* MlgMe *ándru,* and so forth (Mahdi 1988:125),
>
> ⊗qaRəm 'anteater, pangolin (*Manis* sp.)' > Bun *halum,* Kkb *kani-arúm-ai,* Lwg *ayəm,* NgaKt *ahɛm,* and so forth (Blust 1972b:#16; 1982a:236–237; Tsuchida 1975:171),[49]

and some other protoforms to be considered below.

As *(qa-)Zauq is relatively well established as the PHn form for 'far', the Philippine and Kalimantan reflexes of ˣ(a-)LauiZ probably belong to an adstratum. The same line of reasoning leads to the characterization of the form for 'to cook' as a maverick. The relation between Mtw *kosay* 'pangolin *(Manis javanica)'* and Sgr *kus(ai,e),* Mdo *kutoi,* Bre *kuse,* Sdn *kuse,* and so forth 'cuscus, marsupial sp. *(Phalanger ursinus, Ph. celebencis)'* (Adriani 1928b:9; Willms 1955:11; Mills 1975:742; Blust 1982a:245) leads to the formal assignment of ⊗kusai to PHn, so that the Barito reflexes of ⊗qaRəm must represent subsequent borrowings. However, this depends solely on a single Mentawai cognate. Theoretically, it is conceivable that *kusai was a local Sulawesi innovation transported by a movement to Sumatra, which will be described in Section 5 (Part II). In this case, ⊗qaRəm could be authentic, the absence of reflexes in the Philippines, Sulawesi, and east of the Wallace line being explained by the absence of *Manis* spp., and the limited distribution in West Malayo-Indonesia resulting from replacement by loans of the Malay innovation *təŋgiliŋ,* from *meŋ-giliŋ* 'to roll (as a mill)'.

Some languages of Mindanao and adjacent islands exhibit words for 'iron' that permit the reconstruction of ˣputəu, for which there is an apparent reflex in Taiwan:

MnbWB *putəw,* Mar *potao,* Tir *futow,* Iln *putau* 'iron',[50] Sgr *puto* 'alloy of iron with steel', PwnTj *putjaw* 'axe' (Mahdi 1988:357–358).

Ferrell (1982:206) gives the latter as a borrowing from Minnan Chinese. The author is apparently alluding to Chinese *pōdāo* 'long-bladed sword wielded with both hands' (Wu 1985:525; see Giles 1912:#9416–10783), or perhaps to *fū* 'axe' (Giles 1912:#3621). The protoform would thus seem to be an external maverick. On the other hand, a *t/*ə metathesis, bringing the *t behind the schwa, where it would be geminated in South Sulawesi languages, followed by a predictable *uə > *u* fusion, would give (with prefix *paŋ-):

Mdr, DurKl *pamuttu,* Bug *pamutu* (early fusion prevented gemination?) 'frying pan', Sdn *pamuntu* 'frying pan, [poet.] iron, steel' (Mills 1975:810).

An alternative interpretation to that of an external maverick reflecting Chinese *pōdāo* could be that we have here a Danawic protoform for 'iron', borrowed into neighboring Manobo and Sangir, propagated to Taiwan as 'axe', and to South Sulawesi as 'frying pan', the Ilanuns being likely candidates for the role of mediators. The Paiwan form would then not be a loan from Minnan Chinese. Sa'dan appears still to retain memories of an original meaning of 'iron', and the semantic shift to 'frying pan' may have been the result of displacement of the word in its original meaning 'iron' by the borrowed reflex of ˣBəsi. It would be premature, in my opinion, to definitively commit oneself to one of the two alternative versions, until further data are available.

From the above it may, in my opinion, be concluded that a word for 'iron' was not extant in either PAn or even PHn, but that several forms for 'iron' emerged as various Meso-Austronesian ethnicities became acquainted with the metal. This perhaps took place on the mainland in Indochina or South China, the vertical piston-bellows of the Austronesians and the horizontal ones of the Chinese suggesting independent origins in relative proximity to one another in an area with abundant bamboo. The Austronesians probably brought knowledge of iron not in one movement from the mainland, but repeatedly, at different times and over different routes. With regard to the latter circumstance, there is the evidence of two forms for 'to forge, to blacksmith', ˣsaL restricted to Taiwan, the Philippines, Sulawesi, and Kalimantan, and PHn *tə(m)pa limited to West Malayo-Indonesia and South Sulawesi:

PwnQc *tał-tał* 'to hit with a hammer', BisCb, MnbWB *sal-sal,* Sgr *sə-salə?,* Rth *man-sal,* Kbt *n-a-ar,* Nga *ta-sal* 'to forge, to blacksmith' (see Blust 1972b:#2; 1977:31, #a; Mahdi 1988:359);

Mly *təmpa,* Tob *tɔpa,* NysS *tofa,* LpgKr *təpa,* Snd *tɯpa?,* Mny *tɛpɛ,* MlgMe *téfy,* Mak *tappa* 'to forge, to blacksmith' (see Dempwolff 1938:135, Mahdi 1988:359).

Noteworthy here is the remarkable parallelism in the further diffusion of *Həuasəi and ˣsaL into Non–East Hesperonesian languages of Kalimantan, and the analogical parallellism in the dispersal of ˣBəsi and *tə(m)pa to South Sulawesi. Interesting also is the fact that ˣsaL only exhibits a specifically metallurgical meaning from Luzon southwards.[51] Although its distribution area therefore includes Taiwan and thus exceeds that of *Həuasəi, the distribution area of its reflexes with metallurgical meaning coincides with that of the latter. We have here two dispersal areas, each with its own word for 'iron' or 'iron, axe' and for 'to forge, to blacksmith'. That the two dispersal areas are in turn overlapped by distribution areas of ˣ[bB]asi, ˣbari[], ˣputəu, and ˣmaLat indicates, in my opinion, that these latter are chronologically superimposed on the former, representing incipient or secondary lexical strata.

*Həuasəi 'axe' appears to have been an original form. It must have been transported into the archipelago with this meaning by a migration of Hesperonesians or East Hesperonesians. Within Hesperonesia, some reflexes of this protoform came to be used for 'iron', and one such reflex probably generated ˣBəsi. It is theoretically possible that this was an innovation in PWHn. However, the isolated Sampit reflex of *Həuasəi, suggesting that a formerly wider distribution of cognates with the meaning 'iron' was partially superceded by reflexes of ˣBəsi as a result of contact dispersal, lets it appear more likely that the latter belonged to a lower order protolanguage, perhaps Proto-Urangic,[52] and mutated into a maverick as a result of being spread over Kalimantan and Sulawesi.

It is interesting to note that the region encompassing Sangir, North Sulawesi, Southwest Mindanao, Sulu, and a contiguous part of Kalimantan displays the highest order of diversity of protoforms for 'iron', as also of doublets of *Həuasəi.[53] Furthermore, for those protoforms that also have reflexes meaning 'sharp utensil or weapon, particularly of iron', reflexes meaning 'iron' are mainly concentrated within this region. Sulawesi was one of the two principal traditional producers of crude iron (Kalimantan was the other), whereas the traditional iron industry of Java and Sumatra was mainly involved in the further processing of the imported crude metal. It appears possible that the area under discussion was an early center of iron working.[54]

On the other hand, the Hesperonesians apparently were not the first group of Austronesians with knowledge of iron in the archipelago. The first introduction of iron metallurgy must evidently be credited to one of the ethnic groups ancestral to the present Austronesian population of East Indonesia. I still hesitate to provide a strict reconstruction of the corresponding protoform for 'iron', but from an impressionistic point of view it may perhaps be tentatively reconstructed as a pair of doublets related to each other by metathesis, ˣmamu/maum:

SulMg *mamu,* SulFg *mum* 'iron' (Stokhof 1980:#973);

Amh *mamo-olo,* Nwl *mamo-mo,* Ntt, Elp *mamo-le,* Rmk *mámo-l,* Hrk *mamo-l,* Bnf *mo-mōm-i,* Wru *mu-múm-ur(a),* Mas *mom-ol,* Nsl *mamɔ-lo,*

SprHr *mamɔ-llo,* SprOu *mamo-l,* Wtr *múm-u,* Spa *mamo-lo* 'iron' (Stokhof 1981–82:#973);

Nmf *maŋər-mum,* Byk *maŋaro-mem* 'iron' (Stokhof 1982–83:#973).

I doubt that the lexical stratum to which this set of apparent cognates belongs represents the main or inherited stratum of any of the involved language groups, and have therefore classified the protoform as a maverick. The form was probably brought to East Indonesia as the result of an eastward movement of an iron-smelting tradition that must have preceded that of the Hesperonesians, and presumably was the earliest in the archipelago.

In connection with ˣmamu/maum, there is another protoform that deserves our attention before we conclude this section on 'iron'. It is a protoform that apparently meant 'copper', but which possibly has a reflex meaning 'iron' in some Kayan dialects of Kalimantan:

KynBu, KynBl *tite* 'iron' (Barth 1910:250; Rousseau 1974:122)

The uncertainty derives from the circumstance that the Kayan reflex has final *e* for expected *i,* and does not reflect the initial prenasalization of the protoform that may probably be reconstructed as ˣntiti:

Mun *riti* 'copper' (Stokhof 1984–85:#974);

Alu *diti,* Tll, Rmk, Hts, Wsm, Kbb *riti,* Nwl *niti,* Wrk, Pir *liti,* Plh, Bnf, Elp *riti,* Eli *riki* 'copper' (van Ekris 1864–65:336; Stresemann 1918; Stokhof 1981–82:#974);

Ymd *so-riti,* Fdt, Lti, TtmBl, Bim *riti,* Tim *niti,* RtiTm *liti* 'copper' (Stokhof 1981–82:#974; 1983a:#974);

MisCo *seti,* MisIn *leti* 'iron' (Wallace 1890:480).

It is interesting that the Misool cognates have the meaning 'iron', which tends to increase the possibility that the cited Kayan form is cognate. The Muna cognate and many of the other cited forms exhibit irregular reflection of *nt,[55] suggesting that contact played a substantial role in the distribution of the form. The reflexes of *nt expected in some of the languages are:

Eli *d/nd,* Alu *d/r,* Nwl, Pir, Bnf *r,* Plh *k,* Fdt, Lti, Ttm *d,* Rti *nd/d/n* (Stresemann 1927:88, 188, 206; Collins 1983:55, 65–69; Mills 1991).

Reflexes of ˣtəmbaga 'copper', ˣgaŋsa, and ˣsuasa 'brass' occur rather frequently all over East Indonesia, some as far east as the Cendrawasih Bay languages, but this must be the result of a relatively late development. Two of these protoforms are of certain Indic origin, and the other of uncertain Hesperonesian

origin.[56] Originally, therefore, reflexes of ˣntiti possibly had a wider distribution than today. In my opinion, the parallel existence in East Indonesia of the forms ˣmamu/maum 'iron' and ˣntiti 'copper' may be seen as a confirmation of the circumstance, already established in Indonesian archaeology (see van Heekeren 1958:1), that there had not been a separate bronze age in Indonesia, but an immediate transition from a nonmetallic to a bronze-iron age. This does not mean, of course, that the peoples concerned learned to smelt both metals simultaneously. But among the first Austronesians with knowledge of metal to move into Indonesia there must already have been one or more ethnicities with knowledge of iron as well. The period between first bronze smelting and first iron smelting in their culture history must have mainly taken place before arrival in Indonesia.

3. 'GOLD', 'SILVER', AND 'CLOVE'.[57] Having rejected the authenticity of ˣbari[] and other protoforms for 'iron', we are faced with the question as to whether there is any protoform at all for 'iron' or 'metal' in general with relatively wide distribution that could be shown to have been an authentic Proto- or Meso-An development. The likeliest candidate is ˣbu-Lau--an.[58] Reflexes of this protoform occur throughout Indonesia and in the Philippines with the meaning 'gold':[59]

Sim *bulawan,* Sxl *bulawa* 'gold';

KynBu *bərawan,* Pnh *buan,* MlgMe *vóla*[60] 'gold';

BisCb, Kkn, Bkl, MnbWB, Tsg *bulawan,* Tir *bəlowon,* DsnKd *buhavan,* MrtTm *bulawan* 'gold';

Mdo *bulawan,* Tld *bulawanna,* Gtl, Btn *hulawa,* Sww, Uma, Mun, Wol *bulawa,* Bre *wuyawa,* Mri *wulaa,* Ptp *bulaaŋ,* Mdr *bulawaŋ,* Mak, Sly *bulaɛŋ* 'gold';

SprOu *hulawan,* Hrk, Rmk *halawan,* Pir *halawane,* Elp, Ntt *hulawane,* Nwl *hunafane,* Wrk *pulawane,* Amh *hurano,* Spa *hulawano,* Tif, Mas *əflawan* 'gold';

Win *brawən,* Nmf, Byk *brauən,* Maf *braun* 'gold'.

In spite of the wide distribution of these reflexes, 'gold' does not seem to be the original meaning of the word (Mahdi 1988:353), as the following reflexes indicate:

Pwn *vułavan* 'brass, type of pot' (Ferrell 1982), Ami *foławan* 'pot', Yam *vuɣawan* 'silver' (Ferrell 1969:263, 101);

KnySd *bulawan* 'copper' (van Genderen Stort 1916), Kbt, Adg *bəlawan,* Blt *blawʌn* 'iron' (Ray 1913:#93).

Normally, with the semantic agreement of such a large number of such widely distributed reflexes as those meaning 'gold', one would simply regard the few aberrant cases as secondary local developments. (In a purely formalistic treatment, one would have even had to assign the protoform to PAn with the meaning 'gold'.) In this example, however, it is difficult to imagine how a word meaning 'gold' could end up meaning something as prosaic as 'iron' or even 'pot'. The word must have originally referred to a metal used as material for various implements, and considering that 'copper/brass' is the only metal that is denoted by a reflex in Taiwan as well as in Kalimantan, it appears probable that this was the metal originally referred to.

That this may indeed have been the original meaning of the protoform is further strengthened by the meaning of the basic form from which it was evidently derived, ˣbu-Lau, which was first reconstructed by Dempwolff (1938:34) as *bulaw 'to be glistening red'. Inclusion of further data than was accessible to Dempwolff shows that the original meaning probably was 'bronze-colored', or possibly, as will become clear from comparative data below, more exactly 'having a rainbow-colored sheen like the glistening of an oiled surface in bright light':

> Tha *ma-bulao* 'yellow', Tag *bulaw* 'reddish, gold-colored', BisCb *bulaw* 'bronze-colored (pigs), brownish-green (cloth)', Bkl *buláw* 'sand-, gold-colored, blond, albino', Mar *bulao* 'blond', Tdn *wolo* 'albino', Nga, NgaKt *bulaw* 'gold', MlgMe *vólo* 'color shade'.

The first component of the protoform was possibly the root *bu_3 reconstructed by Nothofer (1990:140–141) with the meaning 'white', but which is also often involved in words meaning 'albino'. The list given in that work of forms in which the root is represented, includes *bulai 'albino' (Jav. *bule,* Dempwolff 1938:33), thus at least formally permitting the reconstruction of the initial as *b instead of *[bB], which is in agreement with the initial in DsnKd *buhavan* 'gold'.

It is interesting to note that the distribution of reflexes of ˣbu-Lau and the distribution of those reflexes of ˣbu-Lau--an that mean 'copper, brass, iron' coincide with each other, as well as with the distribution of protoforms already discussed that appear to have been propagated along the Taiwan-Philippine-Kalimantan route. Along the same route we find a number of words meaning various colors, apparently also deriving from the root *[lL]au:[61]

> Kvl *pa- -ła-łáw* 'yellow', Bun *ma- -şáŋ-lav,* Ami *kaŋ-łáw* 'green/blue', Pwn *qu-ław* 'color, complexion', Pzh *i- -si-láu,* Itg *pó-law* 'white'.
>
> TbwKl *ma- -du-law* 'yellow/green', Bon *ma- -du-law* 'green', BisCb, Tsg *du-law* 'k.o. turmeric (*Curcuma longa* L.)', Bkl *du-láw* 'ripe, yellowed (fruit)', Pas *du-yáw,* Mar *do-lao* 'yellow', *do-lao- -an* 'gold mine';
>
> Tag *di-láw,* DgtKs *me- -di-láw* 'yellow';
>
> Tdg, Bsy, Sbk *si-lau,* Tar *si-lo* 'yellow';

Along the same route we furthermore find forms, apparently derived from the same root, having the meaning 'oil':

> Pwn *ław-ław* 'oil', *li-ław* 'floating drop of oil', Puy *lau-lau* 'fat, grease, oil', Mny *i-lau* 'oil',[62] MlgMe *í-lo* 'liquid fat'.

The underlying root *[lL]au[63] itself is however not tied to this route, but appears in protoforms with the general meaning 'light':

> *[q]i-[lL]au '(reflected?) light'[64] > Tag, Bkl, Tsg *ilaw* 'light, lamp', TbwKl *kilaw* 'intense brightness', OJav *ilo* 'observe ones reflection in the mirror, take an example from', Mly *ilaw* 'shimmering (as sunlight on rippling water)', MlgN *ílo* 'light', MgrCi, MgrLL, MgrKo *ilo* 'clear, bright (day, weather)', Fji *ilo-ilo* 'something that reflects, water, mirror', *ilov-a* 'be reflected', *mi-m-ilo* 'shiny, glossy';
>
> *si-[lL]au 'glaring light'[65] > Bon *sílaw* 'lantern, light', Ilk *silaw* 'light, lamp', BisCb *silaw* 'ray, beam of emitted light',[66] Bkl *sílaw,* Tag, Mly *silaw,* Tob, Jav *silo* 'glare from uncomfortably bright light, be blinded by such a glare', Snd *silo?* 'be unable to see anything in dark surroundings when carrying a bright light or just coming from a brightly lit place', Are *dilo*[67] 'mirror';
>
> *[nNñ]i-[lL]au 'shine brightly'[68] > Tob *nilo* 'bright light', Bim *lino* 'smooth, shiny' [metathesis], Sik *nilo* 'to shine (of lamp, moon, etc.)', MgrRw *nilo* 'clear, sharp (eyesight)'.
>
> *[gk]i-[lL]au 'gleaming, sparkling light'[69] > BisCb *gilaw* 'glow, gleam', MlgMe *hìlo-hílo* 'brilliance, glistening of oiled body', Tob *hillo* 'mirror' [irregular *-ll-* for *-l-],* Mly *kilaw, g<əm>ilaw* 'glisten, sparkle'.

Evidently, the original meaning of the root *[lL]au was 'reflected or artificial light', and with this original meaning it formed the four last-mentioned protoforms. In a subsequent stage, the use of oil to cause the human body or certain objects to glisten (see MlgMe *hìlo-hílo* above), perhaps in religious rites, led to a new "oil"-connotation of the meaning of the root, leading further to association with the rainbowlike play of colors resulting from light interference in a thin layer of oil (for example on a water surface).[70] This apparently resulted in a secondary series of forms with the meanings 'oil', 'bright color'. The reflexes of these, as we could see above, are restricted to the Taiwan-Philippine-Kalimantan route.[71]

It is evidently along this route too that the derived form for 'copper, brass' was first coined, thus revealing at the same time that peoples involved in movement along the route had knowledge of metal, probably copper. In Kalimantan, which together with Sulawesi was the principal iron producer of precolonial Indonesia, the word for copper or its alloy (or simply metal in general) came to refer to iron.[72] By analogy with the other forms exhibiting Taiwan-Philippine-

Kalimantan distribution, one would be inclined to assume that ˣbu-Lau--an 'copper, brass' was likewise propagated from Taiwan southwards. However, archaeological finds of bronze in the Philippines suggest introduction in the first millennium B.C. from the Southwest, either directly from Indochina or via Kalimantan (see for example Sullivan 1956:72). This implies that Formosan reflexes of ˣbu-Lau--an must be very early loans (before the 'copper' > 'gold' shift in the Philippines), and would affirm the suspicion that the sound correspondences underlying the reconstruction of *L may represent a secondary development resulting from borrowing of words with *l* into some Formosan languages. However, Sullivan (1956:73, fig. 3, #8) has presented examples of Philippine "early iron age pottery" being jars with high ring feet having triangular perforations. Perforated ring feet are a feature known also for the Dapenkeng culture of Taiwan, where the ring feet are lower, and also for some so-called Longshanoid cultures of the mainland such as in finds at Huating and Beiyinyangying, where the ring feet are high (Chang 1977:85, 164–165, figs. 73–74). Although vessels shaped like those of the Philippine "early iron age" are also known for Indochina, they never show perforations in the ring feet. An early dispersal of metal-age culture from Taiwan to the Philippines and Kalimantan can therefore not be excluded.

Gold occurs in various parts of the Philippines, so that the semantic shift to 'gold' probably occurred independently as local innovations along the route. (See the parallel case of Mar *dolao-an* 'gold mine' above, and see Part II.) North Sulawesi is a known source of gold of some antiquity, and it is therefore noteworthy that a stripe with very frequent occurrence of reflexes of ˣbu-Lau--an meaning 'gold' begins here, leading over Central Maluku to Cendrawasih Bay. A somewhat less densely occupied distribution stripe leads westwards over Kalimantan to the barrier islands off West Sumatra. The significance of this distribution pattern will be discussed in Part II.

Additional information that may permit us to roughly date these developments can, to my mind, be acquired from the dispersal of words for 'silver' in the Philippine-Indonesia area. There are two protoforms that need to be considered here:

ˣs[aə]laka[73] > Mly, Mad, Tlb *səlaka,* Snd *salaka?,* Bal *səlakʌ,* OJav, Nga, Mny,[74] Mdo, Pon, Sgr., Tbu, Tdn, Mdr, Mak, Bug, Mun, Wol, Sly, Bgy, Sby, Hrk, Rmk, Pir, Ntt, Wrk, Amh, Elp, Plh, Bul, Swy *salaka,* Gtl *talaa,* SulFg *sa?aka,* Kyl, Tif, Mas *əslaka,* Bnf *səla?a,* Nwl *sanaa,* Spa *sala?a,* Win *sərak,* Nmf, Byk, *sarah,* Maf *sarak* 'silver', Smb *səlaka-lolu* 'gold chain';[75]

ˣpirak[76] > Cam *pəra?,* Mly, Mak *pɛra?,* Sim *pera?,* Tob, Kro, OJav, KynBu, Pnh *pirak,* KynUJ *pirək,* Mlh *pira?,* Tdg *pilak,* Tar, Tse *perak,* Tsw *pera,* Mar, Ilk *pirak,* Tir *filak,* Tsg, BisCb, Tag, Kpp, Pas *pilak,* YamIm *pila?* 'silver (also money, coin, etc.)',[77] Bon *pilak* 'money', see also the Formosan reflexes cited earlier, Bac, SprHr *perak,* SprOu *pera?* 'silver', Tlb *pīra,* Sby *pira(?)* 'gold', MlgMe *fíraka* 'tin, lead'.

Of these two forms, the second was quite obviously the later one. The former not only has a distribution area extending further to the east (as far as Cendrawasih Bay), it has also been borrowed into NAn languages of North Halmahera:

> Gll, Lda, Tid, Pgu *salaka,* Mle *hola?a* 'silver' (Stokhof 1980:#976).

In Taliabu and Soboyo, where both protoforms are represented in the same language (see above), it is the reflex of ˣs[aə]laka that figures as the word for 'silver'. It possibly reflects Skt *śalākā* 'chip, blade of straw' which, as indicated by Gonda (1932), is in turn apparently a loan from Austroasiatic (PAA *sla? 'leaf' > Kharia *u-la?,* Khasi *slak,* Mon *sla?,* Khmer *slik,* Bahnar *hla,* Vietnamese la_{Cl},[78] Temiar *səlā?,* Jah-Hut *hla?).*[79] According to the *Sòngshǐ* 'History of the Song [dynasty]' covering the period 960–1279 A.D. (Groeneveldt 1877:16), it was the custom in 'Java' (*Shépó* < MChi *źi̯a-b'uâ,* Karlgren 1940: #45h–25q) to cut leaves of silver for use as money. The custom, which was probably the same throughout West Malayo-Indonesia, must have been a very old one.

The second protoform ˣpirak seems to have meant 'silver', not in general, but as a means of payment. Many of its reflexes are also used in the meaning 'money', some exclusively. This appears also to be the reason for the aberrant meaning of the Malagasy reflex, because tin coins were widely in use by the Malays.[80]

Comparing the traditional-script spelling (transliterated with Latin-script characters in Aymonier and Cabaton 1906) of the Cham reflex of ˣpirak with that of the reflex of *ma-iRaq 'red', and with the respective cognates in Rǫglai and Malay, I previously proposed to reconstruct the original protoform from which the maverick developed as *paiRak (Mahdi 1988:361). However, looking up the form in Old Cham inscriptions I have meanwhile learned that it was originally spelled *pirak,* for example, in inscriptions XII and XVII at Mỹ-sơn, as published by Finot (1904). The present traditional-script spelling (*pariak* 'silver', *məriah* 'red', Aymonier and Cabaton 1906) must therefore be a later development.

The maverick protoform probably derives from Old Khmer *prak* 'silver' (Jacob 1976:tab. 3). The latter apparently reflects neither a PAA, nor even PEAA form, and Austroasiatic cognates are limited to languages spoken on the former territory of the Khmer empire of Funan:

> (New) Khmer, Kui, Boloven *prak,* Stieng *prāk,* Kontu *prăk,* Brou *prá?* 'silver' (Headley 1976:#3.3; Jacob 1976; Aymonier and Cabaton 1906).[81]

I therefore assume that the word first emerged under Funan.

In a fragment from Wan Zhen's *Nánzhōu yìwù zhì* quoted in the *Tàipíng yùlǎn,* and in the *Liángshū* 'History of the Liang' it is reported that a naval expedition of the king of Funan, apparently in the beginning of the third century A.D., succeeded in subjugating several polities around the Gulf of Thailand. Among these was the Malay polity, which was referred to by Wan Zhen and in

some other sources as Dùnxùn, but in some passages of the *Liángshū* also as Diǎnsūn[82] (Pelliot 1903:266, 282). These Funan conquests must have had further-reaching consquences for the Malays than just the subjugation of Dùnxùn. After Yavadvīpa (apparently the paramount Malay polity at that time) sent an ambassador to China in 132 A.D. (see above), there were no further Malay embassies until the beginning of the fifth century, when the power of Funan began to wane. Important is the first embassy from *Kendari[83] *(Jīntuólì)* in 455 A.D., recorded in the *Sòngshū* ('History of the Song [house of Liu, Northern and Southern dynasties period]'; Wang 1958:120). According to the *Míngshǐ,* *Kendari *(Gāntuólì) was* the country later to be known as *Sān Fóqī* (Groeneveldt 1877:68). By this latter name, literally 'the three Vijayas' (see Wolters 1979:23), Chinese records referred to the united Malay realm ensuing from the Śailendra conquest of Buddhist-Malay Śrī Vijaya after the latter had vanquished Hindu-Malay Malayu *alias* Yavadvīpa (the third of the three 'Vijaya'-centers having apparently been Tāmbraliṅga, on the Malay Peninsula).[84] The *Liángshū* called particular attention to the fact that the *Kendari court was very strictly Buddhist (Groeneveldt 1877:60). It was therefore probably the precursor of the Śrī Vijaya, also Buddhist, on the Musi river. As only ambassadors of sovereign states were accepted at the Chinese court, the last embassy in 132 A.D. and the first renewed establishment of diplomatic relations with China from a Sumatran Malay center in 455 A.D.[85] may be seen as the chronological marks between which there must have been a period of loss of Malay sovereignty. Southeast Asian embassies to China in this interval of time were only reported from Funan and Champa *(Línyì).* We may therefore conclude that the major Malay polities in Sumatra and the Malay Peninsula were all vassals of Funan in the third and fourth centuries A.D.

To achieve this, Funan did not have to directly conquer the individual Malay nuclear polities. It sufficed if Funan succeeded in sufficiently impressing the community of Sea People "nations" with its military prowess to cause them to unanimously recognize its paramountcy. The military exploits of the King of Funan reported in the *Nánzhōu yìwù zhì* apparently had a correspondingly persuasive effect. The power of the nuclear Malay polities was based on the allegiance of the Sea People and their fleets. Deprived of this basis of power, they had no choice but to recognize the overlordship of Funan.

It was probably in this period of Funan suzerainty that many (but by no means all) Khmer borrowings were taken up in Malay, including ˣpirak, which replaced the earlier ˣs[aə]laka as the term for 'money silver'. It was presumably also Funan's maritime control of the South China Sea that caused Malay shippers to seek an alternative sailing route to China along the so-called Sabaean route via the Java Sea, the Makassar Strait, and the Philippines. The chronological coincidence of the acquisition of ˣpirak for 'money silver' and the beginning of Malay sailings through the Philippines explains why no reflexes of ˣs[aə]laka occur here. We can therefore approximately date the transition in

the term for 'money silver' and of the Malay sailing route to China, as also the initial establishment of Malay depots and emporiums on the coasts on both sides of the Java Sea and of the Makassar Strait, in the third and fourth centuries A.D.[86]

In the preceding period, the trade with China evidently proceeded through the South China Sea and thus did not generally touch the Philippines, whereas trading routes inside Indonesia were engaged in the transportation of spices from Maluku. This trading activity, which could not have begun later than the second century B.C., must have been the underlying movement reflected in the observed distribution area of reflexes of the older protoform ˣs[aə]laka. The determination of the second century B.C. as the latest possible initial date of that spice trade is based partly on Skt *lavaṅga* 'clove', which is already attested in *kavya* (Sanskrit epic) literature (Monier-Williams 1899:898), and particularly in Valmiki's *Rāmāyaṇa* (Gonda 1932), indicating emergence in Sanskrit before the first century B.C.

The clove (*Eugenia caryophyllata* Thunb. = *E. aromatica* Kuntze = *Syzygium aromaticum* L.) originally grew exclusively on some few islands of North Maluku: Ternate, Tidore, Mutir, Makian, and Bachan (Burkill 1935:961). First knowledge of the spice in India therefore implies at least contemporary transport facilities between Maluku and India. That the meaning of the Sanskrit term was already 'clove', and that it did not acquire this meaning subsequently, follows from the circumstance that it apparently derives ultimately from *laBaŋ 'nail':[87]

> Ach, Tob, Kro, Gyo, SimLk *labaŋ* 'nail'.

In West and Central Indonesia, cognate forms referring to the spice (and not to 'nail') reflect a ˣBuŋa-lawaŋ:[88]

> Pon *bulaŋaŋ* (metathesis *l/ŋ*), Ban *buraŋaŋ* (metathesis *r/ŋ*), Gtl *huŋolawa*, Sgr *buŋaḷawaŋ*, OJav *wuŋalawaŋ*,[89] SimLk, Tob, Kro *buŋalawaŋ*, Gyo *buŋʏlawaŋ*, Ach *buŋoŋlawaŋ* 'clove', Mly *buŋalawaŋ* 'mace'.[90]

Of these, only Malay *buŋa-lawaŋ* and Old Javanese *wuŋa-lawaŋ* at the same time represent regular reflexes of *BuŋaH 'flower' + *laBaŋ 'nail', i.e. 'the nail flower' (*B- > Mly *b-*, OJav *w-*; *-aBa- > Mly, OJav *-awa-*).[91] In view of the initial, it must have been the Malay reflex that served as immediate etymon for the maverick ˣBuŋa-lawaŋ. The Malay reflex of *laBaŋ must also have served as etymon for the Sanskrit form that was possibly borrowed via a Dravidian language of South India (for example Tamil).[92] As Yavadvīpa is also mentioned for the first time in Valmiki's *Rāmāyaṇa* (Lévi 1918:57, 64, 80–84),[93] and shortly afterwards, as *Javaṁ*, together with two Malay emporiums on the peninsula, *Takkolaṁ* and *Tambalińgaṁ* (Skt *Tāmbralińga*), in the *Mahāniddesa*, a part of the Pali canon of Buddhism (Lévi 1925), the loan of a Malay word into a language of India at that early date is not improbable.

The East Central Maluku cognates reflect "as-if" PECM ˣbuga-lawan (with some irregularities typical of reflexes of mavericks):

> Amb *poʔulawan-o,* Asl *pukalawa-e,* Gor *maŋalaʔan,* Hrk *pokolawan,* Nsl *pekalawan,* Hil *pualawan-e,* Spr *perawan-o,* Kmr, Tll, Rmk, Kar, Hts, Wsm *poolawan,* Kbb *pulawan,* Pir *pokelawan,* Htw, Nlh *peerawan-o* 'clove' (de Clercq 1909:#1318, van Ekris 1864–65:330).

The shift of final PCM *-ŋ > PECM *-n is regular, but that of medial PCM *-ŋ- > PECM *-g- is not. However, it is attested in one instance of obvious borrowing (Stresemann 1918:157, 1927:74):

> Skt *siṁha* 'lion' > Mly *siŋa* 'lion' > "as-if" PECM ˣsiga 'cat' > Kyl, Hat, Htm, Asl, Bnf, Wkm *sika,* Wru *sika-ra,* Plh, Hrk, Rmk *siʔa,*[94] Amh, Spa, Kru, Elp *sia,* Nsl, Spr, Htw *sia-l* 'cat'.

We thus have here, first, a confirmation that the effective PECM form for 'clove' was not inherited but borrowed, probably from Malay. Second, the borrowing of the words for 'clove' and for 'cat' took place within a period of time when the sound law involved here was operative.[95]

Returning now to the dispersal of the two forms for 'silver', it can be concluded that ˣs[aə]laka, exhibiting a distribution area similar to that of ˣBuŋalawaŋ 'clove', was probably also spread to East Indonesia as early as the second century B.C. This shows the time-depth that may be involved in Malay borrowings in languages all over Indonesia as far east as the Cendrawasih Bay languages, with the Moluccans playing an important role in the propagation in East Indonesia (see below). The distribution of ˣpirak, on the other hand, coincides with the opening of the alternative sailing route to China via the Philippines, which must have been a consequence of Funan naval control of the South China Sea in the third and fourth centuries A.D. This evidently marks the time-depth that may be involved in Malay borrowings into languages of the Philippines (possibly also of Taiwan) and explains their considerable number (for Tagalog, see Wolff 1976),[96] widening the base for secondary sound correspondences underlying the reconstruction of ⊗r to include the whole of the Philippines.

Whereas the dating of the second dispersal route agrees well with existing views on the beginnings of Malay activity in the archipelago in the third century A.D., the dating of the earlier one may come as a surprise to many historians,[97] and perhaps needs further corroborating evidence. To begin with, however, the second century B.C. matches the reign of the Han emperor Wu during which, according to the *Qiánhànshū* as indicated earlier, relations were held with South and Southeast Asia using locally available means of sea transport. This means that adequate shipping facilities were available there, implying a corresponding degree of maritime trade activity between Southeast and South Asia to justify its development. An even more significant bit of information from the

Han records is that, apparently since the early second century B.C., courtiers were obliged to keep cloves in their mouths for pleasant breath when addressing the emperor (see Burkill 1935:961), suggesting that local Southeast Asian means of sea transport from Maluku had made the clove available in China since the second century B.C.

Another important piece of supporting evidence is the earliest date for export of camphor of Baros to the Near East. This is provided by the comprehensive interdisciplinary investigation of the Egyptian mummy II of the Pennsylvania University Museum, which delivered a radiocarbon dating of 170 ± 70 B.C., being in full agreement with various characteristics of the mummy that pointed to the Ptolemaic period (Cockburn et al. 1980:67). A mass spectroscopic analysis of the polymerized resin from the inside of the mummy performed in 1977 by Coughlin (cited in Cockburn et al. 1980:57, 62) detected camphor, identified by the authors as the chief component of the oil of the camphor laurel (*Cinnamomum camphora* Nees and Eb.), which grew originally in the Southeast Chinese mainland and Taiwan. The chief component of camphor of Baros, the product of *Dryobalanops aromatica* Gaertn., on the other hand, is not the chemical substance camphor, but borneol.

Nevertheless, the identification of the original ingredient as camphor rather than borneol is a historical anachronism, because the method of extracting camphor by steam distillation of twigs and chips of the camphor laurel was only discovered long after the Han conquest of the South toward the end of the third century B.C., as a result of the search for a cheaper substitute for the extremely expensive camphor of Baros (borneol). This Chinese camphor had not yet become a substitute of any significance for camphor of Baros in the Indian and Near Eastern market around the turn of the Christian era (see Burkill 1935:546). Even in the thirteenth century, Marco Polo still praises genuine camphor of Baros *(canfre Fansury)* as the best in the world, fetching its own weight in gold.[98] Thus the widespread belief in its strong medicinal powers was effectively preventing the displacement of the original product from the market by the some 40-times cheaper substitute. Therefore, apart from the fact that it is not possible that the latter could already have been accessible to the Egyptians in 170 B.C., one would hardly expect the ersatz to have been employed in the mummification of a nobleman.

The error of the investigators of the mummy does not however result from inaccuracies in performing the analysis. Borneol and camphor are so similar in molecular structure (see Buckingham et al. 1982:#T-03723, C-00105) that, as a result of the process of aging that caused the resinous ingredients to polymerize (to be chemically grafted onto one another) to a single glassy mass, they practically cannot be distinguished by mass spectroscopy. Borneol is very easily oxidized to camphor,[99] whereas the above-mentioned process of aging is essentially nothing else than oxidation. Thus, the borneol of the camphor of Baros evidently employed in the mummification would not have any longer

been in its original chemical composition, but must have already been oxidized to camphor. The investigators could therefore not have detected anything else. In view of the later date of the discovery of camphor, the detection of camphor in the mummy must be seen as an unambiguous indication that camphor of Baros (borneol) was already being transported to Egypt in the early second century B.C.

Barus, the emporium on the northwestern coast of Sumatra, from which camphor of Baros got its name, was famous to the Indians and the Arabs as the chief source of the product. It appears in Ptolemy's *Geōgraphikḗ Hyphḗgēsis* as the *Baroũsa* islands (7.2.28; Coedès 1910:61). A comprehensive review of historiographic sources and bibliography on Barus was made recently by Drakard (1989). The Malay word *kapur* 'lime' (< ⊗kapuR /*qapuR), *kapur barus* 'camphor of Baros', is the ultimate etymon of the term *camphor.* The latter goes back to Greek *kámphora,* which, like its doublet *kaphourá* and Arabic *kāfūr,* was borrowed either from Skt *karpūra* or from the corresponding Prakrit and Pali form *kappūra* (Weber 1873:147; Mayrhofer 1956:175; see also Schoff 1922). The Sanskrit form is probably a back-formation from Prakrit or Pali, into which the Malay form had presumably been originally borrowed. Oriental historical tradition and the etymological history of the word itself are thus in agreement with the conclusion drawn above that the camphor in the Egyptian mummy of c. 170 B.C. was camphor of Baros exported by Malays.

Returning now to the words for precious metals, two further forms for 'gold' need to be mentioned. The first is ×(ə)mas,[100] appearing in Old Cham inscriptions beside *pirak* 'silver' as *māḥ* 'gold'. Reflexes are very frequent in languages of West and Central Indonesia, but in East Indonesia the protoform is as sparsely represented[101] as ×pirak:

> Cam *ʔaməh* [metathesis], Jry, KynBl *mah,* Tob *ɔmas,* Kro *əmas,* Mly, Snd, OJav *əmas/mas,* Bal *həmas/mas,* LpgKr, Nga, Mny, Tdg *amas,* Mrk *amət,* Sgr *masəʔ,* Bug *əmməʔ,* Mak *ammasaʔ* 'gold';
>
> Bac *amas,* Bnf *maas,* Ymd *mase,* Fdt *masa* 'gold'.

It was apparently also borrowed from Old Khmer during the period of Funan overlordship, as the distribution of East Austroasiatic cognates seem to be likewise restricted to Funan's sphere of influence:

> Old Khmer *mās,* Khmer *mìəs,* Stieng *mahi,* Bahnar *mah* 'gold', Sre *mah* 'gold, shining'.

Shorto (1971:309), from whom these cognates are taken, considers them to reflect a derivation from PEAA *iʔās (> Old Mon *yās 'to* shine', *ʔī<m>ās* 'shining'), see also Headley (1976:#4.5).

From the above it is clear that, in Indochina and Indonesia, the words for the two precious metals are paired according to their distribution patterns as fol-

lows: that of ˣpirak and ˣ(ə)mas are practically identical, whereas ˣs[aə]laka and ˣbu-Lau--an exhibit some similarities in their dispersal, particularly in Central and East Indonesia. The parallellism does not hold for the Philippines, where the distribution of the word for 'silver' was apparently determined by the role of the metal as means of payment. Gold does not seem to have played a comparable role there. In Luzon we find reflexes of ˣba[lL]itu[kq] that probably represent a local innovation. Along the entire length of the Philippines we also come across reflexes of ˣbu-Lau--an with the meaning 'gold', which were evidently not borrowed from Malay but were independent local innovations.

The second of the two further forms for 'gold' is ˣguraci, which is restricted to the South Halmaheran languages:

> Bul, Swy, Wda, Mba *guraci* 'gold' (Stokhof 1980:#977).

The maverick is remarkable because it is an instance of NAn North Halmaheran loans into An languages. The North Halmaheran origin is undoubted, because the corresponding forms are obviously derived from the form for 'yellow':

> Gll, Lda, Tid, Pgu, Mle *guraci* 'gold' (Stokhof 1980:#977);
>
> Gll *kurati,* Lda *go-gurati,* Tid *kuraci,* Pgu *gulati,* Mle *uurati* 'yellow' (Stokhof 1980:#1171);
>
> Gll, Lda *gurati,* Tid, Tnt *guraci,* Pgu *gaelati* 'k.o. turmeric (*Curcuma longa* L.)' (Stokhof 1980:#729, de Clercq 1909:#945).

Because some of the North Halmaheran cognates for 'gold' also exhibit irregular sound correspondences,[102] the protofrom was apparently already an internal maverick even in North Halmaheran. The ultimate donor language must be either Tidore or Ternate. That NAn languages in East Indonesia borrowed various items of vocabulary from An is well known (see Blust 1978b:#1.6). Borrowing in the opposite direction has received less attention, although East Indonesians, and particularly North Moluccans must have played an important role in early interisland trade. The sailing route to the spice islands of North Maluku was kept a close secret for over a millennium by West Malayo-Indonesian navigators, and only revealed by the latter to the Portuguese in the sixteenth century.[103] The difficulty in discovering the route results from the circumstance that the west monsoon makes a turn to the south (toward Australia, away from Halmahera) as it blows through East Indonesia. An immediate approach from the west is barred by Sulawesi. How then did the Malays discover the route, and at so early a date? Like the others after them, the Malays probably did not find the route on their own, but were shown the way there, and the only ones who could have done this were the Moluccans themselves. The

Malays must have met somewhere halfway with westward-sailing Moluccans,[104] presumably in the Sulu-Sangir area. (I shall return to this in Part II.)

Voorhoeve (1982) listed an impressive number of linguistic indications for North Halmaheran sailings through the Torres Straits and contacts with An languages around the Gulf of Papua. Within Indonesia, the most widely distributed maverick of North Halmaheran origin is probably ˣkolano 'king' (< Tid, Tnt *kolano* 'king'):[105]

> Sgr *kuḷano,* Mdo *koḷano,* Gtl *oloŋ-ia,* Rth, Ban, Pon, Tbu, Ttb, Tse, Tdn, Tsw, Tlb, SulMg, Bac *kolano,* Sby *kalano/kolano,* SulFg *kolan,* Byk *koranu* 'king', Srm *koráno* 'chief'.

A comprehensive bibliography of the etymology has already been given by Watuseke (1977). It must be added, however, that a derivation of Tid, Tnt *kolano* 'king' from Jav *kəlɔnɔ* 'knight errant' is unacceptable because the *a* > *ɔ* shift in Javanese took place relatively recently, and in any case postdates the dispersal of the Tidore and Ternate form. The linguistic traces of North Halmaheran outward activities indicated above probably pertain to various periods,[106] and can at the present stage of knowledge only serve as general indication or reminder that North Halmaherans also played an active role in maritime trade in and from East Indonesia over relatively large distances at various, and perhaps also unexpectedly early times. The North Halmaherans were not however the only Moluccans to have apparently been active on the high seas. As we saw above, reflexes of ˣbu-Lau--an 'gold' and ˣmamu/maum 'iron' also occur in languages of Cendrawasih Bay, and it was obviously neither the Malays nor North Halmaherans who transmitted the terms (which are not represented in the isolects of either). One must therefore assume that the diffusion of the terms reflects activities of Central Maluku speakers.

One semantic innovation in the use of the maverick form ˣlawaŋ, already touched upon above, was possibly initiated in Central Maluku. In compound with a preceding *BuŋaH 'flower' it formed the term for 'clove' ˣBuŋa-lawaŋ. There are two other compounds, with *kaSiu 'tree, wood' and *kuliC 'skin, hide, bark' respectively, that denote an inferior sort of cinnamon, not the conventional spice known as 'cinnamon' (*Cinnamomum zeylanicum* Nees), but as a rule *Cinnamomum culilawan* Nees, sometimes also *C. iners* Reinw. With this meaning, the protoform also occurs as noncompound:[107]

> Mly *kayu-lawaŋ, kulit-lawaŋ, lawaŋ,* Ach *kulit-lawaŋ,* Gyo *lawaŋ,* Bru *kaulawan,* Nsl *ai-l lawan-nyo.*

The Gayo cognate is glossed by Hazeu (1907:444) as 'k.o. tree, the bark of which is sometimes chewed because of its clove-like taste'. For the meaning of the Achehnese reflex, Djajadiningrat (1934:911) proposed the explanation that

the scent of the specific sort of cinnamon it referred to was similar to that of the clove. There could however be another explanation. As one could see above, the East Central Maluku reflexes of ˣlawaŋ have regular *n* < *ŋ. It is possible that the borrowed form *lawan* was associated by folk etymology with a similar-sounding word denoting bark, bark cloth, or a loincloth made from the latter, reflecting ⊗lauən (reconstructed by Nothofer 1992, see Ttb, Tlr *lawen* 'loincloth'):

> Plh *lawan-i,* Nsl *lauwan-i,* Ntt *lawan,* Spr *luwan-no* 'bark, esp. of *Ficus* sp. and *Broussonetia papyrifera* Vent.';
>
> Plh *ai lawan-i* 'upas (the poison tree *Antiaris toxicara* Lesch.)';
>
> Kmr, Hts, Wsm, Kbb, Pir, Tll, Rmk, Kru, Htw, Nlh *lawan-i,* Alu *lakwan-e* 'loincloth of bark';
>
> Tif *elwan-i* 'piece of cloth'.

The confusion of *lawan,* reflecting Malay *lawang* and referring to a kind of spice, with *lawan-,* denoting a kind of bark, perhaps led to the use of the former with regard to something that is both a kind of bark and a spice at the same time, that is, cinnamon. It is noteworthy that the species of cinnamon that it most often denotes in languages of West Indonesia, *Cinnamomum culilawan* Nees,[108] is the only species of cinnamon that originally grew exclusively in Maluku, having only been brought to Penang and Calcutta by 1800 through British initiative (see Burkill 1935:550). The use of reflexes of ˣlawaŋ with regard to this species of cinnamon could not therefore have originally occurred in West Malayo-Indonesia where the tree did not grow. The fact that the scent of this cinnamon variety also happens to bear resemblance to that of the clove could have contributed to the wide acceptance of the secondary "cinnamic" meaning of the term for 'clove', and its use also to refer to *Cinnamomum iners* Reinw., which does grow in this region. This secondary denotation could in any case not have emerged before knowledge of the clove (with which the taste or scent could be compared), and this too, as we know, came from East Indonesia. It is interesting that a similar twofold use of (borrowed) reflexes of ˣlawaŋ is also attested for some Dravidian languages of South India. Considering that the innovation must in all probability have occurred in Central Maluku languages, it has experienced a remarkably extended westward distribution:

> Tamil *(i)lavaṅkam* '1. clove, 2. clove tree, 3. cinnamon tree (*C. zeylanicum* Nees), 4. wild cinnamon (*C. iners* Reinw.)' (Pillai et al. 1925–36:343);
>
> Kannaḍa *lavaṁga* '1. clove tree, cloves, 2. cassia bark, green cinnamon' (Kittel 1894:1357);
>
> Malayalam *lavaṁgam* '1. clove tree, 2. cinnamon' (Gundert 1872:892).

On the whole, the development and dispersal of the word for 'clove' can thus be pictured schematically as follows (Mahdi n.d.):

South India		**West Malayo-Indonesia**		**Central Maluku**
		*labaŋ 'nail'		
		↓		
lavaŋga(m) 'clove'	←	lawaŋ 'clove'	→	lawan 'clove'
&		&		↓
k.o. cinnamon'	←	'k.o. cinnamon'	←	'k.o. cinnamon'
				↑
				lawan- 'bark' < ⊗lauən

Further possible evidence for westward influence of Central Maluku languages is provided by some irregular reflexes of *quliŋ 'rudder, steer' (see regular reflexes in Part II) in languages of Sulawesi, having final *-n* (which is regular in East Central Maluku) for expected *-ŋ:*

> Mdo, Ttl *ulin,* Bwl *ulino,* Tdn *en ulin,* Tse *udin/ulin* 'rudder' (Dunnebier 1951; Stokhof 1983b:#1038).

It is therefore very interesting that the only Hesperonesian languages for which I have been able to find reflexes of ⊗[q]uaŋ[k]a 'boat'[109] are also among those with the apparently Central Maluku loanword for 'rudder'. Otherwise, reflexes only occur in languages of East Indonesia and Oceania, so that we perhaps have here likewise an instance of Central Maluku westward influence:[110]

> Mdo *uaŋga,* Bwl *uaŋgu* 'boat, canoe';
>
> Tif, Mas *waga,* Kyl, Abl, Htm *waʔa,* Slt *aŋa,* Bnf *wā-n,* Kmd, Mgr, Rbg *waŋka* 'boat, canoe';
>
> Ytf *wăgĕ,* Win *wa,* Nmf *wa-i* 'boat, canoe';
>
> Kus *oak,* Wvl *wa,* Ybm *waŋ,* Tun, Krw, Dob, Sua *waga,* Rov *vaka,* Urv *vaka-si,* Are *waka,* Fji *waŋga,* Tga *vaka,* Haw *waʔa,* KnkXr *k^{w}ã,* etc. 'boat, canoe'.

If the identification of the Bolaang-Mongondou and Buol cognates as loans from Central Maluku is correct, ⊗[q]uaŋ[k]a could serve as evidence supporting Blust's (1983–84) East Indonesian–Oceanic alignment, which is in agreement with the interpretation proposed by Blust (1990). This would permit reconstructing an authentic PCEMP *[q]uaŋka. The protoform is however probably related to ×[bB]aŋkaʔ 'boat', which possibly has Oceanic reflexes (see Part II) as doublet (Blust 1972a:#83; Nothofer 1992).

The linguistic evidence of westward influences of languages of East Indonesia suggests that the interisland balance of power in late prehistoric pre-Hinduistic Indonesia was quite different from the picture offered to us in the historical period. Megalithic East Indonesia in the Bronze/Iron Age apparently compared with West Indonesia in level of socio-economic development and political influence far more favorably than in later times. East and West Indonesia probably contributed equally to the development of interisland shipping that, as we could see above, provided for the transportation of spices from one end of the archipelago to the other not later than in the second century B.C. Unfortunately for the East Indonesians, however, the geographic constellation of the archipelago vis-à-vis the rest of the civilized world of antiquity was such that only West Indonesia had immediate access to the world market. The lion's share of the revenues from the spice trade remained in West Indonesia, with fatal consequences in the further development for the East Indonesians, who nevertheless kept up an astonishingly good show until well into the period of European contact, when the war fleets of Ternate and Tidore still commanded great respect.

(To be continued in next issue.)

NOTES

1. The submission of this paper for publication has no relation to my position at the Fritz-Haber-Institut der Max-Planck-Gesellschaft in Berlin. The paper is divided into two parts for editorial convenience; Part II is intended for the second issue of Volume 33.

I am indebted to John Wolff and Bernd Nothofer for providing me with copies of some papers from meetings I had not attended. I would also like to express my gratitude to the Department of Physical Chemistry of the Fritz-Haber-Institut, Berlin, where I am employed, for the generous use of various facilities of the institute, and to our system manager Michael Wesemann for patiently tolerating my somewhat idiosyncratic use (for physical chemistry) of the software and for his assistance in solving occasional problems.

The following abbreviations are used for language names (sources not given in the main text are also shown here): Abl, Ambelau; Abr, Ambrym; Ach, Achehnese (Djajadiningrat 1934); Adg, Adang (Ray 1913); Akl, Aklanon (Zorc 1982); Alr, Alor; Alu, Alune ('Alfuric', i.e. Buria, Murnaten, Murikau, etc. of van Ekris 1964–65); Amb, Ambon; Ami, Amis (Ferrel 1969); Amh, Amahai; An, Austronesian; Are, Are (= Mukawa); Ars, Arosi; Asl, Asilulu; Atn, Atoni; AtyCi, Ciuli Atayal; AtySq,

Squliq Atayal; Aua, Aua; Azr, Azera; Bac, Bachan; Bal, Balinese (van Eck 1876); Ban, Bantik (Sneddon 1984); Bgw, Balangaw; Bgy, Banggai; Bim, Bima; Bip, Bipi; Bis, Bisaya of the Central Philippines; BisCb, Cebuano Bisaya (Wolff 1972); BisCb, Samar-Leyte Bisaya; Bkd, Binukid; Bkl, Bikol (Mintz and del Rosario Britanico 1985); Bku, (To) Bungku; Bla, Bilaan (Reid 1971); Blg, Bulongan; Blt, Balait (Ray 1913); Blw, Belau (Palau); Bnf, Bonfia; BnnS, South Banoni; Bnp, Balanipa (Adriani and Kruijt 1914); Bon, Bontok (Reid 1976); BonGi, Guinang Bontok (Reid 1976); Bre, Bare'e (Adriani 1928a); Brm, Barim; Bru, Buru; Bry, Barriai; Bsy, Bisaya of Sabah (Ray 1913); Btl, Bintulu (Ray 1913); Btn, Buton; Bug, Buginese (Matthes 1874); Bul, Buli (Adriani and Kruijt 1914); Bun, Bunun; BunTd, Takituduh Bunun; Bwd, Bwaidoga; Bwl, Buol; Byk, Biak; Cam, Cham (Lee 1966); Chi, Chinese (NAn); Cmr, Chamorro (Topping et al. 1980); Dob, Dobu; DgtKs, Casiguran Dumagat (Headland and Headland 1974); Dhy, Dohoi (Hudson 1967); DsnKd, Kadazan Dusun (Antonissen 1958); DurKl, Kalosi Duri (Mills 1975); Dus, Dusner; Dyr, Dairi; Eft, Efate; Eli, Eli-Elat; Elp, Elpaputih; EMChi, Early Middle (≃ Sui) Chinese (NAn); Eng, Enggano; EngBa, Barohia Enggano; Fdt, Fordata; Fgn, Fagani; Fji, Fiji; FjiBw, Bau Fiji; Fut, Futuna; Fvl, Favorlang (Marsh 1977); Gad, Gaddang; Gdg, Gedaged; Gll, Galela (NAn); Gel, Nggela; Gor, Gorom; Gtl, Gorontalo (Joest 1883); Hat, Hatue; Haw, Hawaiian; Hil, Hila; Hrk, Haruku; Htm, Hatumeten; Hts, Hatusua; Htw, Hatawano; Ibl, Inibaloi (Reid 1971); Ibg, Ibanag; Ibn, Iban; Ifg, Ifugao; IfgAg, Amganad Ifugao; Ilk, Ilokano (Constantino 1971); Iln, Ilanun (Ray 1913); IltKk, Kakidugen Ilongot; Isg, Isneg (Vanoverbergh 1972); Itb, Itbayaten (Zorc 1982); Itg, Itneg (Reid 1971); ItgBn, Binongan Itneg (Reid 1971); Ivt, Ivatan (Reid 1971); Jav, Javanese; Jry, Jarai (Lee 1966); Kai, Kai (Kei, Keiese); KalGi, Guinaang Kalinga; Kar, Karu; Kbb, Kaibobo; Kbt, Kelabit (Ray 1913); Kil, Kilenge; Kkb, Kanakanabu; Kkn, Kankanay; KknN, North Kankanay; Kmd, Komodo (Verheijen 1982); Kmr, Kamarian; Klg, Kalagan (Reid 1971); KlhKy, Kayapa Kallahan; KlhKl, Keleyqiq Kallahan; KnkN, North Kanakese; KnkXr, Xaracu (= Canala) Kanakese (Grace 1975); Kny, Kenyah; KnyLT, Lepu Tau (Ray 1913); KnySd, Sedalir Kenyah (van Genderen Stort 1916); Kpp, Kapampangan (Forman 1971); Krb, Kiribati; Kro, Karo (Joustra 1907); Kru, Karu; Krw, Kiriwina; Kus, Kusaiean (Lee 1976); Kvl, Kavalan (Ferrell 1969); Kyl, Kayali (Stresemann 1927); Kyn, Kayan; KynBl, Baluy Kayan; KynBu, Busang (Barth 1910); KynUB, Uma Blubo; KynUJ, Uma Juman; Lda, Loda (NAn); Lio, Lio, 'Lionese' (Calon 1891); Lld, Lolod (NAn); Llk, Lalaki; Loi, Loinang (Adriani and Kruijt 1914); Lpg, Lampung; LpgBl, Belalau Lampung (Helfrich 1891); LpgKl, Kalianda Lampung (Walker 1975); LpgKo, Komering Lampung (van der Tuuk 1872); LpgKr, Krui (Kroé) Lampung (Helfrich 1891); LpgPb, Pabean Lampung (van der Tuuk 1872); Lpn, Leipon; Lti, Leti; Lwg, Lawangan (Hudson 1967); Mad, Madurese (Kiliaan 1904–05); Maf, Mafor; Mak, Makassarese (Cense 1979); Mao, Maori; Mar, Maranao (McKaughan and Macaraya 1967); Mas, Masarete; Mba, Maba; MChi, Middle (= Ancient) Chinese (NAn); Mdl, Mandailing (Eggink 1936); Mdo, Bolaang-Mongondou (Dunnebier 1951); Mdr, Mandar (Mills 1975); Mgp, Mangap; Mgr, Manggarai (Verheijen 1967); MgrCi, Cibal Manggarai (Verheijen 1967); MgrKo, Kolang Manggarai (Verheijen 1967); MgrLL, Lamba-Leda Manggarai (Verheijen 1967); MgrRw, Riwu Manggarai (Verheijen 1967); Mir, Miri (Ray 1913); MisCo, Misool of the coast (Wallace 1890); MisIn, Misool of the interior (Wallace 1890); Mkb, Minangkabau (van der Toorn 1891); Mkg, Mekongga; MkiE, East Makian (NAn); MkiW, West Makian (NAn); Mkl, Mokilese (Harrison and Albert 1977); Mle, Madole (NAn); MlgMe, Mérina Malagasy (Korneev 1966); MlgN, North Malagasy (Velonandro 1983); MlgZf, Zaifisóro

Malagasy; Mlh, Maloh (Ray 1913); Mlk, Malekula; Mly, Malay (Wilkinson 1957); Mlu, Malu (Duke of York Island); Mlv, Mera-Lava; Mmj, Mamuju (Mills 1975); Mmw, Mamanwa (Reid 1971); MnbAt, Ata Manobo (Reid 1971); MnbIl, Ilianen Manobo (Reid 1971); MnbKb, Kotabato Manobo (Reid 1971); MnbSr, Sarangani Manobo (Reid 1971); MnbWB, West-Bukidnon Manobo (Elkins 1968); Mnm, Manam; Mny, Maanyan; Mok, Moken (Lewis 1960); Mrg, Murung-2 (Hudson 1967); Mri, Mori; Mrk, Murik; MrtTm, Timugon Murut; Msl, Manusela; Msw, Musau; Mta, Mota; Mtu, Motu; Mtw, Mentawai; Mun, Muna; NAn, Non-Austronesian; Nga, Ngaju (Hardeland in Dempwolff 1938); NgaKp, Kapuas (Hudson 1967); NgaKt, Katingan (Hudson 1967); Ngd, Ngadha (Arndt 1961); Nlh, Nalahia; Nmf, Numfor; Nsl, Nusalaut; Ntt, Nuetetu; Nwl, Nuaulu; Nyl, Niala; NysS, Southern Nias; OChi, Old (= Early Zhou = Archaic) Chinese (NAn); OJav, Old Javanese (Mardiwarsito 1978); OMly, Old Malay (de Casparis 1956:344–353, Coedès 1930:65–80); Oya, Oya (Ray 1913); PAA, Proto-Austroasiatic; PAn, Proto-Austronesian; Pas, Pangasinan (Benton 1971); Pbt, Palawan-Batak; PCEMP, Proto–Central-East Malayo-Polynesian of Blust (1983–84); PCM, Proto–Central Maluku; PEAA, Proto–East Austroasiatic (≃ Proto-Mon-Khmer); PECM, Proto–Eastern-Central Maluku; PEHn, Proto–East Hesperonesian; Pgu, Pagu (NAn); PHm, Proto-Hmongic (= Proto-Miao); PHM, Proto-Hmong-Mien (= Proto-Miao-Yao); PHn, Proto-Hesperonesian; Pir, Piru; Pkw, Pokau; Plh, Paulohi; PMP, Proto-Malayo-Polynesian of Blust (1983–84); Pnh, Penihing (Barth 1910); PNH, Proto–North Halmahera (NAn); PnnRj, Rejang Punan; POc, Proto-Oceanic; Pon, Ponosakan; PPh, Proto-Philippinic; Ptn, Patani of South Halmahera; Puy, Puyuma (Ferrell 1969); PWHn, Proto–West Hesperonesian; PWMP, Proto–West Malayo-Polynesian of Blust (1983–84); Pwn, Paiwan (Ferrell 1982); PwnQc, Qatsiłay Paiwan (Ferrell 1982); PwnTj, Tjuabar Paiwan (Ferrell 1982); Pzh, Pazeh (Ferrell 1969); Rbg, Rembong; Rde, Rade (Lee 1966); Rgl, Rɑglai (Lee 1966); Rjg, Rejang (Blust 1984); Rmk, Rumakai; Rth, Ratahan (Sneddon 1984); Rti, Rotinese; RtiTm, Termanu Rotinese; Rtm, Rotuma; Ruk, Rukai; RukBd, Budai Rukai (Tsuchida 1975); RukMt, Mantauran Rukai (Tsuchida 1975); RukOp, Oponohu Rukai; RukTn, Tona Rukai (Tsuchida 1975); Rov, Roviana; Sam, Samoa; Sar, Saaroa (Ferrell 1969); Sau, Sawu; Sbe, Sobei (Sterner 1975); Sbk, Sibuku (Ray 1913); Sbw, Sumbawa; Sby, Soboyo (Blust 1981); Sdn, Sa'dan (Mills 1975); Sdq, Seediq (Ferrell 1969); Sgr, Sangir (Steller and Aebersold 1959); Sgl, Sangil; Shu, Sahu (NAn); Sik, Sikka (Calon 1890); Sim, Simalur (Kähler 1961); SimLk, Lekon Simalur; SkoPd, Pada[ng] Seko (Mills 1975); Skt, Sanskrit (NAn); Slr, Solor; Sly, Selayar; Smb, Sumba; SmbKb, Kambera Sumba (Kapita 1982); SmbWw, Wewewa Sumba (Kapita 1982); Sml, Samal; Smm, Samihim (Hudson 1967); Snd, Sundanese (Coolsma 1884); Spa, Sepa; SprHr, Haria Saparua; SprOu, Ouw Saparua; Spt, Sampit (Ray 1913); Sqa, Sa'a; Srm, Sarmi; Sry, Siraya (Ferrell 1969); Ssk, Sasak; Sst, Saisiat (Ferrell 1969); Sua, Suau; SulFg, Fagudu Sula; SulMg, Mangoli Sula; Sww, Suwawa; Swy, Sawai; Sxl, Sichule (Kähler 1959); Sys, Siasi; Syw, Siau; Tag, Tagalog; Tah, Tahiti; Tam, Tami; Tar, Tarakan; Tbe, Tobelo (NAn); Tbl, Tagabili (Reid 1971); Tbn, Tabun; Tbr, Tobaru (NAn); Tbu, Tombulu; TbwKl, Kalamian Tagbanwa (Reid 1971); Tby, Taboyan (Hudson 1967); Tdg, Tidung (van Geldern Stort 1916); Tdn, Tondano; Tga, Tonga; Tgl, Tagal (Ray 1913); Tha, Thao (Ferrell 1969); Tid, Tidore (NAn); Tif, Tifu (Stresemann 1927); Tim, Timorese; Tir, Tiruray (Schlegel 1971); Tjg, Tunjung (Hudson 1967); Tlb, Taliabu; Tld, Talaud; TldBe, Beo Talaud; Tll, Tihulale; Tlr, Tolour; Tnt, Ternate; Tob, Toba (Warneck 1977); Tse, Tonsea; Tsg, Tausug (Hassan et al. 1975); Tso, Tsou (Ferrell 1969); Tsw, Tonsawang (= Tombatu); Ttb, Tontemboan (= Tompakewa; Schwarz 1908);

Ttl, Tontoli; TtmBl, Belu Tettum; Tun, Tuna; Ulw, Ulawa (Dempwolff 1938); Uma, Uma (Esser 1964:129–144); Urv, Uruava; Uve, Uvea; Wda, Weda; Wdw, Wedau; Win, Windesi; Wkm, Wokam; Wle, Woleaian (Sohn and Tawerilmang 1976); Wog, Wogeo; Wol, Wolio (Anceaux 1987); Wrk, Waraka; Wrp, Waropen; Wru, Waru; Wsm, Waisamu; Wtr, Wetar; Wvl, Wuvulu; YamIm, Imurud Yami (Ferrell 1969); Ybm, Yabem; Ymd, Yamdena; Ytf, Yautefa.

2. As I indicated in a previous publication (Mahdi 1988:382–384), more than one subgouping scheme for the An language family can be proposed on the basis of present knowledge of the internal relations of An languages, each equally well founded and with the same lack of definitive certainty. The most convenient and, at least in appearance, most efficient strategy would be to choose and "stick to" one concrete subgrouping hypothesis. This has the appeal of providing a fixed system of referent coordinates on which to lean or attach further investigations, and of lending an inner consistency to the accumulation of subsequent results. Such consistency must not however be confused with the methodological consistency that is a necessary condition of any scientific work. If the accepted subgrouping hypothesis should prove to be incorrect, the approach that was said to be the most convenient one may end up being the most expensive one, because all conclusions that were drawn on, in effect, the presumption of its axiomatic validity would suddenly find themselves suspended (with, alas, the same consistency) in logical thin air. Even so, the responsibility for the debacle would rest not with the hypothesis itself, but with its having been treated as axiom. The most widely accepted subgrouping hypothesis for Austronesian is the one that found its most recent modification in Blust (1983–84). Although it results from a very profound and conscientious investigation using the most comprehensive database ever to be gathered for Austronesian, it is (and quite naturally so) not entirely free from weaknesses. Some of its central points—particularly the postulation that the separation of Non-Formosan from the three highest order Formosan goups represents the first split, and the concretization of the grouping of An languages of East Indonesia together with South Halmahera–Cendrawasih Bay and Oceanic languages in one branch, and the remaining languages of the Philippine-Indonesia area in the other branch of Non-Formosan (alias Malayo-Polynesian)—are based on the method of Exclusively Shared Innovations. This method—at least in its normally practiced implementation—is more appropriately described as the method of Exclusively Shared Features, and is extremely unreliable when applied to languages in mutual contact and/or languages of peoples with a common culture tradition. What the method actually establishes is as a rule the extent of a common stratum. Before conclusions on language grouping can be drawn from it, one has to demonstrate that it is the main, inherited stratum of the languages that share it. To avoid automatic implication of the two above-mentioned points, which I regard as still insufficiently proven, I shall use the term Hesperonesian as in Mahdi (1988) to denote the group of Non-Formosan West Austronesian languages, leaving the question of the inclusion or exclusion of East Indonesian languages in this grouping tentatively open. This coincides roughly with the use of the term by Dyen (1965a:24, 38–39), who introduced it, and for example by Nothofer(1975:29) and Zorc (1982). In Tsuchida (1975) it is used differently, to include the Formosan languages.
3. Not all maverick protoforms in Dempwolff's corpus were recognized by the author as such. Thus, for example, he has *kə(m)bar for ˣkə(m)bar 'twin', apparently reflecting PAA *b[ ]ār 'two' (see for example Pinnow 1959:#V49, Shorto 1971:405) with a prefix that could have been attached either before or after its borrowing into an Austronesian mesolanguage. The latter could have been either the common

ancestor language of Malay, Toba, and Javanese, for which reflexes are given (see Dempwolff 1938:76, Mahdi 1988:377), or an early stage of Malay, serving as donor for borrowing into the other Austronesian languages having cognates.

4. The Lampung reflex is crucial to make the reconstruction with *-R- instead of an otherwise imaginable optional ⊗-r- infix (see Dempwolff 1938:76) compelling. *R was apparently reflected in pre-Lampung as *i,* subsequently desyllabified in Lampung to *y* except in some particular environments, as for example LpgKo *ñiwi* < *niəuR 'coconut'.
5. Unfortunately, my German-language publication has remained inaccessible to some readers. I shall therefore briefly outline my proposed etymological derivation of the forms, to which I was inspired by Zide and Zide (1976:1325–1326). The apparently Austroasiatic (or Tibeto-Burmic, see below) form ⊗Gəruayk (perhaps from a ⊗Gəruaik) was transmitted in part by inheritance, but for the greater part probably through cultural contact so that reflexes are more aptly treated in terms of diverging lines of development abstracted from genealogical language groupings. One line of development led after the dropping out of the palatal to ˣGəruak, with either subsequent metathesis (ˣgurak > Palaung *kraʔ,* Wa *krak,* Vu *karak,* etc. 'carabao') or fusion of the vowel cluster (ˣGərok > Niahɑn *krɔk,* Santali *ɔrɔk,* Halang *hʏrok* 'cow'). In another line of development, the final velar became a glottal stop, and there often is *r/u* metathesis (> ˣGəruayʔ > Geta' *hrweʔ,* Asuri *uriʔ* 'cow', Juang *orai,* Kharia *orɛj,* Mundari *urij* 'bullock', the fusion *-yʔ > *-j* here being regular). Important is the development leading through loss of the final stop and desyllabification of the back vowel to a labial glide (> ˣGərway). On the one hand, it was borrowed into Daic as ˣɣrwāy (> Ahom *khrai,* Khamti *khai,* Thai *khwāi*$_{A2}$, Wuming Tai *χway*$_{A2}$, Buyi alias Po-ai *vāi*$_{A2}$, Lingam Sui *kwi*$_{A2}$, Mak *həi*$_{A2}$, Laqua *hai,* Kelao *ua,* Lati *kua,* etc. 'carabao'). On the other hand, it experienced a further shift of the labial glide to a stop (> ˣgrəbʌy) with a subsequent backing of the vowel of the last syllable (> Khmer *krəbʏy,* Stieng *krʏpɯ,* Chrau *gapu,* Hre *kpo,* Prou *kapo,* Sedang *kopaw,* Pear, Samre *krapaw,* Kancho *krəbao* 'carabao'). The Chamic forms were thus borrowed from a reflex without *-r-*. As I noted in my earlier publication, there are also Tibeto-Burmic cognates, of which I could not discern in what relation they stood to the Austroasiatic. These are, to begin with, the following Burmic forms: Old Burmese *klwai,* Middle Burmese *kywai,* (New) Burmese *tśèw,* Arakan *kywe,* Taungyo *kywa,* Tawoy *kwèw,* Megyaw *kali* 'carabao' (Shafer 1974:342). At a first glance, these would seem to branch off at about the same point as the Daic forms. However, the initial velar is missing in other Tibeto-Burmic cognates, so that Benedict (1972: #208) regarded the Burmic forms as containing a prefix, and reconstructed Proto-Tibeto-Burmic *lwa·y (> Siyin *loai,* Lushei *loi,* Kachin *ŋə-loi,* etc. 'carabao'). The Austroasiatic forms, which appear to likewise contain a prefix, would then be secondary, and the original form must be Tibeto-Burmic. On the other hand, the Austroasiatic cognates refer to various draught animals, whereas the Tibeto-Burmic forms, like the undoubtedly maverick Daic and Austronesian ones, only refer to one specific draught animal, the carabao. I am therefore inclined to consider the protoform to be originally Austroasiatic, with the Tibeto-Burmic forms without *k-* having simply lost the initial ⊗Gə-, which is not at all improbable.
6. Fji *karavau* 'cow', like Ars *kusi* 'cat' (< Mly *kuciŋ,* see Blust 1972b:16), probably originates from Malay-speaking seamen on whalers and cargo ships, or household servants in the employ of Europeans (Mahdi 1988:306, #182, 367). Kvl *kraváu,* 'carabao' was apparently borrowed from a Philippine reflex (Ferrell 1969:20), and the same can be said of Cmr *karabáo* 'carabao', as also of Spanish and English *carabao* (Dutch *karbouw* 'carabao' is on the other hand a direct loan from Malay).

7. If *ð* in Tha *s-m-úruð* (Ferrell 1969:302) is a misprint for *θ*, it would disambiguate the final of the protoform as *C.
8. MlgMe also has *òtr-ótra,* which is a reduplication of the first mentioned authentic reflex *ótra.*
9. "Standard procedure" in historical linguistics appears to be to tacitly assume authenticity of a reconstructed protoform unless compelling evidence to the contrary is extant. Regardless of the extent to which this modus operandi is justifiable for Austronesian linguistics, I would plead for reversing the "burden of proof" at least for protoforms with ⊗r or ⊗z, and say that they should be regarded as probable mavericks unless proved otherwise. Protoforms with these protophonemes, when sufficently well represented at least to seem to be authentic, are often "culture words," as for example ⊗kuruŋ (Tso *thi-kruŋu* 'fence surrounding pig pen', Mly *kuruŋ* 'cage', Bkl *kurúŋ,* Tga *kolo* 'stockade'; see Harvey 1982), or ⊗zazaH (Itb *rarah* 'load', Mly *jaja* 'peddle, carry merchandise', Mnm *-zaza* 'buy', Rtm *jaja* 'charge, debt'; see Zorc 1982:#P127, Ross 1989:#A.26). This increases the likelihood that the few "test reflexes" leading to the reconstruction with ⊗r or ⊗z are borrowings.
10. The inclusion of Balinese is problematic because of the numerous loans from Malay and Javanese, often even leading to high-style/low-style doublets. In the latter instance, however, the low-style variant is as a rule the original form, and the high-style one a loanword. The significance of Balinese lies in the circumstance that donor *d* in borrowings is normally rendered in Balinese as *d* instead of as *ḍ* as in Javanese, whereas Madurese usually has *ḍh.* Therefore, in instances where Jav *ḍ* seems to agree with Mad *ḍh,* Balinese gives away the secondary origin of the forms by having *d.* Bal *ḍ* on the other hand normally corresponds to Jav *r* and Mad *ḍ.* In other words, the importance of Balinese as "test language" lies not so much in confirming the reconstruction of PAn *d, but in disclosing an error in the former definition of PAn *D, which assumed *ḍ* to be the regular Javanese reflex.
11. Here is a partially updated synopsis of my diagnostic protoforms: *daŋ 'heat' > OJav *daŋ* 'large cooking pot', Bal *da-daŋ,* Tag da-raŋ, Pwn *zaŋ-zaŋ;* *damaR 'light' > Mad *dhʌmar,* Pwn *zama-n;* *dələs 'string' > OJav *dələs,* BisSL *dulos,* Pwn *zələt;* *k[aə]-d<əm>əl 'thick' > OJav *kandəl* (metathesis), Mad *kandhəl* (metathesis), Pwn *kəḍəməl,* Puy *kəzəmər;* *laHuəd 'high sea' > OJav *lod* (OJav *lor* must be a doublet), Mad *laodh-an,* BisCb *lawód,* Pwn [archaic] *lauḍ* (Pwn [new] *lauz* must be a loan); *Daraq 'blood' > OJav *rah,* Mad *ḍʌrʌ,* Pwn *djaq,* Puy *ðaraq;* *DuRi 'thorn' > OJav *rwi,* Bal *ḍuwi,* Mad *ḍuri(h),* Pwn *djui;* *Daia 'inland' > Mad *ḍʌjʌ(h),* Tag *i-laya,* Pwn, Puy *i-zaya;* *quDaŋ 'crustacean' > OJav *huraŋ,* Mad *oḍʌŋ,* Tag *ʔulaŋ,* Pwn *quzaŋ;* *tuSuD 'knee' > OJav *tūr,* Mad *toot,* Bal *hən-tud,* Tag, BisCb *tuhód,* Puy *tozo* (metathesis); *SaCəD 'escort, deliver' > OJav *hatər,* Tag *hatid,* BisCb *hatúd,* Pwn *satjəz;* *Zalan 'path' > OJav *dalan,* Bal *jalan,* Mad *jhʌlʌn,* BisCb *dalan,* Pwn *djalan,* Puy *ðaran;* *quZaN 'rain' > OJav *hudan,* Bal *hujan,* Mad *ojhʌn,* BisSL *ʔuran,* Pwn *qudjał;* *qañuZ 'drift off' > OJav *hañut,* Bal *hañud,* Mad *l-añoʔ,* Tag, BisCb *ʔanod,* Pwn *sə-qałudj,* Puy *mu-lahuð* (metathesis). It should be kept in mind, however, that effects resulting from backformation like those described by Dyen (1947b) for the reflection of *D in Tagalog are also operative in other languages referred to here.
12. PAn *B is reconstructed here as proposed by Prentice (1974) and Nothofer (1975). Although part of the *b/*B distribution can probably be shown to be positionally conditioned, the evidence in favor of retaining the distinction to my mind still outweighs, and is in any case more substantial than for example that of *C/*t with its complementary distribution. The latter two never occur simultaneously in the same protoform, suggesting that they pertain to distinct strata either in PAn, Proto-

Formosan, or in the Formosan languages that currently distinguish them (Mahdi 1988:414–415). The principle was first implemented to elucidate a Malay stratum in Ngaju by Dyen (1956). Wolff (1991) has meanwhile proposed another possible explanation for the situation in Formosan that likewise lets the distinction appear to be not originally PAn. With regard to *b/*B, see *baBui > MrtTm *bauy,* OJav *bawi* '(wild) pig' (Prentice 1974:#39; Mahdi 1988:298, #124, 407), as against *BaBa[] > MrtTm *lim-bawo,* OJav *wawa* 'carry' (Prentice 1974:#99). The need to exclude such reconstructions as $^{\otimes}$r and $^{\otimes}$z from the PAn protophoneme system is without doubt much more urgent (they never occur in the same reliably reconstructed protoform together with either *R or *Z in any combination).

13. An amendment of the reconstruction, suggesting that the original meaning was 'iron ore', may perhaps remove the historical anachronism, but is not supported by the available evidence. The employment of ores as pigments long before knowledge of the corresponding metal is indeed well known, it probably having been the use of such pigments in magical rites, bringing them into contact with burning charcoal, that led to the discovery of metallurgy in the first place. This does not however warrant automatically assuming that a widely distributed form for a metal must have originally denoted the ore when a chronological evaluation of the distribution leads to an otherwise premature date. For $^{\times}$bari[] there is no evidence that the original meaning was 'ore'. Attested reflexes of the form refer exclusively to the metal or objects made from it.
14. Pas, Ilk *balítok,* Isg *balitó?.* As in the case of $^{\times}$pirak I have given the Tagalog form only as representative of the Philippine set of cognates. It cannot be specified exactly which Philippine cognate, if only one, served as immediate etymon for the borrowing into Formosan languages.
15. See also Ferrell (1969:20).
16. The Saaroa and Kanakanabu cognates are from Li (1972).
17. Perhaps also the name of the Yami, the inhabitants of Botel Tobago Island to the southeast of Taiwan (< *i-qamiS).
18. Similarly, it is unclear whether Proto-Daic *dāi 'a Dai (Thai, Tai, Dioi, Yai, etc.)' originally meant 'peoples living to the inland (from Austronesians on the Southeast China coast)' as it is with the names of the Dayaks, Kadazans, Torajas, and perhaps also the Sirayas, or whether the protoform *Daia from which the latter ethnonyms derive originally meant 'direction to the people who call themselves Dais'. In the latter case, the protoform would have to be seen as a maverick. Examples like this illustrate the difficulties in distinguishing mavericks from authentic protoforms.
19. The BisCb reflex is given here only to represent the Philippine donor that cannot be more closely specified, for many other Philippine isolects also have *paŋdan* (variously stressed). The pineapple, originating from Brazil, was distributed by the Portuguese all over the world in the sixteenth century. Resembling a pandanus cone, it is referred to in several An languages, as Burkill (1935:149) indicated, by the word for 'pandanus' (for example in Buginese, Palauan, Woleaian, Hawaiian), reflecting the deep-rooted position of the use of pandanus in original An culture. It is imaginable that people coming to Taiwan from the Hispano-Philippinic culture sphere of the time—when the fruit would have been still quite novel for them—referred to it with the word for 'pandanus'. From a purely geobotanical point of view, it is in any case just as totally impossible that Proto-Paiwanic might have had an expression for 'pineapple', as is the idea that the pineapple might already have been referred to by the word for 'pandanus' in PAn. Furthermore, the reflex of *D in the Paiwan cognate is irregular, as also the Pwn and Ruk *-u-* for the schwa in *paŋ[ə]Da[nN], or its deletion in Philippine and many other extra-Formosan An

languages if it had been a *u instead of schwa (see Blust 1992:#5.1.6; with regard to the loss of the medial schwa in non-Formosan reflexes, see Blust 1982b). As the Formosan reflexes are probably borrowings, the final nasal in the protoform is either ambiguous (as indicated) or, assuming the *n/*N distinction to be a Formosan innovation, it is *n. A similar problem arises in the reconstruction of *CaquəN 'year'. All Formosan reflexes, without which one could only reconstruct *[Ct]aquə[nN], have irregular *i* for the *ə, so that Tsuchida (1975:145, 192, #55) hesitated to derive them directly from that protoform. They are indeed probably borrowings. If the word for 'year' can be shown to have been derived from *Caqu 'know(ledge)' by suffixation of *-ən (transcription of the high vowel *u as semivowel *w, see below, is probably the main reason why this possibility has not been considered so far), the final nasal could be identified as *n, implying that effective *N is at least in this instance the result of borrowing.

20. Expected for *bibi[] is Pwn ***vivi.*
21. Without the Formosan cognates, no protoform could be reconstructed at all, because the Tagalog form is apparently unique. Ars *paka* 'iron, any metal' (Blust 1972b:16) probably testifies to contacts with Philippine seamen or household servants in employ of Europeans, or perhaps with Philippine persons in Catholic missions. With regard to the reflection of *l* of a Philippine donor language by the reflex of *L in borrowings into Formosan languages, another possible case is that of RukBd *ma-piłai,* RukTn *ma-piłái,* RukMn *ma-piłai,* Pwn *ma-piłay* 'crippled, lame' (ˣpiL[aə]i, Tsuchida 1975:180–181), which could perhaps be borrowed from Tag *pilay,* etc. 'lameness' (ˣpirai, Blust 1970:#305) < Mly *piray* 'gout, rheumatism'. That the Philippine cognates represent a secondary stratum seems to be confirmed by Bkl, Ilk *pílay* 'crippled', which have irregular *l* for expected *r* < ⊗r (Tsuchida 1975)—suggesting rather recent borrowing from Tagalog, a major intermediate station for borrowings from Malay into languages of North Philippines—and by Pas *piléy* 'crippled' with irregular *-ey* for *-ai (Wolff 1993). However, one could also consider the Formosan and Philippinic cognates (setting aside the Pangasinan, but adding Isg *pílay* 'limping, lame') to be authentic reflexes of the reconstructed form with *L, which is indeed the treatment given by Tsuchida. This has been strengthened by Blust (1992:#4.15) with the additional evidence of Ibn *pilay* 'paralyzed'. The Iban form could be a Philippine borrowing, but further data (particularly cognates in other Malayic isolects) will probably permit drawing a definitive conclusion as to whether the effective form with *L is authentic, or a contact artefact deriving from an older maverick with ⊗r.
22. For all Chinese glosses in this paper I use the *pīnyīn* spelling.
23. From a reflex of ⊗qulun 'person', which, in the secondary meaning of 'servant, slave', was used as polite-speech 1st person singular pronoun ('your humble servant', see for example Ach *ulon,* Cam *hulun,* Mok *kolon).* The Chinese thus apparently called the Malays by this name, because it was the word by which the first Malay-speakers they met referred to themselves in polite speech. The immediate donor language was probably a Sea People Malay or Malayic dialect having, like Moken, *k* < *q. I shall tentatively call it Pre-Moken, because I believe it was the source of the Malayic lexical stratum in Moken. One passage in Yiqing's *Nánhǎi jìguī nèifǎ chuàn* 'Record of the Practice of the Righteous [i.e. Buddhist] Law in the South Sea' (691 or 692 A.D.; I-Tsing 1896:11–12, see Pelliot 1903:268, Ferrand 1919:243–244) should probably be understood to mean that the first seafarers from foreign parts to have reached Canton had been Malay-speaking Negritos of the Orang Laut type (Mahdi n.d.). Such Sea People communities played a pivotal role in upholding the maritime prowess of nuclear Malay polities, and their position in the power structure of the state is duly acknowledged in the Telaga-Batu inscription, in

line 5, where they are referred to as *hulun hāji* 'the king's *huluns*' (de Casparis 1956:32; OMly *hāji* < *Ha(n)Zi?; OJav *hady-an,* Bal *haji,* MlgMe *andrí-ana,* Tag, BisCb *hári?).* The expression is sometimes translated as 'the king's slaves', but should in my opinion be interpreted as 'the king's loyal Sea-People vassals'. That an isolect having ˣkulun 'person, slave, your humble servant' (with initial velar) was once rather widely represented is evident from borrowed OJav *pwaŋkulun* 'sir, milord' (< *pu-aŋ 'master' + ⊗qulun). It has a pseudoregular doublet OJav *pwaŋ-hulun* 'sir, milord', which is probably a back-formation from the former, because a reflex of *pu-aŋ is not attested for OJav except in this compound. Pre-Moken ˣpuang-kulun, the putative etymon, must have been an analog of Mly *tuan-ku* (literally 'master' + 'me, my'), *tuan hamba* (literally 'master' + 'your humble servant'), or Cam *pulun/pu-hulun* (same literal meaning; Aymonier and Cabaton 1906:289). A further piece of evidence for Pre-Moken is perhaps Old Mon *kḥaṇ* /kɓaŋ/ 'ship' (Shorto 1971:67), which appears to be a borrowed reflex of ⊗qaBaŋ 'boat, ship', and having likewise *k* for *q (see Mok *kabaŋ).* Pelliot (1904:222–224) called attention to a report on a journey to the western part of Southeast Asia included in the *Xīntángshū* 'New History of the Tang', complementing information in the *Jiùtángshū* 'Older History of the Tang', from which it becomes apparent that the coast in a region that can be located as being near the mouths of the Irrawaddy and Salween was inhabited by a tribe of "small Malays" *(xiǎo Kūnlún),* and that on traveling further (on the way back to China, that is, around Tenasserim or the Isthmus of Kra) one came to a kingdom of the "big Malays" *(dà Kūnlún).* Big and small presumably refer here not to physical stature, but to political rank, the "small Malays" probably being malayanized Sea People paying allegiance to a "big Malay" overlord. Pelliot believed the ethnicities concerned to be Mons, but this is rather unlikely. The Mons themselves, as first indicated by Forbes (1878:234), have an ancient tradition that recounts of barbarians inhabiting the Martaban coast, who had apparently resisted conversion to Buddhism. According to Luce (1965a: 145–146), the Mons on the coast were under constant threat from sudden raids from the sea by "Malayan Vikings" whom they called *Rakṣasa* 'cannibal demons' (originally a Sanskrit name by which early Indo-Aryans apparently referred to Dravidians), and who maintained a series of footholds along the coast. The Burmese referred to them as *Bilù* 'ogres' ('a kind of monster which eats human flesh and possesses super-human eyes', Stevenson and Eveleth 1921:727), and Grierson (1906:14) expressed the opinion that they were possibly Negritos. Nai Pan Hla (1976:893–894) believes they might have been the Bēsyngite cannibals *(bēsyngeití anthrōpophági)* located by Ptolemy (in his *Geōgraphikḗ Hyphḗgēsis* 7.2.3–4, second century A.D.; Coedès 1910:52) on the coast between the mouths of the Irrawaddy *(Témala)* and the Salween *(Bēsýnga)* immediately west of the Malay Peninsula *(Chrysẽs Chersónēsos).* Luce considered the Moken to be relics of the old Rakṣasas. An island in the Gulf of Martaban, still known as *Bilù-gyùn* ('ogres island'), was referred to in Middle Mon palmleaf manuscripts by a name given by Forbes as *T'kaw 'k'ming* and by Nai Pan Hla as *taka? smuiṇ* /taka? smaŋ/ ('island of demons?, of the Semangs?').

24. *"Mán Yí gǔ chuán chuǎn sòng zhì zhī"* (Pelliot 1912:458). The somewhat unusually worded phrase (literally 'South-barbarian East-barbarian merchant ship take-turn deliver extend go-to') should apparently be understood to mean that the Chinese travelers always find a local ship to carry them further on each consecutive lap of their journey, as if by a virtual relay system.
25. The interpretation that *Yèdiào* < MChi *jäp-d'ieu* (Karlgren 1940:#633d–1083x) was a scribal error for Sīdiào—which could be seen as reflecting Pali *Sīhadīpa* ('Lion Island', i.e. Sri Lanka, see Pelliot 1912:463), with the consequence that the embassy

was not from Malayo-Indonesia but from Sri Lanka—is ruled out by a fragment from Wan Zhen's lost *Nánzhōu yìwù zhì* 'Account of Curiosities of the Southern Islands' (third century A.D.), quoted in the *Tàipíng yùlǎn* 'The Great Peace for His Imperial Majesty's Contemplation', telling of a "mountain of blazing fire" in Sīdiào. The latter was thus a scribal error for Yèdiào (Pelliot 1904:266–268, Laufer 1915:351, Ferrand 1916, see further Coedès 1968:283, #63), and not the other way round, there being no active volcanoes in Sri Lanka, but several in West Indonesia, including two named *Gunuŋ Mərapi,* literally 'Mount Fiery'. One is in Java, another in Sumatra, the latter possibly the "mountain of blazing fire" of Sīdiào. The Sumatran Merapi stands at the heads of the Kampar and Indragiri river systems. The volcano in Sīdiào alias Yèdiào could however also be the Kerinci, which stands at the head of the Batang Hari river system.

26. It is from the name of this Malay kingdom that the later Mly *Məlayu* 'a Malay, Malayan' derives, and hence the corresponding English. This was therefore not the original name by which the Malays were known. Yavadvīpa, the earlier name of the nuclear Malay realm on the same territory means nothing other than 'Yava-island' or 'Yava-land' ('land' and 'island' were constantly confused in Indic, Chinese, and Arabic geographical names), of which *Java* is the regular Pali reflex (but English *Java* is from Late Mediaeval Latin *Iaua,* which reflects the Sanskrit rather than the Pali form). The corresponding adjectival form is *Jāvaka,* and this was the name by which Malays were normally referred to in Pali records of South India and Sri Lanka. It was borrowed into Tamil as *Cāvakam,* glossed in Pillai et al. (1925–36:1392) as '1. the Archipelago, Sumatra-Java, or Java, 2. language of that country', and into Arabic as *(az-)Zābağ,* which may be interpreted as 'land/country of the Malays'. Subsequently, the latter was arabicized in its morphology as *Ǧāwī* 'Malay' (pronounced /jāwī/ in the eastern dialects, hence the designation Jawi script). Another cognate, *Sābağ,* particularly its plural form *Sayābiğa,* appears as the name of skilled seafarers who, according to Persian historians, formed coastal settlements in the Persian Gulf in the seventh century A.D. (de Goeje 1894, Ferrand 1934). The sound shift *j- > s-* observed here suggests that the form was borrowed from an isolect of South India, and parallels Ptolemy's transcription of the name as *Sabadība,* which the writer failed to recognize as being the same country as that which he simultaneously referred to as *Iabadiu,* that is, Yavadvīpa (*Geōgr. Hyph.* 7.2.28–29; Coedès 1910:61–62). The Pali adjectival form also reappears in various transcriptions in Chinese, for example *Shèbó* < MChi. *źi̯a-b'āk* (Karlgren 1940:#62j–771p) in Wan Zhen's *Nánzhōu yìwù zhì* (Ferrand 1919:15–16 fn. 1), or *Zhūbó* < MChi *tśi̯wo-b'āk* (Karlgren 1940:#45p–771p) in the annals of the Liang dynasty, the *Liángshū* (Laufer 1915:346), the latter probably reflecting some early Malay vernacular reflex such as **Jəbaka.* The founding of Malay-ruled polities on the island we today call Java (see Part II), some of which possibly paid allegiance at some time or other to the central Malay realm on the Batang Hari, led to that island's being included in the area referred to as Java, that is, "Malay country." When the Batang Hari nuclear domain of the Hindu-Malay realm was conquered by Buddhist-Malay Śrī Vijaya centered on the Musi river, the Hindu-Malay Śailendra dynasty (see Boechari 1966) in Central Java salvaged the (originally Sumatran) Hindu-Malay "Java" tradition in Java and, gaining power, laid claim on the original Malay "Java"-throne on the Batang Hari, wherein it was finally successful. This explains later confusion in the use of the name, and the reference to Sumatra and Java as "Java Minor" and "Java Major" respectively by Marco Polo, Nicolò Conti, and others. The confusion was further aggravated for the historians by the conversion of one of the Śailendra lines to Buddhism after restoration to the Sumatran throne. I shall fill in the details of this some-

what baffling history elsewhere (Mahdi n.d.). For the linguist, these developments explain the numerous Malay loans in Javanese and, with the return of the Java-based Malay dynasty to the Sumatran throne (as well as the later Javanese conquest of the united Malay realm in the thirteenth century as a result of the military expedition of King Kṛtanagara known as the *pa-malayu,* and the subsequent suzerainty of the Javanese Majapahit empire over the Malays), the many Javanese loans in Malay. Early Malay presence in Java (presumably since the third or fourth century A.D.; see below and in part II) is probably the main reason for the proliferation of reflexes with *r* < *R in Sundanese and Javanese, and of *j* < *Z in Javanese, thus laying the basis for the sets of sound correspondences leading to the reconstruction of $^{\otimes}$r and $^{\otimes}$z.

27. The determination of the location is based on a comparison of Faxian's account of his voyage from Sri Lanka to Yavadvīpa (*Yēpótí* < MChi *ja-b'uâ-d'iei,* Karlgren 1940:#47b–25q–866n) and departure from there for Canton with modern knowledge of seasonal metereological conditions in the region, revealing that Yavadvīpa could only lie on the east coast of Sumatra between the latitudes of Singapore and Bangka. Having been caught in a September Bengal-Bay cyclone third day out *(sān rì biàn zhí dàfēng),* he was driven to a Nicobar or Andaman island to mend a leak *(dào yī dǎo biān ... jiàn chuán lòuchù jí bǔsài zhī).* In the then on-setting rain monsoon *(ruò yīnyǔ shí)* it took over 90 gloomy days through the Strait of Malacca to Yavadvīpa *(jiǔshí xǔ rì nǎi dào yī guó míng Yēpótí).* After waiting here 5 months *(tíng zǐ guó wǔ yuè)* for the turn of the monsoon, he sailed on the sixteenth of the fourth month of the Chinese calender *(yǐ sì yuè shíliù rì fā)* i.e. in the last third of May, taking a northeasterly course to fetch Canton *(dōngběi xíng qù Guǎngzhōu).* The Chinese is quoted from Legge (1886). As the dry monsoon blows in from Java in a northwesterly direction, only to head to northeast at approximately the latitude of Banka, this leaves little leeway for locating Yavadvīpa. A position further north than Singapore would have required either sailing over land across the Peninsula on heading for Canton, or doubling the tip of the Peninsula (during the southwestwards blowing rain monsoon!) before reaching Yavadvīpa if the latter had been located on the east coast of Malaya, or on the northwest coast of Kalimantan as suggested by Grimes (1941).
28. In fact, not a single one of these forms corresponds regularly to the originally reconstructed *bari (Blust 1972b:#2), and the later correction of the protoform to *bari[ ] finally acquiesces in the realization that a solution that might reconcile the reflexes with any single protoform reconstruction is not conceivable.
29. Postglottalization of final vowels in Sundanese is automatic.
30. 'Sword' (Ray 1913: #183) probably stands here for 'machete'.
31. Blust transcribes the final glottal stop in the Malay reflex with a final *-k.* Final glottal stop is spelled *-k* in most twentieth-century Latin-script orthographies for Indonesian and Malaysian Malay, but was often spelled with an apostrophe or left unmarked in earlier Latin-script renderings. In Jawi-script Malay it was spelled *-q* (with a *qāf*), to distinguish it from initial and medial *k,* which was spelled as such (with a *kāf*) unless etymologically deriving from an Arabic word with *q.* Some scholarly pre-twentieth-century Latin-script spellings reflected this by writing final *-kh* (Leydekker), *-ḳ* (Klinkert), or *-q* (Roorda van Eysinga). As a rule, Old-Sumatran-script OMly epigraphy had final *-k* when final *-ʔ* of the modern form reflects an etymologically authentic velar, and final vowel when modern final *-ʔ* reflects original glottal stop. The custom of treating final orthographic *-k* of Latin-script spellings of Malay as glottal stop in An historical linguistics, which is in agreement with the actual pronunciation in the nuclear Malay dialects, was introduced by Dempwolff (1937:14, §65b) who transcribed it *-'*, and has been upheld by Dyen

(1947a etc.) and Nothofer (1975:23) who transcribe it *-q*. In modern Indonesian Malay, orthographic final *-k* is used for /-ʔ/ as well as for /-k/, the latter only in loanwords. See the minimal pair /paʔ/ 'dad, sir': /pak/ '(to) pack', both spelled *pak,* reflecting PHn *(ba)paʔ 'father' (Zorc 1982:#P134) and Dutch *pak(ken)* '(to) pack' respectively (Mahdi 1981). The distinction thus has etymological relevance.

32. For example *adiʔ* 'younger sibling', *kakaʔ* 'elder sibling', *induʔ* 'mother, parent', *bapaʔ* 'father', *mamaʔ* 'maternal uncle (MoBr)', *nɛnɛʔ* 'grandmother', *k-akɛʔ* 'grandfather' (Ami *f-akiʔ), təkuʔ* 'fold', *sɛpaʔ* 'kick' (Tag *sipaʔ)* with probable retention; and *bebɛʔ* 'duck' (BisCb *bibi* 'duck', *bibih-an* 'duck farm') with probable secondary accretion of the glottal stop. I have only provided comparative data for cases not treated by Zorc (1982).
33. Occasional aberrant reflection of *i as *ɛ,* and of *u as *ɔ* in Malay reflexes of protoforms, traditionally treated as "regular" (following Dempwolff 1937:22, §70f, g), should probably also be seen as resulting from interdialectal borrowing. Particular caution is required here because Johore (and Riau) Malay has nonphonemic [o], formerly spelled *o,* which is an allophone of /u/, and a phonemic /ɔ/, likewise spelled *o,* which is opposed to /u/. The inconsistency of Latin-script spellings for Malay on this point makes the use of Malay dictionaries somewhat problematic (for example *gantong* 'hang' is /gantuŋ/, but *kantong* 'pocket' is /kantɔŋ/). I write *u* for nonphonemic Mly *o* to avoid confusion with phonemic Mly *ɔ*. This only concerns Peninsular Malay editions prior to the 1972 spelling reform. Indonesian Malay, on the contrary, does not have a nonphonemic [o] as allophone of /u/, but has a phonemic /o/ opposed to /ɔ/ (likewise spelled *o* in the official orthography) as well as to /u/, but only in loanwords (see Samsuri 1960, Mahdi 1981). See the minimal pair /kɔpi/ 'coffee' : /kopi/ '(xero-)copy', both spelled *kopi.* Note also *fonis* /fonis/ 'phonic' : *vonis* /fɔnes/ '(court) sentence', the latter containing the phoneme /e/, of which the open-syllable allophone is spelled *e* and the closed-syllable one *i,* not to be confused with the phoneme /ɛ/ (transcribed /e/ in some grammar books).
34. The Iban form cannot be reconciled with the Cebuano form under any putatively authentic protoform, even allowing for an *r, as it requires final *-Ø, whereas the Cebuano form points to a final *-[ʔq] that would have resulted in Ibn *-ʔ* or *-h.*
35. The reflection of Skt *v-* as *b-* in the ethnonym probably derives from the circumstance that the name was borrowed via Old Malay, perhaps by intermediation of some Sea People Malay dialect. The so-called Old Sumatran script of the Śrī Vijaya stone inscriptions did not distinguish between *b* and *w,* spelling both with the Pallava-script character for *v.* This reflects a feature of Prakrit spelling (see Cowell 1962:xii), and is thus not surprising for Buddhist-Malay epigraphy. As the inherited vocabulary of Malay (presumably also in actually spoken Old Malay speech in general) does not feature an initial *w,* written *v* was only ambiguous for *b/w* in medial position. As initial it could only have stood for *b* (see Vikør 1988:75). See for example BisCb *bansa* 'state' < Mly *baŋsa* 'nation' (OMly 'ruling house, dynasty') < Skt *vāṁśa.* Therefore, *Vijaya* must have been pronounced by the Old Malays themselves as *Bijaya or *Bəjaya. This is confirmed by the rendering of Śrī *Vijaya* by early Arabic authors as *Sribuza,* and in Chinese records as *Shìlì Fóshì* (Ferrand 1919:296–297; 1922:166, 4). The contemporary reading of the character for *Fó,* which also spells the Chinese word for 'Buddha' (Wu 1985:206), is given as EMChi *but* (Pulleyblank 1991:96) and MChi *b'ɨuət* (Karlgren 1940:#500l).
36. *"roy de lisle Lozzon, qui estoit capitaine general du roy de Burne"* (Pigafetta 1523: f. 60 verso).
37. That is, loans made at a much later time than that of the initial dispersal, which made the protoform a maverick.

38. I am not implying that this really was the case, but am only purely hypothetically following the logic of the formalistic assignment of protoforms to protolanguages. In my opinion, ˣBəsi was not even authentic PWHn.
39. The widespread custom in An historical linguistics of referring uncritically to any shared distinctive feature as, in effect, an authentic innovation is a very debatable quid pro quo. When applied to problems of subgrouping, it practically amounts to basing a proof on the validity of that which is to be proven. Assuming that a number of languages form a subgroup—for only then are we actually justified in doing what now follows—we consider features shared exclusively by these languages to reflect authentic innovations. Then, turning the tables, we declare the languages to form a subgroup on the basis of the exclusively shared innovations, and the tautology is complete. Extending the length of the list of innovations does lead to a substantial increase in the probability that at least one of the innovations under consideration is indeed authentic, but this approach cancels out the original postulation that the innovations were authentic. If they are not known to be authentic, there is no definitive guarantee that two dozen of them include an authentic one—it is only more probable. If however the innovation can be shown to be authentic, then a single one would suffice to establish a subgroup. When we observe in practice that a set of languages exhibit a number of commonly shared features not reflected in other languages, one explanation for this remarkable coincidence may be that the languages form a single genealogical subgroup, and that the observed features indeed represent exclusively shared authentic innovations. There are, however, other possible explanations. As one possibility, they could belong to a common, but only partially internal adstratum, such as Malay loans limited to Malayo-Javanic languages and some neighboring languages that then appear to belong within the grouping. Another possibility is that the languages under examination may have followed a common tendency, such as in the case of the pineapple being referred to by a word for 'pandanus' in various languages throughout Austronesia. Pseudo-authentic innovations must be expected to evolve particularly frequently in dialect chains, when contact propagation of neologisms along the chain accounts for an appreciable part of the shared vocabulary. In my opinion, treatment as dialect chain and subgrouping by exclusively shared innovations—quite apart from any other objections to the latter method—should be regarded as mutually exclusive lines of approach to a subgrouping problem.
40. There are enough records of language development over greater periods of time, during which formation of dialects or even language groups (for example the Romance languages from vulgar Latin) could be observed. If authentic nonreplacement innovation were indeed more than an extremely sporadic exception that proves the adverse rule, it would cause no trouble to find examples here. In Part II, on the other hand, I shall provide an example of a virtual "nonreplacement innovation" propagated by parallel or chain borrowing subsequent to the split of the last common protolanguage.
41. Previously reconstructed as *wasay (Blust 1970:#439), and as *Səuasəi (Mahdi 1988:144, 295, #103). The *S-, now corrected to *H-, was reconstructed here to account for the initial of BisCb *huwásay* 'axe' (Wolff 1972:358; Yap and Bunye 1971: 206 give it as *hwásay;* both also give a variant, BisCb *wásay,* which coincides with cognates in several languages of Luzon and therefore probably is a loan). Occasional reflexes in West Hesperonesian languages of Kalimantan, for example, Tby, Lwg *wase,* Kbt *uay* 'axe', I regard as loans from East Hesperonesian.

    I have demonstrated in an earlier publication that *y and *w cannot be distinguished from *i and *u respectively for PAn (Mahdi 1988:90–101). The following is a synopsis of my argumentation. An important indication for the original sylla-

bicity of the reconstructed semivowels is the frequent metathesis *iu/ui (previously rendered *iw/yu/uy/wi), for example, *kaSiu/kaSui 'wood, tree' (see Dyen 1971), *baRiuS/baRuiS 'seawind' (OJav *bayu,* Mir *barui*), *siua/siau/suai 'nine' (Tso *sio,* Gel *hiua,* Mar *siao,* LpgPb *suway,* Mny *suey*). The retention of semivowels would not help preserve the so-called canonical form of PAn protoforms. The following protoforms (whose list can be extended) would deliver initial, medial, and final consonant clusters that do not conform with the canonical form:

*quaRiH 'day' (Mly *hari,* BunTd *valih,* Rgl *huɯəi* [*a > *ϕ*, *R > *ɯ*], Rde *hrwəy* [metathesis], Bal *wahi/hahi*);
*DəuSa 'two' (see Dyen 1975, and Sry *rauha,* Mir *debe* [*u/V_V > *b*, **DuSa > ***due*], Tjg *rʌga* [*u > *w > *g*], Sby *howo*);
*uaSiəR 'water' (Cam *ʔya* [*S > *ʔ*, *-əR > *-a*], Rjg *bioa* [*-əR > *-oa*, *-iR > *-ea*], Sik *wayer,* Kyl *wayel,* Bul *waya*);
*qəHuəi 'rattan' (Sdq *qəwal-ux,* Itb *ʔahway,* Rgl *hauai*);
*BəRəiq 'give' (OJav *weh,* Mrg *m-ihiʔ,* Pzh *bā-baxáʔ,* Ami *pa-fəriʔ,* Uma *waiʔ*);
*DaqəiS 'forehead' (see Dyen 1965b:#20.2);
*baRiuS 'seawind' (see Blust 1970:#32; Zorc 1982:#P55).

Alternatively, one would have to reconstruct *qwaRiH, *DəwSa, *waSyəR, *qəHwəy, *BəRəyq, *DaqəyS, *baRiwS, or *baRyuS. Here, *qua- and *-iuS are indistinguishable from formerly reconstructed *wa- and *-iw respectively, except when the *q- or *-S is explicitly reflected. Analogically, the prefix *[ʔ]u- before *Sa- (as in *[ʔ]u-Saji? 'younger sibling') cannot as a rule be distinguished from formerly reconstructed *w- before *a-, nor *-aSu (as in *ka-Su 'thou') from former *-aw, or *-aHi/-əHi (as in *BaHi/BəHi 'woman') from former *-ay/əy respectively, when the *S or *H is not explicitly reflected (with one or two isolated exceptions that are not of general diagnostic relevance). Semivowels would also not cause protoforms such as *Baiauak 'monitor lizard' (OJav *wayawak,* Snd *bayawak*) or *Buqaia 'crocodile' to revert to canonical bisyllabicity (*Bayawak, *Buqaya). The apparent opposition of *-u- : *-uw- can as a rule be shown to be that of *-u- : *-əu-, as in the case of 'two' and 'rattan' above. If the position of stress in PAn could be shown to have always been on the penultimate, this would at least permit disambiguating final vowel clusters from diphthongs, and thus establish the opposition of final semivowel to final postvocalic vowel. However, relatively good coherence for the position of stress has so far been shown only for Formosan and Philippine languages, where it coincides with such a large number of exclusively shared features as to raise the possibility of a Formosan-Philippine closest-relative alignment (Reid 1982; Mahdi 1988:383; Dyen and Tsuchida 1991). Thus it cannot at the same time be seen as an indication of the situation in PAn. The tendency to neutralize the antepenultimate vowel observed in many Hesperonesian languages, which could likewise give information on syllabicity in the protolanguage, must also be seen as a post-PAn innovation. Therefore, in agreement with Dahl (1977:15–18), I have excluded the semivowels from the PAn protophoneme inventory. It cannot be denied, of course, that post- or prevocalic PAn high vowels were desyllabified to glides or semivowels in many of the mesolanguages, as for example in Proto–Central Maluku, where the resultant semivowels in final position were subsequently dropped in Proto–East-Central Maluku, like other consonants (see Collins 1981). A desyllabification of pre- and intervocalic high vowels to semivowels presumably also preceded their dropping in Proto-Batak (see Adelaar 1981).

42. Kern (1889: bijlage II), Niemann (1869–70:314–315), Sneddon (1978:128).
43. Ray (1913:#93). The form cannot be subsumed under either ˣBəsi or ˣ[bB]asi.

44. Sometimes also hoe-shaped.
45. Here lie the homelands of the Hmong-Miens (Miao-Yaos), Dais (Kadais), and presumably also of the Austronesians (see below), whereas the area of original Chinese ethnogenesis is north of the Yangtze.
46. The Chinese-script ideographic primitive appearing as ideogram for 'axe' in the characters discussed here was *gē* < OChi *kwâ (Karlgren 1940:#7a–d). This does not prove outright that the other characters for 'axe' were borrowings, but it lets it appear to be at least not unlikely that a different word for 'axe' was not originally Chinese.
47. Particularly of course by those who, like myself, are inclined to locate the An homeland in the southeast of the Chinese mainland. As no records of An languages in this region have survived, supporting evidence has so far mainly come from archaeologists, tracing An ceramics and stone adzes to precursors in neolithic Southeast China, or historians quoting Chinese sources describing the Eastern Yuehs as skillful seamen who ate much seafood and tattooed their bodies. However, the ultimate proof of a language must and can only be a linguistic one, because one cannot tell whether the original carriers of the mentioned culture elements spoke An, or whether those elements were subsequently taken over by An-speakers. Therefore, it is interesting to accumulate as many separate pieces of linguistic evidence as possible. One other example has already been provided in Note 18. Another will be proposed in Part II.
48. Note *L > Sst *l*, *l > Sst *ɸ* (Tsuchida 1975:139). If the Saisiat form is a borrowing from Non-Formosan, the effective *L in the protoform would be of secondary origin. Whereas a semantic shift such as 'stone adze' > 'iron axe, iron' is quite unproblematic, the assumption of an analogous development for 'sword, machete' is not, because there do not seem to be indications that such weapons in this region were once made either of stone or volcanic glass, although stone sickles were widely used.
49. Mny *ayɛm* 'anteater, pangolin' has irregular *-y-* for expected *-ɸ-* < *-R-.
50. The Ilanun cognate is from Ray (1913:#93).
51. If the reflex in Qatsiłay is a borrowing, this would again imply secondary origin of effective *L.
52. Proto-Malayo-Javano-Chamic (Mahdi 1988). The reflection of the initial as OJav *w-* instead of *b-*, and as Mad *b-* instead of *bh-* is a good indication that the protoform was authentic within Urangic.
53. By a logic similar to that of the well-known principle of locating the homeland of a language family, this suggests a center of dispersal. Further consideration is probably still necessary before one can decide the extent to which the logic is valid or proves to be effective in this implementation. But it can perhaps already be seen as a convenient indicator of a possible dispersal center, needing further corroborating evidence before a more definitive conclusion can be reached.
54. Sulawesi still was an important iron producer when the Dutch East India Company (VOC) entered the local trade in iron swords. The principal production center was however in the south, where an important ore bed runs very close to the surface along the La Rona river. It was smelted and forged into swords around Matana lake and in Mori country, from where they were brought to the coast by the To Bungku and sold to the VOC, who traded with them in North Sulawesi (see Hoekstra 1919). An interesting insight into the deep-seated position of blacksmithing in the tradition and folklore of Tana Toraja has been provided by Zerner (1981) .
55. Replacing this with any other pre-PCM protophoneme(s) leads to even less coherent results.
56. Ironically, the only protoform that appears to be authentic at least for PHn, *KauaZ 'copper wire' (for example OJav *kawat,* Tag *kawad* 'wire', KynBl *kavat* 'copper'), has not been transported further east than Flores (Sik *kawat* 'copper wire').

57. Two sources of wealth have over the years beckoned adventurers from all countries to try their fortune in Malayo-Indonesia: bullion and spices. Being thus correlated with each other as principal sources of revenue, it is not a coincidence that their traces in language not only came to be closely intertwined, but also offer us invaluable data for studying and dating various developments in the late prehistory and protohistory of the region.
58. The double hyphen indicates later accretion to the word than that given by the single hyphen. The reason for classifying the protoform as a maverick will become clear below.
59. Some of the reflexes show irregularities that probably result in the main from borrowing. Additional sources used here were Adriani and Kruijt (1914), Prentice (1974:#123), Stresemann (1927), Stokhof (1981–82, 1982–83, 1983b, 1984–85, 1986, all:#977).
60. Expected ***volávana,* with apocope of *-ana* through back-formation and morphophonologically regular loss of morph-final *-v*. The reflex of the original unsuffixed form is also attested, and will be treated in the main text.
61. Ferrell (1969:332, 334, 335), Reid (1971:#354, 371), Ray (1913:#210), and sources indicated in Note 1.
62. The Maanyan cognate is from Stokhof (1986:#766)
63. If we knew with some confidence that the distinction between *l and *L had been a feature of PAn, then the root could be reconstructed as *Lau (as in Mahdi 1988:354; Blust 1986: sub #217; and 1988:120, including only reflexes with meanings associated with 'light', reconstructed *law). The distinction is however only reflected in some few languages of Taiwan, and could therefore also be a local, regional innovation. Phonological features are propagated from language to language more easily than any other, so that the distribution of the *l/*L distinction over several Formosan groupings has little relevance for our problem. Therefore, I have only reconstructed the root with initial *L in mavericks that possibly originated in Taiwan.
64. Dempwolff (1938:68), Blust (1972a:#21), Zorc (1982:#P19).
65. Dempwolff (1938:153).
66. Beside BisCb *sulaw* 'glare from uncomfortably bright light'.
67. Capell (1943:79), where Are is referred to as Mukawa. The cognate reflects the protoform with prenasalization of the initial: Are *d* < pre-POc *ns (see Ross 1988: 200; 1989:487).
68. Blust (1986:#217), perhaps an *ŋ- derivation of the former.
69. Dempwolff (1938:80).
70. By the same phenomenon of thin-layer optics, which causes soap bubbles to glisten in all colors of the rainbow.
71. Assuming that the movement started in Taiwan, I have disambiguated the initial of the root as *L in forms of this secondary series. Theoretically, of course, it cannot be excluded that the direction of the movement was from Kalimantan to Taiwan, or from the Philippines in two opposite directions. In this case, the effective *L in the protoform would be a secondary development, like in ˣ[bB]akaL 'iron', or in the effective treatment of the final nasal of *paŋ[ə]Da[nN] 'pandanus' and *[Ct]aquə[nN] 'year' as *N in borrowed reflexes in Formosan. Further investigation into the matter may possibly disclose that the assumed protophonemes could be secondary developments altogether, and more appropriately noted $^{\otimes}$L and $^{\otimes}$N.
72. As in Indonesia, there had not been a marked bronze period in the Philippines, but iron and bronze were introduced practically simultaneously (Sullivan 1956:72). The Yamis of Botel Tobago only became acquainted with silver in historical times, therefore the meaning 'silver' of the Yami reflex was perhaps a later development from 'gold'.
73. Mahdi (1988:359).

74. The Ngaju and Maanyan forms are from Stokhof (1986:#976).
75. Smb *lolu* 'wire'.
76. Dempwolff (1938:119).
77. In some cases, as in Malay, it is also used as synonym of the principal unit of currency locally in circulation. Thus, one *pəra?* in prewar Indonesia was '1 Guilder', after independence it meant '1 Rupiah', on the peninsula before independence it translated as '1 Straits Dollar'. In the speech of Indonesians living abroad, it signifies '$1.–' in the US, '£1.–' in the UK, 'DM 1.–' in Germany, and so forth.
78. For the tones in languages with tonal systems deriving from the Austrosinic 8-tone system, I use the diatoneme notation of Fang-kuei Li (see Mahdi 1988:365, fn. **). The diatoneme notation of Herbert Purnell differs only in that the B and C primitive tones are interchanged. I speak here of "diatonemes" rather than of "prototonemes," because the 8-tone system in Hmong-Mien, Daic, Viet-Mường, Chinese, and so forth, probably developed in parallel under mutual contact influence within a regional language league. That is to say, the tones were probably not yet extant in the respective protolanguages. It is interesting to note that the second stage of the development, the splitting of the original 4-tone system into upper and lower tone registers, depending upon whether the syllable had an unvoiced or voiced initial, was also adopted by some languages that had not experienced the first stage, and that thus only developed a 2-tone system, as for example Cham and some Austroasiatic Palaung-Wa languages. Some other languages underwent a variant of this second stage, involving a split, not in tone register, but in the articulation (high-low or front-back) of the syllabic vowel, as for example Madurese and Khmer. The second stage was sometimes also accompanied by aspiration of initial voiced stops, as for example in Madurese and Thai.
79. Pinnow (1959:#V50), Luce (1965a:#2), and Benjamin (1976:#57). Gonda (1932) has also called attention to the possibility that a direct borrowing from Austroasiatic led to the emergence of ×salak > Snd *salak,* Mly, Mak, Bug *sala?,* etc. 'k.o short palm with edible fruit, of which the leaves may be used as thatch (*Zalacca edulis* Bl.)' (de Clercq 1909:#3546). A further borrowing from an Aslian language (see Kentakbong *həli?,* Mintil *haliy?* 'leaf') possibly gave rise, as suggested by Skeat and Blagden (1906:#L32), to Mly *həlay* 'count-word for leaves, sheets of paper, cloth'. However, van Ronkel (1903:#3) had proposed another etymology of the Malay word, deriving it from Tamil *ilai* 'leaf'. As loss of original initial aspiration is rather common in Malay, but not its sporadic prothesis, an Aslian origin seems more likely. Even if this is indeed the case, however, one cannot exclude the possibility that the Tamil word became associated with the Malay word by folk etymology and influenced its usage in one way or the other.
80. The use of tin coins in Malacca was suppressed by the Portuguese when they conquered the city in 1511, but persisted in some places until quite late, as for example in Pahang where the tin tampang continued to function as smallest change, and was described by Linehan (1931). The "Chinese chronicle" that the author refers to as earliest mention of the wide use of tin money in Malacca is the *Yíngyá shènglǎn jí* 'Compendium of General Surveys of the Shores of the Ocean' dated 1416 A.D. (see Groeneveldt 1877:124). A description of Malacca tin coins from archaeological finds was made by Dakers (1939).
81. Vietnamese bak_{D2} 'silver', provisionally included here by Headley (but being outside the former territory of Funan), is not cognate, but a loan from Chi *bái/bó* 'white, silver' (MChi *b'ɒk,* Karlgren 1940:#782a). The expected Vietnamese cognate to the cited Khmer and related forms would be $**ṣak_{D1}$ (see Maspero 1912:82–83).
82. Agreement prevails in the literature that the latter was an erroneous notation for the first. Wheatley (1961:286) considered Dùnxùn to be a Mon polity situated at the

northern end of the Gulf of Thailand, and Shorto (1963:583) suggested further that the name could be the Chinese rendering of a "proto-Mon" name literally meaning 'five cities, or kingdoms' (Old Mon *ḍūṇ, ḍuṇ* /ɗuŋ/ 'city, kingdom, country', *sūn(na)* /sun/ 'five', Shorto 1971:135, 384). The *Liángshū* indeed appears to mention five 'kings' in Dùnxùn. However, the *Míngshǐ* 'History of the Ming' indicates that Malacca *(Mǎnlàjiā)* had previously been reported to be the old country of Dùnxùn (Groeneveldt 1877:129), thus placing the latter in the Malay Peninsula. The crucial evidence leading to this conclusion is however a passage in the *Liángshū* alluding to a "mountain pass to the sea" (connecting the Gulf of Thailand with the Bay of Bengal by connecting the upper reaches of a westward flowing river and an eastward flowing one in the Peninsula, permitting merchants to cut across rather than go around it) that was situated in Dùnxùn. For reason of space, I cannot enter into a more detailed discussion of these and other arguments for locating Dùnxùn south of the Isthmus of Kra, which I hope to publish elsewhere. For the moment I shall restrict myself to one point that is of a more linguistic nature, and that is that Dùnxùn probably reflects Malay *dusun,* which presently means 'village (sometimes with pejorative connotation)'. Its previous meaning can perhaps be inferred from the circumstance that it was borrowed into Javanese as *ḍusun* '(high style) village community'. The term for 'village community' in languages of West Indonesia often derives from a word meaning 'polity, city, state', for example, Jav *desɔ* '(low style) village community' < Skt *deśa* 'country, kingdom', Mkb *nagari* 'village community' < Skt *nagarī* 'city', Tob *huta* 'village community' < Skt *koṭa* 'fortress, citadel'. The Chinese name for the protohistoric Malay polity thus appears to reflect an early Malay word for 'polity, state'. One cannot of course exclude an even earlier, opposite semantic shift from 'village community' to 'state', as was for example the case for Thai *mɯaŋ*$_{A2}$ 'community, city, kingdom, country, province'. But as no remains of an authentic Malay system of clan or village-community organization have survived to historic times (such remains only being attested for more or less malayanized neighbors such as Bataks or Dayaks, or for language communities that already split off in prehistoric times such as the Minangkabaus), it is possible that the word originally referred to communities of nonnuclear Malays or of non-Malay neighbors. In the nineteenth century, a *dusun* was still an elementary sociopolitical administrative unit among the Kerinci and the Rejang (see Miksic 1989). Dùnxùn, which was not the central Malay state (which was in Sumatra), could therefore also have been called Dusun because it was a league of malayanized Aslian tribes controlling the trading route over the mountain pass. The reference to the five "kings" in the Chinese source should probably be associated with Mly *paŋlima* 'war commander', an originally non-Malay derivation from *limaH 'five', *(qa-)limaH 'hand'. The name Dusun has also been given by Malays to the hilly territory upland from the plains around Deli in the northeast of Sumatra (in the direction to the Karo Batak highlands), to a territory and its inhabitants in the upper reaches of the Barito in the southeast of Kalimantan, and to highland peoples in Sabah. The designation is usually interpreted as meaning 'boorish villagers'. The loan into Javanese suggests, however, that the word originally referred to a sociopolitical institution or organization, and that the modern pejorative meaning is a later development. In early nineteenth century written Riau Malay, one comes across the expression *negeri dan dusun* meaning 'cities and countrysides' *(urbi et orbi),* for example in the letter of Sultan Mahmud Syah of Riau-Johore to Thomas Stamford Raffles on January 5, 1811.

83. Name reconstructed from the Chinese transcription *Jīntuólì* in the *Sòngshū,* and *Gāntuólì* in the *Liángshū* and subsequent sources (Schlegel 1900:122; Groeneveldt 1877:60; Ferrand 1919:238), heeding particularly: EMChi *kin/kan-da-li*^{h}

(Pulleyblank 1991:156/102-314-188), MChi *kịən/kân-[d'â]-lji* (Karlgren 1940: #443a/139a-[phonetic as in 4j,k]-519a), modern Cantonese *kən/kon-t'o-lei* (Giles 1912:#2019/5814-11358-6885), Vietnamese $kən_{A1}/kan_{A1}$-da_{A2}-li_{C2} (Gouin 1957: 161/140-369-728). The A1 (historical even upper) tone of the first syllable of both variants indicates that the original initial was unvoiced, the A2 (even lower) tone means that the initial of the second syllable was voiced. The vocalization in the first variant suggests *kən-* as first syllable of the etymon, whereas that in the second variant does not exclude it (but also permits *kan-*). The historical sinking lower (B2) tone of the third syllable in the Chinese rendering suggests a final spirant (as indicated by Pulleyblank for EMChi), but the C2 tone in the Vietnamese reading points to a final *-ʔ* (Haudricourt 1954). As the name probably entered into Chinese through early Cantonese, this also being the principal source of the Chinese stratum in Vietnamese, I assume the glottal stop to be likelier. Automatic addition of glottal stop to final vowels seems to have been a feature of Malay seamen's vernacular along the "Sabaean route." It is a feature shared by Banjarese and Brunei Malay, and is probably the source of historically unaccountable final *-ʔ* in Betawi and in Malay loans in languages of the Philippines. Presently, there is an area and a port at the southeastern tip of Sulawesi called *Kəndari,* which may have acquired this name in the same manner as the Bisayas in Sabah and the Central Philippines did theirs from Śrī Vijaya.

84. In historical literature, *Sān Fóqī* (that is, the Three Vijayas), is traditionally regarded as a synonymous variant of *Shìlì Fóshì* (Śrī Vijaya). As Irfan (1983: 78–87) showed in her 1980 thesis, supported and further confirmed by Slamet Muljana (1981:176–188), *Shìlì Fóshì* was the name of the polity and empire centered on the Musi river, Śrī Vijaya, referred to by the Arabs as *Sribuza,* whereas *Sān Fóqī* was the later Śailendra-ruled united Malayan Empire (subsequently also ruled by other dynasties), centered alternatingly on the Batang Hari at Jambi, on the Musi at Palembang, and on the Malay Peninsula at Tāmbraliṅga (Ligor, Chaya), referred to by Arabic authors as the *Zābağ* and 'land of the Maharaja' *(al-mahrāğ),* and whose ruler was referred to by the Sinhalese as the *Jāvaka-rāja* when he mounted two invasions of Sri Lanka from Tāmbraliṅga in the thirteenth century. I do not however agree with the opinion that *Sān Fóqī* was the Chinese transcription of *Suvarṇabhūmi* (literally 'Goldland'). Although the two terms could indeed refer to the same country, the latter was rendered in Chinese sources in translation, that is as *Jīndìzhōu* ('Gold-earth land', see Pelliot 1925:251) or *Jīnzhōu* ('Gold island', I-Tsing 1894:181, 186). The changing names of the nuclear Malay realms perhaps reflected changing ruling dynasties.
85. An even earlier embassy to China in 430 A.D. is reported in the *Sòngshū* from Aruteun *(Hēluódān)* in West Java, which, though situated in Sundanese-speaking country, was in my opinion Malay-ruled (see Part II).
86. I shall substantiate this with further data elsewhere.
87. The etymology originates from van der Tuuk (1901:720), who cited the Toba form. Gonda (1932) has likewise classified the Sanskrit word as a borrowing from a language of Indonesia.
88. Some phonological irregularities can be ascribed to relatively late borrowing.
89. The form is given by de Clercq (1909:#1318) as being Balinese. It is indeed noted in the Old Javanese-Balinese dictionary of van der Tuuk (1901:719–720), but as Old Javanese. I have not been able to locate the word in any dictionary or vocabulary of Balinese I have consulted.
90. This is the present meaning. The original meaning was without doubt 'clove'. In the modern language, it has been replaced in this meaning by *cəŋkeh,* which is probably a loan from Chinese.

91. For Malay, see *bawa* 'carry' (*BaBa, Jav *wɔwɔ,* Tag *babá*), *bawah* 'underneath' (*baBaq, Jav *bawah,* Tag *baba?*), *lawan* 'opponent, opposite' (*laBan, Jav *lawan,* Tag *laban*), *tawar* 'tasteless' (*taBaR, Jav *tɔwɔ,* Tag *tabag*) (see Adelaar 1985:85–86).
92. I am not sure whether Mly *-ŋ* would have been reflected as Skt *-ṅga,* and not perhaps as *-ṁ* in case of a direct borrowing. Analogical examples cited by Gonda (1932:328–329) were possibly also borrowed via Dravidian. For Tamil, on the other hand, there is the evidence of the rendering as *Yiruḍiṅga(m)* in the Tanjore inscription of King Rajendrachola, of a Malay city that, as Wheatley (1961:71) noted, was referred to in Zhao Rugua's *Zhūfānzhì* as *Rìluótíng* (Hirth and Rockhill 1911:62). It has been identified by Colless (1989) as the modern Sating-Pra.
93. In Book 4, the *Kiṣkindhākāṇḍa,* in 40.30–31 of the Bombay edition, 40.33–34 of Gorresio's edition, 32.23–24 of the Lahore edition. In the edition of Mankad et al. (1965:239–240) from which I quote it, the relevant passage begins with the second hemistich of *śloka* 'stanza' 28 and ends with the first hemistich of śloka 30 of *sarga* 'canto' 39. The first hemistich, in which the name appears for the first time, is: *Yatnavanto Yavadvīpaṁ saptarājyopaśobhitam | Suvarṇarūpyakadvīpaṁ suvarṇākaramaṇḍitam* 'Strive to reach Yavadvīpa adorned by seven kingdoms | the gold silver island bedecked with goldmines'. Sumatra is well known for its gold resources, but Java is not. It is therefore significant that verse 7 of the eighth century Changgal (Tjanggal) inscription of Central Java likewise calls attention to the gold sources of that country: *Āsīd dvīpavaraṁ Yavākhyam atula [ndhānyā] di-vījādhikam, saṁpannaṁ kanakākarais tad-amarai [mantrā] dinoparjitam.* 'There was an excellent island without equal, named Yava, with corn in superabundance, provided with goldmines; of it the immortals have taken possession.' (quoted from Sarkar 1959). The use of the past tense ('there was ...') and particularly the information that the immortals now dwell there clearly indicate that reference is being made to an abandoned or lost former "home base." The former Central Javanese capital was referred to in the same way after the capital was moved to East Java. The Javanese carvers of the inscription, who must have furthermore known that the island they live on did not have rich gold resources, thus inform us here, shortly after the conquest of Malayu by Śrī Vijaya, that their "Java" was not the island we call Java. The excerpt thus serves as further evidence for locating Yavadvīpa in Sumatra. A perhaps even more important reason for including the two explicit quotations above will become apparent in Part II.
94. The Haruku and Rumakai cognates are cited from Stokhof (1981–82:#813). Some other sources give *sia.*
95. It is difficult to say what the implications of this are in terms of concrete dates, but the circumstance may prove helpful in further studies. The Siamese cat was introduced into Indonesia at a very early time. This is indicated by the distribution of ˣmiau > Cam *myau,* Rgl *miāu,* Mok *meaw,* Sxl, Nys, Mtw *mao,* EngBa *mɛo,* Sgr, TldBe, Smb *meo,* Abl, Pir, Mas, Ntt *mau,* RtiTm *mɛɔ,* MisCo *miau* 'cat', Mly *hari-mau,* Snd *mɛɔ-ŋ/mau-ŋ* 'tiger'. See also Austroasiatic ˣmiau > Khasi *miaw,* Palaung *myao,* Boloven *meo,* Vietnamese $mɛo_{A2}$, etc. 'cat'; Daic ⊗miau > Ahom *miu,* Thai $mɛo_{A2}$, Xiaojian Li *miau,* etc. 'cat' (see Mahdi 1988:373); and apparent cognates in Tibeto-Burman languages of the Bâṛâ-Bodo and Nāgā groups: Bâṛâ *mao-zi,* Mech *māu-ji,* Lālung *myāo,* Ēmpēo *miāō-na,* Arung *miyou-na,* Kabui Naga *miū-na* 'cat' (Grierson 1903:144, 436–437). It was followed not much later by another, apparently the Near-Eastern cat, indicated by the distribution of ˣpusaq > NgaKt, NgaKp, Mrg, Dhy, Tag *pusa?,* Mdr *posa,* Ilk *pusa* 'cat'. It is noteworthy that the distribution areas of ˣmiau and ˣpusaq 'cat' (see for the latter also the isolated East Indonesian reflex TtmBl *busa* 'cat'; Stokhof 1983a:#813) coincide respectively with those of ˣs[aə]laka and ˣpirak 'silver'. In view of Irish and Gaelic

pus, English *puss,* etc., Albanian *piso,* Rumanian *pisică* (Klein 1966–67:1276), etc., Lithuanian *puĩje* (ten Doornkaat Koolman 1882:776), Tamil *pū(c)cai,* Malayalam *pūcca,* etc. (Burrow and Emeneau 1984:#4355), Kharia, Birhor, Mundari *pusi,* etc. (Pinnow 1959:#V95, Bhattacharya 1966:#33) 'cat', we probably have here a set of cognates with one of the greatest East-West extended distribution areas of antiquity (there are several other comparable ones). The "moral," of course, is not that first domestication of the cat has now to be ascribed to some kind of "Proto-Euronesians," but that one must never underestimate the distance that a maverick form can be expected to cover.

96. With regard to Tag *banyága?* < Mly *bəniaga* 'merchant' it should be noted that the latter is not a borrowing from Portuguese *veniaga.* It is already attested as OMly *vaṇiyāga* (read *baniaga*) 'merchant' in line 4 of the Telaga Batu inscription (de Casparis 1956:32) of the late seventh century A.D., when Portu-Cale was a (Germanic) Swabian kingdom, and the rest of present Portugal lay under the sway of the Visigoths. It ultimately reflects Skt *vāṇijyaka* 'merchant'.
97. Not to archaeologists, among whom for example Solheim (1980:334) has come to the conclusion that particularly intensified trade activity spanned the whole Southeast Asian island world between 200 B.C. and 200 A.D., leading to a spreading of iron, the use of gold, the late megalithic, and other culture elements. The author also expressed the opinion that Malayan or Malay-speaking traders began to move along the coast of the Indian Ocean during the first millennium B.C., meeting upon the eastern end of the trade between India and the Mediterranean.
98. *"Et croist en ce royaume de Fansur le meilleur canfre du monde, qui est appellé canfre Fansury. Et est si fin que il se vent à pois d'or fin"* (quoted from Pauthier 1865:577). Fansur is the name by which Arabic writers referred to Barus.
99. The oxidation of borneol to camphor is one of the earliest known processes in the chemistry of camphor and related compounds. It was first reported by Pelouze (1840) using nitric acid as oxidizing agent.
100. Reconstructed as *əmas by Dempwolff (1938:50).
101. Some of the reflexes in East Indonesia may be borrowings from Makassarese dating from the time of the Sultanate of Gowa.
102. The regular correspondence for the two medial consonants is PNH *r-*c > Gll, Lda *r-t,* Tid, Tnt *r-c,* Pgu, Mle *l-t* (Voorhoeve 1982:235).
103. Chinese immigrant settlements (particularly of Muslims from South China) in West Malayo-Indonesia were immediately involved in Indonesian interisland trade (which served as principal vehicle for the spreading of Islam in the archipelago) and probably provided Ming shipping (in which Southern Chinese Muslims played a key role) with the necessary navigational knowledge. Chinese shipping to the spice islands therefore dates from some centuries earlier (see Ptak 1992:29, 48, #2) than that of the Portuguese, but this had little bearing on the westward spice trade, and thus did not impair the monopoly of the Malayo-Indonesians.
104. Sailings of this kind must already be assumed almost automatically for coastal An peoples outside Taiwan. In this instance we must additionally bear in mind that An peoples involved in maritime communications between Indochina, Kalimantan, and the Philippines since the third millennium B.C. (see Solheim 1969) must have already migrated to East Indonesia and even much further by the third and second centuries B.C. This is evident, first, from the dispersal of the longboat, which reached Botel Tobago in the north and the Solomon Islands in the east, and still persists to this day in East Indonesia in the form of the *orembai.* Second, there is the distribution area of Dongson (Đôngsơn) and related artefacts, which reaches eastward to include most of East Indonesia. The way to Halmahera may be difficult

to find for long-distance exploratory sailings, but not for gradual shore-to-shore expansion-type migrations. Westward-sailing Moluccans were merely back-tracking on their own most recent migration route (perhaps maintaining contact with recently abandoned homelands?), or on the dispersal routes of the longboat and Dongson-related artefacts.

105. The sources of the reflexes presented here, besides those indicated in Note 1 for individual languages, are Niemann (1869–70:420–421), and Stokhof (1980, 1982–83, 1983b, all:#378).
106. The dispersal of the word for 'king' obviously dates from the heyday of the sultanates of Ternate and Tidore, which boasted powerful fleets of double-outrigger *kora-kora,* the larger ones equalling the carracks of the Portuguese in overall size.
107. Reflexes are cited from de Clerq (1909:#760 and #762) and from sources indicated in Note 1.
108. Botanical New Latin *culilawan* reflects Mly *kulit-lawaŋ.*
109. First reconstructed by Stresemann (1927:67) as *waŋka, and supported by Capell (1943:26, 1971:249). Dempwolff (1938:164) reconstructed the protoform as *waŋkaŋ, including among the reflexes also Jav, Nga *waŋkaŋ* 'k.o. Chinese junk', but as Schlegel (1890:404–405) already indicated, these must be borrowings of Chinese *pángxiāng* 'k.o. vessel' for which the author gives *bángkang* as the cognate in a South Chinese dialect (presumably Xiamen, alias Amoy). Furthermore, the putative final nasal is not attested in reflexes of the protoform in languages of East Indonesia or Oceania that retain final *ŋ (as already indicated by Blust 1990), such as Komodo (*rujuŋ* 'sea cow' < *Duiuŋ), Tuna (*madiriŋ* 'cool' < pre-POc *mandindiŋ, Milke 1968:#36, Ross 1988:#8.10), Kiriwina (*kuliga* 'rudder' < *quliŋ, Milke 1968:#69), Roviana (*turaŋa* 'friend' < *tuRaŋ, Milke 1968:#99; *zilatoŋo* 'nettle tree [*Laportea* sp.?]' < *(Za)latəŋ, Ross 1989:#A.3), and Are (*rarani* 'shine on' < *da-daŋ, Capell 1943:78; *turana* 'neighbour, friend', Milke 1968). The final nasal in the Bonfia reflex, which, like that of the other languages, will be listed in the main text, should therefore evidently be treated as reflecting a suffix. As languages of both regions have let *-ŋg- and *-ŋk- fall together, only the North Sulawesi reflexes point to *-ŋg-, but these are probably borrowings from Central Maluku. An original *-ŋk- is suggested by the doublet ˣ[bB]aŋkaʔ 'boat' (see below and in Part II). I reconstruct the protoform with uncertain initial laryngeal to account for initial k^w- in Kanakese. The desyllabification of the following high vowel may have led to a loss of the laryngeal in other languages.
110. The reflexes cited are from Stokhof (1982–83, 1983b, 1984–85, all:#1033), Stresemann (1927:68–69, 196, 205), Verheijen (1982:133), Capell (1971:270, 273, 278, 284), Dempwolff (1938:164), and individual sources indicated in Note 1 (see also Biggs 1965:409, Cashmore 1969:22). I only received copies of Blust (1990) and Nothofer (1992) with their lengthy lists of cognates when this paper (with Part II) was practically completed, and have therefore incorporated only chance picks (particularly in Part II) from the extensive data they contain. Otherwise I have only noted earlier publication in the latter two papers of certain results included here, and have attempted to focus on responding to new methodological contributions.

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SOME AUSTRONESIAN MAVERICK PROTOFORMS WITH CULTURE-HISTORICAL IMPLICATIONS—II

WARUNO MAHDI

4. 'MILLET', 'SORGHUM', 'RICE'. A case that is in several respects similar to that of ˣbari[] 'iron' treated in Part I (in the previous issue) is that of ˣzawaH 'millet'. The protoform had already been identified by Aymonier and Cabaton (1906:149), who cited among numerous cognates in languages of West Malayo-Indonesia also the Cham and Bisaya forms, as ultimately deriving from Sanskrit *yava* 'barley'.[111] The initial of the West Indonesian reflexes, for example OJav *jawa* 'foxtail millet (*Setaria italica* Beauv.)', indicates that the borrowing might have been made via Pali *java* or a cognate with the same sound shift in some other Prakrit dialect. Nevertheless, Dempwolff (1938:47) reconstructed *zawa[112] as the authentic protoform. Calling attention to Puy *ðáwaʔ* 'foxtail millet', and noting quite correctly that millet had been one of the earliest cereals to be cultivated by Austronesians,[113] Blust (1977:#I21) proposed to consider the protoform as the original Austronesian term for the cereal. The protoform contains a ⊗z, which, as noted in the beginning of Part I, should like ⊗r be treated as an indication that the form in question is probably a maverick. In the case of ˣzawaH too, closer inspection confirmed this expectation. To begin with, Toba Batak has two reflexes, *daua* 'k.o. grass' and *jaba-ure* 'sorghum (*Sorghum vulgare* Pers.)'. Both exhibit irregular reflections of the medial bilabial glide that is regularly dropped except in loanwords (Dempwolff 1934, Adelaar 1981).[114] Whereas the latter of the two observed forms has the expected reflex of ⊗z in the initial, the former has the regular reflex of *Z. The simplest explanation for the divergence is that *daua* was borrowed before completion of the sound shift (*Z >) pre-Toba *j > Tob *d*, whereas *jaba* was acquired subsequently. Thus we find, firstly, that the identification of the initial as ⊗z instead of *Z is shaken, and secondly that the very reflex that betrays this circumstance and therefore reveals itself as being particularly "authentic" displays at the same time a phonological irregularity, suggesting secondary origin. Reflexes of ˣzawaH, widespread in the Philippines, and in Central and West Indonesia, are totally missing in East Indonesia (beyond Flores). Considering that reflexes of ˣpajəi 'rice plant (*Oryza sativa* L.)' are well represented in the latter region (as far to the east as Cendrawasih Bay,

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see below),[115] the absence here of reflexes of the supposedly original term for an even older cereal demands an explanation. Furthermore, the Puyuma reflex is the only one reported in Taiwan,[116] whereas numerous reflexes of ˣpajəi are attested for An languages of the island.

The earliest Austronesian term for 'foxtail millet' was probably not ˣzawaH, but ˣ[bB]əCəŋ, which was first reconstructed by Blust (1980:#51). Reflexes occur in Taiwan, Sulawesi, and throughout East Indonesia.[117] It is noteworthy that the word has been borrowed into some of the NAn North Halmaheran languages, as for example:

> Shu *wutuŋ* 'foxtail millet' (Visser and Voorhoeve 1987),
> Gll *bobootene* 'foxtail millet' (Sasaki 1980:160).

The doublet protoform ˣbətəm, first reconstructed by Mills (1981:#50), and having reflexes in languages of East Indonesia and perhaps also in languages of Sulawesi,[118] was probably formed at an early stage of the distribution in Indonesia.[119] It is noteworthy in view of the remote eastern extent of its distribution, see Nmf *pokem* 'foxtail millet' (de Clercq 1909:#3113). Together with the borrowing into North Halmaheran languages, this tends to confirm that ˣ[bB]əCəŋ/bətəm represent the earliest An term for 'foxtail millet' in the region.

With regard to ˣzawaH it is interesting that reflexes occur in West Indonesia, having the meaning of 'sorghum' beside that of 'foxtail millet'.

> Mly *jawa-ras,* Bal *jawʌ,* Nga *jawe* 'sorghum (*Sorghum vulgare* Pers.)' (de Clercq 1909:#3193)

On the other hand, the term for 'foxtail millet' in the same region often is a compound.

> Mly *jawa-wut,* Snd *jawaʔ, jawa-wut,* Bal *jawʌ səmi, jawa-wut,* Mad *jhʌbʌ(h),* Bangkalan-Mad *jhʌghuŋ jhʌbʌ(h),* Kangèan-Mad *jhʌbʌ-leʔ* 'foxtail millet (*Setaria italica* Beauv.)' (de Clercq 1909:#3113)

One thus gains the impression that the protoform may originally have meant 'sorghum'.

Similar-sounding words for 'sorghum' are attested for languages of India, for example *jowaur, jowari, jawar, juar,* and so forth, which according to Yule and Burnell (1903: under *jowaur*) probably derive from Sanskrit *yavaprakara* 'of the nature of barley'. Sorghum was apparently first domesticated in Africa (Harlan 1977, Jennings and Cock 1977), and it has been found in an Egyptian tomb dated 2200 B.C. In India it is first mentioned as *yāvanāla* in the *Bhela-saṁhitā,* which could date as far back as the sixth century B.C. (Gode 1961:266–282). Sorghum was probably already being cultivated in India (for example by Non-Aryan ethnicities) well before it came to be mentioned in Indo-Aryan literature. Theoretically therefore, an introduction into Malayo-Indonesia from India even one or two centuries before 1000 B.C. is possible.[120]

Assuming that ˣzawaH was a loanword of Indic origin, it would obviously be more likely that it initially denoted the cereal introduced into Austronesia from India, namely sorghum, and not that originating from China, foxtail millet.[121]

Gradually, the term must have been generalized to mean 'cereal, grain'. This is confirmed by such reflexes as the following, demonstrating at the same time that the semantic shift had already taken place by the time the word diffused to the Philippines.

> Isg *dáwa* 'ear, head, spike (of grain)', Ilk *dawa* 'ear of grain (esp. of rice)', Itb *um-rawah* 'to appear out of the ears when nearly ripe (of grain)'

As a result of the semantic generalization, a defining attribute had to be added to specify which cereal was meant when several sorts were locally cultivated. This explains the abundance of compound forms presently observed in the languages of West Malayo-Indonesia.[122] The term must then have been introduced into the Philippines, presumably by Malay-speaking seafarers, either in its generalized meaning (see above), or to denote what was apparently the primary cereal crop figuring in contacts between the Malay speakers and the respective local population at that time, as for example:

> Akl *dawah*, BisCb *dawa* 'foxtail millet', Tsg *dawa* 'millet', Mar *daoa?* 'barley (millet?)',[123] Pas *dawá* 'rice grain'.

The assumption of an Indic origin of ˣzawaH thus makes for a more adequate and realistic accounting of the various observable facts. Whereas ˣ[bB]əCəŋ apparently was the earliest An form for 'millet', reflexes of ˣzawaH exhibit a distribution of the ˣpirak and ˣ(ə)mas type (see Part I), suggesting distribution by Malays along the so-called Sabaean route (from the third and fourth centuries A.D. onwards) with subsequent Hispano-Philippine furtherance to Taiwan in the early seventeenth century. The Puyuma cognate, which suggested authentic An origin, must therefore be a loan from a language of the Philippines. This, however, gives rise to a puzzling problem: ˣzawaH could not have emerged as ˣpirak silver' and ˣ(ə)mas 'gold' as late as the third and fourth centuries A.D., because it already appears in the name of Yavadvīpa, first mentioned at the latest in the first century B.C. in Valmiki's *Rāmāyaṇa*. Yet, its distribution within Indonesia does not resemble that of ˣs[aə]laka 'silver', which was apparently borrowed from Sanskrit at about the same time.

The dispersal of ˣ[bB]əCəŋ/ bətəm 'millet' seems to parallel that of ˣbuLau-an 'gold', except in West Malayo-Indonesia where the former is not represented, whereas the latter has reflexes in Kalimantan and the barrier islands off West Sumatra. As the eastern limit of their dispersal, Cendrawasih Bay, coincides with that of metal and the double-outrigger boat, it can probably be concluded that it was propagated by builders of the double-outrigger boat, so that we may tentatively date it with the displacement of the single-outrigger

boat from the Philippine-Indonesia area, that is, between the fifteenth and seventh centuries B.C. (see Note 120). This would agree with the dating of a probable sample of millet in Timor mentioned in Note 113. Whereas ˣs[aə]laka 'silver' was apparently first brought to East Indonesia as a result of the involvement of Malay-speaking seafarers in the clove trade from the beginning of the second century B.C., ˣbu-Lau-an 'gold' seems to have been carried there from the Sulu-Sangir region, and at a much earlier date, together with millet, without involvement of Malay speakers. This would explain the difference in the distribution pattern of reflexes of ˣs[aə]laka and ˣbu-Lau-an in Malayo-Indonesia noted in Part I.

The absence of reflexes of ˣ[bB]əCəŋ/ˣbətəm 'millet' in Kalimantan and the barrier islands off West Sumatra (where we do find reflexes of ˣbu-Lau-an 'gold') must mean that another kind of grain had already become established in this region, and that could only have been sorghum. If we could consider the movement of Austronesians on double canoes and single-outrigger boats to India to have initiated two-way maritime communication between India and Indonesia of a regularity comparable to that of long-distance interinsular sailings in pre-contact Micronesia and Polynesia, then sorghum under the denotation ˣzawaH may have been introduced into West Malayo-Indonesia at about the same time.

The provisional picture we arrive at here is thus that a metal (ˣbu-Lau-an) and cereal (ˣ[bB]əCəŋ/ˣbətəm) culture tradition appears to have moved through the Philippines, and fanned out from the Sulu-Sangir region into Indonesia, while sorghum was being introduced from the west between 1500 and 700 B.C. Whereas, therefore, foxtail millet was apparently the first major cereal staple in the greater part of Western Austronesia, West Malayo-Indonesia must have become acquainted with sorghum (ˣzawaH) a century or two before millet was introduced here, after which the term for sorghum became generalized to mean 'grain'. Probably, millet tended to replace sorghum as a staple, with the consequence that its introduction into West Indonesia arrested the eastward dispersal of sorghum. This could explain the limited eastward distribution of reflexes of ˣzawaH. The dispersal of the latter, however, received a second boost in the third and fourth centuries A.D., when it was carried through the Philippines by Malay-speaking seafarers.[124] By this time, the word no longer referred specifically to sorghum, but was a general term for grain, particularly millet. The semantic shifts that have been elicited above for reflexes of ˣzawaH, that is, 'sorghum' > 'grain, cereal' > 'millet', and isolatedly 'rice', 'maize', as also its distribution and that of ˣ[bB]əCəŋ/ˣbətəm 'millet', suggest that sorghum and millet were the first incipient cereals to have been cultivated in the Philippine-Indonesia area in a large scale. Yet, ironically, the only reconstructed form for a cereal having a distribution area more or less coinciding with that of cereal crops in general in Austronesia, is ˣpajəi 'rice plant (*Oryza sativa* L.)', as for example:[125]

Tso *pai*, Sst *pazay*, Pwn *pádai*, Ami *panay*, Ilk *pagay*, Tag *palay*, MnbWB *parəy*, Pbt *paray*, Tir *farey*, Gtl *palɛ*, Mdo, Pon *payoi*, Mdr, Mak *pare*, Kbt *padei*, KynBl *pare*, Nga, Mny *parɛy*, Rgl *padai*, Sxl, Nias *faxe*, Tob *pa<l>ge*, Kro *page*, Mly *padi*, LpgKr, OJav *pari*, Mad *paḍi(h)*, Bal padi, Ssk *pade/pare*, Abl, Elp *fala*, Kyl, Ntt *hala*, Ymd *fase*, Nmf, Byk, Win *fās*, Cmr *faʔi*.

A formalistic treatment would in this case compel us to assign ˣpajəi to PAn, and thus to ascribe first knowledge of rice to Proto-Austronesians on much more solid grounds than the assignment of ˣbari[] 'iron' to PAn (see Part I), or the identification of ˣzawaH as earliest An form for 'millet'.

Strictly speaking, the possibility of PAn acquaintance with rice cannot be ruled out altogether. There is archaeological evidence for systematic cultivation of a close-to-wild form of rice by 5000 B.C. in Zhejiang (Bellwood 1985:209), that is, closely contiguous to, perhaps even within the An homeland. However, during the earliest stage of the An migration, which apparently began around 4500–4000 B.C., the starch staple of the Austronesians seems to have been tubers, some of which must have also been cultivated by Australoid autochthones of insular Southeast Asia and Melanesia before the arrival of the Austronesians. Bellwood (1985:232) indicates that there had been a drastic decline in early An cereal cultivation in favor of tubers in the Philippine-Indonesia area, but that it was never abandoned altogether by all Austronesians. It is unclear to me, however, how far these conclusions of the author may have been biased by implications of linguistic data based on formalistic assignment of forms to protolanguages (see 1985:115). With regard to ˣpajəi it must be noted, indeed, that it contains the protophoneme *j, which is characterized by a particularly "contrastive" set of sound correspondences. This means that borrowed reflexes can more often be distinguished from authentic reflexes. The number of irregular reflexes of ˣpajəi is much smaller than would be expected if the present extent of its distribution area were the result of a recent dispersal. Nevertheless, we have no archaeological confirmation in the Philippine-Indonesia area for rice contemporanous to earliest An migration into this region. Dispersal into the area was hindered by the circumstance that meteorological conditions at equatorial latitudes are essentially rather unsuitable for rice. Rice, particularly the variety japonica, requires a longer daily photoperiod than that of the tropical zone, and responds to short tropical photoperiods by a curtailed life-period and becomes so precocious as to be useless (Grist 1959:73).

Earliest rice remains in Taiwan are reported from the Zhishanyan site (2000–1500 B.C.), although recently found pottery with rice impressions may push this dating back to around 3000 B.C. (Bellwood 1985:214). The earliest archaeological evidence of rice in Central Indonesia comes from the Ulu Leang site in Sulawesi, where two charcoal samples from horizons with domesticated rice were dated to 1930 (±230) B.C. and A.D. 483 (±73) respectively (Bronson

and Glover 1984). There appears to be some doubt as to the reliability of the earlier of the two dates, and Bellwood (1985:234) disregards it altogether, although it would have confirmed the author's hypothesis that early cultivation of rice was not abandoned altogether upon migration into equatorial regions. For West Malayo-Indonesia, Stargardt (1983:31) provided the following dates for culture sequences at Sating-Pra (Satingpra): early-mid Iron Age with earliest grain selection experimentation at c. 500–200 B.C.;[126] mid Iron Age and extended broadcast (not replanted seedling) grain cultivation as a result of successful selection at 200 B.C.–A.D. 100; and late Iron Age with first (submerged?) rice fields at A.D. 100–300. The author does not explicitly identify the 'grains' of the first two periods, but presumably meant rice, as other cereals were not treated in the publication.

The area of origin of rice, being a relatively narrow zone stretching from Northeast India over North Indochina to the Gulf of Tonkin and the Pearl River (see Nakao 1958:399, fig. 1, and Bellwood 1985:209, map 7.1), lies almost entirely within the dispersal area of the Austroasiatic languages in the period before infiltration by Austronesian, Sino-Tibetan, Daic, and Hmong-Mien (Miao-Yao) speaking peoples. One of the earliest, or at least most widespread protoforms for 'rice' appears to be Austroasiatic $^{\otimes}$(rV-)([ŋ]-)kouʔ[127] (Geta' *rkoʔ,* Sora *roŋko,* Gutob *rukug,* Lawa *rəkoʔ,* Palaung *răkáu,* Khmu *rəŋkoʔ,* Old Khmer *raŋko,* Sué *raŋkao,* Vietnamese *γāw*$_{C2}$,[128] Kerau-Ulu Tembeling Sakai *rəkuaʔ,* Pelus Semang *hēkåʔ,* and Khasi *khaw,* Old Mon *s-ŋoʔ,* T'èng *h-ŋɔʔ,* Darang *təgau,* Amok *nəku,* Tailoi *enko,* Wa *ŋgáuʔ*$_1$, Riang *koʔ*$_1$, Danaw *ko* 'rice [husked]') (see Zide and Zide 1976:1304–1305; Shafer 1952:123; Pinnow 1959:#V139; Luce 1965b:117; and Skeat and Blagden 1906:#R111). It has apparently been borrowed into the Tai group of Daic as $^{\times}$χauʔ (Ahom *khāo,* Thai, Lungchow Tai, Nung *khau*$_{C1}$ 'rice'; Li 1977:#2.20.23), having the North Tai doublet $^{\times}$γauʔ (Buyi *hau*$_{C2}$, Wuming Tai *χău*$_{C2}$ 'rice', Li 1977). However, it is not represented in Austronesian. Earliest An rice-cultivators seem therefore not to have been in the culture circle in which this originally Austroasiatic form for rice "circulated." Considering the circumstance that An languages have borrowed an Austroasiatic form for 'carabao' (the only draught animal suitable for the soggy ground of submerged rice-fields) (see Part I), as also the word for 'bow (arrow)' (see below) and 'dog',[129] this may be significant.

The semantically relevant Austroasiatic form that most closely resembles An $^{\times}$pajəi phonologically is PEAA *pleiʔ 'fruit' (Old Khmer *ple,* Bahnar plɛi, Stieng *plei,* Riang *plɛʔ*$_1$, Wa *pleʔ*$_1$, Rơngao *pli,* seventeenth-century Central Vietnamese *blāy*$_{C1}$, Modern Vietnamese *çāy*$_{C1}$[130]; Maspero 1912:76–77, Luce 1965a:#105). This is however only one of several at least mildly plausible candidates for a precursor of $^{\times}$pajəi (if the latter is at all an external maverick). It is nevertheless interesting to note that some reflexes of An $^{\times}$BəRas 'rice (unhusked)' (see below) in some languages of the Philippines also mean 'fruit', as for example:

BonGi, KknN *bəgás,* MnbAt *bogas,* MnbIl *bahas,* MnbWB *bəɣas* (Reid 1971:#128).

Some reflexes of the Formosan protoform *maDuq 'fruit' (Sar *masuʔu,* Paz *maduʔ* 'fruit') exhibit the complementary semantic shift.

Tso *mcuu* 'ear or top of rice plant or millet', RukTn *maḍú* 'fruit, rice or millet grain' (Tsuchida 1975:165)[131]

Considering the role of the Hmong-Mien peoples in the early dispersal of rice cultivation in South China, I paid particular attention to Hmong-Mien in search of possible precursors of ˣpajəi, and found two possible candidates, both being Hmongic forms (that is, not highest-order Proto-Hmong-Mien), which would imply a relatively late introduction into Austronesia (compared to PAn or even PHn). The one is a putative Hmongic mesoform that I transcribe as $^{\otimes}$při$_{Cl}$, which derives from PHm *tsri$_{C}$ < PHM *tsrouʔ 'fruit' (see Purnell 1970: #356),[132] given by Martha Ratliff (cited in Haudricourt and Strecker 1991:341) as *pʐi$_{Cl}$ (see Huidong Ho-Nte *pji$_{Cl}$*, Boluo Ho-Nte *pi$_{Cl}$*, Proto-Central-Hmongic *pi$_{Cl}$). As I noted elsewhere (Mahdi 1988:84), the appearance of reflexes with initial *p-* of protoforms with initial dental (typically *t-) in the Daic languages must probably be ascribed to regressive dissimilation *tr- > pr-*, analogical to the better-known sound shift *tl- > kl-* in languages of Indochina (for example Rgl *klɔu,* Cam *klɔw* 'three' < PAn *təluH; see Haudricourt 1956). A similar sound shift appears to have led to some Hmongic forms with initial *p-* reflecting the PHM initial clusters *tsr-, *tšr-, and *ntšr-, and to have led to the meso-form $^{\otimes}$při$_{Cl}$ indicated above.[133]

The other possible Hmong precursor of ˣpajəi is PHm *nblæ$_{A}$ 'rice (plant, unhulled)' (see Purnell 1970:#722; and Wang Fushi cited in Haudricourt and Strecker 1991:338) as for example Petchabun/White Meo, Xianjin Miao *mple$_{A2}$*. The corresponding higher-order protoform PHM *nblau (Purnell 1970:#722; see Haudricourt 1951:574) may possibly have been borrowed into Chinese as *dào* (Haudricourt and Strecker 1991:339) < EMChi daw$^{?}$ (Pulleyblank 1991:73) < OChi *d'og (Karlgren 1940:#1078h–k), but the disagreement in the tone remains unexplained. Karlgren cites earliest occurrence of the Chinese form in a Zhou bronze inscription of the 950–770 B.C. period, so that borrowing is not impossible.

None of the aforementioned only very theoretically possible precursors impresses me as being a particularly convincing etymon of *pajəi,* so that the latter may, like ˣ[bB]əCəŋ 'foxtail millet', have been formed within An after all. This would confirm Bellwood's hypothesis of early An acquaintance with rice. The difficulty lies in the circumstance that no reflexes of this or another protoform for 'rice' came to function as generic terms for 'grain' or 'cereal' in Philippine-Indonesia, as we saw above, but rather reflexes of a form for 'sorghum'/'millet'.

One may perhaps venture the following picture of the dispersal of rice in Western Austronesia, which essentially follows that of Bellwood (though diverging in one detail). It nevertheless remains to a considerable degree speculative, and can therefore only be treated as a tentative one: A close to wild form of rice, unsuitable for equatorial latitudes, was probably already cultivated at a very early date (maybe 3000 B.C. or earlier) by Austronesians on the mainland and Taiwan. Between 2000 and 500 B.C., referred to as ˣpajəi, it was probably carried with various migrations, presumably over several routes, throughout the Philippine-Indonesia area where, due to adverse local meteorological conditions, it was only cultivated on a small scale. Only much later, toward the end of the first millennium B.C., after variants better adapted to equatorial conditions were developed, could rice also begin to find large-scale use in insular Southeast Asia. In Taiwan too, new superior sorts of rice, possibly brought in from the mainland, gradually began to displace millet. As rice became a principal staple, reflexes of ˣpajəi gained the upper hand over ˣ[bB]əCəŋ as the most widely distributed word for a cereal on the island.

The distribution of ˣpajəi in East Indonesia suggests that it was probably brought here before emergence of the Malayan clove trade in the beginning of the second century B.C. In other words, it was not the result of Malay culture influence. The nuclear Malay polity in the second century B.C. (judging from Valmiki's Rāmāyaṇa) until the second century A.D. (when it sent an ambassador to China) was known as Yavadvīpa, that is, 'sorghum or millet island', which seems rather unusual if it had been a country engaged in the promotion of rice cultivation at the other end of the archipelago. However, of decisive significance is that even in the third and fourth centuries A.D., the word for 'grain' that the Malays propagated in the Philippines was ˣzawaH, and not ˣpajəi. Rice was originally a cultigen from the Eastern Himalayan mountain valleys, and in the Philippine-Indonesia area too it was perhaps principally cultivated in the interior, either in terraced submergeable "paddy" fields on mountain slopes, for example by the Ifugaos, Torajas, Balinese, Javanese, Sundanese, Minangkabaus, and so forth, or in unsubmergeable "dry" fields and swiddens, for example by Formosans, Malukans, Dayaks, and Bataks. Long-distance trade, on the other hand, was chiefly carried out by Sea People from the riverine lowlands and swamps. Here, the mainly cultivated cereal staple apparently remained millet. The assumption that rice in Philippine-Indonesia was originally a highland crop agrees well with conclusions reached by Zimmerman (1992), that people he calls "Proto-Malays" apparently settled in the highlands because that is where the best soils were for their mode of agriculture, not because they had been driven out of fertile lowlands by latecomer "Deutero-Malays." The highlands thus were not places of forced retreat, but original settlement areas of choice. It is not clear, however, whether this was a consequence of the ecological conditions necessary for early sorts of rice, or whether these sorts were the first to find wide-

spread use because of the highland habitat of those who first planted them in the archipelago.

Bellwood indicates that rice was typically a riverine low and swampland crop, which may be correct in general. The linguistic evidence for the Philippine-Indonesia area, however, testifies to the contrary. Rice, as was noted above, was basically unsuitable for the meteorological conditions of the archipelago. Those earliest sorts of rice that were most suitable, or more correctly the least unsuitable, were therefore not fully typical in their properties. Probably, the first sorts of rice to be adapted to cultivation in the archipelago were highland varieties, and even then they must have initially played only a subordinate role compared to other cereals. In this way, knowledge of rice under the term ˣpajəi could be sufficiently omnipresent in the archipelago since a time early enough to explain regular reflection of the medial *j, without the cereal itself necessarily playing a role of any significance in the economy.

This brings another problem: why did the Sea People not also propagate the word ˣzawaH for 'grain' in East Indonesia during the period of early clove trade? The only plausible explanation I can offer for this paradox is that Malays were not yet sailing all the way to North Maluku until perhaps the sixth and seventh centuries A.D., by which time millet was evidently being displaced by rice as the chief cereal staple of the Malay speakers involved in long-distance sailings. Apparently, the first lap in early clove transport was performed by East Indonesians to the Sulu-Sangir area, and only here was the spice reloaded onto Malay ships. The propagation to East Indonesia of words for cereals, particularly millet and rice, like that of ˣbu-Lau-an 'gold', apparently proceeded without the involvement of Malay-speakers. This implies significant metal-age culture movements between Sulu-Sangir and Maluku well before 200 B.C.

Two other important forms for 'rice' still need to be considered here, before leaving the section on grains.

> ˣBəRas 'rice (husked, uncooked)' > AtySq *buaχ*, Ruk *bərát*, Pwn *vat*, Ami *fərác*, Kvl *bəɣás*, Ifg *bogah*, BisCb *bugas*, MnbWB *bəgas*, DsnKd *vagas*, Sgr *bogasə?*, Mdr *barras*, Kbt *a-vas*, KynBl *bahah*, Nga *bɛhas*, Mny *wɛah*, Nias *bõra*, Mtw *bera*, Tob *bɔras*, Mly *bəras*, LpgKr *biyas*, OJav *wəas/wwas*, Bal *bahas*, Ssk *bəras*

> ˣSumai/ˣHəmai 'rice (cooked, plant)' > Pzh *súmay*, Akl, Tsg *humay*, MnbAt *homoy*, Pbt *ʔumay* / Ami *həmáy*, Kvl *ʔəmáy*, Sry *mey*, Ibg, Isg *ʔəmmay*, Sgr *əme*, Tld *amme*, Rth *may*, Tob *ɔme/e-me*, Mly *i-may*, Rjg *mie*, Ssk *əmé*

Both forms are well represented in Taiwan as well as in Hesperonesia (without Indochina), but not in East Indonesia. They therefore probably date from a period well after the first dispersal of rice, known almost throughout its Austronesian dispersal area by the name ˣpajəi. Specialized terms for different stages in the processing of rice (plant, uncooked grain, cooked) only appeared

when the cereal became the main starch staple, which it originally was not. The origin of the former protoform is unclear, but as it obviously dates from after the split between Formosan and Hesperonesian, probably even from after the split between East and West Hesperonesian, it must be a maverick. For the latter form, on the other hand, I already indicated earlier (Mahdi 1988: 365–366) that there are Hmong-Mien cognates, for example Mien *hmei*$_{C1}$, Mun *mei*$_{C1}$, Hmong *hmau*$_{C1}$ 'rice (unhusked)', formally permitting the reconstruction of ˣhmei? for "as-if" PHM. Haudricourt (1951), from whom I have taken the Hmong-Mien forms,[134] considers them to be borrowed from Chi *mǐ* 'rice (unhusked)' < EMChi *mɛy*^{ʔ} (Pulleyblank 1991:213) < OChi *miər (Karlgren 1940:598a–c) already attested in Yin bone inscriptions.[135]

The borrowing into Austronesian languages presents an interesting problem for Chinese and Hmong-Mien historical phonology, that is, in the question of the origin of the effective ˣSu- and ˣHə- of the An maverick doublets. Haudricourt, quoting Henri Maspero, gives the Chi form with C1 (historical rising upper) tone, indicating an originally unvoiced initial, but the word actually bears a C2 tone (rising lower; Giles 1912:#7802), indicating that the initial was originally voiced and the EMChi and OChi forms are quite correctly given with initial *m-. Chinese cannot therefore be the immediate donor of the An forms, unless the ˣSu- and ˣHə- in the latter were prefixed subsequently.

Initial *hm- and *hn- have been reconstructed for PHM, but not *sm- or *sn-. In one instance, however, Hmong-Mien ˣhna? 'crossbow' (see Purnell 1970: #204: Mien *hna*$_{C1}$, Mun na$_{C1}$), as in Daic ˣhnā? 'crossbow' (Thai *na*$_{C1}$, Lingam Sui *hna*$_{C1}$, see Li 1965:#233, 1977:#6.6.4), it is likely that the initial cluster had actually been ˣsn-, because both maverick protoforms evidently derive from the expanded (prefixed) variant of PAA *(sn-)a^{ʔ}g 'bow, crossbow' (Keonjhar Juang *ka-k-a^{ʔ}g,* Santali *a^{ʔ}k,* Riang *ak*$_{1}$, Wa *a?*$_{1}$, Semnam *ag,* etc. without the prefix; Old Khmer *snak,* Vietnamese *nā*$_{C1}$ with the prefix). The Austroasiatic form is additionally interesting because it is apparently also the source of "as-if" PAn ˣpa-naq 'bow, arrow',[136] a protoform one would hardly have suspected to be a maverick in view of its distribution, which encompasses Oceania (Fut *fana* 'bow').[137]

Returning now to the An maverick doublets for 'rice', it appears unlikely that Austronesian and Hmong-Mien borrowed in parallel from Chinese, each adding—as though by some conspiracy—practically identical prefixes to the loaned form. As Hmong-Mien reflects the final laryngeal of the EMChi form, no trace of which has been detected in the An cognates, I assume that the word was borrowed from Chinese into Hmong-Mien (acquiring an *s- prefix in the process), and from Hmong-Mien into Austronesian. For the latter, one must probably assume two independent borrowings, and that the respective immediate precursors probably sounded something like *sməi[?] and *həməi[?]. One of the two immediate Hmong-Mien donor languages must have still

retained the initial preconsonantal sibilant, which must in this case evidently be postulated for Hmong-Mien, whereas in the other it must have already shifted to *h-.

5. 'DITCH AROUND STONE FORTIFICATION'. My interest in words referring to hydraulic installations was roused by the well-known hypothesis of Wittfogel (1957) connecting the emergence of what the author considered a particular oriental form of the despotic state with the construction and administration of irrigational systems, canals, and other waterworks. In a comprehensive treatment of the beginnings of urbanization in Southeast Asia, Wheatley (1983:87–88) directed special attention to one of the earliest written records of the construction of a man-made canal or watercourse in Southeast Asia, that of king Pūrṇavarman of Taruma.

The canal digging was actually not a particularly impressive technical feat even for that time (sixth century A.D.),[138] bearing in mind for example the irrigational canal in the New Guinea highlands with a radiocarbon dating of 7000 B.C. reported by Golson (1977). Furthermore, Taruma on the north coast of West Java was not the earliest polity in that area. However, the issue caused me to inspect more closely the word *kali,* which occurs in several languages of West Indonesia with the meaning 'river', as for example in Javanese, Madurese, and Malay. The significance of the word lies in the circumstance that it presumably derives from PAn *kaliH 'dig'.

> BunTd *ma-kaih,* Sar *k-um-a-kali,* Akl *kálih,* Tob *hali,* Kro *kali,* Lau *kari* 'dig' (Tsuchida 1975:135; Dempwolff 1938:73; Cashmore 1969:8)
>
> Tsg *kali?* 'hole, excavation', Pas *kalí* 'gold mine', Ttb *kali* 'gutter', *pa-kali-an* 'gold mine'
>
> Puy *kari,* Bkl *kalí,* MlgMe *hádi* 'ditch, canal', Bug, Mmj *kali* 'dig', SkoPd *k<in>ali* 'irrigation ditch', OJav *kali* 'river', *kaly-an* 'drain, rivulet, canal, mine'

The meaning of the Tontemboan, Bikol, Seko, and Malagasy reflexes show that specialization of the term with respect to hydraulic excavations was widespread in Hesperonesia,[139] and even in Taiwan if the Puyuma cognate is not a loanword, thus confirming that *kali* 'river' in languages of West Indonesia is cognate. This is further substantiated by the meanings of the suffixed form in Old Javanese. That navigable rivers and rivers from which water was fed into irrigational systems, seasonally running high water and every now and then changing course, required continuous maintenance (repair of dikes and canals) is well documented in early Javanese epigraphy (Vogel 1925:30–31). That the notions 'dig' and 'river' became inseparably tied to each other here is therefore understandable.

In Malay, however, *kali* 'river' must be a relatively late borrowing, because it does not occur before river names in Sumatra and Malaya where we mainly find *suŋay* 'river', *bataŋ* '(originally) stem, trunk', *air* 'water' instead. The word *kali* only stands before the names of rivers of Central and East Java, Madura with Bawéan and the Kangéan Islands, and a small coastal enclave in West Java from Chirebon until just southeast of Indramayu. More significant is the distribution of place names beginning with the word, because they generally reflect earlier usage.[140] Although such place names can be found all over Java, Madura, and in isolated instances also on neighboring islands, they are particularly densely concentrated in the inland region of East and Central Java and an immediately contiguous area in West Java. This coincides with the region in which the indigenous Javanese state may be assumed to have emerged on the base of other considerations,[141] thus offering intriguing implications with regard to Wittfogel's hypothesis.

I was therefore tempted to inspect protoforms appearing to have the meaning 'ditch, water canal'. The first of these was ˣparij, for which the following reflexes may be cited.

> Mly *parit* 'ditch, moat, groove', Tob, Kro *parik,* Ach *pare?* 'ditch', Mdl *parik* 'grounds around house, fence around garden, earth wall', Mkb *pari?* 'ditch, enclosure wall, dike', MlgMe *fáritra* 'boundary' (see Dahl 1991: 42–43), BisCb *paril* (*r–j > *l–d; metathesis *l/*d; *-d- > *-r-*) 'tall stone wall enclosing or at the ridge of an area, k.o. stone fish corral in tidal flats in which fish are trapped by the receding tide'[142]

Dahl (1991:42) has expressed the opinion that the Malagasy form is a loan from Malay, and this led the author to reconstruct the protoform as *paRij. Actually, Malay and Toba (likewise Achehnese, Minangkabau, Karo, Mandailing) reflect both *R and ⊗r as *r,* so that one cannot distinguish the one from the other only on the basis of reflexes in these languages. Therefore Dempwolff (1938:113) reconstructed the protoform *pa[r]ij, with the medial consonant marked "uncertain." Dahl's reconstruction with *R is fully consistent with the newer insight that ⊗r was not an original feature of PAn phonology, but it presupposes that the protoform is authentic, and not a maverick. Neither Dempwolff nor Dahl were aware of the BisCb reflex, which agrees with the MlgMe cognate in disambiguating the medial proto-consonant as ⊗r, exhibiting at the same time meanings that make borrowing from Malay seem very unlikely.

Although the various reflexes of ˣparij listed above have evidently undergone substantial semantic shifts, one can deduce the following three notions that probably reflect aspects of the original meaning of the protoform.

A. 'artificial body or course of water resulting from excavation'
B. 'perimeter around place of human habitation or activity'
C. 'contiguity to stone masonry'

Elaborate irrigation systems became necessary not only with the introduction of paddy rice cultivation; taro cultivation also involved the construction of irrigation ditches. Early experience with the latter probably also led to the use of ditches or moats to defend villages and settlements, developing even further during the megalithic in both East and West Austronesia.[143] The earliest documented occurrence of a fortification surrounded by ditches in Oceania is reported from the island of Upolu, Western Samoa, and is described as a large terraced, ditched ridge-fortification that delivered a radiocarbon dating of 1500 ± 80 B.P., that is, between A.D. 370 and 530 (Green and Scott as cited in Frost 1974:xiii). Similar archaeological finds in Fiji date from A.D. 1100 (Frost 1974:127). Radiocarbon dating is not yet available for other instances such as the temple complex on Mount Yang in East Java (de Jong 1937–40), the terraced pyramid at Pangguyangan, West Java (Sukendar et al. 1977), or the terraced monument with hydraulic works at Dolinh, Central Vietnam (Colani 1937), but one may probably assume with a good margin of confidence that they are at least as old as, if not older than the Upolu fortifications. In parts of East Indonesia, on the other hand, ridge and hilltop stone fortifications were reported in the late nineteenth century as having been only "recently" abandoned (van Hoëvell 1890b:215). In this context, the range of meanings attested for present-day reflexes of ˣparij suggests that the original meaning of the protoform may have been 'ditch around stone fortification'.

This is even more evident for another protoform, ˣparigi?, represented by the following reflexes.

> OJav *parigi* 'ditch, gutter, stone-paved slope or embankment, terrace, rim, encircling stone wall', *p<in>arigi* 'terraced, stone-walled'
>
> Mly *pərigi,* Ttb *pariri* (with assimilation) 'well', Snd *parigi?* 'ditch', Bal *parigi* 'a stone ascent, a step', Mad *parɛghi(h)* 'low stone wall at entrance to houseyard', MlgMe *farĺhi* 'pond'
>
> Ssk *perigi* 'stone rim (edge, wall), rim of road' (Blust 1989:155)
>
> Tbu, Tdn, Tse *parigi,* Pon, Sgr, Ban *pahigi,* Rth *paihi* 'well' (Niemann 1869–70:78–79; Steller and Aebersold 1959:330)
>
> Bre *parigi,* 'gutter which is formed under the edge of a roof by dropping rain water, sometimes artificially enhanced', Mdo *parigi?,* Tir *faligi?* 'well', Kpp *palĺgi?* 'ditch with water', Tsg *paligi?* 'an area of wet filthy and soggy ground'

The North Sulawesi forms were first listed alongside each other by Niemann (1869–70:78–79) without explicitly indicating that they were mutually cognate. This was done by Steller and Aebersold (1959:330). The relationship between one Minahasa form, that in Tontemboan, with the Malay cognate had however already been pointed out by Schwarz (1908:307). More recently I compared the West Indonesian reflexes with that in Malagasy and, suggest-

ing that the Malay, Sundanese, Balinese, and perhaps also the Malagasy reflexes might be loans from Old Javanese, correspondingly reconstructed the protoform as *pa[Dj]igi (Mahdi 1988:199, 308, #191). With inclusion of the additional data presented above, however, that reconstruction has now become obsolete.

Sneddon (1984:96) reconstructed Proto-Sangiric *paRigi based on the Sangir, Bantik, and Ratahan reflexes, and this led Blust (1989:155) to posit an *R in place of the $^{\otimes}$r of the higher-level protoform, reconstructing it as PWMP *paRigi. The Sangiric languages reflect $^{\otimes}$r and donor *r* in even relatively recent loanwords in the same way as they reflect PAn *R (see Sneddon 1989:100), so that the latter cannot be distinguished from $^{\otimes}$r on the testimony of Sangiric evidence. Therefore, although Sneddon quite correctly reconstructed *R in the protoform for Proto-Sangiric, this does not by any means imply *R in the higher-level protoform. Quite the contrary, the Philippine and Minahasa reflexes agree with those in Malagasy, Javanese, and Balinese to require an $^{\otimes}$r in the protoform.

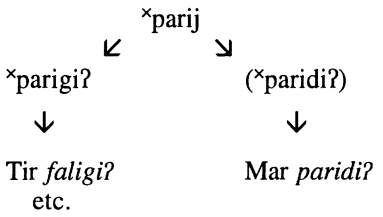
The remarkable agreement between the apparent original meanings of the two protoforms makes it seem probable that $^{\times}$parij and $^{\times}$parigi? are doublets. As *g* is a known reflex of *j in several languages, and the appearance of a postglottalized vowel behind some originally final consonants is an established feature of the historical phonology of some languages of Sulawesi and the Sangir Islands,[143] the latter protoform could perhaps have developed from some local reflex of the first.

$^{\times}$parij > $^{\times}$parigi?

That this development is probable is strengthened by the parallel case of the corresponding Maranao 'cognate'.

Mar *paridi?* 'well, spring'

Mar *d* < *j is regular, but the form cannot be reconciled with $^{\times}$parij as a direct precursor because Maranao does not regularly postfix a postglottalized vowel to final voiced consonants, as the Sangiric languages do. On the other hand, the very idea of a shift such as *g > *d* would be most exotic for Maranao, as well as for any other language in the region, so that the form can also not be ascribed to the second of the protoforms. In a Sangiric language, the form observed for Maranao would have been the expected reflex of $^{\times}$parij, and could then have been borrowed into Maranao. Unfortunately, however, all corresponding Sangiric forms reflect $^{\times}$parigi? instead. We must thus posit an unidentified, possibly now extinct donor language, having a reflex of $^{\times}$parij, which we may provisionally denote as $^{\times}$paridi?, representing a parallel development.



In the case of ˣparigi? too, it is not possible to pinpoint a language in which the reflex of ˣparij may have been the original of the maverick protoform, and we must likewise postulate a now extinct language with sound laws similar to those of Sangiric languages, but with *j > *g*. *Parigi* is the name of a river and a microregional commercial and administrative center on the southern shores of Tomini Bay in Sulawesi, and also the name of the local dialect of Kaili (alias West Toradja). In Parigi Kaili, however, the regular reflex of *j is not *g*, but *y*, which drops altogether when juxtaposed to a front vowel (see Adriani and Kruyt 1914:97).

The possibility of determining the geographic region in which the maverick protoforms originated could have important implications for understanding the late prehistory of the Philippine-Indonesia area, because the distribution of a word meaning 'ditch around stone fortification' must obviously be correlated with the movement of the culture tradition that featured ditched stone fortifications. The two protoforms ˣparij and ˣparigi? probably represent two separate movements. The form ˣparij must have reached West Indonesia before the sound split *j > Proto-Batak *g-*g-*k, Malay *d-d-t* (in initial, medial, and final positions respectively) took effect. Its doublet could not have been propagated over the archipelago before the *j > *g* and *-ig* > *-i?g* > *-igi?* shift.

Furthermore, the meanings of the reflexes of ˣparij suggest a less advanced stage in the use of stone as building material, compared with those of ˣparigi?. The reflexes in West Indonesia actually suggest an enclosure wall without explicit indications of stone masonry (the latter only being clearly expressed in the Bisaya reflex). They could, for example, have referred to high earth walls topped by a wooden stockade. Of course, in classical Malay literature, including the *Sejarah Melayu* ('Malay Annals'), *parit* was used to denote the moat of a (stone) fort or citadel (Wilkinson 1957:849–850), but this could theoretically have been a secondary development.

The final *-i?* in the secondary doublet makes it possible to locate the probable place of origin of ˣparigi?. The accretion of a postglottalized vowel after final consonant appears to be part of a complex of phonological processes that I refer to as the final consonant preglottalization syndrome (FCPS), because—as first postulated by Mills (1975:453–456) for South Sulawesi languages—it begins with final consonants becoming preglottalized and unreleased.[145] This original state does not seem to have been completely preserved in any language of the region. However, the final voiced stops are

explicitly indicated as preglottalized in the not-yet phonemicized Tombatu wordlist of Sneddon (1970), thus providing the only instance (to my present knowledge) of at least partial retention of preglottalized final consonants. Indirect evidence is provided by Kelantan Malay, which has (subsequently) shifted final stops to glottal stop, but retains the preglottalized stops before a suffix (see Onn 1976:19). Finally, there is the circumstantial evidence from Malagasy, which has the lenis reflection of *k as *h* in prevocalic initial and intervocalic medial position (as a rule), but the fortis reflection as *k* either when (currently or previously) preceded by a consonant or in originally final position before "supporting" or paragogic vowel. The treatment in final position was thus analogical to that in postconsonantal position, suggesting that the final stop had indeed once been preceded by a "consonant" of sorts, the preglottalization.[146]

Preglottalization diminished the acoustic distinguishability of final homorganic consonants, typically between voiceless stops and continuants (as for example between -ʔtˀ and -ʔsˀ), or between voiceless and voiced stops (as for example between -ʔtˀ and -ʔdˀ) when the latter occurred.[147] The desire to maintain phonemic oppositions apparently led to various secondary developments. In the Sangiric languages (including Sangil in Mindanao) and some other languages of Sulawesi (including Makassarese in the South) preglottalized nonnasal continuants and voiced stops (when still occurring) appear to have been differentiated from preglottalized voiceless stops through metathesis accompanied by the insertion of an anaptyctic vowel (Mahdi 1988:231).

-ʔsˀ	>	-saʔ
-ʔdˀ	>	-daʔ

In some languages exhibiting this phenomenon (for example, Bantik), the choice of the anaptyctic vowel is governed by vowel harmony.

The result of this development is thus the retention of final nonnasal continuants and, where still occurring, voiced stops with the help of what appears virtually as a paragogic vowel (which is in fact how the phenomenon was treated in a recent paper by Sneddon [1993] who apparently had no access to my publication cited above). But such vowel accretions to final consonants normally occur in languages that do not tolerate final consonants, whereas in the cases under examination here this is already contradicted by the final glottal stop. Avoiding final consonants by postfixing a vowel with another final consonant behind it is obviously not very efficient. Postulating that the glottal stop originated from the preglottalization through metathesis and that the vowel is anaptyctic rather than paragogic eliminates the contradiction. Of decisive significance in my opinion, however, is that the phenomenon affects final nonnasal continuants but not the nasals that usually persist in final position (unsupported by any paragogic or other vowel), and that the treatment of voiced final stops contrasts with that of voiceless ones, which are simply

reduced to glottal stop (likewise without any supporting vowel of any provenance). The assumption of a paragogic vowel leaves this systematically distinctive treatment unexplained (Mahdi 1988:231).

This phenomenon is confined to the languages of the Sangiro-Sulawesi region and immediate neighborhood, and distinguishes these from the languages of Sumatra, Malaya, and surroundings. In South Sulawesi, however, FCPS evidently set in after devoicing of originally voiced final stops. Retention of voiced stops at preglottalization and further metathesis with anaptyxis is only attested for languages of the north. The place of origin of ˣparigi? from ˣparij can therefore be narrowed down to an area encompassing North Sulawesi, the Sangir Islands, and an immediately adjacent coastal strip in Mindanao.[148]

Of course, the whole logical construction leading to this conclusion hangs from a relatively thin string: the assumption that the two protoforms are doublets, and that the one derives from the other. However, once it is accepted that two forms are doublets, there are only a few possibilities: either the one derives from the other, or both stem from a third. The relationship between the two forms postulated here is obviously the likelier one, provided the forms really are doublets.

With regard to the basic assumption itself, however, we are faced with a specific problem arising in the treatment of all suspected doublets. As in reconstructional historical linguistics in general, we are operating within certain margins of confidence that can never attain the level of absolute certainty. Against the background of the extremely informal, even say "freewheeling," general practice in the use of the term doublet in An historical linguistics, the alignment under inspection here actually reaches a relatively high degree of solidity. Not only do almost identical meanings coincide with close phonological similarity, but concrete conditions could be specified, under which the phonological divergence must have arisen, strengthened by the parallel instance of an analogical shift in the Maranao cognate in the same relatively small geographical area.

The only problem is the *j > *g* shift implied in ˣparigi?. Hesperonesian languages that regularly reflect *j as *g* are concentrated in two regions: Luzon (Pangasinan, Ilokano, Alta, the Cordilleran languages) in the northeast, and the Sumatran central highlands (Bataklands) and barrier islands (Nias-Mentawai) region in the west. Reid (1982) has shown that Ilokano and the Cordilleran languages perhaps form an exclusive group to which the author referred as the Northern Philippine languages, and Nothofer (1986) has demonstrated that the Sumatran Batak and the barrier island languages are related to each other as closest groups. I have expressed reservations about the inclusion of Enggano among these languages, but otherwise agreed to the remaining barrier island languages and Sumatran Batak isolects as subgroups of a grouping for which I proposed the name Palaeosumatranic (Mahdi 1988:384–385).

Assuming that the shift in ˣparigi? is somehow connected with these two language groupings,[149] this would imply that their geographical separation resulted from a movement from the Philippines to Sumatra[150] at a time when the *j > *g* sound law was still operative, and that the attested reflexes of ˣparigi? trace the route of the movement. That is to say, the route must be postulated to have led southward through Sulawesi to West Nusatenggara, and from here westward over Bali and Java to Sumatra. I shall now propose some linguistic and extralinguistic data that in my opinion are in agreement with such a postulation.

The earliest house form in Indonesia, presumably first established by NAn autochthones, was circular in horizontal plan and had an onion-shaped roof reaching down to the level of the floor (which was raised on high poles in most areas) or a conical roof (particularly in the east). It has been reported for the Nicobars, Mentawai, Enggano, Nusatenggara, East Timor, New Guinea, New Caledonia, and is represented in early levels at some archaeological sites in Melanesia. The house of the Austronesians in the Philippine-Indonesia area, however, is typically rectangular in horizontal plan and carries a two-section shed roof that has in many places developed a saddle-like form having high-soaring gables. Noteworthy is a third basic house-type in this region, which is square in plan and has a four-section pyramidal roof, which may exhibit the two following sophistications: the one, in which the pyramidal roof is divided in a very steep central part and a more tapered outer part; and the other, in which one opposing pair of the four triangular roof sections is replaced by a pair of trapezoidal sections to accommodate an elongation of the house along one axis (being then no longer square but rectangular in plan). The house with the four-section roof is used by the Ifugaos in the Central Cordilleras of Luzon and occurs in Nusatenggara, Bali, Java, South Sumatra,[151] Central Sumatra, and Nias. The Karo Bataks have (among others) a house with a hybrid roof form, being an elongated four-section roof having smaller two-section roofs cutting at right angles into it near the top. The distribution of the four-section roof thus closely follows the route of the movement postulated above to explain the *g in ˣparigi?. The direction of dispersal from Luzon to Sumatra appears likewise to be in agreement, because the primitive pyramid roof is found from Luzon until Sumatra, the more sophisticated variants either with steep central part or elongated plan only from Nusatenggara until Nias, whereas the hybrid form with shed-roof elements only appears in Sumatra.

Some particularly interesting examples of protoforms with a distribution of reflexes along the same route follow.

> ⊗tikəR[152] > BisCb *tíkug* 'k.o. thin-bladed grass used for mats and hats (*Fimbristylis globulosa* Kunth.), sleeping mat made of that grass', Mar *tikəl* 'leaf-rattan used for thatch', MlgMe *tsíhy,*[153] Mly *tikar* 'mat'

⊗tinZəg > Tag *tindíg,* BisCb *tindug,* Mar *tindəg,* Loi *t<um>injo* 'stand', SimLk *a-tində?-an* 'platform to stand on when reaping rice in soggy field'

×[bB]uluŋ[154] > YamIm *vuúŋ,* Itb *vuguŋ,* Ivt *vuhuŋ,* Ilk *buluŋ,* Ibl *boloŋ* 'leaf', Klg *ba-buluŋ,* BisCb *bulúŋ,* Tbl, Bla, MnbKb, *buluŋ* 'medicine (herb?)', MlgMe *v-ol-ólona* 'young leaves', Bal buluŋ 'k.o. seaweed', Eng *ɛ-puru,* Lpg, Tob *buluŋ,* Sim *boluŋ,* Nias, Sxl *bulu,* Mtw *buluk* 'leaf'[155]

⊗[q]umaŋ 'k.o. crustacean'[156] > BisCb, Ilk, Cmr, Tsg, Mdo *umaŋ,* Sgr *komaŋ,* Kmd *kumaŋ* 'hermit crab', Loi *umaŋ,* Wol *kolo-ʔuma,* Bug, Mak *kala-umaŋ,* Snd, Mtw *umaŋ* '(k.o.) snail', LpgKr *umaŋ-umaŋ* 'kind of crustacean', Mly *umaŋ-umaŋ* 'hermit crab'

At first glance, the distribution patterns of these protoforms appear not to be unusual and would simply lead to an assignment to PHn (leaving aside the one Komodo reflex that may be a borrowing). However, the Philippine reflexes of the first protoform refer to both the material and the product, whereas those in the west refer only to the product. This lets it appear probable that an original form from the Philippines was spread to West Malayo-Indonesia. A similar situation is given in the second example, in which we have in the west an isolated reflex of a form relatively well established in the Philippines. Further, reflexes of the third protoform in the west have apparently lost an earlier association with medicinal use, although vague reminiscence may still be felt in the meaning 'young leaves' in Mérina. As *DaHuən is relatively well established as a PHn and even higher-order form for 'leaf' (Mly *daun,* Mny *rawɛn,* MnbSr *dawʌn,* Tag *dahun,* and further Brm *raun,* Tga *lau*), ×[bB]uluŋ must be a maverick at least as a form for 'leaf', and it is in this meaning that we find it represented over its entire distribution area.

With regard to ⊗[q]umaŋ, the reflexes in the Philippinic languages mean 'hermit crab', whereas the meaning 'snail' only occurs from Sulawesi onward along the putative dispersal route.

The dispersal route postulated above coincides with the distribution of remains of Heine-Geldern's "later" megalithic in Indonesia, which is not surprising, considering the meaning of ×parigi?. In the Philippines, however, remains of the "later" stage of development of the megalithic do not appear to be as widely represented. Thus, as one moves along the postulated route from Luzon to Sumatra, one only begins to come across monuments of the "later" megalithic approximately in the region in which ×parigi? is assumed to have developed out of ×parij. In view of Mar *paridi?* (see above), this is at the same time the area with the highest diversity of doublets of ×parij. Now, one of the features distinguishing the "later" from the "earlier" megalithic is the presence of iron, and as was noted in Part I, the region around the Sea of Sulawesi displays a high order of diversity of protoforms for 'iron' and of doublets of *Həuasəi, possibly indicating an early center of iron metallurgy.[157]

The second stage of the route, the part that was passed in the dispersal of ˣparigi?, coincides with the distribution of reflexes of the following forms.

> ˣpaula 'sugar-producing plant'[158] > Tdn, Tse, Tbu, Ttb *pola* 'sugarcane (*Saccharum officinarum* L.)', Sbw *pola* 'toddy palm (*Arenga saccharifera* Labill.), Tob, Kro, Dyr, Gayo *pola,* Mtw *paola/poula* 'toddy palm'[159]

> ⊗k[əi]nas '(fishing) catch, (hunting) booty'[160] > Sgr *kina?* (irregular *-?/ -sə?)* 'fish, meat', Ban *kínasa?,* Tld inassa, Blg *kənas,* Mny *kɛnah,* MlgZf *kena* 'fish', MlgMe *héna* 'meat', OJav *kənas* 'game, muntjac deer', Sim *ənas/ənae* 'fish'[161]

Reflexes of ⊗kusai, referring to a marsupial in languages of Sulawesi, and to the pangolin in Mentawai (see Part I) have a similar distribution area.

To sum up the above, we have two regions with a high density of languages having *g* as regular reflex of *j, one in Luzon, the other in and off Sumatra. These regions may be connected by an hypothetical route from Luzon southwards through the length of the Philippines and Sulawesi until Nusatenggara, and from here westwards through Bali, Java, and the length of Sumatra. This route happens to pass exactly along the length of the distribution area of some cultural and linguistic features. It also passes through the postulated place of emergence of ˣparigi?, which involved the reflection of *j as *g,* and refers to a feature of megalithic culture. The distribution of its reflexes coincides with the remaining length of the route that also happens to mark the distribution area of remains of the "later" megalithic in Central and West Indonesia, as well as of reflexes of some further protoforms.

As already indicated in the introduction to Part I, Austronesians seem to experience an extraordinarily acute "predilection" for moving over long distances. Therefore, the present absence of languages with *g* < *j along the postulated route from Luzon to Sumatra does not necessarily disprove the postulation any more than the present absence of An languages along the northern perimeter of the Indian Ocean excludes Malagasy from the An family.[162] Of course, this must not be seen as a license to conveniently assume previous contacts whenever an otherwise difficult reconstructional problem may let this seem opportune. What I am actually implying here is only that, when there is enough other evidence to suggest certain language contacts in the past, then, at least when considering An languages, one may not disregard their plausibility merely because they would have involved too extended migration or trade routes. In the instance of ˣparigi?, the evidence actually adds up to a relatively good case for the postulated origin and direction of dispersal.

An insular origin of the "later" megalithic culture of Austronesia confirms that an intensive two-way cultural relationship existed between insular and mainland Southeast Asia in the last three millennia B.C.,[163] bringing Dongson and pre-Dongson type bronze and the Xahuynh-Kalanay pottery tradition from Indochina to the archipelago, the jar and cist burial, as also terraced monuments and

other features of the "earlier" megalithic culture from the islands to the mainland. This two-way cultural relationship also left an imprint on the most important aspect of Austronesian cultural tradition, namely shipping. Whereas maritime Austronesians brought the outrigger canoe up the mainland rivers, peoples apparently having common culture roots with the Dongsonians introduced the outriggerless long-boat ('plank boat') to the Austronesians who spread it over the island world (see below).

The source and direction of the diffusion of the older doublet, ˣparij, is not as clearly defined as that of the later ˣparigiʔ. As was noted earlier, it appears to be associated with an earlier stage of development of megalithic culture. The problem is connected with that of the dispersal of megalithic culture in India and Austronesia in general.

Whereas archaeological study of the Indian megalithic of the west coast revealed westward affiliations, the Southeast Indian megalithic exhibits features (particularly dolmens alias cromlechs, stone cists, burial urns, and reburial after excarnation) that bring it closer to the megalithic of Western Austronesia. The available dates for the Southeast Indian megalithic, spanning a period from 1000 B.C. until the beginning of the first millennium A.D. (Sarkar 1982), probably represents a smaller time-depth than that of the Austronesian,[164] while the earliest date compares well with the estimated time of dispersal from Indonesia to India of the reversible single-outrigger canoe assumed in Note 120. The close relationship between the Northeast Indian megalithic and that of Austronesia are better known (see Heine-Geldern 1928, who however assumed dispersal in the opposite direction, from India to Austronesia). This and several other considerations, which for reasons of space cannot be expanded upon here, have led me to the conclusion that the Austronesian megalithic had its source in the same early megalithic tradition that was responsible for the megalithic remains along the Pacific coast of China, in Korea, and in Japan (see for example Kim 1982), and was in turn exported from Indonesia to Southeast and Northeast India. As the megalithic in both these regions of India was accompanied by metal, and thus corresponded in the main with the "later" megalithic in Indonesia, an opposite direction of diffusion from India to Indonesia would not only fail to account for the "earlier" stage of Indonesian megalithic. Even assuming different sources for the two stages, an Indian origin for the later one could not be reconciled with the direction of dispersal of ˣparigiʔ established above.

Whereas the assumption of an Indian origin of the Austronesian megalithic (assuming the existence of an as-yet undiscovered premetallic period in the South and Northeast Indian) would have led one to favor an eastward propagation of ˣparij, the conclusion reached above makes the opposite direction seem to be the likelier one. Sumatra, lying at one end of the dispersal route of ˣparij, must then be the "finish." More difficult to answer is whether the Central Philippines, where Cebuano marks the other end, is the start, or also the finish of

a possible movement in the opposite direction from a common center. At the present moment, I am inclined to see the area around the Sea of Sulawesi, already referred to, as an even older center of dispersal than implied above, and to consider this also as the place of departure of the movements that carried the earlier megalithic to Oceania.[165]

The Sea of Sulawesi perimeter is therefore, in my opinion, the likeliest place in which ˣparij emerged, perhaps as a borrowing from a now extinct Non-Austronesian language. Bearing in mind the derivation of *kali* 'river' from a form meaning 'dig', the immediate precursor of the maverick protoform could have been a cognate of the following North Halmaheran forms for 'dig' listed by Wada (1980:519, #379/195).

> MkiE *paik,* MkiW *pai,* Tnt, Tid *fai,* Lld *waiti,* Tbe *haiti,* Mle, Tbr, Shu *paiti,* Pgu *pait* 'dig'

Note the velar/dental alternation in the reflex of the final protoconsonant. Unfortunately, none of these forms exhibits a medial *-r-* so that one has to postulate its loss in all of them. Whether further evidence can be found to corroborate this very provisional etymology remains to be seen.

The Philippine-Sulawesi origin of the two maverick protoforms treated here, however, also has an important, purely linguistic implication. So far, the main source for protoforms with ⊗r had been Malay forms with *r* reflecting *R, such as in *qaZaR / ˣ[ ]azar 'teach',[166] or *(R[aə]-)SiBu / ˣribu 'thousand',[167] and so forth. This is indeed the principal source of effective proto-

TABLE 1. THE EFFECTIVE REFLEXES OF *R AND ⊗r ACCORDING TO DYEN (1953b) AND NOTHOFER (1975)

*R >	⊗R_1	⊗R_2	⊗R_3	⊗R_4	⊗r
Malay	r	r	r	r	r
Sundanese	Ø r	Ø y r	r	r	r
Javanese	Ø	Ø	r	r	r
Malagasy	Ø	z	z	r	r
Ngaju	h	h	h	r	r
Tagalog	g	g	g	g	l

Reflexes above the thick stepped line can in most cases be ascribed to borrowing from Malay. Framed reflexes can be assigned to borrowing from Javanese (Ø) or Central East Barito (*s* < *y*), from Mahdi (n.d.)

forms with $^{\otimes}$r (or of doublets with *R/$^{\otimes}$r alternation), and as Table 1 demonstrates, the frequency of instances increases with proximity to the source, Malay. As the table also tends to suggest, $^{\otimes}$r may practically be seen as $^{\otimes}R_5$. More strictly, however, this would not be correct, because $^{\otimes}$r may also derive from protophonemes other than *R.

Malay is not the only source for mavericks with $^{\otimes}$r, which is important to bear in mind when the distribution of reflexes of a protoform with $^{\otimes}$r and their meanings militate against the assumption of borrowing from Malay. In a few instances, $^{\otimes}$r evidently originated from the Javanese reflex of *D or *j, as for example *Dapə[Ct] / $^{\times}$rapət 'get, bring together, close, tight' (Mly *dapat* 'receive, succeed in' / *rapat* 'tight, close to each other'). An additional source had been loanwords from Austroasiatic such as $^{\times}$kə(m)bar 'twin', $^{\times}$pirak 'silver', or $^{\times}$mərak 'peacock'. In both cases, propagation of the forms through the archipelago had been from west to east. In these cases too, Malay-speaking seafarers probably played an important role in the diffusion of the word after the borrowing from Javanese or Mon-Khmer into Malay.

With $^{\times}$parij and $^{\times}$parigi? we now have two protoforms originating further east and disseminating westward, in which dissemination Malays played at best a subordinate role,[168] as the movements that led to the dissemination evidently predate the period of heightened activity of Malay-speaking seafarers from around 200 B.C. onward in the archipelago. The two protoforms thus reveal an additional source for elements of the presently observable comparative corpus serving as effective basis for the artificial reconstruction of $^{\otimes}$r as a protophoneme.

6. BOATS AND PEOPLE.[169] The distribution pattern of reflexes of some protoforms that are prevalently represented in languages of East Indonesia and Oceania, suggesting the existence of an Oceanic or East Austronesian substratum in An languages of the Philippines and the north of Sulawesi, appears to confirm a dispersal movement from the An homeland over Taiwan and the Philippines to East Indonesia and Oceania through the Sangiro-Sulawesi area. It is thus as if the earlier movement had left a 'trail of white pebbles' in the form of a substratum by which one may trace its former route.

One such example is that of *quliŋ 'rudder, steer', in which the substratum "trail" is confined to Sangir-Sulawesi.[170]

> Sgr, Syw, Tbu, Bgy, Smb *uliŋ,* Bre, Mdr, Bnp, Mak, Sly *guliŋ,* Mun, Wol *uli,* Mri *um-uli* 'rudder'
>
> Sik, Sau, RtiTm *uli,* Slr *fai urin,* Bnf, Wru *ulin* 'rudder'; Tam *gul* 'steering paddle', Krw *kuliga* 'rudder', Ybm *gùliŋ-ŋ-guliŋ,* Rtm, Fji, Haw *uli,* Tga *ʔuli* 'to steer'

The failure of the Muna form (which normally has γ < *q; see Mills 1975:14, van den Berg 1991:29–30) to reflect the initial *q, on the one hand, and the irregular reflection as *g* in cognates in some of the other Sulawesi languages, on the other, tends to support the hypothesis that these are loanwords or represent a substratum.

A remarkable example is given by PAn *DuRi? 'thorn' and its doublet ⊗ZuRi? 'fishbone', which have apparently come to be systematically confused with each other in languages of Oceania, with extension of the meanings of both, so as to present themselves as ×[DZ]uRi[] 'thorn, needle / fishbone, bone' (Blust 1978a:111–113).[171] The confusion of the probable doublets must have been facilitated by the closeness of their meanings as well as by their phonological similarity. This was furthermore often rendered through regular sound shifts to outright homonymy, as in Pwn *djui* 'thorn, briar, burr / fin or bones of fish', both *D and *Z in initial position being reflected as *dj* in Paiwan. Whereas *DuRi? 'thorn' is represented in all principal provinces of the An distribution area (Bun *dóli?,* Mly *duri* 'thorn', Mtu *duri* 'sting of stingray, barb of arrow'), reflexes of ⊗ZuRi? 'fish bone' with extension 'bone' and of ×[DZ]uRi[] 'bone, thorn, needle, etc.' only occur in East Indonesia and Oceania, or along the substratum trail beginning in Taiwan with the already cited Paiwan form and running through the Philippines, Sangir, and Minahasa.

> Kpp *dwi?* 'fish spines', Siokon Subanon *dugi* 'fish bone', TbwKl *duli?,* Tdn *rui,* Tombatu *duhi* 'bone' (Blust 1978a:112)
>
> Sgl *duri,* Tld *duži,* Sgr, Ban *duhi,* Rth *rui* 'bone' (Sneddon 1984:79)
>
> Tif *rohe-n,* Msl *huli,* Nwl *uni,* Pir *luli,* Seranlaut *ruri,* Bnf *lusi* 'bone' (Stresemann 1927:18, 20–21, 24, 193; le Cocq d'Armandville 1901)
>
> Sik *luri-ŋ,* SmbKb *rii-,* Sau *rui,* Rti *dui-k,* Atn *nui-,* Ttm *ru?i-n,* etc. 'bone' (Blust 1990)
>
> Ymd *duri,* Lti *ruri* 'thorn, bone' (Nothofer 1992)
>
> Kus *sri* 'bone', Mkl *si,* Wle *ṣŭ* 'bone, needle'
>
> Aua *rui,* Lpn *duy,* etc. 'bone', Rov *suri-na* 'splinter', *su-suri-na* 'bone', Rtm *sui* 'bone, needle' (Blust 1978a:95, 71, 112)
>
> Gel, Bugotu *huli,* Sqa, Ulw *suli,* Fgn, Mlv *suri,* Fji *sui,* Tga *hui,* etc. 'bone' (Cashmore 1969:19)

A similar distribution, but with a much less densely occupied Philippine-Sangiric substratum trail, is attested for ⊗natu?, which apparently meant 'ovary' (see Blust 1973:#33), perhaps also 'offspring' (Blust 1978a:50–51), but then developed the meanings 'egg' (attested from Sangir to Oceania) and 'child' (from South Halmahera to Oceania).[172]

Ilk *náto* 'ovary of birds', Tir *natu?* 'egg yolk'

Ban *natu?,* Rth *tū,* Pon, Mdo, Bwl, Kaidipan, Bulanga *natu* 'egg'

Tim *ika ni natu-n* 'roe, spawn' (literally 'fish's egg')

Bul *ntu,* Swy *antu,* Gane *untu,*[173] Wrp *ku/ku-ku,* Win *aa-ntu-m,* Ytf *natu* 'child'

Gapapaiwa *natu-na* 'egg, nestling, baby bird', Rov *natu* 'part of female crab or turtle: the ovum (ovary?)'

Srm *nátu-m,* Krb, Wog, Bip, Sys, Bry, Tun, Tam, Wdw, Sua, Mtu, Mta *natu,* Kus *nate,* Lpn, Abr *netu,* Gdg *nanu,* Ybm *látu,* Azr *naro,* Krw *latu,* Pkw *naku,* Mlk *natu/natö* 'child'

In Part I, the distribution of reflexes of ⊗[q]uaŋ[k]a 'boat' was inspected. It was tentatively concluded that the isolated reflexes in Bolaang-Mongondou and Buol were borrowings from Central Maluku and did not represent the substratum trail to East Indonesia and Oceania. The protoform has a doublet, ×[bB]aŋka?,[174] displaying a distribution that suggests that it may represent the corresponding substratum trail to ⊗[q]uaŋ[k]a.[175]

Kvl *baŋka,* Tag *baŋká?,* IfgAg *baŋká,* Bgw, ItgBn, KknN *báŋka,* IltKk, KlhKy *baŋka,* KlhKl, Sml, Tsg *baŋka?,* Llk *o-bangga,* Mri, Wol, Mun, Sbw *baŋka* 'boat'

However, the Kavalan reflex is probably a seventeenth-century loan from Philippinic (Ferrell 1969:20). Dempwolff (1938:20) and Blust (1972a:#83) also included Sqa *haka* and Fji *mbaka-nawa* among the reflexes of the doublet, which would imply that the latter had a parallel distribution all the way into Oceania. In my opinion, however, it is possible that the last mentioned Oceanic forms are phonologically irregular reflexes of ⊗[q]uaŋ[k]a, perhaps borrowings, particularly because Fiji also has a phonologically regular reflex of the latter, namely *waŋga* (see Part I). Reflexes of both doublets are missing in Sangiric languages, which is untypical for distributions with the substratum trail.

The two doublets are also noteworthy in view of what is possibly yet another doublet, ⊗qaBaŋ,[176] having a westward distribution rather than an eastward one after passing from the Philippines into Indonesia.[177]

Kkb *abaŋuu,* RukOp *havaŋu,* Sry *avaŋ,* Fvl *abak* 'boat' (Ferrell 1969:247)

Gad *ʔabaŋ,* Bla *ʔawəŋ,* Tir *ʔawaŋ,* MnbWB *ʔavaŋ* 'boat' (Reid 1971:#41)

Iln *awaŋ* (Ray 1913:#16), Mok *kabaŋ* 'boat'

Mtw *abak,* Nias *owo,* Sxl *ofo* 'boat'

OMly, OJav *pu-hawaŋ* 'shipmaster' (*pu* 'master')

The protoform is remarkable for several reasons. The first is that it appears to have several reflexes in Chinese. Comparing the distribution of the three apparent doublets given above and in Part I, it can be concluded that ⊗qaBaŋ is is the one that is principally represented in Taiwan. If one postulates that An languages had formerly existed on the Southeast Chinese mainland, directly opposite Taiwan, one would therefore expect reflexes of the same doublet here, that is, something like ˣhawaŋ, ˣʔavaŋ, ˣʔabaŋ, and so forth. Monosyllabification of An bisyllabic forms in Indochina as well as in Hainan is known to have typically proceeded by deletion of the first syllabic vowel (see Thomas 1963:60–61, Lee 1974:647–650, Haudricourt 1984). Assuming a similar procedure for Southeast China, one would expect something like the following forms that happen indeed to be attested in Chinese (Mahdi n.d.).

fǎng 'two boats lashed together, a large boat, a galley' (Giles 1912: #3447, Mathews 1975:#1814), 'two boats or rafts lashed alongside like a double canoe' (Wells Williams 1874:135) < EMChi *puaŋ*^{h} (Pulleyblank 1991:92) < OChi **pi̯waŋ/*pwâŋ* (Karlgren 1940:#740g–h)

háng 'two boats lashed together, a large vessel' (Giles 1912:#3852, Mathews 1975:#2059), 'deux barques attachées l'une a l'autre par les côtés' (Couvreur 1904:767), 'a square boat or two lashed together, a scow used at ferries and in floating bridges' (Wells Williams 1874:168) < EMChi *ɣaŋ* (Pulleyblank 1991:120)

bàng 'two boats fastened side by side' (Giles 1912:#8665, Mathews 1975:#4918), 'a double boat made by laying two alongside and fastening them together' (Wells Williams 1874:657)

huáng 'a fast sailing boat, a ferry boat' (Giles 1912:#5117, Mathews 1975:#2292), 'a kind of dispatch boat, a ferry boat' (Wells Williams 1874:251), 'bateau, bac formé de deux barques attachées entre elles par les côtés' (Couvreur 1904:768)

The first of the four forms is known from a bronze inscription of the Eastern Zhou period (770–250 B.C.; Karlgren 1940), the second only appeared after the Han expansion to the south, whereas the two remaining ones are apparently more recent. They were apparently borrowed at different times from different An languages on the mainland. The circumstance that a reference to the double canoe is reflected in the meaning of all four forms should probably be seen as a more reliable basis for assuming An origin than the phonological correspondences, which, though relatively convincing, nevertheless are not founded upon established sound laws.

Heine-Geldern (1932) postulated that the An watercraft developed from a double-outrigger boat over the single-outrigger boat to the double canoe,

regarding the boats with retracted outriggers (or "sponsons," which are outriggers or outboard beams that run very close to the hull instead of standing out at a distance for better balancing) on some rivers of Indochina as the ultimate prototype of the Austronesian boat. This hypothesis was supported by Hornell (1943), indicating that the replacement of the double-outrigger boat by the single-outrigger boat is historically recorded in Madagascar. A more recent study of the origins of the Austronesian canoe by Doran (1981) has shown, however, that the development must have proceeded in the opposite direction to that assumed by Heine-Geldern and Hornell, that is, from double canoe to single-outrigger boat and finally to the double-outrigger canoe. In my own studies on the subject I have come to the same conclusion (Mahdi 1988:54–55), with further arguments that I reiterate and complement in detail elsewhere (Mahdi n.d.).

The Indochinese watercraft with retracted outriggers that Heine-Geldern saw as the prototype of the Austronesian canoe is actually a modification of a very advanced double-outrigger boat (with a sophisticated "plankboat" instead of a dugout as hull) accommodated to narrow inland waterways (Mahdi 1988:54–55). Ferrell (1969:53) cites an early nineteenth-century Chinese source according to which a dugout with a plank attached on each side for stability was used in Taiwan at that time. This is obviously a much more primitive form of outrigger watercraft than that found by Heine-Geldern in Indochina. Hornell, calling attention to the circumstance that early reports on watercraft of Madagascar (up to the seventeenth century) described these as having two outriggers, whereas reports from the nineteenth century and later indicated a single outrigger, seems to have overlooked the implication of the change in the rigging that must be assumed to have accompanied the transition in number of outriggers. The later single-outrigger boat of Madagascar carried a sprit sail that was suspended between opposite tips of relatively tall twin masts forming a V. This rigging, termed "double sprit" by Doran (1981:40), is typical for single-outrigger boats with reversible sailing direction in Sri Lanka. Double-outrigger boats of Bali and Madura carry the "crane sprit"—also a term from Doran (1981:40, 42)—or so-called "Oceanic lateen" sail,[178] a triangular sail spanned between two rods acting as yard and boom respectively and meeting at one end to form a V "lying on its side," the slanted yard being suspended far off-center (close to the apex) from a usually rather short stubby mast or held up with a prop.[179] Originally, the double-outrigger canoe of Madagascar as brought over from the Proto-Malagasy homeland in Indonesia must have carried the Oceanic lateen rigging. Subsequently, this was replaced by the single-outrigger canoe that, judging from the its sprit sail, was apparently not the result of an internal development, but of influence from South India/Sri Lanka. That there was no inner causal connection between number of outriggers and type of rigging can be seen from the fact that the single-outrigger canoes of Micronesia have the Oceanic lateen rigging, even though

they are similar to those of Sri Lanka in the unusual shunting maneuver of reversing the sailing direction instead of tacking to advance against the wind.[180]

Heine-Geldern proposed his hypothesis on the development of the Austronesian canoe to support his theory of an An homeland in Yunnan and the first migration of the Austronesians to the sea through Indochina. The hypothesis, ingeniously uniting the very limited knowledge of the time into a coherent picture, now nevertheless appears as a gross oversimplification of the archaeological data (see van Heekeren 1972:160). The significance of the apparent Chinese reflexes of ⊗qaBaŋ listed above lies in their providing an analogical argument for a Southeast China homeland, which is furthermore coherent with the newer insight into the development of the An canoe from an original double canoe. Particularly important, of course, is the circumstance that the evidence is not only culture-historical but also linguistic. The dating of the first of the four Chinese forms confirms earliest Sino-Austronesian culture contacts during the Zhou.

Whereas the four cited Chinese forms were apparently borrowed from An languages of the Chinese mainland, a further reflex of the same protoform seems to have been acquired through contacts with An speakers from abroad. Christie (1957) has shown that the Greek term *kolandio phōnta* in the Periplus probably reflected Chinese *Kūnlún bó* 'Malay ship', but the author had difficulties identifying the etymon of Chi *bó* 'ship' (EMChi *bayk,* Pulleyblank 1991:41; the phonetic is *bó* 'white, silver' reflecting MChi *b'ɒk,* Karlgren 1940:#782a). The etymon must have sounded something like *bak. The list of words for 'k.o. boat' in languages of Western Malayo-Indonesia, provided by Christie as possible etyma, have to be excluded because they would have given bisyllabic reflexes in Chinese. What the Old Malay word for 'merchant ship' was we do not know with certainty, because only the word for 'warship', OMly *sambau,* appears in the epigraphy. However, it can be inferred from OMly *pu-hawaŋ* 'shipmaster', which suggests that the word for 'ship' was *hawaŋ, regularly reflecting ⊗qaBaŋ. As was noted in Part I, Note 23, the first Malay-speakers reaching Canton were probably Negrito Sea People. It has been indicated above that the FCPS led among other things to the development of a homorganic stop before final nasal, which could further result in the deletion of the latter: *-ŋ > -gŋ > -k.* The cognate of OMly *hawaŋ in some Sea-People vernaculars, allowing furthermore for widely attested loss of the initial aspiration, could have been *abak, which would have expectably given the observed Chi *bó.* Such reflexes of ⊗qaBaŋ are indeed attested: Mtw, Fvl *abak* 'boat'. The Mentawai reflex is regular, but the Favorlang cognate is in fact probably a borrowing, perhaps from the same source as Chinese *bó,* because the final *-k* for expected Fvl *-n* < *-ŋ is irregular (Marsh 1977:#4.3.1.2.9).

Reflexes of ⊗qaBaŋ were not only borrowed into Chinese. It was already indicated in Part I (Note 23) that a putatively "Pre-Moken" reflex was apparently borrowed into Old Mon as *kbaṇ* /kɓaŋ/ 'ship'. Cognates that, judging from their meaning, probably reflect much earlier borrowing exist in other East Austroasiatic languages.

Biat *ʔbaŋ,* Sre *gʏbaŋ* 'coffin' (Shorto 1971:67)

They also exist in some Tibeto-Burmic languages of Burma and Northeast India.

"Proto-Kukish" ˣr-Kuaŋ, Mikir Kukish, Naga, Bari *k'oŋ,* Banpara *k'uŋ* 'trough used as a coffin or as a canoe', Garo *riŋ-koŋ* 'trough', Middle Burmese *k'oŋ,* Rawang *k'oŋ-śi,* Tamalu, Tukiumu, Melam *goŋ-śi* 'boat' (Shafer 1974:406, 427).

Whereas the meaning of the Old Mon cognate, 'ship', testifies to a period of relatively advanced sea transport, which agrees quite well with Mok *kabaŋ* 'ship, houseboat, fleet', and OMly *pu-hawaŋ* 'shipmaster', the mainland reflexes listed here refer to something much smaller and more primitive, either a canoe or a coffin. The semantic association with coffins suggests that the diffusion of the word took place within the culture sphere and during the period of development of the "ship of the dead" cult in Southeast Asia. Such ships of the dead are depicted on Dongson bronze kettledrums of mainland and insular Southeast Asia (see Goloubew 1929, Bernet Kempers 1988), and the dispersal area of features of the cult in Indonesia coincides roughly with the dispersal area of Dongson-type artefacts. The progressive stylization or abstraction in the depiction of objects on kettle drums in Indonesia has given rise to some doubt as to whether Austronesians had been directly involved in the development of Dongson culture, or whether they had only acquired already developed ideological and technological features of that culture without, or with only imperfect or incomplete, comprehension of the underlying conceptual foundations.

The involvement of an An word for 'boat' in the early dispersal of the 'ship of the dead' cult within its apparent area of emergence suggests direct participation of Austronesians in the development of the culture tradition. Indeed, evidence of the cult in Indonesia is not limited to its symbolic, iconographic, or other indirect reflection, as for example the effigy or model "ships of the dead" of the Bataks, Dayaks, or Letinese; the depiction of the ships (often in connection with that of the sacred tree mentioned in Note 164; see Steinmann 1945a:2388, 1945b: 2394) on ritual cloths or painted panels of, respectively, the Lampungs and the Dayaks; or the reference to ritual stone slabs at the megalithic sanctuary of Soya in Ambon (see above) as 'boat of the 1st tribe', 'boat of the 2nd ...', and so forth. Actual burials in canoe-coffins were discovered in the Niah Caves (Harrisson 1958). Van Hoëvell (1890a:169, 1890b:207) indicated that corpses of the dead in the Tanimbar and Timurlaut Islands were placed in coffins having the shape of double canoes, which were placed on stands on the beach. Boat-coffin burials have also been reported from other parts of Indonesia (Steinmann 1945a:2388), and also from many parts of the Philippines (Junker 1990:90–91).[181] It is interesting to note, furthermore, that Mori *baŋka* means 'boat' and also 'coffin' (Esser 1927–33:42), thus providing a parallel instance of the semantic shift indicated above for borrowed mainland reflexes of ⊗qaBaŋ.

The propagation of ⊗qaBaŋ on the Southeast Asian mainland was probably a consequence of the ascent of the Mekong, the Salween, the Irawaddy, and the Brahmaputra/Ganges by Austronesians from the coast. This ascent evidently also resulted in the appearance of boats with retracted outriggers on some of these rivers, noted by Heine-Geldern, implying that it also involved builders of double-outrigger canoes. The distribution of megalithic remains and urn burials up the Mekong valley until as far upwards as the Plain of Jars, and particularly that of An culture elements reflected today in Melanesia and Polynesia up the Brahmaputra/Ganges to the lands of the Nāgas in Northeast India (see Heine-Geldern 1928), implies that builders of double canoes too had already participated in the ascent of the mainland rivers. In conjunction with the "ship of the dead" cult, this appears to be confirmed by the shape of the coffins in Tanimbar and Timurlaut reported by van Hoëvell as indicated above.[182] One may therefore very roughly date the encounter and intermingling of highland Mongoloids and maritime Austronesians with autochthonous Indochinese Australoids as having lasted over a relatively long period of time, from roughly the middle of the second millennium B.C. (well before the double canoe was displaced from Indonesia) until the middle of the first millennium B.C. (when that displacement was practically completed and the Dongson diffusion in Indonesia had begun).

Although the Austronesians, as indicated above, must have been immediately involved in the culture sphere in which the Dongson culture evolved, they could not have been its principal sponsors. The "ship of the dead" in all its symbolic depictions in Indochina as well as in Indonesia is always an outriggerless boat. In my opinion, therefore, the initiators of the Dongson culture must have come from amidst Mongoloid peoples descending from the highland interior, who must have been builders of the precursor of the dragonboats of present South China and Indochina. The encounter between these Mongoloids from the interior and Austronesians from the coast evidently resulted in an intensive exchange of culture goods, the adoption of the retracted-outrigger boat by NAn peoples of Indochina, and the introduction of the outriggerless longboat to the Austronesians, who took it to Botel Tobago in the north, and via Maluku to the Solomons in the east. The much smaller dispersal area of Dongson-type artefacts in Austronesia should probably be seen as an indication that the state of multicultural coexistence, occasioning the exchange of boat constructions at an early stage, and leading finally to Dongson bronze, must have spanned a relatively long period of time, letting the somewhat extended period proposed above seem realistic.

One further protoform with a distribution area similar to that of ⊗ZuRi?/ ˣ[DZ]uRi[] and ⊗natu?, in that it features a substratum trail leading to a principal distribution area in Oceania, is particularly noteworthy because it means 'person, man', so that its distribution may have ethnohistorical implications. It is ˣCa[?]u-ma-qata (see Mahdi 1988:60, 281, #30), of which the first

component is ⊗Ca[ʔ]u 'person' (see below), and the second is a derivation of ⊗qata 'person, particularly of Australoid race' (see below). The compound protoform was previously interpreted by Dempwolff (1938:132) as *Ca[ʔ]u-ma-[ ]taq 'unripe person',[183] implying the notion of a person reaching 'ripeness' when passing into postmortal existence. However, without entering into the question of the extent to which this may render to early An views on life after death a bias of postmessianic theology, the protoform ⊗qata, of which reflexes meaning 'person' are quite widely distributed (see below), obviously fits more adequately as second component of the compound. West of East Indonesia, the compound protoform is only represented in the Sangiric languages.

Sgr, Sgl, Tld *taumata,* Rth *tomata,* Ban *toumata* 'person' (Sneddon 1984: 107)

Ntt, Alu, Pir, Rmk, Plh *tamata,* Nwl *ya-tumata,* SprHr *tumata,* Elp *tămata,* Kyl *əkmata,* Kai *tomat,* Fdt *tomata,* Ymd *tomwate* (Stokhof 1981–82: #236–238), Bul, Ptn, Mba *smat*[184] 'person' (Stokhof 1980:#236–238)

Sbe *tɐmto* 'person'

Mnm *tamwata,* Msw *taumata,* Gdg *tamol,* Kil *tamta,* Dob *tomota,* BnnS *tamata* 'person' (Capell 1971:246, 256, 270, 277; Blust 1981b:235)

Fji *tamata,* Tga, Fut, Sam *taŋata* 'person' (Dempwolff 1938:132)

With the exception of the Mussau cognate, the Oceanic reflexes point to a POc *taŋʷata with labiovelar nasal in place of the *-um- (see Blust 1981b:235). The implication of *-mw-* in the Yamdena reflex in this regard is unclear to me.

It is perhaps significant that, particularly in the distribution pattern of a word with implications for ethnic identity, the Sangiric languages are the only ones outside East Indonesia and Oceania to have reflexes. Sangiric reflexes are almost always represented in the distribution of other essentially "East Indonesian-Oceanic" forms discussed above with an approaching "substratum trail." I consider this as a further stone in the mosaic of evidence characterizing the Sulu-Sangir region as an important crossroads in trade, migration, and culture-transmittance routes, and as a center of dispersal for various elements of culture tradition.

The first component in the compound, ⊗Ca[ʔ]u, is reconstructed here with provisional medial laryngeal for several reasons. First, the POc form is *tau instead of the **to which would be expected if there had been no medial laryngeal (note for example Nakanai, Krw, Fut *tau* 'person'). A fusion of the vowels to *o* is not even observed in compounds, in which one would expect such a syllable reduction to be particularly favored. See ×Ca[ʔ]u-ma-qata above, and *Ca[ʔ]u + *[Ct]asik > Sam *tau-tai,* Tga *tou-tai* 'seaman' (Dempwoff 1938:132). The Tonga reflex at the same time indicates that the laryngeal was not *q. Second, there is the evidence of Tsg, Tbl *taʔuh,* Mmw *taʔo,* ItgBn *táʔo,* Ibl *toʔo* (Reid 1971:214), the significance of which is not quite

clear. The medial laryngeal must in any case be treated as uncertain, because it is not reflected in Ami, Tag, BisCb *tau.*

The position between *a and a final high vowel appears to be a particularly labile one for laryngeals, which may explain the absence of an expected *ʔ* in the last-mentioned reflexes. The laryngeal only rarely manifests itself for example in reflexes of *BaHi/*BəHi 'woman' (Ami *fa-fahi-an,* MnbWB *bahi,* Bkd *báhi),* or of *ka-Su 'thou' (Kkb *ii-kásu,* Sby *kou).*[185] Reflexes of the latter protoform generally appear to derive from a ˣkau as effective protoform (see Tso *-ko,* Tag *i-kaw,* Tob *ho,* Fji *ko).* In the case of ⊗pəDaHu/ˣpaDaHu (assimilation) 'sailboat for long-distance voyaging', on the other hand, the effective treatment of *-aHu as ˣ-au is only attested for some of the reflexes (those in Philippinic languages and in Malay), but not for many others (Oceanic, Javanese).

> Mly *layar padaw* 'storm sail', Btl *padaw* 'sailing', DsnKd *padau* 'rowing-boat, sailing-boat', Mar *padao,* Pas *páraw* 'sailboat', Tar *padao,* Bkl *paráw,* Tsg *paraw* 'boat',[186] Tag *paráw* 'large passenger or cargo sailboat', BisCb *paráw* 'schooner, galleon' (Blust 1983–84a:#258)
>
> OJav *parahu* 'boat'
>
> Rtm *foráu,* Gel *vinau* (irregular *i*), 'travel by sea', Fut *folau* 'navigator', *a-folau* 'boat shed', Mao *wharau,* FjiBw *volao,* Haw *halau*[187] 'boat shed', Sam *folau* 'ship, voyage', Tga *folau* 'fleet, travel by sea' (Dempwolff 1938:113, Biggs 1965:407, Cashmore 1969:16)
>
> Mlu *parau,* Eft *barau/borau,* Uve *folau,* Tah *farau* (Haddon and Hornell 1938:71)[188]

The Tagalog and Cebuano forms have irregular *-r-* for *-l-,* suggesting relatively late borrowing from a donor with *-d-.* The Philippinic reflexes should probably all be seen as reflecting a secondary ˣpadaw formed, presumably in the third and fourth centuries A.D., from the original Malay form *padaw,* from a dialect in which it had not yet been replaced by the Old Javanese loan. Malay *pərahu* 'boat', apparently borrowed from Old Javanese, must in turn have become the precursor of a further maverick, ˣp[aə]rahu, reflexes of which include English *proa* and Dutch *prouw.*[189]

> Ach *praho/páraho,* Tob, Nga *parau,* Snd *parahuʔ,* Mad *parao(h),* Bal *p(ə)rahu,* Ssk *p(ə)rau,* etc., Kvl *broa* 'boat'

The Kavalan reflex is apparently a seventeenth-century Hispano-Philippine contact artefact (Ferrell 1969:20). Theoretically, from a purely formalistic point of view, the Oceanic reflexes listed earlier could be regarded as reflecting ˣp[aə]rahu, this actually being the way they were in effect treated by Haddon and Hornell (1938:71) and Dempwolff (1938:113), thus demonstrating how only one aberrant reflection (here in Malay, multiplied by borrowing into further

languages) can create the impression of a protoform with ⊗r having a distribution of reflexes implying—with the Kavalan cognate—formal assignability to PAn, and being widely represented in Oceania with meanings that exclude recent borrowing from Malay-speaking sailors on board whalers and cargo ships.

It is interesting to note that reflexes of the original protoform are also widespread in Dravidian languages of South India. The Austronesian form was probably brought here together with the double canoe and single-outrigger boat. As this must have preceded the introduction of the reversible single-outrigger boat,[190] this suggests a dating of around the middle of the second millennium B.C., in any case certainly not later than 1000 B.C.[191]

> Tamil *paṭavu/paṭaku* 'small boat', Malayalam *paṭavu/paṭaku* 'ship, large boat', Kannaḍa *paḍahu/paḍagu/paḍangu/haḍagu/haḍaga* 'ship, large boat', Tulu *paḍavu/paḍa* 'boat', *haḍagu/haḍaga* 'ship', Telugu *paḍava* 'boat' (Burrow and Emeneau 1984:#3838)

The word appears to have been borrowed in parallel from several now-extinct languages of prehistoric An settlers on the coast of South India. One of these apparently reflected the An protoform as something like *paḍagu. The appearance of a velar before initial prevocalic or medial intervocalic *u* is a well-known phenomenon in the historical phonology of some An languages. In Chamorro and Alune this regularly led to the formation of *gw* and *kw* respectively (Dyen 1962, Collins 1983:46), and in Tunjung the glide in *gw < *u has, likewise regularly, even been subsequently deleted, leaving a *g* as reflex of *u (Mahdi 1988:144–145). The appearance of the voiced velar between *a* and *u* could however also occur irregularly, as for example in Ifg, KalGi *tágu,* Bgw *ta-tágu* 'person' (Reid 1971:#214) reflecting ⊗Ca[ʔ]u.

The Malay *padaw* and Old Javanese *parahu* now appear to be the only non-Oceanic An reflexes of the protoform, as the other Western Austronesian cognates apparently reflect either ×padaw or ×p[aə]rahu. The protoform was thus originally more widely reflected in Dravidian languages than in Western Austronesian. In Oceania too, it has a limited distribution, being apparently restricted to Eastern Oceanic. It appears possible, in my opinion, that the protoform originally emerged in the language of one of the An peoples ancestral to present speakers of Eastern Oceanic (if there had been ethnic mixing, the ancestral peoples must not necessarily have been speakers of Proto–Eastern Oceanic), while still being in present Indonesia. An eastward migration brought the word to Oceania, while a westward movement of the same peoples brought it to India. The observed Malay and Javanese reflexes could be borrowings, either from a substratum or, in my opinion more likely, from the one or the other of the groups of former An-speaking Nāgas of India, perhaps the ethnicity originally referred to by the Malays and Javanese as K(ə)liŋ.[192] It could thus have been a "back-loan" from India, but in view of the phonological correspondences probably not from a Dravidian language.

Let us return now to the compound protoform meaning 'person' discussed above. The basic form of the second component of the compound, ⊗qata, which has the doublet ˣqaRta[ʔ] (see below), is particularly interesting because, as in the case of the already discussed compound form, its distribution perhaps likewise permits certain insight into early ethnic processes. I reconstruct the protoform with *t instead of *[Ct] under the assumption that the protoform is a derivation of *-ta 'we (incl.)'.[193]

Tso *áto,* Bun *ʔata* 'we (incl.)' (Ferrell 1969:190)

Blust (1972c) originally proposed the reconstruction of the form as *qa(R)[CtT]a with the meaning 'outsider, alien people'. However, this meaning must be the result of a later semantic development that may even have occurred in parallel in several places. The original meaning, as will become clear in the further discussion, must have been 'person (of own, probably Australoid race)'. The term appears to have emerged among An-speaking Australoids (Melanesians, or Paleomelanesians).[194] Formally, the protoform would have to be assigned to Blust's PMP, because reflexes in the original meaning of 'person' occur from West Indonesia to New Caledonia.

Kro *hata/ata,* Blw *gad,* Sik *ata,* KnkN *kac* 'person'

Belau and Kanakese are unique in the (geographical) east in having a noncompound reflex. Otherwise, reflexes meaning 'person' in languages of Sulawesi and Maluku reflect the compound with *Ca[ʔ]u already considered above. Languages with noncompound reflexes meaning 'person' are concentrated in Nusatenggara and in Sumatra or off its west coast.

Slr, Lio, Sik *ata* (Stokhof 1983a:#236–238) 'person'; Sxl *ata/n-ata,* NysS *n-ata,* Sim *ata/hata,* Eng *ek-aka,* Kro *hata/ata* (Kähler 1959, 1961, 1987, Joustra 1907) 'person'

Particularly interesting are instances of reflexes bearing the meaning 'Negrito' in several languages of the Philippines (being invariably reflexes of the doublet ˣqaRta[ʔ]), and 'slave' in languages of Central and East Indonesia.

Pas *ʔayta,* DgtKs *ʔagtaʔ,* Isg *agta,* MnbWB *ʔagta* (Charles 1974:460) 'Negrito'[195]

Sml *ata* (Reid 1971:268) 'slave'

Rth, Ban, Tbu, Tse, Tdn, Tsw, Mdo, Kaidipan, Mak, Sly, Mri, Bku *ata,* Sww *wata,* Gtl *wato,* Mun *gata,*[196] Bgy *atta* (Stokhof 1983b, 1984–85, both #394) 'slave'

Kyl, Mas, Rmk, Hrk, Msl, SprHr, TtmBl, Smb, Alr *ata,* Nsl *ata-l,* Wtr *ada,* Lti *atte* (Stokhof 1981–82, 1983a, both #394) 'slave'

To explain the various meanings of the reflexes of ⊗qata / ˣqaRta[ʔ], we must evidently first of all postulate two ethnic groups of Austronesians, one who referred to persons (like themselves) as ⊗qata, and another who did not, but were inclined to capture members of the former group as slaves.[197] From the distribution of reflexes meaning 'person (of own race)', and particularly from the Philippine reflexes of the doublet ˣqaRta[ʔ] we may conclude that the former of the two An-speaking ethnic groups was dark-skinned, or Australoid. Interesting in this regard is the Cebuano cognate, glossed by Wolff (1972) as BisCb *agtaʔ* "1. supernatural man of dark complexion and extraordinary size, said to inhabit trees, cliffs, or empty houses. He is said to play practical jokes on people, kidnap them. 2. name occasionally given to Negritoes." In this obvious reflection of a past encounter with a different race and culture with its many uncomprehended and thus seemingly supernatural features, one is inadvertently reminded of the legendary Vazimba (presumably a reference to Khoisans or Bantus) in Malagasy, or certain mystical aspects of the representation of Aborigines in the literature and lore of Australian Anglo-Saxons.

The encounter between the two above-mentioned groups of Austronesians seems to be reflected in the meanings of the following cognates in languages of Nusatenggara, to which Blust (1972c) already called particular attention: Mgr *ata* 'person, settler, tribe; other people, foreigners; spirits', and Ngd *c-ata* 'human being; human figure; enemy, foe'. The meanings 'foreigners, enemy, slave' apparently emerged as a result of newcomers of the second group referring to autochthones of the first group whom they often subjugated, by the latter's own term for 'person', that is, ⊗qata. Where the language of the autochthones finally prevailed in the resulting ethnically mixed community (like English of the Anglo-Saxons after the Norman conquest), this would have led to the paradoxical circumstance that the original meaning of the word, 'person, human being', and the meaning it acquired in the speech of the intruders, 'enemy, slave', ended up in one and the same language.[198]

That this meeting of ⊗qata and non-⊗qata Austronesians with subsequent absorption of the one into the language community of the other could occur independently in different areas becomes clear from Xaracu̶ Kanakese of New Caledonia, for which Grace (1972) noted KnkXc *ka-* '(prefix meaning) person who (does smth.)' and *ka* 'enemy, person which may be killed and eaten', both reflecting ⊗qata in the same dialect. The former is evidently the authentic reflex with the original meaning, which has become grammaticalized to a prefix. If the original meaning of the protoform had been 'outsider, foreigner, enemy', it would be difficult to explain how a word denoting the object or target of one's aggression could come to refer to the subject or agent.

From the distribution of the various forms for 'person', one may perhaps venture the following hypothesis: (Palaeo-)Melanesian An-speakers representing the first wave of the An migration apparantly had ⊗qata as word for 'person (of own kind)', possibly deriving from the root *-ta 'we (incl.)'. They moved

southward through the Philippines, splitting westward and eastward in Central Indonesia, to reach the barrier islands west of Sumatra and New Caledonia respectively. Note that the meaning 'person' for reflexes of ⊗qata occurs mainly in languages of peoples with a darker skin coloring than that of the so-called 'Deutero-Malays'. Otherwise, the words for 'person' in languages of the Philippines and Sulawesi in the main reflect *Ca[?]u.[199]

The characterization of the first group of An speakers as being dark-skinned implies that people of the second group were different. It thus appears probable that ⊗qata was the word for 'person' of the Australoid Austronesians, whereas ⊗Ca[?]u was that of the Mongoloid Austronesians. The initial racial disjunction among the An speakers could not have been maintained for very long though, and mixture must have been the rule throughout. It is under such circumstances that the compound ×Ca[?]u-ma-qata must have emerged.

For the An migration into Oceania, we must apparently posit several, at least two if not three, major movements. A preliminary migration of Australoid An speakers having ⊗qata as word for 'person' must have been followed by a migration of headhunters to create the situation observed in Xaracu in New Caledonia. The simplest treatment would be to assume these latter to be the racially mixed An speakers having ×Ca[?]u-ma-qata as a word for person, being presumably the carriers of POc so that surviving elements of the language of the earlier migration (such as KnkN *kac* 'person') must form a substratum in Oceanic. There possibly was a third movement, providing for a linguistic adstratum in Oceanic, having ⊗Ca[?]u as word for 'person', but one cannot exclude the possibility that both of these (compound and noncompound) protoforms for 'person' coexisted in the same stratum. We do not have as compelling an indication of two distinct strata here as in the case of the two first, initially representing in New Caledonia the headhunters and the hunted respectively.

The possible existence of divergent forms for 'person' with racial connotation in early An raises the interesting question of the racial identity of the Proto-Austronesians, that is, whether PAn was originally the language of an Australoid or a Mongoloid community.[200] The gradual retreat of the presumably Australoid inhabitants of the Sunda Shelf when the latter was flooded between 12,000 and 8000 B.C. must have resulted in the formation of an Australoid population—with four millennia of experience in coping with the advancing seas, the probable foundations of later An mastery of the high seas—on the Late Hoabinhian seaboard of Southeast China and Indochina. Here it must have met with a likewise gradual, expansion-type migration in the opposite direction of Mongoloid groups from the interior. Under these circumstances, it must have been unavoidable that language families developed, encompassing racially nonuniform language communities. Thus we find that, although the Tai and Kam-Sui are Mongoloid, the Li of Hainan, the Laqua, Kelao, and Lati of Indochina, all likewise speaking Daic languages, are Australoid, as for example also the Atayals and the Bunun of Taiwan.

The assumption that Austronesian is a compact language family, which lies at the very base of An historical linguistics in general, and the impression gathered above from the distribution of words for 'person' that participants of the first wave of the An migration were Australoids referring to themselves as ⊗qata allows the probability that the original Proto-Austronesians were Australoid. Mongoloids from the mainland interior, settling in the homeland of the Australoid Austronesians must have taken over their language, in the same way as the Mongoloid and probably Daic-speaking Lac-Viet alias Lo-Yueh[201] settling in the Red River valley adopted the East Austroasiatic language of the darker-skinned autochthones. The language that was originally spoken by the now An-speaking Mongoloids could have been either Daic or closely related to it, contributing a substantial Daic or "close-to-Daic" adstratum in Austronesian. This would conveniently explain the substantial corpus of vocabulary that An and Daic have in common, which has served as basis of Benedict's (1942, 1975) Austro-Thai hypothesis.

Theoretically, the Daic adstratum in An should be missing in the language group spoken by participants of the first, ⊗qata An migration. As we saw above, however, An speakers of a later migration, already displaying Mongoloid racial admixture, advanced until the remotest end of the former migration in Oceania, that is, New Caledonia. No An language group can therefore be guaranteed to be free of elements of the putative Daic adstratum. Apart from that, it would be exceedingly difficult to distinguish between a Daic adstratum in An, an An adstratum in Daic (resulting from bilateral An–Dai contact), and a stratum of borrowings from a common third source in the corpus of "Austro-Thai" vocabulary.

In some places in the An homeland, it was apparently not the presumably Daic-speaking immigrant Mongoloids who took over Austronesian, but the local, originally An-speaking Australoid autochthones who adopted Daic. We thus have Daic-speaking Australoids such as the Li of Hainan, the Kelao, Laqua, and Lati, whose Daic languages feature an unmistakeable An substratum not attested in the Tai or Sui languages (see Benedict 1942).

The testimony of the distribution of protoforms meaning 'person', though significant, is of course not sufficient, and much more evidence (also extra-linguistic) still has to be gathered and considered before we could form a definitive picture of the racial aspect of An ethnogenesis. The picture proposed above can therefore only be regarded as a provisional working hypothesis, needing corroboration by further evidence. It nevertheless serves as a further illustration of possible insights offered by closer inspection of the distribution of maverick protoforms.

In conclusion, it probably needs to be emphasized that the protoforms treated above and in Part I belong for the greater part to culture words, being thus expectably susceptible to propagation by contact. The credibility of conclusions drawn from comparative linguistic data in general—particularly when operating

with basic vocabulary, and the more so in conjunction with languages with a less pronounced inclination to recurrent internal contacts than An languages—therefore lies in a considerably higher range of confidence than that implied by the examples discussed in this paper. Nevertheless, language in real life is, as everyone knows, a stochastic process, a living, breathing, ever-changing attribute of culture, that lends itself only very reluctantly to confinement in convenient preconceived schematic straitjackets.

Of course, language is not a total chaos, impervious to analytical study, but the rules that govern its development may occasion mutually contradictiory effects. That is, the workings of each single rule may be countermined by the effects of other processes. It is not only quite reasonable to artificially "blend out" these competing effects in order to elicit the nature of one certain rule, this is actually a necessary measure in the logical analysis of complex phenomena. But it must not be forgotten that a picture thus obtained of the object of study is not identical with real life. It may even diverge quite decisively from this latter. A realistic reconstruction or modeling of the actual development must therefore endeavor to reunite the numerous processes elicited in isolation. Rather than declare the method of subgrouping by exclusively shared innovations as hopelessly ineffective, I would like to draw the following conclusions from the material presented above:

(1) The method should be applied with more restraint, whereby considerably greater caution is called for with regard to sifting out nonauthentic innovations (this includes the detection of shared adstrata, dialect chain effects, convergence, and so forth).

(2) Unfavorable conditions may come to bear, under which the effects of contact lead to totally misleading distribution patterns, so that implementation of the method even with the necessary precautions may result in erroneous conclusions.

(3) Subgrouping should not be based on one method alone. Rather, all available methods, each with its own error sources (because the mentioned properties of language that distort the results of one method do not halt before other methods), should be implemented, with painstaking analysis of the inevitable disparities in the respective results. Needless to say, the least productive strategy in this would be for each to insist on the exclusive validity of his or her own favorite method. However, this does not diminish the significance of investigations based on pure implementations of one or another individual method. Quite the contrary, a comprehensive treatment requires results from all the methods, and already the very opportunity to compare one's own results with those obtained independently by another method is certainly of inestimable value.

The study of maverick protoforms, it would seem, does not directly bring a positive contribution to the solution of the problem of subgrouping. It is not

concerned with those aspects of language development in which processes of divergence, leading to the formation of subgroups, are immediately reflected, but with those that distort the workings of those processes that provide the basis for various subgrouping methods. I hope nevertheless to have shown that the significance of the study of mavericks with regard to the problem of subgrouping lies first in that it serves to identify the "debris" or "noise" in the database of subgrouping investigations, providing a first contribution toward sifting out incoherent data and thus toward greater accuracy in the investigation. Second, it may even serve to bring system into that "noise" by helping to identify whole strata, and thus providing additional reference points for better orientation in particularly complicated situations of language development. In this latter role, as I hope to have shown, results of the study of mavericks may come to play a positive part in the reconstruction of linguistic history, supplying at the same time perhaps even more valuable data for various extralinguistic fields of study.[202]

NOTES

111. See also Groeneveldt (1877:7, fn. 1). That Yavadvīpa could be literally interpreted 'barley island' was, as first noted by Werndly (1736:xi), already known to Ptolemy (*Iabadíou hò sēmaínei krithẽs nẽsos; euphorōtátē dè légetai hḕ nẽsos eĩnai kaì éti pleĩston chrysòn poieĩn* 'Iabadiu that means barley island; very fertile this island is said to be and abundant gold to produce', in *Geōgraphikḕ Hyphḗgēsis* 7.2.29; Coedès 1910:61). The identity of Valmiki's Yavadvīpa and Ptolemy's Iabadiu can thus be established beyond any doubt. Lassen (1852:1042) was to my knowledge the first to point out that barley does not grow in Indonesia and that the geographical name in reality probably meant 'millet island' (see also Kern 1871).

Comparing the passage from Ptolemy quoted above with those from Valmiki's Rāmāyaṇa and the Central Javanese Changgal inscription quoted in Part I (Note 93), it becomes clear that all three reflect one and the same tradition that characterizes a "Java"-land as a fertile grain-producing country rich in gold resources. This agreement in the description of the country not only serves to additionally certify that Ptolemy's Iabadiu and Valmiki's Yavadvīpa were indeed one and the same, but provides further grounds for identifying the "Java" of the Changgal inscription with the two former terms. This circumstance attains particular significance because, whereas Ptolemy clearly indicates that Iabadiu is not the Malay Peninsula (Chrysẽs Chersónēsos) as assumed for Yavadvīpa by Moens (1940), the Changgal inscription excludes Java as location of Yavadvīpa, thus narrowing down the probable sites for the latter to Sumatra. Together, the three sources provide independent evidence strengthening the conclusion drawn in Part I from Faxian's travelogue.

Beyond contributing to the determination of the historical location of Yavadvīpa, this comparison of texts also serves to demonstrate that early contacts resulted in the propagation not only of individual items of vocabulary, but also of various aspects of knowledge or information. In case of Yavadvīpa, the parallelism

between Valmiki's and Ptolemy's texts goes even further. The stanza following upon the passage from the Rāmāyaṇa quoted in Part I reads: *Yavadvīpam atikramya Śiśiro nāma parvataḥ | Divaṁ spṛśati śṛṅgeṇa devadānavasevitaḥ* 'Beyond Yavadvīpa lies the mountain named Śiśira | which reaches the skies and is inhabited by demons'. Significantly, Ptolemy locates beyond his Iabadiu: *Satýrōn nēsoi treīs, ... taútas hoi katéchontes ouràs échein légontai, hopoías diagráphousi tàs tōn Satýrōn* 'Three Satyr islands, ... those living there have tails, it is said, such as have been ascribed to the satyrs'. (*Geōgraphikḗ Hyphḗgēsis* 7.2.30, Coedès 1910:61). First reports of the "satyrs" in the remotest islands of India are ascribed to Ctesias, having thus perhaps been brought to the Hellenistic world through Alexander's expedition to India, and were reflected in the works of many Greek and Roman authors. Citing Pliny the Elder who located satyrs in the east of "India," Bontius (1658:84) in the first scientific mention of the orangutan *(Pongo pygmaeus)* considered the latter to be the satyrs of antiquity, and this is apparently the source of the indication in the otherwise very reliable *Encyclopædie van Nederlandsch-Indië* (Stibbe 1919:182) that the orangutan was apparently already known in antiquity.

From Valmiki's formulation one must have indeed, like Ptolemy, gathered the impression that the mountain inhabited by demons (dānava) lay beyond the "island" of Yavadvīpa, leading the Hellenistic geographer to locate his islands of satyrs accordingly. Ironically, it is Ptolemy himself who unwittingly provides us with the decisive clue on the probable identity of the dānavas/satyrs and their actual location, in that the writer transmitted information from a different source on Yavadvīpa, which referred to the latter by a name that he failed to recognize as being a variant rendering of the first: *Sabadeībai nēsoi treīs anthrōpophágōn* 'the three Sabadība islands of cannibals' (Coedès 1910:61, 7.2.28). Whereas Ptolemy's knowledge of Yavadvīpa rendered as Iabadiu apparently derived from Sanskrit literary *(kavya)* tradition, his information of the same land, but with the name rendered Sabadība, must have been acquired, as the reflection of the initial as *s-* betrays, from a vernacular of South India where merchants with first-hand experience in trade with Malayo-Indonesia were to be found. What the former source romantically described as dānavas, interpreted as satyrs, the latter one revealed quite realistically as being cannibals. Reports on the practice of cannibalism by the Bataks of the Central Sumatran highlands persisted until the nineteenth century A.D. The impression this made on early travelers reaching Sumatran coastal polities has been aptly conveyed by Marco Polo. Recalling his stopover at Perlak *(Ferlec)* on the northeastern coast of Sumatra, he noted that *en se royaume hantent si souvent li Sarrasin qu'ilz ont convertis ceulx du pays à la loy Mahommet. Mais ce sont cilz de la cité, car ceulx des montaignes vivent comme bestes et menguent char d'hommes* 'in this kingdom Saracens have so often stayed that they have converted those of the country to the law of Mohammed. But these are of the city, whereas those of the mountains live like beasts and eat flesh of humans' (cited from Pauthier 1865:568–569). For a traveler, typically reaching Yavadvīpa by sea, the highlands inhabited by cannibals would lie further up, "beyond" Yavadvīpa. The persistent confusion of the words for 'land', 'country', 'kingdom', and 'island' by early geographers must have misled Ptolemy to assume that the mountain of dānavas/satyrs stood beyond the "island" of Iabadiu. Items of knowledge propagated over long distances by trade and culture contacts can thus be seen here to undergo similar mutations as the meanings of words, as for example when a word for 'leaf' ends up meaning 'silver'.

112. The final *-H in the protoform was elucidated by Zorc (1982:#P88) on the evidence of Akl *dawah,* Itb *um-rawah,* Ibn *jawaʔ.*

113. Job's tears (*Coix lacryma-jobi* L. and *Coix agrestis* Lour.) was probably cultivated even earlier. In archaeological excavations in Timor it was found in levels predating 3000 B.C. (Hutterer 1983), but as the cereal also occurs wild throughout Indonesia (Ishige 1980:335, map), the find must not necessarily imply domestication at that early date. The most widely represented protoform for 'Job's tears' is ˣqazəl[a]i (see Wolff 1990; Mly *hənjəlay,* Snd *hanjəli?,* OJav *jahəli,* Mad *jhʌŋlɛ(h),* Bal *jali-jali,* Nga *jəlɛy,* Rti *dele,* Hrk *sale;* de Clercq 1909:#835). The limited distribution of the protoform and the numerous irregularities in the sound correspondence suggest that knowledge and cultivation of Job's tears probably was not brought by the Austronesians from their Southeast China homeland into the archipelago, but was acquired in situ, perhaps from local Non-Austronesian autochthones.

Foxtail millet apparently originated from China where it is already evidenced in large quantity in the earlier Yangshao level (Chang 1970), that is, in the fifth millennium B.C. (Barnard as cited in Bellwood 1976). Reliable dates for the introduction of millet into Austronesia are not yet available. Ferrell (1969:5) cites results of archaeological investigations placing the beginning of intensive grain culture (presumably millet) in Taiwan at about 2500 B.C., but Bellwood (1985:214) cites palynological data that may imply cereal cultivation since 2800 B.C. In Malayo-Indonesia, a single grain of millet has been recovered at an archaeological site in Timor in a context that is younger than 1000 B.C. (Bellwood 1976, 1985:227). This indicates that millet cultivation must have been incipient to Austronesian culture after the first wave of the An migration left the mainland. For a considerable period, probably until the end of the first millennium A.D., rice and foxtail millet were cultivated in West Indonesia in parallel as staple (Lekkerkerker 1927:608–613). Another important cereal in early Indonesian agriculture appears to have been sorghum, which will be touched upon in the main text.

114. Kro *jaba* 'millet' exhibits the same irregularity as the second of the Tob forms.

115. Considering ˣpajəi to be authentic would therefore imply PAn acquaintance with rice (see below).

116. Kvl *savâ?* 'rice plant' (Ferrell 1969:127) is perhaps also cognate, in which case the irregular sound correspondence serves as additional confirmation for the assumption that Formosan reflexes are borrowings. The alternative derivation of the Kavalan form from *saBaq 'field' (Dempwolff 1938:145–146), of which the reflexes in languages of West Malayo-Indonesia mean 'submergeable ricefield (so-called paddy-field)', would practically imply direct borrowing from Malay. This is not altogether impossible, but rather unlikely because, for reasons which will be explained in the further discussion, I assume that Malay-speaking seafarers probably carried millet as their chief cereal staple, which they referred to by a reflex of ˣzawaH until well into the fourth century A.D. on their sailings through the Philippines to China. I know of no Philippine reflexes of *saBaq that might otherwise have conveniently served as possible precursors of the Kavalan form.

117. The absence of reflexes in languages of West Malayo-Indonesia is probably due to the precedence of reflexes of ˣzawaH.

118. As the final nasals have fallen together in Makassarese, Buginese, and some other languages of South Sulawesi, Mak *battaŋ* and Bug *wattəŋ* 'foxtail millet' (see de Clercq 1909:#3113) could reflect both doublets. The same is also true for reflexes in languages of East Indonesia that have dropped final nasals, for example Ngd *vəte* 'smallest var. of millet'. In Tif *feten* and the corresponding protoform reconstructed by Stresemann (1927:36) as "Proto-Ambon" *vətən 'millet', the final nasal is the regular reflex of *ŋ; the forms thus do not represent a further doublet.

119. The ease with which phonological irregularities occur in plant names has recently been demonstrated by Wolff (1990).
120. There are numerous indications that make it appear highly probable that Austronesian contacts with India already existed in those early and even earlier times, the Austronesians playing more an active than a passive role. Archaeological and anthropological evidence for early Austronesian presence in India were already brought forward by Hornell (1920:225–246), who among others mentioned the introduction of the double canoe and outrigger boat, the coconut, and certain kind of fishing-hooks as An contribution to India. Assuming that the reversible single-outrigger boat was introduced into India/Sri Lanka and Micronesia by diverging movements from the Philippine-Indonesia area, the movement to the west could in my opinion be dated as roughly contemporaneous with that to Micronesia: Shutler (1961) gives 1500 B.C. for the Marianas, Pawley and Green (1973) mention the middle of the second millennium B.C. as an extant dating for Yap and Guam. For the latest possible date of the beginning of the movement to India we could take that of the spreading of the outriggerless longboat ("plank-boat") and the double-outrigger boat through the archipelago, as these boat constructions evidently displaced the reversible single-outrigger boat from the Philippine-Indonesia area. The dispersal of longboats, reaching the Solomon Islands in the east and Botel Tobago in the north, and thus considerably exceeding the distribution area of Dongson-type artefacts in the archipelago, must have proceeded some centuries before the Dongson-related diffusion, giving us a dating of approximately 700 B.C. as the last limit for the movement to India. Further below I shall provide one independent piece of evidence indicating movement from Indonesia to India since about 1000 B.C., and another suggesting an even earlier date. With regard to the introduction of the coconut by Austronesians, it is worth noting a passage in the Rāmāyaṇa, in which King Sugriva includes among his vassals peoples whose houses were on the coast or in thickets of tamāla-trees, and who lived from eating coconuts. Although the ethnic term Nāga, probably referring originally not to Sino-Tibetans but (particularly when associated with littoral and maritime culture features) to Austronesians (perhaps also to Mundas), already occurs as early as in the Mahābhārata (see Kosambi 1964), first contacts of the Nāgas with Indians apparently involved Non-Aryan autochthones of the subcontinent, and could thus date from an even earlier period. The Chinese Buddhist pilgrim Faxian who visited these parts in A.D. 413–414, apparently quoting a contemporaneous Sinhalese tradition, writes that "this country [Sri Lanka] originally was without people, but there were spirits and dragons with which merchants of various countries carried on trade" (*qíguó běn wǔ rénmín, zhèng yǒu guǐshén jí lóng jū zhī, zhū guó shángrén gòng shíyí,* Legge 1886:37, cols. 2–3 of Chinese appendix). "People" *(rénmín)* apparently refers here to Sinhalese, by "spirits" *(guǐshén)* the authochthonous Veddhas were obviously meant, leaving us with "dragons" *(lóng),* which was the word Faxian used throughout for the Sanskrit ethnonym *Nāga* (literally 'snake, dragon'). I interpret this as an indication that before the coming of the Sinhalese, the island has inhabited by Veddhas and Austronesians, maintaining already at that time trade relations with the outside world. I shall substantiate all this elsewhere (Mahdi n.d.).
121. Another protoform was reconstructed by Blust (1986:#26) as *baCaj 'millet sp.' However, several of the Philippine reflexes cited by the author, as also SmbWw *wataru-pi?a* and SmbKb *wataru hamu,* are given as denoting *Andropogon sorghum* Brot., which is none other than *Sorghum vulgare* Pers. Furthermore, the South Sulawesi reflexes are glossed by de Clercq (1909:#3192) as denoting *Sorghum*

saccharatum Moench, being a sweet variety of the former and alternatively classified as *Sorghum vulgare* Pers. var. *saccharatum,* and variously referred to as 'Chinese cane, Chinese sorghum, etc.' (Gerth van Wijk 1962:1274). The denotate of the SmbKb reflex cited above is likewise identified by Verheijen (1984:20) as *Sorghum saccharatum* rather than as *Andropogon sorghum* (Kapita 1982: 280–281). It thus appears possible that the protoform originally referred to a variety of sorghum introduced at the same time into Austronesia through China instead of India, the latter having delivered the variety denoted ˣzawaH. An interesting secondary semantic shift is attested by Sly *batara,* SmbKb *wataru,* SmbWw *watara* 'maize (*Zea mays* L.)' (de Clercq 1909:#3550, Kapita 1982:280). As can be seen in Verheijen (1984:22), reflexes of ˣzawaH likewise occur with this meaning. It is interesting to note not only the parallelism of the American English use of corn in the meaning 'maize', but also that Greek *zéa* 'grain', reflected in botanical New Latin *Zea mays,* is apparently a cognate of Skt *yava* 'barley'.

122. That the cognate forms for 'sorghum' in India are likewise compounds is obviously due to the need to differentiate it from 'barley'.
123. McKaughan and Macaraya (1967) gloss Mar *bantad,* evidently reflecting the protoform *baCaj mentioned in Note 121 denoting 'millet sp.' or possibly 'sorghum var.' as 'barley-like plant', so that it appears probable that what the authors meant by 'barley' was actually 'millet'.
124. It was perhaps in this period too that the word advanced as far east as Flores.
125. Some of the reflexes, particularly in East Indonesia, also mean 'rice (unhusked grain)', or even 'rice (general term)'.
126. The author gives the dates in B.P., which I have rendered into B.C. assuming a rounded-off 2000 instead of A.D. 1950 for present, because the dates are estimations.
127. It is unclear whether the ⊗rV- and the nasal were optional or simply lost in some of the reflexes, as also whether the nasal was originally velar or became such through assimilation (see Kharia *rɔmku²b,* Monglwé *unko*). Zide and Zide (1976:1307) reconstructed Proto-Munda *ruŋkug. For Proto-Mon-Khmer, Shafer (1952:123) reconstructed *ko[].
128. This is the expected reflex for pre-Vietnamese *r[]kau?. For a putative pre-Vietnamese **kau?, on the other hand, one would have expected **kāw$_{Cl}$ (see Ferlus 1976:306 table).
129. PAA *g[u]s(<l>)əu? 'dog' (Bonda *gusɔ?,* Khasi *ksəw,* Riang *shoʔ*$_1$, Palaung *shă,* En *so,* Boloven *co,* Vietnamese *cɔ*$_{Cl}$, Temiar *cəwɔ?,* Semai *cō?* without the infix, and Kharia *solo?,* Old Mon *cluɯ* with it), borrowed with the infix into Hmong-Mien as ˣkləu? 'dog' (Hmu *tla*$_{Cl}$, Mien *kyo*$_{Cl}$, Mun *klo*$_{Cl}$), and without the infix into West Austronesian as ˣa-su 'dog' (Pwn *v-átu,* LpgBl, Hrk *asu,* leaving possible reflexes in Solomon Islands languages indicated by Hudson 1989 as uncertain), in which the ˣ-s- reflects donor *c- < *ks- < *gs- (Mahdi 1988: 376). There are a number of mutually cognate Sino-Tibetan forms for 'dog', impressionistically suggesting something like *kyūe(-n) as a protoform, which resemble the Austroasiatic one somewhat, and have therefore been considered to be possibly related (see Shafer 1952:#92). I have some doubts though, particularly because both protoforms appear to be at least partially onomatopoeic, in which case they would predictably tend to exhibit certain similarity regardless of whether they were cognate. Therefore, much stricter indications of original phonological identity are required before a common origin could be assumed.
130. Vietnamese *ç-* (spelled *tr-*) < *pl- is regular.

131. Sdq *mácu?* 'millet', Sry *massou* 'rice plant' (Ferrell 1969:125, 127) are probably cognate, but exhibit irregular reflection of the medial consonant.
132. I automatically interchange B and C in the diatoneme notation for sake of uniformity with the notation of Fang-kuei Li as indicated in Part I.
133. In Hmongic this dental-to-labial shift in initial clusters with medial *r* appears to have been a regional phonological development that involved the North, Central, and some of the West Hmongic isolects. I therefore provisionally allow for the possibility that the mesoform in question may have already been a maverick in Hmongic.
134. Purnell (1970:#724) only compared Mienic forms, for which the author reconstructed Proto-Mienic *[]mei[] (rendered in my way of notation for comparability).
135. It is interesting to note that obviously cognate forms are also reported for the (Daic) Li dialects of Hainan, for example, Baisha Li, Danzhou Li *mai* 'rice (unhusked)' (Jeremiassen 1895–96), for which I do not know the respective tones. The form is also reflected in Karenic ˣ[]mei[] > Pwo me_2 'cooked rice', Sgaw $m\bar{e}_4$, Mopwa *mä,* Dimasa *mai* 'paddy (rice plant?)' (Shafer 1974:416), but I am not familiar with the history of the Karenic tonal system. Finally, the following apparently cognate Tibeto-Burman forms are listed by Grierson (1903:112): Tipurā *mai* 'cooked rice, paddy', Bâṛâ *mōi* 'paddy'.
136. With reduced medial cluster of the otherwise to be expected **pa-Snaq.
137. An cognates more often have the meaning 'arrow' (for example Ami *panáq,* LpgKr *panah,* Fji *vana*) instead of 'bow'. A similar semantic shift is also attested for reflexes in North Tai isolects (Li 1977:#6.6.4).
138. The stone inscriptions of Pūrṇavarman were dated by Vogel (1925:34) at around A.D. 450 on the base of a palaeographic study of the script. As Sarkar (1959b) noted, however, the Pallava script used in the inscriptions changed only minimally in the period from A.D. 400 until 750, so that from the script alone one can only roughly place the inscriptions somewhere in that time interval. Further information for a more precise dating can perhaps be obtained by consulting records of embassies from West Java to China. Embassies from Hēluódān (alias "Holotan," identified as Aruteun by Slamet Muljana 1981:24–25) are reported for A.D. 430, 433, 434, 436, 437, and 452, whereas embassies from Taruma (Duōluómó) are noted for A.D. 528, 535, 666, and 669. One of the Pūrṇavarman inscriptions, found at the confluence of the Ci Aruteun and the Ci Sadané, proclaims the conquest of this territory. Aruteun must have lost its sovereignty after its last embassy to China in 452, and Taruma must have attained local paramountcy by 528 when it sent its first embassy to China. As the conquest of Aruteun by Taruma apparently took place under Pūrṇavarman, being the only Taruma ruler to have left us stone inscriptions, I assume that the latter must have ruled at the time of the embassies of 528 and 535, thus providing at the same time the approximate date of the canal digging. It is interesting that the Chinese records place Aruteun as well as Taruma in "Java" (Shèpó < MChi *źi̯a-b'uâ,* Karlgren 1940:#62j–25q), which at that time must have still meant 'Malay country'. Both Aruteun and Taruma therefore probably had Hindu-Malay ruling houses, although the local population was Sundanese. A possible confirmation for this is the circumstance that, although stone inscriptions of that period in West Java are all in Sanskrit, the oldest non-Sanskrit inscription in the area, bearing the date 854 Śaka (A.D. 942), is significantly in Old Malay (Bosch 1941).
139. The meaning 'gold mine' of the Pangasinan and Tontemboan forms is evidently an indication of more-than-sporadic local gold-mining activity, and tends to confirm the conclusion made in Part I that the adoption of the meaning 'gold' for

reflexes of ˣbu-Lau—and may have taken place in parallel in several languages of the Philippines and North Sulawesi.

140. As the use of the word in the meaning 'river' continues to be productive in the present, it is imaginable that river names originally preceded by a word for 'river' other than *kali* could have had that word relatively recently replaced by the latter. In names of villages and townships such a replacement is obviously not very likely.

141. Conclusions of this kind cannot be reached on the basis of only one or two isolated arguments. For reason of space, I shall discuss these considerations elsewhere (Mahdi n.d.). One argument would however perhaps not be out of place here, because it likewise combines historical linguistics with geography. The West Hesperonesian protoform *qiaŋ must have originally meant 'ancestor' or 'relative of the eldest generation' (Snd *ɛ-yaŋ* 'grandparent', Mly *mo-yang* 'great-grandparent, ancestor', *mən-d-iaŋ* 'the deceased, the late', MlgMe *rá-zana* 'ancestor'). Some of its reflexes have acquired the meaning 'deity' (OJav, OMly *hyaŋ,* Cam *yaŋ* 'deity', Jav *ka-hyaŋ-an* 'Asgard, Olympus'), reflecting the central role of ancestor worship in the development of indigenous pre-Hinduistic religion. The same reflexes also appeared in royal titles in Old Malay, Old Javanese, Old Cham, and (borrowed from the latter) even Old Khmer epigraphy, testifying to deification of the king, a reliable indication that institutionalization of social stratification had advanced to the level of a despotic state. This development is usually accompanied by exaggerated glorification of deities, likening the king to a god, and a deity to a despot being two sides of the same medal. It appears noteworthy that three mountainous regions in Java bear names deriving from the protoform *qiaŋ. The first is Mount Yang in East Java having an ancient, in part apparently pre-Hinduistic temple complex connected with worship of volcanic activity near its top (see for example de Jong 1937–40). The second is the Dièng (< *Di-qiaŋ) Plateau in Central Java, a region of volcanic activity and early religious worship with the oldest Hindu temples in Java. The third is the West Javanese highland county *(kabupatén)* of Priangan (colonial Preanger), the present name being a corruption of historiographically attested Parahiangan (< *paR--Da-qiaŋ--an). This is the location of the volcano Tangkuban Perahu and the scene of the plot of the Sundanese legend of Dayang Sumbi and Sangkuriang. Immediately to the west lies the terraced pyramid at Pangguyangan in Sukabumi County (see Sukendar et al. 1977). The three locations with "divine' names mark quite exactly the eastern and western extremes and the center of the region of highest density of place names with *kali.*

142. I am indebted to "Reviewer C" for pointing out to me the sound-shift sequence in this reflex, which parallels that in Tag *buról* < PPh *bulud 'hill'. With regard to the semantic shift in the second meaning of the reflex, a similar one is attested for Fji *baa* 'fish fence' < pre-POc *mpaRa 'fence, stockade, fortified place' (see Blust 1973:#41). The latter may be ultimately related to *paRa/ˣpara 'scaffolding, framework' (see Dempwolff 1938:113; Mly *para-para* 'framework', Nga *pahɛ* 'scaffolding over cooking hearth' / MlgMe *fàra-fára* 'bedframe', Tag *pala-pala* 'framework'). Dempwolff actually included Sqa *para* 'fence' as reflex of the latter, although semantically it fits Blust's reconstruction. Fji *vara* 'framework', though evidently a loanword, nevertheless implies persistence of the meaning assigned by Dempwolff to his reconstruction after dispersal into Oceania.

143. Heine-Geldern's distinction of an "earlier" and a "later" megalithic in Southeast Asia does not imply separate origin of the megalithic culture of the two regions, for which there is to my knowledge no compelling indication. Although the one

or other specific local development cannot be denied, terraces, stepped pyramid-like monuments, ridge fortifications, and many other features of the "earlier" stage are known on both sides of the imaginary demarkation line. Heine-Geldern (1928) has even called attention to the striking similarities between Polynesian megalithic complexes and those of the Nāgas of Northeast India.

144. See Mills (1975), Sneddon (1984).

145. A frequently occurring additional feature is palatalization at original final dentals, particularly *-t, which may either manifest itself in a fronting or palatal diphthongization of the preceding vowel as in some South Sulawesi languages and Minangkabau (Mills 1975:458–459), or in a palatalization or retroflexion of the final dental itself as in Soboyo or Proto-Malagasy (Mahdi 1988:229). In Malagasy and Buginese, it was apparently such a retroflexion *(-t > -ʔt¬ > -ʔṭ)* that subsequently led to the present reflection as *-r-* before suffixes. In languages of the coastal and offshore regions of Sumatra, Malaya, and a neighboring part of Kalimantan, the glottal stop before a final nasal was often assimilated to a homorganic stop: *-m,-n,-ŋ > -ʔm¬,-ʔn¬,-ʔŋ¬ > -bm,-dn,-gŋ,* for example in the Orang-Laut and related dialects recorded by Kähler (1960), or in isolects classified by Hudson (1970) as Malayic Dayak, referred to by Adelaar (1992:#2.1.2g) in the example of Salako as preplosion. This was occasionally followed by loss of the final nasal and devoicing of the remaining stop, as for example in Mentawai. In many languages of Sangir-Sulawesi and most dialects of early Malagasy, it fused with the nasal to form a velar nasal: *-ʔm¬,-ʔn¬,-ʔŋ¬ > -ŋ.* In many Malagasy dialects (including Mérina), however, this is no longer immediately apparent, in consequence of a subsequent *ŋ > n* shift in all positions except before velar stops.

146. The development of the fortis reflex in non-final position probably also passed through the intermediate stage of a geminated or preglottalized stop, thus *-k- > *-h-* (lenis), but *-Xk- > *-kk-/*-ʔk- > *-k-* (fortis), where *X stands for an obstruent, for example MlgMe *házo* 'tree' (< *kaSiu), *mangaházo* 'cassava' (with Bantu loan ˣmaŋa; see Dahl 1988:126), but *hodikázo* 'bark' (with *kuliC 'skin').

147. FCPS was apparently not a shared innovation collectively inherited from a common protolanguage, but a regional feature that propagated through contact. It thus evidently "infected" some languages while these still retained final voiced stops, and others after previously voiced final stops had become unvoiced (Mahdi 1988:230–231).

148. Like the other Sangiric languages, Sangil, which is spoken here, exhibits the same phonological phenomenon at originally final voiced stops and nonnasal continuants.

149. To account for the shift we hardly have much choice.

150. I quite deliberately speak of "geographical separation," which neither asserts nor denies that the groups ensued from an exclusive common precursor through splitting. As phonological features often spread through contact, and may thus result from a regional innovation rather than imply inheritance from a common protolanguage, the parallelism of the *j > *g* shift in the two language groups, if not coincidental, testifies to geographical proximity at some time in the past. This may, and—when flanked by sufficient other evidence—can often be shown to imply common inheritance, but does not necessarily do so.

151. Commonly, houses in Bali, Java, and Sumatra have the two-section shed or saddle roof. The four-section pyramid roof in this area is reserved for official, public, and religious buildings (local, Hindu, Muslim, and, where indigenous rather than European traditions prevailed in church architecture, also Christian), in which the implementation of more ancient or venerable architectural traditions was

apparently felt to lend an additional aura of authority and authenticity to the building, and serve as an expression of its congruence with the original cultural identity of the community. Further to the east, the onion-shaped, conical, and polygonal-pyramid roof (presumably later developments of the initially onion-shaped one) are sometimes also reserved for such buildings. Occasional appearance of the four-section roof on mosques and churches in Maluku, and thus off the postulated original dispersal route of this roof-type, can be ascribed to Islamic and Christian missionary activity of the last half millennium.

152. Conant (1911:80). The author also cites Ilk *tikər,* Kpp *tikáy* 'reed-mace, cattail', which I have not found in either Constantino (1971) or Forman (1971). Dempwolff (1938:138) has *tikaR, which fails to account for the Philippinic forms.
153. I also include here reflexes from the coast of Kalimantan immediately facing Sulawesi. Malagasy reflexes cited in this connection are considered, when not inherited, to have been acquired before migration to Madagascar.
154. Van der Tuuk (1872:§43 #33), Dempwolff (1920:#346, 1938:34), Kähler (1961:44), Reid (1971:#159, 179).
155. If Swy *ulu,* Bul *ai ulu* 'leaf' are cognate, they exhibit irregular loss of the initial bilabial and are thus probably secondary. Gdg *fu,* Sys *ful* 'betel (Piper betle L.)', which Dempwolff (1920:#346) included here, actually reflect ˣ(ba)bulu 'betel' (see Mills 1975:633). The latter and its doublets ˣbuyuq 'betel' (Blust 1973:#92) and ˣbəl[aə]u 'betel' (Kro *bəlo,* Gayo *blō)* probably represents a parallel borrowing from East Austroasiatic (PEAA *blu[ʔ] > Old Mon *sa-blu* /səbluʔ/, Korat Niakuol *a-pluʔ,* Thèng, Khu *blu,* Bahnar, Rơngao *bv̆ləu,* Lawa *phlo;* Palaung, Hung *plu,* Riang plu_2, Wa pu_2, Mỹ-sơn Mương, Uý-lô Mương plu_{A2}, seventeenth century Vietnamese $bləw_{A2}$ 'betel'; Maspero 1912:77, 83; Luce 1965a:#19; Shorto 1971:363). Occasional Daic cognates, Thai $phlū_{A2}$, Shan *pù* 'betel', are presumably also loans from East Austroasiatic, whereas the Palaung-Wa forms cited above with irregular loss of the final glottal, as also the Viet-Mương forms with A2 for expected C2 tone, are explained by Shorto (1971:363), who reconstructed the PEAA form with final glottal stop, as back-loans from the Daic. However, an alternative explanation would be that the final laryngeal in Mon and Niakuol is secondary, and absent in the PEAA form. A cognate was also borrowed into Chinese: *fúliú* 'betel' (< MChi *b'ɨu-liə̯u,* Karlgren 1940:#101f–1114p; EMChi *buə̯-luw,* Pulleyblank 1991:976–197), attested in Ji Han's *Nánfāng cǎomù zhuàng* ('herb and tree forms of the southern parts', fourth century A.D., see de Groot 1894) but possibly already acquired during the Earlier Han in the second century B.C. from a not precisely specifiable language of Southeast Asia.
156. Willms (1955:6–7). I consider Wru *uman* 'worm' to be distinct.
157. The Sea of Sulawesi, surrounded by Southwest Mindanao, Talaud, Sangir, Minahasa, Sabah, and Sulu, must also have served as crossroads of migration routes, as well as of trade routes. It was perhaps maritime trade activity emanating from this region that, attracting reciprocal sailings from Yavadvīpa in the west and Maluku in the east, ultimately led to the establishment of the Trans-Indonesian spice trade by the second century B.C. as indicated in Part I. As Ptak (1992) shows, the region still retained its character of an important maritime crossroad in the fourteenth to sixteenth centuries A.D.
158. Van der Tuuk (1879:138), de Clercq (1909:#322), Sneddon (1978:163), Nothofer (1986:106), Mahdi (1988:387).
159. As Minahasa belongs to the East Hesperonesian languages, and Palaeosumatranic to the West Hesperonesian, their last common protolanguage with each other, and the more so with Sumbawa, must have been PHn, which had *qanəHau for

'toddy palm' (LpgBl *hanaw,* Bkl *ʔanáhaw)* and the reflex of PAn *tǝbuS for 'sugarcane' (Ami *tavuc,* Jav *tǝbu,* Fji *ndovu).* Even assuming a closer relationship between the languages involved here, their last common protolanguage must have had reflexes of these same protoforms as words for the respective meanings, bearing in mind Sim *anao* 'toddy palm', and Kro *tǝbu,* Nias *tovu* 'sugarcane'. I therefore assume ˣpaula to be a maverick.

160. Kähler (1961:65), Vérin, Kottak, & Gordin (1969:#19), Sneddon (1984:87).
161. The apparent vowel alternation in the first syllable could indicate that *-[ǝi]n- represents an infix, as is the case in *t<[ǝi]n>ǝʔun 'weave' (see Pzh *mu-tuʔun* 'weave' without the infix; Mahdi 1988:104). This would however imply that the residual *kas was a root. However, it does not semantically fit any of the three *kas roots reconstructed so far (Blust 1988:104–105) in an immediately obvious way. Some not at all far-fetched conjectures could be formulated involving $*kas_2$ or $*kas_3$, but there is no point in embarking on idle speculations here.
162. In spite of the success of recent direct-route sailings from Indonesia to Madagascar with an outrigger boat built in Mindanao and a Buginese *pinisi,* I do not believe the Malagasy migration proceeded along that route. The arguments put forward by Miller (1969) in favor of the direct route assumed, first, that early cinnamon trade to the Mediterranean led through East Africa. This has been shown by Schoff (1920) to derive from the erronous assumption that Hebrew *qinnāmon* and its Phoenician cognate (mentioned by Herodotes) referred to the spice presently known as cinnamon. Second, Miller adopted Marshall's (1817) derivation of the Semitic form from Mly *kayu manis* 'cinnamon', which was already regarded with scepticism by Lassen (1847:280–281, n. 2) and Cooley (1849), and rejected altogether by Schumann (1883:11; see also Löw 1924:105) in favor of a purely Semitic etymology (< $\sqrt{}$*q.n.h* 'cane, pipe, tube') first suggested by Vincent (cited in Cooley 1849:168). The authoritative Hebrew dictionary of Gesenius, which reportedly still carried the Malay etymology in its 11th edition (see van Ronkel 1901), dropped it from the 12th (Gesenius 1895:694), being the oldest one to which I have had access. I shall provide further data elsewhere to show that Mly *manis* could not have emerged at a sufficiently early time to account for Hebrew *qinnāmon* in the Old Testament (Exodus 30:23, Proverbs 7:17, Song of Solomon 4:14). It can furthermore be shown that historical Austronesian presence approximately contemporaneous with the Malagasy migration must be assumed along the entire northern perimeter of the Indian Ocean, so that there is no occasion for postulating an alternative direct route. The assumption of a direct sailing route to Madagascar, regularly used by cinnamon transporters over centuries, would on the other hand require an explanation for the survival of the dodo *(Raphus cucullatus)* of Mauritius and the closely related solitaires *(Raphus solitarius* and *Pezophaps solitaria)* of Réunion and Rodrigues islands until first European contact. As the plight of the some two dozen species of New Zealand moa demonstrates (incidentally, not nearly as gullible and defenseless as the dodo and solitaires), the Austronesian variety of *Homo sapiens sapiens* is a worthy equal of his Indo-European conspecific in rapacious treatment of natural resources.
163. With regard to the dating, see Solheim (1969).
164. Although the appearance of a kettle drum on a South Sumatran megalithic carved boulder shows it to be contemporary with the diffusion of Dongson-related culture elements in Indonesia (see Thomassen à Thuessink van der Hoop 1932:158), the beginnings of the Austronesian megalithic must obviously be much older to account for its early proliferation into Melanesia and further. An important fea-

ture of the megalithic in Western Austronesia (including, in this context, a larger portion of Indochina than that known to have been inhabited by Chams during historical times) is the cult of the sacred benjamin tree (*Ficus benjamina* L., Mly *bəriŋin,* Jav *wariŋin,* sometimes referred to as banyan, but not to be confused either with the true banyan, *F. indica* L., or with the closely related sacred *peepul* or *bo* tree, *F. religiosa* L., both of India; nor also to be confused with the *benzoin* tree, *Styrax benzoin* Dryand., occasionally corrupted to 'benjamin tree'). The terraced monument at Do-linh in Central Vietnam had such a tree at its top (Colani 1937), as also the megalithic ancestor hill-sanctuary and holy meeting place of Soya in Ambon described by Röder (1939). A sacred tree growing out of the top of a terraced pyramid is a well-known theme on the *kayon* or *gunuŋan* of the Javanese *wayaŋ* shadow theater (see Stutterheim 1926:135, fig. 225; Bosch 1960: pl. 66–67). In Kisar it is believed that the sun god Upu Lera (< *[ʔ]u-pu 'elder, master, chief' + *(qa-)ləjau 'sun, day') descends through the sacred benjamin tree that is decorated with lamps as his symbols, and at the foot of which there usually are various megalithic objects (van Hoëvell 1890b:204–205). Similarly, the god Hamo of the Tsou, a remote sky deity whose body exudes light, descends through the sacred benjamin tree (Ferrell 1969:36). These examples of manifestations of the cult and its relationship to the megalithic, though far from comprehensive, suffice to demonstrate that the cult is represented over the entire Western Austronesian ecumene, and, together with the megalithic that it accompanies, must be of much greater antiquity than the Dongson. There also is a sacred plant cult in Eastern Austronesia, which is apparently also associated with the megalithic. However, it not only involves other plants (species having red leaves), but it is based on rather different ideological conceptions (red, the color of blood, symbolizing vitality, fertility, and strength; see Riesenfeld 1950:657). Although the two divergent cults may possibly prove to have a common origin, with corresponding implications for time-depth estimations of the megalithic of which they appear to be an attribute, this still has to be demonstrated first. A very complex relationship of mutual influence exists between the originally distinct Southeast Asian and Indian sacred tree cults, shedding further light on certain modalities of the culture relations between the two areas in pre- and protohistorical times, but even a schematic description would need too much space to warrant including it here.

165. This must not be confused with the Proto-Oceanic homeland. The expansion of a language (sub)family, the dispersal of a culture tradition, and the migration of peoples involved in either the former or the latter, are three distinct processes, having each its own points of departure and routes of progress that may coincide, but need not do so as a general rule. The prevailing opinion in An historical linguistics is that Oceanic is a "compact" group, that is, one consisting of daughter languages of one precursor, Proto-Oceanic, being most closely related to South Halmahera–Cendrawasih Bay languages and forming with these and the East Indonesian languages East Malayo-Polynesian, and having the South Halmahera–Irian Jaya area as its homeland. However, diverging views exist with regard to the "compactness" and the subgrouping, as well as the homeland. Actually, the undeniable existence of various strata in Oceanic does not contradict the "compactness" of the latter in the sense of its having a distinct single precursor, any more than that Romanic's having Latin as precursor is contradicted by the existence of well-known Celtic and Germanic strata. The subgrouping is more problematic because it is mainly based on the method of Exclusively Shared Innovations, which is notoriously unreliable when contact and convergence are involved (is

Cham Austroasiatic or Austronesian, is Vietnamese Daic or Austroasiatic, is Romanian Slavic or Romanic, is English Romanic or Germanic?), and they are very much so in the Maluku–Irian Jaya migration bottleneck. Depending upon which of several relevant strata is considered the main stratum, the method can lead to variable results (see Haudricourt 1953). One must first identify the main stratum, and determine the pertainment of each included form to that stratum, both being not yet fulfilled conditions.

166. Mahdi (1988:71), Dempwolff (1938:12); see Bal *hajah,* Mly *(h)ajar* / Jav *ajar,* Tag *ʔaral* 'teach'.
167. Mahdi (1988:71), Brandstetter (1911:#141), Dempwolff (1938:103); see Kvl *ɣasību?* '100' (Ferrell 1969:418), Mtu *ge-rebu* '10,000' (Capell 1943:23; *i > *i* but *[aə]i > *e,* Capell 1943:27–28), Mly *ribu,* OJav *iwu* '1000' / Tag *libo,* MlgMe *a-rívo* '1000'.
168. We of course have a similar instance with the maverick doublet in *Badi?/ˣbari[ ] 'iron utensil or weapon' discussed in Part I, exhibiting however only marginal distribution in West Malayo-Indonesia.
169. The question of what boats and people may have in common is quite superfluous when one is dealing with Austronesians. The close connection between the two notions manifests itself with particular emphasis in Mly *awaʔ kapal* 'crew', literally 'body of boat', the first component being a reflex of *[]a-uak (Mly, Jav *awaʔ* 'body', Tob *ak* 'the back', Fji *l-ewe-* 'flesh, contents'; Dempwolff 1938:17). A reduplication of the root seems to have resulted in MlgMe *vahóaka* 'a commoner', a cognate of which reappears in the ethnic and dialect name Antambahóaka. This association of a common crew member with the social status of a commoner finds its complement in the appearance of OMly *puhawaŋ* 'shipmaster' (< *pu 'elder, master' + *qaBaŋ 'boat') in Old Malay epigraphy, and in its reflection in titles of noblemen in Malay, Javanese, Sundanese, Balinese and other West Indonesian traditional literature, folklore, epigraphy.
170. Biggs (1965:402), Milke (1968:#69), Stokhof (1981–82, 1983a, 1983b, 1983–84, all:#1038), and sources of individual languages. The doublet ˣwiliŋ is restricted to languages of South Halmahera and Central and South Maluku: Wda, Swy *wileŋ,* Ptn *weliŋ,* Wtr, Fdt, Ymd, Kai *wilin,* Nyl *wiln-a* 'rudder'.
171. The author reconstructed the two underlying forms as *[dD]uRi (in agreement with Dempwolff 1938:41) and *[zZ]uRi respectively. However, in view of my different definition for *d and *D, the initial of the former is disambiguated as *D- by OJav *rwi,* Mad *ḍuri(h),* Bal *ḍuwi* 'thorn'. Having discarded ⊗z from the phoneme inventory reconstructed for PAn, the initial in the latter doublet is disambiguated as *Z. The final *ʔ was first indicated for Proto-Malayic by Adelaar (1985:86) on the evidence of Ibn *duriʔ* 'thorn'.
172. Sources for the cited reflexes are chiefly Milke (1968:#59), Blust (1973:#33, 1978a:39, 48–51), Stokhof (1982–83:#257–258).
173. Adriani and Kruijt (1914:303, #29). Stokhof (1980:#257–258) has Bul, Ptn, Swy, Mba *ntu* 'child'.
174. Dempwolff (1938:20).
175. The reflexes are taken from Ferrell (1969:247), Blust (1972a:#83), Reid (1971: #41), Adriani and Kruyt (1914:222) and sources of individual languages.
176. Blust (1973:#307).
177. The only reason for treating the doublet as a possible maverick here is that regarding it alternatively as an authentic innovation would imply definitive alignment of Formosan and Hesperonesian in one highest-order An group, leaving the languages of East Indonesia and Oceania with ⊗[q]uaŋ[k]a for 'boat' forming the

complementary highest-order group. Although the protoform for 'boat' carries a great deal of weight when dealing with the An family, it would probably be prudent nevertheless to "proceed with caution," particularly because the distribution of reflexes of ⊗pəDaHu 'sailboat for long-distance voyaging' to be discussed further down in the main text suggests an alignment of Hesperonesian with Oceanic. The relationship among the three doublets under discussion at this point could in my opinion be provisionally imagined as follows: ⊗[q]uaŋ[k]a and ×[bB]aŋka? could be doublet reflexes of a putative compound */ʔbaŋ + ʔga/. A compound formed from the same components, but in the reverse order, could have given ⊗qaBaŋ. An analogical relationship seems to exist between PWHn(?) *li-mau 'citrus spp.' and POc *mo-li 'citrus spp.' (Mly, Nga *limaw,* Mnm, Fji *moli;* Dempwolff 1938:97, Milke 1968: #47). Alternatively, one could treat both as cases of metathesis.

178. Horridge (1987). The canted rectangular sail (rectangular boom lug; Doran 1981:40) carried by double-outrigger boats in present-day Indonesia is evidently the result of Malay influence during the past centuries. It may probably be safely assumed that these watercraft originally carried the Oceanic lateen.
179. The true lateen, occurring principally in India, the Near East, and the Mediterranean, has no boom, and the yard, though slanted as that of the Oceanic lateen, is suspended from a relatively tall mast approximately by the center.
180. The Sri Lankan double sprit sail and the Micronesian "Oceanic lateen" are in my opinion two parallel solutions to the problem that the tacking maneuver on a single-outrigger boat with reversible sailing direction placed to the rigging. The retention of the Oceanic lateen on double-outrigger boats (on which it was no longer necessary), and particularly the cumbersome handling of the rigging when making headway against the wind, I consider an additional indication that these latter vessels were not the prototype of the An boat, but that they developed out of the single-outrigger boat with reversible sailing direction, having an outrigger on both sides probably serving as alternative to reversing the sailing direction. The double-outrigger Madurese *jukung,* though being just as symmetric in plan around its long axis as an Oceanic double canoe or a Western yacht, does not "tack" as these latter do—and even as some asymmetric nonreversible single outrigger canoes of Oceania do—but "wears" instead. This, like the "shunting" of the Micronesian reversible single outrigger canoe, involves letting the sheet loose and catching it again after the boom has been swiveled over (see Horridge 1987:85, 147; compare Doran 1981:38). As the single-outrigger boats of Madagascar do not have reversible sailing direction, the reason for the change in rigging here cannot be explained from an internal development, but must be sought in some external influence.
181. Boat-coffin burials in the original Indochinese distribution area delivered radiocarbon dates of 603 ± 207, 533 ± 257, and 465 ± 295 B.C. at Viet Khe in the Red River estuary, and 200 ± 200 B.C. in the Ongbah cavern in Thailand (Higham 1989:195, 204).
182. The boats presently used as watercraft (not as coffins) here are double-outrigger boats with finely styled hulls and elaborately carved bow ornamentations. The form of the coffins thus cannot be seen as the result of accommodation to current forms, but apparently reflects the prevailing boat construction contemporary to the first introduction of the cult to Tanimbar.
183. Beside replacing Dempwolff's PAn notation with Dyen's, I have here also updated the reconstruction of the individual components. With regard to the basic form for 'raw, unripe', several doublets can be reconstructed, particularly *qətaq

(RukTn *maŋ-ətá,* Tga *ʔota;* Tsuchida 1975:199, #107) and *Hataq (Itb *ma-hata;* Zorc 1982:#P99).

184. Adriani and Kruijt (1914:345) indicated the following shifts: *smat* < *tmat < *tamata.
185. The Dutch compiler of the Holle list for Soboyo transcribed the word as *kooe* (Stokhof 1980:#1359) in which the *oe* unambiguously points to a syllabic /u/, because an /ow/ would have been transcribed *-ou, -ow,* or *-ouw,* but never *-ooe.* The bisyllabicity of the Soboyo reflex is therefore undoubted. Blust (1981a:28, n. 8) has called attention to a tendency in Soboyo to avoid monosyllables ending in a diphthong, but this manifested itself not in shifting the final glide to a high vowel, but in the accretion of an in-effect paragogic *-o,* for example Sby *yawo* 'far' < *(qa-)Zauq. In the other examples provided by the author, however, observed final *-o* could also reflect an original *ə of the protoform: Sby *lowo* 'toward the sea' < *laHuəd; *nuo* 'coconut' < PCM *niuəR [metathesis] < *niəuR; *wayo* 'water' < *uaSiəR. In any case, if the bisyllabicity of the Soboyo form for 'thou' had been secondary, and the form reflected a putative pre-Sby *kaw < ˣkau (without the laryngeal), one would have expected **kowo.
186. The Bikol and Tausug forms are from Mintz and del Rosario Britanico (1985) and Hassan et al. (1975) respectively. The Tausug cognate may be a relatively late borrowing.
187. The Hawaiian cognate is from Pukui and Elbert (1981).
188. The authors listed these and some of the Oceanic forms already cited from other sources as cognates of Mly *pərahu* 'boat' (borrowed from Old Javanese) without more precise specification of their respective meanings that, at least for cognates I cited from other sources, diverge from 'boat'.
189. But Spanish *piragua,* French *pirogue,* Russian *piróga* 'boat (indigenous, particularly of exotic tropical peoples)' derive from the Carib.
190. Because the reversible single-outrigger canoe in Oceania is practically restricted to Micronesia, where reflexes of ⊗pəDaHu are unknown to me. The Oceanic distribution area of reflexes of the protoform thus appears to be restricted to Melanesia and Polynesia where the double canoe, the nonreversible single-outrigger boat, and rafts prevail.
191. Because the South Indian correspondent to the Indonesian "later" megalithic that apparently coincides chronologically with the double-outrigger boat dates, as already mentioned earlier, from 1000 B.C. onwards.
192. In the later period, the term came to refer to Dravidians, particularly to Tamils, but mainly after possible early An-speaking ethnicities in India had been absorbed into the Dravidian population. The word is often considered to reflect Sanskrit Kalińga, but as Lévi (1923:11–12) indicated, the latter must be a loan from a non-Indo-Aryan local language. As the loss of a final *-ga in Malay and Javanese would be rather unusual, the original form, serving also as the etymon from which the Sanskrit must ultimately have derived, presumably via a Dravidian language, must have been something like *Kəliŋ. It was perhaps the name of an originally An ethnicity maintaining maritime trade connections between India and Indonesia. That the word originally referred neither to Indo-Aryans, nor to Dravidians, seems to be suggested by Old Javanese epigraphy. Thus, in the list of foreign traders in lines 1–2 of face 7b of the copper plate inscription of Kaladi dated A.D. 909 (a copy with some spelling mistakes) we find the following distinctions made: *kli* (read *kliŋ)* 'Klings', *arja (āryya)* 'Aryans', *siŋhal (siŋhala)* 'Singhalese, i.e. Sri Lankans', and *drawila (drawiḍa)* 'Dravidians' (see Barret Jones 1984:186–187).

193. The alignment was suggested to me by a hand note of Robert Blust on some papers kindly sent to me in April 1985 in conjunction with receiving a copy of the manuscript of the later published Mahdi (1988).
194. That is, ancestors of present-day Melanesians when they were still en route in Taiwan, the Philippines, and East Indonesia, or even in the putative homeland on the Southeast Chinese coast.
195. Note also the ethnic terms Aeta, Alta, Atta.
196. The initial of the Muna reflex, given in the Holle list as *g-*, has been corrected here heeding the data of van den Berg (1991:43).
197. I am not alluding to theories of the secondary origin of dual division in Oceanic social organization explained as the result of the encounter of two originally distinct populations, for which there is no linguistic evidence (see Blust 1981c).
198. Particular caution is nevertheless called for here, of course, because the word for 'person' often acquires the connotation 'other person, outsider'. Thus Ami *tau* reflecting ⊗Ca[ʔ]u means 'other person' (Tsuchida 1975:249). In Malay, *ɔraŋ* 'person' appears in several fixed phrases in which it must be translated as 'somebody else, others, other people'. However, this is not a specific feature of An, but can also be found for example in European languages. See Russian *kak u lüdeĭ* 'like it is with other people' (literally 'like at people'), German *unter die Leute kommen* 'meet with other people' (literally 'come under the people'), English *what will people think/say.*
199. In languages of West Indonesia they mainly represent Proto-Urangic (PU) *[]uRaŋ (Cam *ʔuraŋ,* Mly *ɔraŋ,* Mkb *uraŋ,* OJav *wwaŋ* 'person', apparently representing a PU semantic innovation; see Tob *uraŋ* 'child', LpgKr *uyaŋ* 'elder sister-in-law', Ulw *ule-* 'clansman') and effective Proto–West Hesperonesian(?) ⊗qulun (Mok *kolon,* LpgKr, LpgKl, Btl *ulun,* MlgMe *ólona* 'person'), reflexes of which (perhaps also some of ⊗qata) have been superceded in some languages by reflexes of ˣzəl[ə]ma < Mly *jəlma* 'reincarnat(e/ion), manifest(ation)' < Skt *janma* 'creature, being' (Tob *jolma,* Snd *jəlmaʔ,* Bal *jəlmʌ/jələmʌ* 'person'), whereas in some isolects of the region the borrowing constituted an apparent "nonreplacement innovation" (LpgKr *jəlma,* Mad *jhʌləmma(h)* 'person'). The distribution within the dialects of Lampung, as becomes evident from the study of Walker (1975:#109), presents a classical picture of the sort that one might unwittingly assign to "nonreplacement innovation" if one did not know that one is dealing with secondary reflexes of a Sanskrit borrowing in Malay (see below)—unless one understands the term "nonreplacement innovation" to include nonauthentic innovation, which would disqualify it as evidence for subgrouping. Of the 12 dialects included in Walker's investigation, 11 had cognates of ˣjələma, and only one, Kalianda, still retained a reflex of ⊗qulun. Of course, this does not rule out the possible existence of authentic "nonreplacement innovation" in general, but shows nevertheless that the term may not be applied automatically without explicit evidence indicating that the nonreplacement distribution of an innovation assumed to be authentic is not caused by the latter's actual secondary origin.

The uniform reflection of the irregular *l* < *n* (as also in Jav *jalma* 'reincarnation, human being', Snd *jalmaʔ* 'person' < ˣjalma, a doublet of ˣzəl[ə]ma, implying an early Malay variant form *jalma) indicates that the cognates were probably not parallel borrowings from Sanskrit, but through mediation of one language. From this mediating language it must have then been spread to the other ones. There are several other similar instances, for example Skt *jāgr* > Mly, Tob, Kro, LpgKr, *jaga,* Snd *jagaʔ,* Jav *jɔgɔ,* Mad *jhʌghʌ(h),* Bal *jagʌ,* Tir *diyaga* 'be awake, stand guard', MlgMe *záha* 'heed' (common loss of *r*); Skt *upavāsa* > Mly, Tob, Kro,

LpgKr *puasa,* Jav *p(u)ɔsɔ,* Mad *powasa(h),* Bal *puasʌ,* Snd, Bug, Mak *puasa?,* Tsg *puasa* 'to fast' (common loss of initial *u-,* and neutralization of original antepenultimate vowel *(-av- >) -aw- > -əw- > -u-*). Apparently, Malay speakers were not only busy spreading Malay words throughout the archipelago, from the second century B.C. along the clove route through the South China Sea and the Sulu-Sangir area, and from the third and fourth centuries onwards along the so-called "Sabaean route." They were also the first to spread words of Sanskrit origin. The circumstance that Javanese and Balinese in present times exhibit a far more substantial Sanskrit stratum than Malay is a consequence of the much earlier Islamization of the Malays, compared to that of the Javanese (the Balinese have retained the Hindu religion to this day). Originally, however, they must have acquired their first Sanskrit loanwords from Malay. After having later established their own independent relationship to the Hindu-Buddhist culture of India, Javanese and Balinese also borrowed directly from Sanskrit. Thus, beside the forms cited above, Balinese also has *jadmʌ/janmʌ* 'person' and *upawasʌ* 'to fast (bookish style)', and Old Javanese likewise has *upawāsa* 'to fast', as also *jagra* 'be awake, stand guard', demonstrating that the conditions leading to the phonological shifts in the Malay reflexes were not also compelling for the other languages. At the same time, the contact dispersal of forms with Malay phonological innovations demonstrates a further development mechanism simulating apparent "exclusively shared innovations," falsely suggesting that the loans from Sanskrit were made before the highest-order split of Proto–West Hesperonesian or, taking into consideration Sulawesi and Philippine cognates, even before that of PHn. Nevertheless, the occasional phonologically conservative reflexes in Javanese and Balinese indicate nonreplacement innovations.

200. I do not share the admittedly sympathetic opinion that presently observed racial variety in Austronesia and the "Indo-Pacific" results from a relatively late divergent development from a single, presumably Australoid local archetype. Although divergence doubtlessly contributed to the present variety, the situation of the Philippine-Indonesia area as a migration corridor between Asia and Oceania must certainly have led to the introduction of incipient population groups from the mainland, particularly because the gradual expansive growth of the population of the continent must have inevitably led to heightened demographic pressure in major protruding land-tongues such as Indochina and the Sunda Shelf. With regard to the ethical aspect of the "exclusively local divergence" hypothesis, which is certainly an important reason for its appeal, I do not believe that racism is effectively opposed by eliminating difference of race, because that would be an escape from the problem rather than a contribution to its solution. One cannot acquire the fundamental intellectual insight that persons of different races are equal, when one does not recognize the existence of racial differences.
201. This is respectively the Vietnamese and Chinese reading of the same ethnic name.
202. With regard to culture-historical implications of the distribution of words for 'iron', 'gold', 'silver', 'rice', and 'clove' in East Indonesia, I would like to thank Jim Collins for pointing out to me a preliminary study by Chlenov (1980:432–434). In spite of inevitable handicaps deriving from the preliminary character of the study (e.g., the early stage of knowledge of the etymology of words forming the database), the author's tentative summary using statistical methods (1980:436–437) arrives at a chronological stratification (iron, gold, rice assigned to a first incipient stratum, clove to a second one) that qualitatively coincides with mine (except for silver, which Chlenov assigns to a still later stratum), though diverging quantitatively in the time-depth estimation. The author's mistaken derivation of

the word for 'clove' in East Central Maluku languages from a ˣbu-Lau--an 'gold' has been corrected in a detailed review by Collins (1983:360–361), who derives it from Malay *buŋa* and *lawaŋ,* thereby anticipating the etymology of "as-if" PECM ˣbuga-lawan I gave in Part I (p. 189). Collins also suggests the inclusion of other crops into the study, particularly millet.

NOTE ALSO: Since publication of Part I, several omissions from the list of language abbreviations in Note 1 have come to our attention: Gyo, Gayo; Ptp, Petapa; Slt, Seranlaut. Also, RukMn on line 7 of Note 21 (p. 203) should be RukMt.

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