Austro-Thai[1]

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Some quarter of a century ago the writer proposed that the languages of Southeast Asia be reclassified as follows (schema from Benedict 1942):

Proto-Austric —
$\left\{\begin{array}{l}\text{Thai} \\ \text{Kadai} \\ \text{Indonesian}\end{array}\right.$
$\left\{\begin{array}{l}\text{Mon-Khmer} \\ \text{Annamese}\end{array}\right.$

?Miao-Yao

Chinese

Sino-Tibetan $\left\{\begin{array}{l}\text{Tibeto-Burman} \\ \text{Karen}\end{array}\right.$

This schema completely removes Thai from its traditional association with Chinese and Tibeto-Burman (TB) and places it in a supergrouping with Indonesian (IN). Thai features such as monosyllabicism and tonality are explained as the product of an early, profound influence from Chinese upon the Thai languages, at that time (1st millennium B. C. or earlier) spoken in southern China. The Thai numerals and some other lexical elements are also attributed to this influence, whereas the more nuclear root affinities are considered to lie with Indonesian. Kadai was created as a grouping for several residual languages of the area: Li (Hainan), Laqua and Lati (China–North Vietnam border) and Kelao (small, scattered groups in south-central China). These languages were shown to have striking IN correspondences in the numerals and elsewhere, along with Thai features, and were described as transitional between Thai and

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IN. A general historical thesis was advanced, viz. that the ancient center of dispersion for these several languages and/or linguistic complexes was the South China area, and that the Cham and Malay language areas on the mainland could best be regarded as enclaves rather than as possible points of departure for the IN peoples.

The basic hypothesis advanced in 1942 has fared rather well over the years, especially in view of the violence that it did to the traditional scheme of things. The writer has contented himself with studies in related fields (see References) which tend to support his earlier conclusions without making any significant advance in the field. The Kadai grouping has won favor from most scholars, including Coedès (1949) and Capell (1945), and Haudricourt (1962) has even elevated this lowly tribal conglomeration to the role of a veritable linguistic "cross-roads" of Southeast Asia, connecting not only Austronesian (AN) and Daic (Thai) but even Austroasiatic and TB! The most influential advocate, however, has probably been Greenberg (1953), whose diagram of relationships is often reproduced (Capell 1962, Suggs 1951) along with the minor error in it.[2] Most recently, *Ethnic Groups of Mainland Southeast Asia* (LeBar et al. 1964) presented Thai and Kadai as a group but retained Malayo-Polynesian as a separate unity, along with a note as to the possible relationship with Thai. The writer was willing to accept this as representing a cautious approach until he noted that in this same work Miao-Yao is unabashedly placed in the Sino-Tibetan family, along with such legitimate members as Chinese and Tibeto-Burman. This led him to a review of the whole problem, with the feeling that a stronger case might be made for the original hypothesis as a whole. His goals were extremely modest: to strengthen a point here or there, to come up with a few lexical correspondences previously not noted. He was totally unprepared for the mass of material which he uncovered, partly with the aid of new key factors which will be described. After all, he had already announced in the original paper his belief that "most of the important lexical correspondences have been uncovered," and he had seen no reason, over the years, for changing this view. What is more, his colleagues appear to have believed him, since virtually no new comparative material has

been brought forward to this time. It would appear that this unfortunate statement, which surely must be ranked with the most egregious overstatements of our times, contributed to a veritable standstill in this field.

The Kadai languages had always seemed to the writer to be of critical importance if new advances were to be made in the field, and it has been a disappointing fact that no new sources on any of these languages have appeared since the publication in 1937 of Stübel's monumental work on the populations of Hainan. A previously overlooked source on Lati (Robert 1913) has been uncovered, however, and we now have two dialects of this language (Man P'ang and Ban Phung), the former often tying in more directly with material from the other Kadai languages, especially in the numerals (see the discussion below). An early Chinese source on Kelao, a word list from the *Miao-fang Pei-lan*, has been made available (in Chinese) by Ruey Yih-fu (1956), but this material presents more problems than solutions. On the Indonesian side, Dyen has made important contributions to the reconstruction of the parent speech (Dyen 1947a, 1947b; 1951; 1953a, 1953b), but no systematic comparative study of all IN lexemes has yet appeared, and we must largely content ourselves with the basic work by Dempwolff (1930), especially as modified by Dyen. As for the wider field of Austronesian, the recent review by Capell (1962), to which are appended lengthy comments by outstanding scholars in the field, highlights the sharp disagreements by these experts at almost every point and on every level. They agree perhaps on only one point, viz. that "someone" should do for AN what Dempwolff did for IN, in providing for it a comparative phonology and a corpus of roots.

We must turn now to the more positive aspect of our search for new tools or "keys" with which we may pry into hitherto inaccessible areas, and we find that two such sets of material have been supplied to us:

(A) F. K. Li has described and recorded in detail a new group of languages, the Kam-Sui (including also Mak and Then), spoken in various villages in Kweichou and Kwangsi provinces, in south-central China (see References). He has published (in Chinese) a complete study on Mak, has contributed perceptive linguistic analyses relating to Kam-Sui and

Thai, and has promised a complete study of Sui. He reports the appearance of a Kam dictionary (apparently in Chinese), and it seems in general that before long we shall have very substantial materials on the Kam-Sui group as a whole. The writer (1942) had predicted that new languages would be uncovered in this area, but had visualized rather languages of Kadai type. The Kam-Sui (KS) languages, which might be considered para-Thai, retain complex initials, e.g. ʔ*b* and ʔ*d*, *hm* and *hn*, which have been lost in the modern Thai languages, and they also present a number of highly distinctive features, notably a separate post-velar or uvular series of consonants. With this material in mind, the writer reviewed the word list and sentences long ago recorded by Jeremaissen (1892) for the Ong-Be (OB), also known in the literature as Shu-Li, one of the many populations on the island of Hainan, and found that this language exhibits specific Kam-Sui affinities and can be placed in this general para-Thai framework. In general, these languages both confirm our reconstructions of the parent Thai speech, as Li has pointed out in detail, and also present a maze of new forms and lexemes which bridge the gap between Thai and IN and/or Kadai at many critical junctures. One striking illustration will suffice here: the writer had not even included IN **kutu,* Thai (T) **hraw* "head louse" in his list of possible correspondences, but the KS forms (Sui *tu,* Mak *təu,* Then *tiu*) led him to reconstruct T **[t]hraw,* and he was delighted to uncover OB *kat* "lice"; he was then able to interpret the already recognized Li cognate *sau∼su* as a development from a **tl-*initial cluster, exactly paralleling IN **təlu* "3"; Li *śu∼su,* and on this basis was able to reconstruct Austro-Thai (AT) **kut(a)lu.* Other important inferences are to be drawn from the same illustration, both as to the importance of the stress factor in determining development (**'kutu>kat,* but **ku'tu>tu*) and with regard to the simplification of consonant clusters in IN (see further discussion below).

(B) In 1951 Haudricourt pointed out the existence of a distinctive series of labio-velar consonants in New Caledonia, the Solomons, and the Gilberts and Carolines, and Goodenough (1962) has extended this to Fiji. This made available, for the first time, a body of data regarding some specific aspect of AN

as opposed to IN and thus provided a test case, so to speak, for evaluating the claim that Thai and Kadai are directly related to this ancestral AN language. As will be shown below, the correspondences for these labio-velar consonants are remarkable in their scope and establish the general thesis beyond any possibility of rebuttal.

The original paper (1942) presented a list of 30 roots common to Thai and IN, with several additional comparisons added in footnotes.[3] One of these must now be rejected: T *ʔ*duuk* "bone"; IN *ta(n)duk* "horn" (one of only two of the original group involving any semantic shift). We now have three separate bits of information for this rejection. The long (phonemically geminate) vowel normally leads to replacement of -*k* by -ʔ in IN (see below). The initial ʔ*d*- shows three separate sets of correspondences in KS, as established by F. K. Li (1965). Inasmuch as we have excellent IN correspondences for several of the roots involved, it will repay us to study this material in some detail:

TABLE I

	GROUP I (F. K. Li ʔd-)		GROUP II (F. K. Li ʔl-)	
	winnow	raw	plant, v.	bone
IN	*ta(m)pi*	*hudip*	*pəndəm*	[*t*]*ulaŋ*
(reconstr.)	*traŋkwi*	*hublip*	*pandlam*	*tulak*
Thai	ʔ*doŋ*	ʔ*diip*	ʔ*dam*	ʔ*duuk*
Sui-LN	ʔ*doŋ*	ʔ*dyup*	ʔ*dam*	ʔ*dak*
Sui-J.	*doŋ*	*dyup*	*lam*	*lak*
Sui-P.	ʔ*doŋ*	ʔ*dyup*	*lam*	*lak*
Mak	ʔ*doŋ*	ʔ*dip*	ʔ*dam*	ʔ*dook*
Then	*loŋ*	*lip*	*zam*	*zaak*
S. Li	*duŋ yau*	*diep*	*dom*	*drüʔ*
N. Li		*fiep*		*füök*

Notes to Table I: "*winnow*": see below for the IN reconstruction as to the final; for the initial, T has a root *k(h)röŋ*, represented also by Si. *tăkrɛ:ŋ* and Dioi *raŋ* "sift; sieve, winnowing basket"; Mak has *jiŋ* as a doublet to ʔ*doŋ* "winnowing basket," and this is the general Thai and KS as well as Li meaning; the second part of the basic root is found in Dioi *wi* < *hwi* "clean grain with winnowing basket," probably also in T *wi* "fan; to fan" (Dioi *bi*) and Mak *pəi* "fan," *pəi pəi həu* "winnow rice (*həu*)"; "*raw*": IN "live"; T "raw, green, alive"; "*plant*": IN "bury," with the form cited by Dyen, who extricated it from scattered material

cited by Dempwolff under IN *pə(n)dəm* "close the eyes"; Nung has "plant rice," but the general T meaning is "dive"; KS "plant young rice plants"; *"bone"*: for AT we can reconstruct the doublet *tulaŋ ~ *tulak, fitting a type encountered in other roots (cf. "areca" below); the vocalism of the Thai form is explained by the KS series with medial *-aa-*, the whole closely paralleling T *luuk "child"; KS *laak, giving a reconstructed form *lwak (F. K. Li); here the reconstructed form is *ˀdwak, through influence exerted by the preceding vowel.

TABLE II

Group III (F. K. Li ˀn-)

	black	nose	numbed	salty
IN	*i(n)təm*	ʃ*ug'uŋ*	[*dd*]əŋən	*ˀapdaŋ*
(reconstr.)	*ˀi(n)tam*	{*ig'uŋ*	**dangan*	(Formosa)
Thai	*ˀdam*	*ˀdaŋ*	*ˀdaaŋ*	*ˀdaŋ*
Sui-LN	*ˀnam*	*ˀnaŋ*	*ˀnaŋ*	*ˀnaŋ*
Sui-J.	*nam*	*naŋ*	*naŋ*	*naŋ*
Sui-P.	*ˀnam*	*ˀnaŋ*	*ˀnaŋ*	*ˀnaŋ*
Mak	*nam*	*naŋ*	*naan*	*ˀdaŋ*
Then	*nam*	*naŋ*		*laŋ*
Ong-Be	*lam*	*löŋ*		
S. Li	*dəm*			
N. Li	*dam*		*duŋ~ŋan*	
Laqua	*dəm*	*taŋ*		
Lati	*ńə*	*ńə*		

Notes to Table II: "numbed": *[*dd*]əŋən "stunned" (TB "saddened"; NgD. "deaf"; Fu., Sm. "silent"); T "numbed (as with cold)"; Mak "numbed, unknowing" (the final from *-n/g*); Li: these dial. forms, both meaning "stupid (*dumm*)" are derived from either "end" of the root (cf. discussion below).

The above material all relates directly to a single T root: *ˀduuk "bone," which must be grouped with IN *[t]ulaŋ, id. rather than with IN *ta(n)duk "horn," as in the 1942 presentation. Several basic points are illustrated here:

(1) The KS material, along with our understanding of the development of velo-labial clusters (as in "winnow"), affords us an opportunity to reconstruct in some detail. It is no longer a question as to whether these languages are related, but rather as to just how we are to reconstruct the ancestral forms.

(2) Our corpus of common roots has expanded, only half the roots in the above tables having been cited in 1942. Actually, the expansion has been on a tremendous scale—roughly tenfold —and the writer tends to add a root or two every time he pokes about in his array of materials.

(3) The huge increase in material available for comparative materials indicates an even greater complexity in the ancestral AT language than had previously been suspected. This involves initial or medial consonantal clusters in particular, and many difficult problems remain to be worked out. In the above tables, for example, we have reconstructed *pandlam rather than*pandram precisely on the basis of this parallelism with the root for "bone." IN has a series of retroflex consonants (incomplete) consisting of t, d, and z (the last as reconstructed by Dyen). These consonants, which are not found elsewhere in our material, appear to have been derived from stop+r/l clusters (or sr-, zr-, sl-, zl-), but it has not yet been possible to establish the details here with any precision. IN also has L, as reconstructed by Dempwolff, but Dyen writes r here, and the most common correspondence in Thai is with r-, as previously noted in the 1942 paper: IN *t'aʟaŋ; T *raŋ; Mak sən<*srən/g- "nest." In Table II we are struck by the parallelism shown by the roots for "black" and "nose," extending even to Laqua and Lati, but strangely excluding IN itself. In the former case, the true IN cognate is perhaps *tidəm "dark" (NgD. "black"), dədəm, id., as suggested previously (1942), and this would indicate an original complex initial. The latter case involves g′, written by Dyen as a simple affricate (j), relatively rare in our material but with two excellent correspondences in addition to "nose," viz. IN *ag′an "name"; Sui ʔdan∼dan; Mak ʔdaan; Then laan (reflexes as in Group I of F. K. Li); IN *lag′a "plait or weave mats"; Thai and Mak *do, id. Here the Thai-Mak cognates belong to an entirely different (nonglottalized) series of voiced stops (along with b-), which the writer in 1942 had speculated might be part of a later stratum of the language (Thai), partly because these initials appear in certain Chinese loan-words. This no longer appears to be the case, even though the preglottalized stops (ʔd and ʔb) are the typical reflexes (in nonfinal position) of IN d and b, sometimes also of t and p. In the present root

("plait") there appears to be a relationship with IN *ḍan-ḍan* "plait cables"; T *saan* "weave (baskets, mats), plait"; Mak *saan,* id., with the suffixed verbal affix -*n* (see below). This strongly suggests the presence of an original consonantal complex, as elsewhere in roots with initial *d-*, notably IN *bə(n)təŋ "belly"; T *dooŋ and KS *loŋ, id.; IN *dalan~*d'alan "road"; T *daaŋ, a doublet formation with *xron, id.; KS: Sui khwən~ khun; Mak khun; Then khen; OB sun; Li kuon, dial. kwan~kun; N.Kl. ken. It is possible that these and similar correspondences present virtually insoluble problems in reconstruction because the original root was of a complex trisyllabic nature (see the discussion below).

(4) As shown by the root "salty," the marginal and often quite aberrant languages of Formosa sometimes provide us with root correspondences not found in Dempwolff (but perhaps present in IN material not included in that work). Ogawa and Asai (1935) have published (in Japanese) extensive word lists on a wide range of Formosan languages and dialects, and recently Egerod (1965) has published a word list of Atayal, but the basic comparative work remains to be done. The most important correspondences uncovered to date include the following: *tumay (Paiwan *tumai~ćumai,* Tsou *ćmoi*) "bear"; T *hmi; Lao also has *hmüay "bear (large sp.), large ox"; Dioi mɔi; Mak mui<*hmui (this resemblance noted by Haudricourt, 1962, who stressed the importance of Formosa); Paiwan (Makazayazaya dialect, by R. Ferrell) *laulau* "fat, grease, oil" (this language apparently preserves both initial *l-* and final -*au*); T *laaw "fat, grease"; Nung *la:u* "fat, lard"; Dioi *la:u~lɛu* "fat (of man and some animals)"; S.Li *duoi;* N.Li *ui<*luoi "fat"; Atayal *abau* "leaf"; T *ʔbaü; Li *böü,* but Saisiat *bira,* Rukai *biya,* Puyuma *bira~viraʔ,* all suggest a complex form, possibly *birahwa/n,* underlying the IN triple forms: [dḍ]awən~*dahən~*daʔun, and KS: Sui *wa~va,* Mak *va,* Then *wa* (all h.t.); Paiwan (Mak.) *biloŋ* "cave"; Atayal *bliŋ* "hole, cave"; T *plooŋ "to be pierced with a hole; hole" (Si. "hole, tube, funnel; hollow, natural cave"); Mak *pyoŋ* "tubular, pierced." One must also go to Formosa for an explanation of the IN root *buγaw (Dyen reconstructs buγəw "put to flight, chase, hunt"), represented in Thai by Tho *thau*< *ph[rl]aw "go hunting"; Nung *tik phiau* "hunt"="catch (some-

thing)," paralleling *tik pia* "fish"="catch fish (*pia*)"; also N.Li (Bupäli dial.) *dop hau* "hunt"="catch (something)," *dop hlou* "fish"="catch fish (*hlou*)." The "something" here is neatly supplied by Paiwan *biau~viau*, Rukai *biau*, Puyuma *biao~viao* "spotted deer" (Chinese *hua lu*); cf. also Atayal *mhiau* "run after, chase, pursue"; Sui *pyau*, Mak *ywaau* "run"; Li *dau*<*rau, id. An important root with an entirely peripheral—and by inference, early—distribution is represented in Formosa by *s-ma "tongue," found in all three primary groups: Atayalic *hama-*, *he:ma*, *xamma* ~*humma*; Paiwanic: *sima, sma, mama*; Tsouic *umo*<*uma; cf. the general SEP root *maya; also KS *ma (but not traced in Thai or Kadai). An earlier root meaning is apparently preserved in Saisiat, Bunun *komis*, Ami *kumis~komis* "pubic hair," corresponding to IN **kumit'* "beard," *gumi, id.; the latter is directly cognate with T *hmooy "hair (pubic, axillary)" (Shan also "beard"), Dioi *mi*<*hmi, id. As in the case of the root for "leaf," Formosa languages supply key forms in the following complex root: IN *tuma<**tum(u)la* "louse (of body, clothes)"; Formosa: Puyuma *timula~hatimula*, Saaroa ʔ*atimula*, Ami *atimula*, Tsou *timuyo* "flea"; T **mlen~**mlön<**m(u)la/n* "louse of body, clothes" (BT, WT also "flea"); Mak *nan*<*mlan "body louse"; also T *ray<**m[rl]a/i* "louse (of birds, fowl)" (Si. "louse, general term"); Dioi *rwi* "lice of fowls"; KS: Sui *myai~byai*, Mak *byai*, Then ʔ*bai*<ʔ*m(b)[rl]ai* "chicken flea." Finally, two Formosan languages appear to have retained a unique reflex for a medial cluster *-nl-* in the root for "water"; here Dioi has *r-*, as also in one root with *-tl-*; cf. the following:

Table III

	water	bird	fart
IN	[*dd*]*anum*	*manuk*	*kə(n)tut*
(reconstr.)	*danlom	*manluk	**ka(n)tlut*
Thai	*nam*	*nok*	*tot*
Dioi	*ram*	*rok*	*rat*
Kam-Sui	*nam*	*nok*	*tut~tət*
Ong-Be	*nam*	*nok*	
S. Li	*nom*	*tat*	*thuot*
N. Li	*nam*	*tat~sat*	
Laqua		*nuk*	
Kelao		*ńie*	

Notes to Table III: "*water*": most Formosan languages show forms such as *janum, žanom, lanum, nanum,* directly comparable with IN **danum,* but Saisiat has *ralum,* Paiwan (all dialects) has *zalum,* requiring a reconstruction with **-nlum,* since both these languages regularly retain medial -*n*- in all other roots; N.Li regularly has *t*- for *n-, as in S.Li *nom,* N.Li *tom* "six" (IN *ənəm), hence a special reconstruction such as -*nl*- is needed to explain its retention here; "*bird*": the Li forms are quite inexplicable in terms of a root such as *nok or **manuk,* and apparently have evolved via an intermediate *matlat (*mathlat>*sat*); S.Kl. *ńie* probably has developed via *nyo<**nlok;* "*fart*": Thai also has *tuut "horn, trumpet, bugle" (Si. "anus"); Li *thuot*< **tluut;* cf. *thu* "seven"<**pitlu.*

The rich material uncovered in Formosa in a most cursory survey leads one to wonder just what might be the eventual scope of the non-IN material in the greater Oceania area. Milke (1962) estimates that this "special Oceanic vocabulary" might be of "nearly the same magnitude as that shared with the Indonesian group." This suggests that our present body of comparative material represents only a fraction of the potential harvest, especially since IN itself has still been only partially explored from this point of view. We can anticipate with some confidence that this non-IN material will show many points of contact with Thai, Kam-Sui, and the Kadai languages. Milke cites as one of the "unexplained phonemic irregularities" in the Oceanic group the form *suɣi "bone, thorn," where IN has **[dḍ]uɣi.* The mainland forms are most unusual here: T *sian "thorn," but Dioi has *ɔn* (d.t.), a most irregular form, while Mak has *dun* (cf. the alteration of *s*- and *d*- in "plait," above) and Li has *hüön,* as if from an initial velar. Clearly we are dealing with a complex, possibly trisyllabic root here, of a form approximating that of *tulaŋ "bone," with which it is commonly merged or confused; cf. Formosa: Saisiat *tatolöŋ* "thorn." Further afield, in the Papua area, Capell (1943) has indicated in an appendix of "Unplaced Words" a number of roots which appear to be Austronesian but not Indonesian. These forms are phonetically abraded and difficult to interpret, but at least two roots are of interest here: SEP *poa "cloud"; T *füa~*fa "cloud"; Dioi *wüö*<*hwüa "cloud, cloudy"; also T *va~*wa (Tho) "sky" (all these forms on s.t.); KS: Sui *wa*~*fa,* Mak *va*<*hwa "cloud"; OB *pha* "heaven"; S.Li *pa;* N.Li *fa* "sky"; Bupäli dial. *bou* "cloud"; Lt.

vo~*mbo* "sky"; SEP **siwi*~**sihi* (also *tsipi* and *n-sibe*) "cloth-ing (men's), girdle" (also "cloth" and "waist-cloth"); T **süa* "clothing (general term, or for upper part of body)"; also T **sin* "skirt, petticoat" (Lao **zin* "robe"); Mak *fin* "skirt"; OB *vɛ* "skirt (woman's)"; Li *vɛŋ*; dial. *viaŋ*~*wiaŋ* "clothing"; Lq. *püe* "apron"; Lt. (*pu*) *ve* "clothing"; all apparently related to IN **tapih*<**tapiik* "apron, piece of clothing" (Tg. "apron"; Ja. "up-per garment of women"; Ml., NgD. "lower garment of women"; Ho. "clothe oneself"); Formosa: **k-piɲi* but Puyuma *kipiŋ*~ *kavaŋ*, Paiwan *kava*~*ʔava;* this root appears to have been the main AT root for "clothing," but the reconstruction is uncertain at present. Another important and widespread early AT root presenting similar difficulties is represented by IN **huma* "gar-den (crop-land)"; Thai **suan;* KS: Sui *fyan*~*fiən*~*hyan*, Mak *fiin*, Then *wyaan* (F. K. Li reconstructs **swyaan*); the root here is perhaps AT **qwungwa* or **saqwungwa*, initial *q*- regularly yielding *h*- in IN. SEP also makes an important contribution to our analysis of the root for "shame(d)." IN has **malu*, but Capell cites **mala* as the deviant SEP root, then includes some examples with final -*i*, indicating a suffixed variant of the root: **mala/i*. Tregear had connected this root with Kayan *mala* "white," but Capell notes, "Shame, however, does not turn the face white, but red, presumably even in New Zealand." Thai has the doublet forms: **raay*<**m/raay*, and **ʔaay*<**mʔaay;* Li has *dei*<**rei* or **lei;* the root clearly seems to be part of an extensive root-complex for "red," represented at its simplest level by such forms as IN **iɣah* "red," and Sui *xa*<**xra*, id. In the same general region, Fiji offers kinship terms which are of unusual interest.

As indicated above, much remains to be worked out with regard to phonological details of AT reconstruction, and no attempt will be made here to present this material in any depth. The Kam-Sui data, in particular, will be required before any major effort can be undertaken here, and one still hopes that some reasonably full vocabularies of the Kadai languages will appear, as well as a major publication on AN (as opposed to IN) roots. In the interim, we must make do with what we have, and with this reservation in mind we shall briefly review the main features in phonology:

(1) Thai and KS have as consonant finals only the simple

series: -*p*, -*t*, -*k*; -*m*, -*n*, -*ŋ*; -*w* and -*y* (these pattern phonemically as consonants; can follow geminate vowels). The Kadai languages, especially Lati, tend to reduce all to vocalic finals. IN has a richer range of finals, including also -*t'* (=*s*), -*γ*, -*l*, -*ʟ* (=*r*) , and rarely -*b* and -*d*, but significantly not -*g*. The mainland languages, including Chinese and most Tibeto-Burman as well as Miao-Yao, exhibit the same pattern of reduction of consonantal contrasts in syllable-final position, and we must reconstruct AT with the fuller set of finals. In some roots IN -*t'* appears to be an added element (cf. "hair," above) but in general it forms part of the root and is represented in Thai by -*t*; cf. IN *pat'pat'* "shake, clean," but NgD. "broom; sweep"; T *pat* "sweep, dust" (these forms are the simplest elements of a complex root). As noted in the 1942 paper, Thai also has -*t* for IN -*t* in medial (but syllable-final) position; cf. IN *put'uh* "heart," but Ja. "lungs"; T *poot* and Mak *pət* "lungs"; IN *but'uγ* "bow"; Formosa: Paiwan (Mak.) *vit/ilatan*; Lao *fot*<*vot* "bough, branch" (app. isolated in Thai); Li *vaːt* "bow, crossbow"; Bas. dial. *wat* "bow"; Lakia dial. *vat* "shoot a bow." Thai, which shows palatalizing tendencies elsewhere (see below), has -*n* for -*ŋ* in some roots, especially with the vowel *i*: cf. IN *taŋgiliŋ* "pangolin" (<*giliŋ* "roll up"); T *lin*~*hlin* (Lao); Mak *lin*; IN *iliŋ*<*ibliŋ* "pour"; T *rin*; Tho *rin*, also *diŋ*<*ʔdiŋ*; Mak *ʔdiŋ*; IN *t'umbiŋ* "notched"; T *ʔbin* "notched"; also Si. *win* "cloven" (ic. "hare-lip"); Mak *biŋ* "notched"; Li *vɛŋ* "notched" (ic. "hare-lip"). After back vowels Thai exhibits the opposite tendency; cf. "round" (below); also IN *γumun* "den, lair"; T *muŋ*.

(2) Thai generally has -*n* for both -*l* and -*ʟ* (=*r*); cf. IN *t'aŋkal* "handle"; T *k(h)an*~*gan* "handle, stick, stem, peduncle"; Mak *ŋan*<*ŋ(k)al* "peduncle (stem of fruit)"; IN *puŋku[ʟ]* "hind-part"; T *kon* "buttocks." Thai also has -*n* for -*γ* in most roots, as in "thorn" (above), but *γ* occasionally appears simply to have been dropped; cf. the doublet in the following root: IN *t'a(m)buγ*~*tabuγ*~*ha(m)buγ* "sprinkle," but NgD. "squirt"; T *bon*~*ʔbon* (Shan var.)~*bun* (Lao var.) "eject from mouth, squirt"; also *bo* (s.t.) "spring, well"; KS *ʔbən* "well, spring." Replacement of -*γ* by -*i* also occurs in association with palatalization, notably in the following: IN *dənəγ* (Dyen reconstructs *dəŋəγ*) "hear"; Thai *ŋin*~*ńin*;

Dioi *ńin* (ic.) ~*ń*ɛ<**hńɛ;* Sui *hŋai,* Mak *hai.* In some intervocalic positions, especially *-aγa-,* the fricative is absorbed; cf. **baγa* "shoulder"; Thai **ˀba;* OB *wia;* Mak *ha;* Kl. *gö*<AT **gwara* (see discussion under "axe," below), but Li has *va*~*van* (ic.), showing the doublet treatment of final *-γ;* cf. also "hew" (below).

(3) Final *-b* and *-g* are reconstructed by Dempwolff for only a few IN roots, and little comparative data are at hand. The best correspondence for IN *-b* is found in the complex root for "cover" (below), where there is alternation with IN *-p.* The two correspondences for IN *-d* both suggest that it follows a long vowel (*uu*): IN **tuˀud* "knee"; Li *khuoi* "kneel" (with *-i* perhaps from *-d*); IN **udud* "smoke (tobacco)"; T **ˀduut* "suck, smoke"; Lao also has *ˀut,* as if from a root **ud/ud.* It might be argued that IN *-b* and *-d* are simply variants of *-p* and *-t* after long (geminate) vowels, the length feature itself having been lost in IN. In this view, final *-g* does not exist in IN simply because final *-k* is also missing here after long vowels (see section 4, below).

(4) In addition to the above finals, IN also has final *-h* as reconstructed by Dempwolff. As already noted (1942), this corresponds in two basic roots ("ten," "blood") to Li or Thai final *-t* (see below), but the most frequent correspondence is with Thai final *-k* in roots with long (geminate) vowels: IN **babah* "mouth"; T **paak;* OB *pak;* IN **taγah* "hew (smooth)"; T **thaak* (with *h* possibly as a reflex of *γ*); IN **bintih* "kick"; Lao **tiak* (app. isolated in Thai, where the general SW root is **thiip*); Li *thiˀ*<**thiik.* IN **mu(n)t'uh*~**mət'ah* "enemy"; T **sük*~**sök* "enemy; war, battle" would seem to run counter to this scheme, but IN doublets of this type appear to have been derived from *-ua-,* so that we must reconstruct AT **m-suak* or **m-suˀak,* with a long vowel effect. Dyen has reconstructed this final as *-ˀ* rather than *-h,* and this neatly fits with the historical evidence that we are concerned here with the replacement of *-t* and *-k* with glottal stop after long vowels (N.Li and some dialects of Dioi show the same pattern after long vowels, but only before *-k*). Final *-g,* if ever present, has disappeared without trace in the following: IN **pi[y]a* "to desire" (Fi. *via/kana,* Sm. *fia/ˀai* "hungry"="desire to eat"); T **ˀyaak* "to desire; to be hungry (also thirsty)"; Sui *ˀyak* "hungry"; cf. also the roots for "urine" and "mortar" (below), which present some evidence for a possible

final -*g* in AT. Finally, IN also seems to have -*ay* in a few roots, notably *[dḏ]ahay* "forehead"; T *phraak* (usu. cw. *hna* "face"); KS *pyaak;* OB *tui;* Li *la da:u*<*ra:u* (rather than the anticipated *ra*ʔ), all suggesting a possible reconstruction: AT *brahaag.*

(5) Although Dyen's final -ʔ seems preferable to Dempwolff's final -*h*, as analyzed above, his medial -ʔ- appears generally to be at a disadvantage; cf. "forehead" (above) and *pahit* "bitter, pungent"; T *phet* "pungent," but the point must still be considered a moot one. The glottal stop apparently serves as an (original) morpheme boundary marker in roots such as IN *da*ʔ*at* "crowd"; T ʔ*at* "condense(d), compresse(d), close"; Li *a:t* "close (*serré*), dense (*dru*), thick (*touffu*)" (as cloth; as method of planting rice); note also IN *bəɣat* (but Dyen *bəɣ*ʔ*at*) "heavy"<AT *[gk]waɣ*ʔ*ak*, which has yielded T *hnak*, but KS ʔ*zan*~*zan;* OB *khon;* Li *khün;* N.Kl. *khen* (all with -*n*< -ɣ). Finally, the function of ʔ is not at all clear in the following set of roots showing a remarkable parallelism: IN *diŋin* "cool"; T *ʔyen*, id.; OB *phon* (ʔ); S.Li *gan;* N.Li *an*<ʔ*ŋan* (ʔ); N.Kl. *ka yin*, all meaning "cold"; IN *diŋdiŋ* "dried meat" (TB "smoked meat"); T *ʔya(a)ŋ* "smoke, dry (meat, fish, rice)"; IN *diɣi* "stand," also *tə(n)dəɣ* "stand up" (Capell); T *ʔyüün*, id.; KS *ʔyuən;* OB *ćun;* Li *ćuon.*

(6) As might be anticipated, the reconstruction of the AT vowel system presents great difficulties. IN has a very simple four-vowel schema: *i, u, a, ə*, without any indication of length. Thai has a much richer scheme, with the mid-high vowels *e* and *o* as well as the back unrounded vowels *ü* and *ö*, with a distinction between short and long (geminate) in most cases. Vowel clusters such as *üa* and *ui* are prominent, and in some cases these can occur before -*y* and/or -*w* (*üay, iaw*, etc.). The Mak-Sui languages in general show somewhat simpler versions of the Thai system. The analysis of finals (above) has yielded evidence that AT had some length distinction in vowels, and the variety of correspondences already uncovered makes it seem probable that this distinction will play an important role in any eventual reconstruction of AT. IN tends to have medial -*u*- corresponding mainly to -*o*- and/or -*a*- elsewhere (as in all three roots in Table III), and the original value here is quite uncertain.

(7) Although the vowels present great problems in analysis, some of these difficulties can be resolved by the recognition of consonant clusters with *w* and/or *y*, as shown for Thai and KS by F. K. Li (1965); cf. the discussion of "bone" (above), also correspondences such as Mak *kwap* "frog"; T **kop*. It has also become increasingly evident that palatalization has played a major role in the development of the Thai system. As shown above, final **iŋ* is frequently shifted to -*in*, and vowel shifts to *e* or *i* before dental finals are also in evidence; cf. IN **tanah*~ **tanəh* "earth"; T **ʔdin;* Dioi **dən;* Li *dan*~*den;* IN **ka*~ **kaʔən*~**kaʔi* "eat"; T **kin*<**ka/n;* KS *tsyan, tsye, tsin, siin,* etc. (KS palatalizes to a greater degree than does Thai); OB *kon;* N.Li *khan;* Lq. *küön,* Kl. *ka*~*kə;* Lt. *kho* "eat, drink"; IN **kulat* "mushroom"; T: SW **hret,* Nung *vit*<**ku(w)at;* Dioi *rat* (Dioi shows less marked palatalization in general); cf. also "hear" and "louse, flea" (above).

(8) The diphthong *üa,* a prominent feature of Thai phonology, appears to represent a kind of palatalization, with back position under the influence of a "labial environment," and these Thai forms are directly equivalent to the KS forms reconstructed by F. K. Li; cf. Table IV.

TABLE IV

	IN	Thai	Kam-Sui	Li
hand	*lima*	*mü*	*mya*	*möü*
boat	*paʟahu*	*rüa*	*ʔdwa*~*zwa*	*da*
cat	*pusa[h]*	*süa*		
poison	*tuba*	*ʔbüa*		
disgust	*iba/y*	*ʔbüa*	*bya*	
house	*rumah*	*rüan*	*ryaan*	*düön*
moon	*bulan*	*ʔblüan*	*nyaan*	*ńa:n*
forest	*hutan*	{*thüan* / *wan*}	*wyaan*	*śun*
worm	*[t]u[n]a*	*ʔdüan*	*zan*	*hen*
blood	{*dayah* / *ẓuyuh*}	*lüat*	*phyaat*	*da:t*~*tla:t*
rind	*u(m)pak*	*plüak*		

Notes to Table IV: "*hand*": cf. "five" (below); "*boat*": KS: Mak "raft"; "*cat*": IN "cat," but Ho. "cat-like beast of prey"; T "tiger";

Si. also has the doublet *saaŋ*, indicating an original *saaŋk-*; "*poison*": IN "name of plant used for stupefying fish, fish poison"; T "poison," but Nung and Dioi "to poison fish"; "*disgust*": also "nausea"; from the same root: *ʔiba/n* is derived T *ʔʔüan* "nauseous odor (as of sweat)"; Li *en~voan* "sweat" (cw. "water"); "*house*": IN *rumah<*ruŋwaa-* (see below); "*forest*": T also "wild, savage (=of the woods)"; Lao "forest, meadow, pasture," also *wan* "forest"; Sui "field"; Mak "dry field" (*vi:n*); Li "brushwood, forest"; cf. also Kl. (*pu*) *tiə* "forest"; "*worm*": IN "eel," but TB *goia*/tuna "large worm"; T and KS both "earthworm"; Li "gnawing worms; worms of rotten meat"; cf. also OB *nu* "worm" (this root app. had a complex initial); "*blood*": IN *[dd]ayah* "blood"; also *d'uɣuh* "liquid (syrup, sap, broth)," but Tg. "blood" and *duɣuh*, id. (Dyen reconstructs the last two roots as *zuruʔ*); S.Li *da:t*; N.Li *tla:t*, dial. *hlat<*phlat*; Lq. *khə<*xlat* (?); Kl. *plə*; Lt. *pio<*plat*; OB *baʔ<*[bp]lat*; all from AT *bluɣa(a)t* (?); "*rind*": IN *u(m)pak<*u(m)plak* (see below); T "rind, bark, peel, shell, hull."

(9) The AT initials included labial, dental, velar, and perhaps post-velar series, but the palatals are poorly represented and can scarcely be reconstructed for the ancestral language. IN *g'* (written *j* by Dyen) does not occur as an initial, and (like *d̦*) is rare as a final and was excluded from the above discussion of finals. One comparison has been found, however, viz. IN *pu'təg'* "navel"; T *ʔdü*; KS *ʔdwa* (Type 1–Table I), suggesting an initial *bl-* in this root: AT *publaj* (?). The corresponding surd, *k'*, does occur as an initial, but the two good correspondences uncovered are both with Thai consonant clusters: IN *kəŋk'əŋ~*ɣə(n)[t]əŋ* "stretch tight"; T *greŋ* "tight; stretch, tighten"; Sui *xaŋ<*xraŋ* "tight"; Li *küŋ<*kyaŋ* "tight"; IN *kə(ŋ)k'iŋ* "urine odor" (Ml. "urinate," Ho. "odor of dead body"); T *klin<*kliŋ* (see above for this shift) "odor (good or bad), but Dioi *kiɛn~kian* "odeur de sauvage (of urine of wildcat)." IN lacks *z*, but Thai has a fairly substantial number of roots with initial *z-*, which must be postulated for AT. The one excellent comparison available indicates that IN has replaced this sound with *s-*: IN *t'ut'un* "pile up" (TB., Ja., Ml. "piled up"; Tg. "doubled"; Ho. "doubling"); T *zoon* "place one upon another, superpose; double." Initial *ñ-* seems to be indicated for the following root, with simple loss in IN: cf. IN *uyah* "salt"; OB *nyiau*; Li *ña:u*; Lq. *ñuŋ<*ñu/ñu* (?); Kl. *nyö~ñu*;

Lt. *a ńu;* perhaps also T *kliia*<*k-nywa,* and Sui *kwa,* Mak *ćwa*<*klwa*<*k-nywa;* this would yield AT *k-ńuyaa-* or *k-nyuyaa-.* Other evidence for initial *ń-* is presented below (see "urine" and "3rd pr. prn."). Dempwolff cites initial *ń-* for several roots, but no correspondences have been found for any of these in the mainland languages, and they may well represent secondary formations. Both IN and Thai appear to show loss of medial *-ń-* in the following root: IN *payah* "difficult" (Ja. "wearied"); T *yaak* "difficult, laborious, hard, poor, miserable"; Dioi *dya~dyak*<*ya(a)k* "difficult, laborious; bad, wicked"; Sui *hńak-hńan* "rough, coarse"; Mak *yak* "laborious"; Li *ya*ᵖ*~tek*<*nyaak* "bad, wicked, cruel, difficult"; T also has *hńaap* "hard, difficult, coarse, rude"; Dioi *ńat~ńet* "laborious, difficult; ill-tempered"; AT *pańaak.*

(10) Post-velar consonants are represented in Sui by *q, qh,* and *R,* and F. K. Li concludes that this series must be postulated for the ancestral KS language. The aspirated stop is represented by *qha* "ear," apparently connected with the widespread IN root *taliŋa,* as if from an original *taliŋqa,* but Thai has *hru* here, and reconstruction is most uncertain. Excellent correspondences are at hand, however, for *q* and *R;* see Table V. For "thigh," F. K. Li suggests an original labialized post-velar, but the *p-* forms perhaps are another "echo" (cf. the notes) of the first element (*paŋ*) of this root. Li's suggestion of the voiced post-velar stop, G, for the root "excrement" (note the low tone) also appears to fit here, especially to explain the different reflex in OB. Both roots in R- are on high tone, but this is often found in KS and Thai after the loss of initial stop consonants (syllables), with *h-* standing for the lost consonant, as in T *hret* "mushroom."

TABLE V

	thigh	excrement	chin	mushroom
IN	*paha*	*tahi*	*baγ*ᵖ*aŋ*	*kulat*
(reconstr.)	*pa(ŋ)q(w)a*	*taG[*ᵖ*]ay*	*baR*ᵖ*aŋ*	*kuRa-*
Thai	*kha~xa*	*khi~*ᵖ*e*	*γaaŋ*	*hret*
Dioi	*ka*		*haŋ*	*rat*
Sui-LN.	*qa* (h.t.)	*qe* (l.t.)	*Raŋ* (h.t.)	*Ra* (h.t.)
Sui-J.	*pa*	*qe*	*Raŋ*	*Ra*

(continued on next page)

TABLE V (*continued*)

	thigh	excrement	chin	mushroom
Sui-P.	*pa*	*će*	*ʀaŋ*	*ʀa*
Mak	*ka*	*će*	*gaaŋ*	*ga*
Then	*pa*	*ʔe*	*ʔaaŋ*	*ʔa*
Ong-Be	*wa*	*kai*	*ŋaŋ*	
S. Li	*ha*	*hai*	*ha:ŋ*	*dit*
N. Li	*ka~ha*			

Notes to Table V: "*thigh*": IN "thigh, stalk" (Fi. "bone"); IN also has doublet **pahi*, possibly as a reflex of the post-velar; T **kha,* but WT has *pa:n xa~xa pa:n;* Tho has *pa:ŋ kha,* apparently as an "echo" of the original root; cf. Li *pɛŋ* "thigh" and (in IN) Bugis *paŋ* "thigh"; OB *wa* "bone," *mai-wa* "thigh"; KS "leg"; S.Li "num. adj. for trousers," but N.Li dial. "thigh"; the IN root appears to be related to **[dd]ahan < *[dd]aha/n* "branch" (=bifurcation) and related roots; "*excrement*": T **khi* "excrement; defecate" (general root); **ʔe* "excrete (urine, feces), discharge (semen)" (Shan, Tho, Nung only); OB "stool"; "*chin*": IN **baɣʔaŋ* (Demp. has *baɣaŋ,* but Dyen reconstructs with *ʔ*) "molar teeth," but Ja. "jaw"; T "chin, jaw"; Li "jaw" (ic. "chin"); "*mushroom*": Nung has *vit < *ku(w)at* (see also below for this root); Li *dit < *rit.*

(11) Initial consonant clusters of stop + *r/l* are best preserved in Si. and Ahom, of the Thai group, in the N.Li dialects, and in Kelao. IN does not have clusters of this type, and simplifies in various ways, as with merging in *d̦* or *g'* (see examples above), also simply by dropping the second element (cf. "louse," above). IN simplifies **pl* in either of two ways: loss of the first element, or loss of the second after an initial (*u-*); see Table VI:

TABLE VI

	fish	leech	rind	shed, v.	bud
IN	*{laʔuk* *{iwak*	*{lintah* *{limantək*	*u(m)pak*	*upaw*	*upih*
(reconstr.)	**pla(i)wak*	**pliŋ-*	**(u)plak*	**(u)plaw*	**(u)pli*
Thai	*pla*	*pliŋ*	*plüak*	*plaw*	*pli*
Ong-Be	*ba*	*beɛŋ*			
S. Li	*da*	*diŋ*		*la:u*	
N. Li	*tla*	*biaŋ*		*pla:u*	

Notes to Table VI: *"fish"*: IN *laʔuk* also "mixture, side-dish," but NgD. and Sm. "fish"; the second element appears to be basically identical with *ʔiwak* "fish"; Li dial. *hla*, apparently the earlier form, from *phla*; this root present in all the Kadai languages: Lq. *peu*, Kl. *lü*, Lt. *a hli∼a li*, all from *pla*; *"leech"*: see below for a discussion of this complex root; *"rind"* (from Table IV); *"shed"*: IN "shed hair, feathers" (T "bald"; Ho. "moult"); T "empty, vacant, vain"; T also has *plüay* "naked" (WT "bald"); Li "blind" (cf. T *vaaŋ* "blind," also "empty").

(12) Inasmuch as Thai has reduced to monosyllables, it does not sharply distinguish between original clusters and "secondary" clusters derived from disyllabic forms, although in general these tend to be better preserved (esp. in N.Li and Kelao). Thai lacks initial *tl-*, and shifts *təl-* to *kl-*, as shown in Table VII. Table VIII illustrates three separate sets of reflexes in the mainland languages for IN initials of the type: *bəl-*, indicating three different types of initials in AT, the distinctions perhaps having involved preglottalization as well as stress.

TABLE VII

	IN	Thai	Kam-Sui	Other
skin	*kulit*	*klet∼klat*	*kyat∼kyen*	
dark	*kələm*	*klam∼kam*	*qam∼kam*	
roll, v.	*galiŋ*	*kliŋ*		
cylindrical	*təluŋ*	*klooŋ*	*kyuŋ*	Li: *loŋ*
middle	*tələŋ*	*klaaŋ*		
swallow, v.	{ *təlun* *lunlun*	{ *klüün∼dun* *nün∼ʔün*	*ʔdun*	OB: *lun*

Notes to Table VII: *"skin"*: *kulit* "skin" (To. also "rind"); IN also has *kaʟah<*kaʟaat* "shell (esp. tortoise-shell, mother-of-pearl)"; T *klet* "scales, scab," but Dioi *kyat<*klat* "scales"; Mak *ćat<*klat* "fish scales," but Sui and Then show variant *klen*; KS also has a root represented by Sui ʀa∼ha, Mak *ja* "skin," suggesting a reconstruction AT *kuʀaat* "skin, shell," with the possibility that *l∼ʟ* variation in IN reflects AT *ʀ; *"dark"*: cf. *"black"* (Table II); T *klam∼*kam* "dark-colored (red, purple, black)" suggest the possibility of an original infixed form: *k/l/am*; Sui has *qam* "dark (red)"; Mak *kam* "black," suggesting an original *qlam* or *q/l/am*; *"roll"*: IN also *giliŋ∼*guliŋ∼*guluŋ*; both IN and T roots mean "roll

(up, over)"; *"cylindrical"*: T "tube, pipe, barrel (gun); throat," also (d.t.) "drum, tambour"; Mak *ćuŋ*<**kyuŋ* "drum"; Li "tambour"; *"swallow"*: T: SW **klüün~*ʔün* (Kh., Shan); Tho and Nung *nün~*nön;* Dioi *dun*<**dun,* all these variants app. reflecting the original complex **təl-.*

TABLE VIII

	IN	Thai	Kam-Sui	Li
moon	*bulan*	*ʔblüan*	*nyaan*	*ńa:n*
flower	*bulak*	*ʔblook*	*nuk* (Sui)	
spotted	*bəlaŋ*	*ʔblaaŋ*	*naaŋ* (Mak)	
turn	*balik*	*blik*		
fling	{ *balaŋ* / *buliŋ*	{ *phleeŋ* / *bluŋ*	{ *peeŋ* / *boŋ*	{ *phɛŋ* / *daŋ*
separate	{ *bəlah* / *bilah*	*bla(a)t*		
buy	{ *bəli* / *bili*	{ *zü* / *rü* (Tho)	*dyai*	{ *sau* / *döi*
grasshopper	*balaŋ*	{ *tak* / *ya:ŋ* (Nung)	*dyak*	
bamboo	*buluh*	{ *took* / *phio:k* (Nung)	*dyuk*	
round	*bəluγ*	*ʔduaŋ~ʔden*	*ʔduun*	{ *pluon* / *luon*

Notes to Table VIII: "flower": IN: Tg. *bulaklak;* Bisayan *bolak* "flower," from a root **lak* "unfold, develop," part of a root-complex in AT involving also **laaki* "child, man, male"; *"spotted"*: T also "piebald"; Mak "small-pox"; *"turn"*: IN "turn upside down; reverse side"; T "turn (change direction)"; *"fling"*: IN **balaŋ* "fling"; Formosa: Atayal *buliŋ~sbuliŋ* "throw"; T **bluŋ* "throw (esp. long objects), fling, leap"; **phleeŋ* "throw" (Si. also "shoot arrow"); perhaps also Si. and Lao *ńiŋ* "fling, throw, shoot"; Mak *boŋ* "throw (stick)," *pe:ŋ* "throw, shoot (arrow)"; Li *daŋ*<**laŋ* "fling, throw," *phɛŋ* "throw (in air)"; *"separate"*: IN **bəlah* "split" (Tg., Ja. "half"; NgD. "part," n.), **bilah* "chip (splinter)," from an original **b-laat;* T **bla(a)t* "separate" (Dioi "pick by hand"; WT "break up, as embers"); *"buy"*: Li *sau lüöŋ* "buy back" (*lüöŋ* "return"), but N.Li dial. has *döi* "buy"; *"grasshopper"*: T **tak* (usu. ic. **tak *teen*); this perhaps influenced the shift in final from -ŋ to -*k,* but Tho preserves the

nasal final; *"bamboo"*: IN *buluh*<*buluuk* "species of bamboo";
Formosa: Rukai *balu-balu*~*valo-valo* "bamboo"; T and Nung, al-
so KS, all "bamboo withe (strip)"; *"round"*: IN "round (esp. cylin-
drical)"; T "round (esp. globular)," with -ŋ rather than -n, app.
influ. by the vowel *u* (cf. "den," above); Dioi has the regular
-n (*ʔden*); "round (circular)."

(13) This discussion of consonant clusters is appropriately
concluded with a note on the two basic roots for "eye" and
"die," the parallelism of which so impressed this writer in 1942.
He arrived at this conclusion, with a very simple "explanation"
of the aspiration shown in Tho and Nung, by eliminating those
forms in Kadai which seemed not to belong. This no longer
appears to be justifiable, and we now present these two roots
in toto:

TABLE IX

	eye	die
IN	*mata*	*matay*~*patay*
Thai	*ta*	*taay*
Tho-Nung	*tha*~*ha*	*tha:i*~*ha:i*
Kam-Sui	*da*	*tay*
Ong-Be	*da*	
S. Li	*sa*~*śa*	*ta:u* "die"; *hau* "kill"
N. Li	*sa*	*thui* "die"; *hau* "kill"
Bupäli (Li)	*dou*	*lo:d*~*la:d*
Laqua	*te*	*tie*
N. Kelao	*tau*	
S. Kelao	{ *(bu) mo kho* { *tu*	*ple u*
Lati (BP)		*pien* (Rob.)
Lati (MP)	*mću*	*pe* (Rob.), *phi* (Bon.)

Notes to Table IX: "eye": Formosa: Atayal *loziŋ*; N.Kl. *tau*,
but MFPL cites a form with initial *k*: *kai mei*; S.Kl. *bu mo kho*
(*bu* found in other terms for parts of body) "eye," but *tu* ic.
"blind"; *"die"*: Formosa: Atayal *mhoqil* (also *hoqil*, *hqilan*) "die,"
phoqil "kill"; N.Li *thui* "die"; Shaved Head Loi dial. *hau* "kill."

For "eye," the most likely reconstruction now appears to be
matla or *mat-la* (intervening unidentified vowel), explaining

Li *śa~sa* as from **thla* (as in "10" and "louse," see above); the vowels in Kadai indicate an original *-a* (see the 1942 paper), but Kl. *mo kho* remains a problem, possibly<**mokhlo*<**mothlo;* Atayal perhaps retains a reflex of the *tl* cluster, but the phonology of this aberrant IN language remains to be worked out. The root for "die" is even more of a puzzle, and one is tempted to reject all forms which do not fit the Thai-IN pattern, but Kelao preserves clusters in some roots, and the *u* and *l* elements in Li appear to tie in with this; this might also have been a trisyllabic root of the type **mat-play,* a possible source also for the synonymous S.Li term *dom,* via. **-to(m)play.*

(14) Continued study of the AT materials has indicated that many of the reconstructed roots eventually will prove to be trisyllabic, of the type represented by IN **taliŋa* "ear." As indicated at the beginning of this paper, stress differences appear to have played the significant role in determining whether the first or last element of a root is retained in any given case, e.g. AT **kut(a)lu* "louse" has yielded both OB *kat* (fore-stress) and T **[t]hraw* (end-stress). The root for "weep" furnishes an outstanding illustration here: IN **taŋit'*<**taŋi/s* (with *-s* as an added element here; cf. "beard"~"pubic hair," above); T **hay* <**hŋay,* but Dioi *tai;* KS **ʔŋe;* OB *ŋai;* Li *ŋei;* Lt. *ćuŋ*<**taŋ* (cf. "eye"); perhaps also Lq. *dek*<**dak*<**daŋ.* In this root, the Dioi form had been suspected of being related to the general Thai root because of the concordance of finals, but the initials could not be reconciled; many other cognates probably remain isolated from their respective roots because of lack of knowledge of the di- or trisyllabic root needed to tie them together. The variability shown in many roots indicates that the longer roots persisted, along with variable stress, to a much later date than one might have suspected, e.g. the ancestral Thai (incl. Dioi) speech must have included a disyllabic root such as **taʔŋay* "weep." Another example is provided by IN **dabuk* "ashes"; Thai **daw,* strikingly parallel to the root IN **mabuk* "drunk"; Thai **maw* (both show *-b-*>-*w-*). The IN root is simply part of a complex root meaning "ashes, dust, gray (ash-colored)," with several IN forms: **abu, *kul/abu, *ləbu, *abuk, *γabuk* and **ʟabu* (TB *aek rabu* "wet ashes"); Thai has **daw* here, but Nung, the conservative Thai speech in this

respect, has *piau,* pointing to an original **blaw* or the like (cf. seventeenth-century Annamese *blo* "ashes," part of the early Thai stratum in that language); Li has *pau* "ashes (of tobacco), flour (of rice)," tending to confirm the nature of the complex initial in this root. One might think from all this that the main-land languages had retained only the first element of this root, yet Mak has *vuk* "ashes," showing that the whole root was retained to a fairly late period, the AT root having been some-thing like **b-labuuk* (long *u* because of tendency for -*k* to be lost in IN).

(15) Related problems are at times encountered in analyzing the evolution of trisyllabic roots, since various possibilities must be kept in mind. A striking example here, and one of great significance for Oceanic studies in general, is furnished by the following: IN **banu[w]a* "land, mainland," but MN: "land, set-tlement"; SEP "village" (Capell 1943: 117); Thai **ʔbaan* "vil-lage"; Mak *ʔbaːn;* Li *bau* "village"; dial.: Bupäli *vun;* Loi (various) *fa~fan~au;* perhaps also Lt. *li mia,* all meaning "village." The Li development has been either from the first part of the root, as in Thai, or from the first and third parts: **ba(nu)wa.* This makes the relationship of these forms even more certain, and we cannot escape the conclusion that the SEP meaning is *origi-nal* and not secondary, as Capell had supposed, hence must have been derived directly from non-IN sources (rather than via IN). Capell points out, however, that Friederici traced *banua* "people" to Buru and Minahassa, and *banua* "village, place" to Buru and the Moluccas; note that the PN cognate, *fanua,* has the IN meaning ("land").

(16) The complexities involved in trisyllabic root evolution are reflected by IN **lintah* "leech," *lima[n][t]ək* "small leech." The most obvious comparison here, and the one first made by the writer, is with T **da(a)k* "leech (esp. land leech)"; Shan has *taːk<*daak* "small leech, water leech," also *tɛk<*de(e)k* "land leech," the doublet formation suggesting an original com-plex initial **draak;* Dioi *ta<*da(a)k* (irreg. tone, as if with short vowel) "large leech of rice-fields"; the N.Li dialects also have the root: *thɛak~thɛk~thɛt~thɛ* (evidence of long vowel) "leech." With the consideration of velo-labial clusters in gen-eral, it became evident that the IN doublet has been derived

from an original *liŋwanta(a)k, with -k replaced by -h after the long vowel. Further evidence brought forward about initial clusters (see Table VI), however, made it clear that the complete reconstruction should be *pliŋwant[r]a(a)k. Thai has taken from each end of the root, even developing a distinction in meaning: T *pliŋ* "leech (esp. water leech)"; Mak *piŋ* "leech"; OB *beɛŋ* "leech"; Li *diŋ*<*liŋ, dial. *biaŋ* "worm."

It seems probable that many AT roots were trisyllabic, but it is rare that the evidence is as clear as in the foregoing. One such root concerns IN *ɣumah* "house," which the writer (1942) had speculated about as a possible cognate of T *rüan, id. Other mainland languages show forms similar to that of Thai, viz. KS *ryaan, OB *lan, Kl. (*du*) *hle, also S.Li *düön*<*rüön, but the closely related N.Li has *ploŋ, dial. *bloŋ~blaŋ* "house." The latter seemed to have been derived from the same root as IN *baʟuŋ "hut," and Laqua *neŋ* "house" also seemed to be related (cf. Laqua *nen* "moon"; IN *bulan). Thai has the reciprocal kinship term *ʔdooŋ "parents of son- or daughter-in-law"; Si. *kiau ʔdooŋ* "allied, of the same kindred" (=allied houses); cf. the N.Li dial. phrase *pha-bloŋ* "father (of the house)," apparently cognate with these words for "house." The puzzle was solved by the publication by Goodenough (1962) of a brief list of Oceanic words with velo-labial clusters, including *(y)uŋwa "house" (my rough reconstruction). We can now safely reconstruct AN *ɣuŋwaa- or *ɣungwaa-, whence Thai *rüan et al., and can further link this with *baʟuŋ in a trisyllabic root *ba[ɣr]uŋwaa-; IN *[dd]aŋaw "hut, house" might be another derivative from this root. Many more syntheses of roots of this kind can be expected as our knowledge of AT roots expands.

As shown in the above analyses, the recognition of velo-labial clusters opens up many new vistas in this field. We are now able, for example, to recognize the relationship of IN *[t]amit′ <*taŋwit′, *manit′ and *mamit′<*maŋwit′ "sweet" with *ta(m)baɣ<*ta(ŋ)gwaɣ "without aftertaste, flat, sweet (water)," the latter corresponding closely to the mainland roots: T *hwaan "sweet"; KS: Sui *qhan~fan, Mak *khan, Then *khan~xwaan, yielding the reconstruction AT *ta(ŋ)qwaaɣ. This root does not appear in the lists published by Haudricourt or Goodenough, and the roots found there are not usually so easy to analyze,

but it is amply clear that they are distinctive as a group and are derived from an AN level earlier than anything seen in IN itself. The following material is of interest here, although much remains uncertain in the interpretation of it:

Class I: *gw- type*:

gwara (-ala, -aca) "old (persons), weak, unable, loose," cf. the IN doublet *tuha~*tuwa* "old (persons)"; Thai *thaw*, id. (both IN and Thai words often used in kinship terms), possibly from AT *tuqwa.

gwele (-ere, -ori) "earth, mud, dirt": cf. IN *[dḍ]aki* "body (skin) dirt"; T γ*lay*, id., but Nung *kai~nai*; Dioi *hi~i*; KS: Sui and Mak *zai*<*γwai*<*γlay* "dirt" (Mak also "mud"); complex initial, reconstruction uncertain.

gwoni (gwo/ni) "odor; smell (v.t.)": IN *baʔu* "odor" (PN: all "fish odor"); T *γr(i)aaw~*xriu* (s.t.) "raw (fetid, putrid) odor (esp. of fish, flesh, sweat)"; Mak *ńəu* (h.t.)<*hńəu* "odor, scent," *ńəu ju* "raw flesh odor" (*ju* perhaps cg. with *xriu*); Li *ha:i*<*γa:i* "stink, smell bad," also (d.t.) "smell, sniff," v. tr.; another complex initial, poss. *ŋraaw.

gwengi (gweŋi) "night": IN *bəŋ[i]*<*gwaŋi; T *γüün; KS *γyan; Li *fen* "evening"; all dial. *fan*; reconstr. *γwan/gi.

gwau "head": IN *ha(m)baw~*babaw~*[t]i(m)baw* "top, high, above" (Tg. *tibao* "crowning"); Haudricourt adduces IN *baṭuk* "cranium" (Sa. "head"); T *klaw* "head, top of head; topknot"; Dioi *kyau*<*klaw* "head, end, extremity; chief"; Dioi also has *mau* "head," app. related to Nung *bau*<*ʔbaw*, id.; KS *kyau*<*klaw* "head"; OB *hau* "head"; S.Li *dau*; N.Li *fo~o*; dial. *ŋo~giu~vo~wau~wou* "head"; N.Kl. *ka*; Lt ic. *khe~kha* "head"; reconstr. *glaw.

nagwuk "mosquito": IN *ńamuk~lamuk* "gnat"; T: SW *hlüak* "gadfly"; Nung *küök*<*klüak*, id.; Dioi *nö*<*(h)nüak* "certain flies with flat bodies which sting cattle and dogs"; KS: Sui *qak* "kind of flies"; Mak *nak*<*hnak* "gnat"; reconstr. *laqluk~ *laqlak* (redupl. form).

(h)magwuk "wasp": cf. the foregoing, also IN *ləbah* "bee"; reconstr. *(ma-, la-)gwaak.*

gwala "taro field": IN *t'abah* "irrigated rice-field"; T *γan* "dike of rice-field"; KS *yan* (h.t.), id., also *γa* "rice-field"; reconstr. *saγwa-.*

gwat "bijou en (plante)" (Ponape *pmet* "tortoise-shell"); cf. AT *kuʀaat* "skin, shell," as reconstructed above (Table VII).

pagwun "grandson": T *hlaan* "grandchild; nephew, niece"; KS: Sui *khan~han;* Then *laan<*hlaan* "grandchild"; Mak *laan* <*hlaan* "grandchild; nephew or niece"; Li *han* "nephew or niece"; reconstr. uncertain.

Class II: *kw- type:*

bekwa "bat": IN *labaw* "rat"; Si. *gaaŋ-gaaw* "bat"; cf. also Shan *ʔbaaw;* Si. and Lao *(h)wa(a)w* "kite (paper)"; Dioi *wa:w* "bat," also (d.t.) "rat"; Mak *təkau wa:u* "bat" (*təkau* "horned owl"); reconstr. *gwa(a)w.*

kway "bivalve": IN *t'igay* "shellfish." T *hooy* "shellfish" (WT and Nung also "snail"); KS: *qhui;* Mak *ćhui;* Then *khuei* "snail, shellfish"; S.Li *huoi~hui;* N.Li *khoi* "lime" (=powder of shells, as in Si. *puun hɔi* "chaux de coquillage"); Li also has *sei* as generic term for "shellfish," and Loi dial. has *sei-nom-kai* "bivalve" (app. combines both elements of root, along with *nom* "water"); reconstr. *sayqhwaay.*

hakwelin "cross-cousin": cf. T *hlen~*hlin* "great-grandchild; great-nephew or -niece"; for the semantics here, cf. the writer's papers on kinship.

kwa(n)jelan "near": IN *hampiʟ;* T *k(h)laü;* also *ćam* and *ćuan* (only in SW); KS: Sui and Mak *phyai<*phlai;* S.Li *löü;* N.Li *plöü* "near," also *kui* "near, on the point of"; app. a trisyllabic root, reconstr. uncertain.

Class III: *ŋw- type:*

ŋwaane "man, male; boy; brother; sibling (opp. sex)"; cf. IN *γani* "courage, manliness"; SEP *manay* "male; husband;

spouse; wife"; T *gon~γon "man (homo)"; KS Sui zən~zen, Mak jin, Then ?yin, id.; reconstr. *(n)gwan.

*(y)uŋwa "house": see discussion above.

*(u)ŋwuta "vomit": cf. SEP *mutah, preferable to *m/utah in view of forms such as Motu mumuta<*ma/mutah; IN *u(n)tah; cf. also *luwah "vomit, spit up" and *ludah "spittle"; T *raak "vomit"; Dioi ruö<*rüak "vomit"; T *γraay (Ahom khrai) "spit up, vomit"; KS: Sui će~ći, Mak gaai (all l.t.) "to spit"; Li eʔ<*eek "vomit"; complex root which app. included an element *ŋraak.

*ŋwata "snake": SEP *ŋata~*mwata; T *ŋu; Dioi ŋöö; Si. and Lao also *ŋiaw; Si. also ŋot "sp. of snake (lycodon)"; KS: Sui hui~fui, Mak zui, Then thuei; OB ŋia; S.Li ya, N.Li tha; dial. ya~ja<*ńa or *ŋya; Lq. ŋü; Lt. kuŋ<*ku/ŋ(u); reconstr. uncertain, poss. *ŋuiata.

*Class IV: *khw- type:* (only one root cited)

*khwət (khwot, khwor) "hole (nose, mouth)"; cf. Li khɛt "nose"; dial. khat~kat~hoet<*khwat.

The above material amply illustrates the thoroughgoing relationship of these languages at a pre-IN or non-IN level, as well as the complexity of the phonological problems that are raised. It is quite clear that the Oceanic velo-labial clusters come from a variety of sources in AT, including velar +r/l clusters as well as velar +w clusters. A detailed investigation of the Oceanic material should greatly aid in throwing light on this matter.

Further clarification, when compared with the 1942 findings, has come in other areas, mainly as a result of our improved knowledge of comparative phonology and the huge expansion in the corpus of roots. As noted in the earlier study, the Thai and Kadai (also Kam-Sui) languages have a significant basic agreement in syntax with Indonesian (and Austronesian in general) in placing modifying elements (including nouns) after the modified element. Only in the case of Li, which has been

heavily influenced by Chinese, has this been modified to the degree that Li has alternative phrases such as *hun sa~sa hun* "eyebrows" (eye-hair); *nei fa* "this man," but *mau nei* "this year." The mainland languages have rarely retained affixed elements, as in Thai **kin,* Sui *tsyan,* OB *kon,* N.Li *khan,* Lq. *küön,* all from a root such as IN **kaʔən,* from a basic root IN **ka.* Strangely enough, Thai has retained what appears to be the basic affix itself in the form **an,* defined in Si. as "la chose que" (Laj.) and used as a preformative for abstract nouns. Thai apparently has derived a number of forms from roots with suffixed *-n,* notably in verbal formations; cf. IN **i(m)pi~*nupi* "dream"; Thai **fan;* IN **kiṭa* "see"; Formosa: Atayal *ktan~kitaʔ;* T **hran~*hren;* S.Li *lai<*ra/i* "see"; N.Li *fan* "look at"; Lq. *thəi<*thla/i;* N.Kl: MFPL *tsai<*tla/i;* Lt. *to<*tla* "see." As in the above root, Thai also makes use of the affix *-i,* which is frequently encountered in the Oceanic area (cf. "shame," above). Infixed *-l-* is perhaps preserved in a few roots; cf. "dark" (above) and the following: IN **tu(ŋ)kup~*ta(ŋ)kub~kubkub~*kəb-kəb* "cover (various: lid, a cover, shell, crust; also v.)"; T **kap* "sheath"; *kaap* "sheath, husk, shell; **klup* "large bamboo or leaf hat"; *kleep* "husk; scab"; **kliip* "petal, skin, scale, scab"; Mak *kup* "close (mouth, door), cover"; Li *kap~khap* "cover (roof with tiles)." Very little material is available on this point, however, because of the loss of consonant clusters in most languages aside from Siamese.

The original paper cited the 1st pr. prn. as one of the basic roots (no. 29): IN **aku* "I"; Thai **ku~*kaw* (complementary distribution); OB *hau;* Li *həu;* Lq. *khəu;* Mulao (Kl. dial.) *sou<*khou;* Lt. *ki~ku* (subj.), *kui* (poss.); AT **ak(h)aw.* Note was also made of the distinction in Thai between inclusive and exclusive forms of the 1st pr. pl. prn., as in IN. We must now add basic correspondences in the other two persons: IN **kamu* "you" (Windstedt: Ml. also "thou"); SEP **kamiw* "you" (also "thou" in Mekeo, Pokau); T: SW **maü~*müŋ;* C: **(h)maü~*(h)mü;* Dioi *möŋ* "thou; you (latter only with plural modifiers)"; OB *mö* "you" (unspecified); S.Li *mü* "thou, you"; N.Li *möü,* id.; Lq. *mi* "thou"; AT form uncertain, but it probably was nonspecific for number; IN **iya<*ñiya* "3rd pr. prn.," **iyan<*ñiya/n* "that"; SEP **-na* "3rd pr. prn. suffix"; T

*nan "that (one, time, place)," *hnan (s.t.) "there," but Tho
has yen<*ńan "that one," also ic. "there"; T also has *ʔyan
<*ʔńa/n "extend, spread out"; *ʔyaan<*ʔńaa/n "distant, dis-
tance"; Li na "3rd pr. prn."

The numerical system has been subjected to further analysis
with the aid of our advances in phonology, yielding important
advances. The newly uncovered material on Lati (Man P'ang
dial.) has tied this language closer to the others, e.g. *nam* "6"
(for *nə*); cf. IN *ənəm; pət* "10" (for *pa*); cf. Lq. *pət*, Li
phuot~fuot, and IN *puluh<*puluut.* The numerals for "4,"
"5," and "6" in general present no problems, that for "5" being
identical or a variant with the root for "hand" (see Table IV).
Li is deviant from the other Kadai languages, however, in hav-
ing *śau~śɔ* and similar forms for "4," in the face of IN *ə(m)pat;*
most Formosa languages have a prefixed form of the type *spat*
(*soʔat* in one Rukai dialect, which regularly replaces *p* with *ʔ*
in this position), and one Li dialect (Shaved Head Loi) shows
a final *-t* (*söt*), hence we appear to have here an important link
with the Formosan languages (cf. the discussion above). In-
asmuch as replacement of medial *-b-* by *-w-* is not uncommon
in Thai and other mainland languages (cf. "ashes," above), we
can postulate a development such as *sapat>*sabat>*saw>*
sau. Li also is deviant in having an entirely separate root for
"9," which can be reconstructed as *pal,* apparently closely re-
lated to *puluut* "10." These aberrations shown by Li in the
numeral system are quite unexpected, since Li in general seems
to stand closer to Thai than do the other Kadai languages.

The most important key to the IN (and AT) numeral system,
however, is supplied by Laqua, which shows features which
were described (in 1942) as "suggestive of a quinary system."
Laqua has *mö təu* "7," *mö dü* "8," *mö diə* "9," with *mö* appar-
ently identical with *mö* "5." Closer inspection, however, reveals
that the *təu* of "7" is identical with *təu* "3," that the *dü* of "8"
is virtually identical with *de* "2," and that the *diə* of "9" is
simply a voiced variant of *tiə* "1." It thus is clear that we are
dealing here with subtraction from "10," with *mö* standing for
"10" (5 × 2). This feature is not found in Formosa, which
commonly derives "6" from "3" and "8" from "4," but occurs in
Cham (for "8" and "9"). Further study strongly indicates that

IN *pitu "7" is derived from *pitlu<*pitəlu, with IN *təlu "3" being simply an abbreviated version of the root. The IN root for "2" has presented difficulties, with Dyen (1947a) suggesting *dəhwa for Dempwolff's *duwa. The initial d̞- indicates an original consonant cluster, probably with r, and the root appears to be represented in Thai by *ra "we" (Lao and WT) but "we two" in Kh. and Shan; perhaps also by T *raw "we" and even *z(r)aaw "score" (2 × 10). KS has retained the root in its numerical sense: Sui γa, Mak and Then za (all h.t.) "2," reconstructed as *-γa (preposed element to explain the h.t.). OB has vön "2," apparently from *völ(u), resembling IN *walu "8." Kähler (1962) has pointed out "compound consonants" as correspondences for AN *w-, citing here Chamorro gwalo "8," *hugwa "2." The mainland evidence indicates that the common root for these two numerals was *gγahwalu, the gγ- yielding gw- in Chamorro (cf. our discussion of velo-labials). Finally, IN *it'a "1" appears to be an abbreviated version of *t'iwa "9," the latter being cognate with T *ʔdiaw "single, alone"; KS: Sui ʔdau~deu "1"; Mak ʔdeːu "single (one of a pair)." The most likely reconstr. for the root is *tiyawa or *itiyawa. The Laqua numerals, with the same system of subtraction from 10 as that reconstructed for IN, place this feature definitely at the AT archaic level.

We shall conclude this review of AT comparative material with a note on the higher numerals. As pointed out in 1942, the Kadai languages have a root for "100" which appears to be entirely distinct from IN or Thai, viz. Li dan, Lq. dön, Kl. ʃin~tsin (but Lt. has khre). IN has ratut', and Thai has *rooy, which Coedès and Burnay (1926) have related ("string of coins") to the Thai root *rooy~*drooy (Shan var.) "string (of anything); to put on a string (as beads, fish)"; cf. IN *tali "string, cord" (cf. also Lt. khre). In view of the absence of a root for "100," the writer was astonished to find a well-developed root for "1,000," with forms developed from either end of the root: IN *Libu<*rigwu<*rigwa; T *hriaŋ (Ahom, Kh., Shan); Dioi rɛŋ "million"; Si. and Lao have ban<*gwan (a rare but not unknown development in Thai); Li ŋuon<*ŋwan; Kl. gɛ< *gwa(n); AT *ri(ŋ)gwa/n.
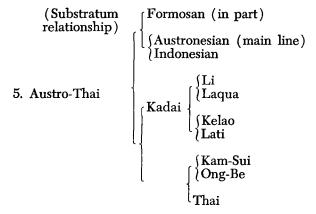
In summary we shall make the following points:

(1) Thai, the para-Thai languages (Kam-Sui, Ong-Be), and Kadai, together with Indonesian and Austronesian in general, constitute a single, rather well-united family of languages (Austro-Thai).

(2) A corpus of some 400 roots is now in evidence, and systematic phonological correspondences can be worked out for many of these.

(3) The conclusion that the Austro-Thai-speaking peoples originated on the mainland, roughly in the South China region, seems to be irrefutable at this point.

(4) The limited study of Formosan materials available indicates that at least some of these languages are in part independent of IN, as suggested by Ferrell (1966).

(5) The evidence in general seems to show conclusively that IN stands somewhat apart from the main AN line.

CLASSIFICATION OF SOUTHEAST ASIATIC
LANGUAGES (revised)

1. Sino-Tibetan
   - Chinese
   - { Tibeto-Burman
     { Karen

2. Miao-Yao
   - Yao
   - { Miao
     { Pateng

3. Min-chia

4. Austroasiatic (Mon, Khmer, Palaung-Wa, Khasi, Sakai, et al.)

5. Austro-Thai

   (Substratum relationship)
   - Formosan (in part)
   - { Austronesian (main line)
     { Indonesian
   - Kadai
     - { Li
       { Laqua
     - { Kelao
       { Lati
   - { Kam-Sui
     { Ong-Be
   - Thai

Notes on Classification Schema:

1, 2, and 3: frequently grouped under one heading, such as "Sino-Tibetan," but the nuclear group of roots in each stock appears to be distinct.

4 and 5: the reconstruction of roots for AT has not closed the gap between this stock and Austroasiatic. Some structural similarities, notably the substantial infix *-an-*, along with a handful of significant root elements, especially *ka* "fish" and *mat* "eye," suggest that the relationship between the two stocks is of "substratum" type. As Capell (1943) has shown particularly well for SEP, structural (and especially syntactical) features tend

to be persistent in these situations. Here it would appear that, at a very early period (probably 2nd to 3rd millennium B.C.), the ancestral AT language was grafted onto a substratum stock of Austroasiatic affiliation, with almost complete replacement of the latter. Since the ancestral AT homeland can with considerable confidence be placed in southern China (generally), we can infer that the Austroasiatic language area formerly extended well to the north of its historic boundary, into southern and probably eastern China. Annamese (Vietnamese), which at one time probably extended north along the China coast (see Benedict 1947), seems to represent the old northeastern "anchor" of the Austroasiatic bloc, heavily overlain from early times with Thai elements, including the old Thai (and Chinese) tonal system. It therefore seems unlikely that Cham could represent an old extension of the AT stock along the coast, and the writer still favors the view that the Cham group, like Malay, is an old enclave on the mainland.

NOTES

[1] The writer is indebted to F. K. Li and Inez de Beauclair for providing him with source material, particularly in Oriental languages, and to Raleigh Ferrell, who generously supplied him with rich source materials on Formosa.

[2] The Hainan "Muslims" or "Mohammedans" listed as a member of the Kadai group are in reality a Cham colony on Hainan, which the writer described in 1941 ("A Cham Colony on the Island of Hainan," *Harvard Journal of Asiatic Studies, 6:* 129-34).

[3] The phonetic symbols are conventional, except for *ü* and *ö*, which represent the back unrounded vowels characteristic of many of the languages studied. L is the IN retroflex 1 (Demp.); *j* is the voiced affricate, equivalent to ə' in Demp. Abbreviations are as follows: AN Austronesian; AT Austro-Thai (our term for Thai-Kadai-Malayo-Polynesian; includes also Kam-Sui and Ong-Be); Bas. Basadungli (Li dial.); Bon Bonifacy; BT Black Tai; cg. cognate; cw. in composition with; Demp. Dempwolff; d.t. different tone; Fi. Fiji; Fu. Futuna; h.t. high tone; Ho. Hova; ic. in composition; IN Indonesian; Ja. Javanese; Kh. Khamti; Kl. Kelao; KS Kam-Sui; Laj. Lajonquière; l.t. low tone; Lq. Laqua; Lt. Lati; Mak. Makazayazaya (Paiwan dial.); MFPL *Miao-fang Pei-lan* (Chinese source on Kelao; vide Ruey Yih-fu); Ml. Malay; MN Melanesian; NgD. Ngaju-Dayak; OB Ong-Be; PN Polynesian; Rob. Roberts; Sa. Sa'a; SEP Southeast Papua (general term for area described in Capell, 1943); Si. Siamese; Sm. Samoa; s.t. same tone; Sui-LN, Sui-J., Sui-P. (Sui dialects; see F. K. Li); T Thai; TB Toba-Batak; To. Tonga; v.t., v. tr., transitive verb; WT White Tai.

EDITOR'S NOTE

Three additional sections of this article, on Austro-Thai cultural items and kinship terms and on the relationship of Austro-Thai and Chinese, will appear in a future issue of *Behavior Science Notes*.

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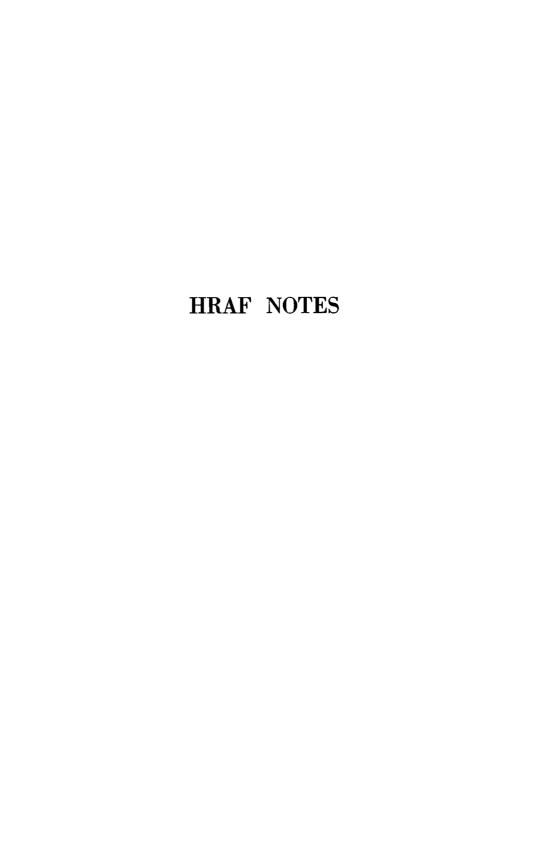   1937   *Die Li-Stämme der Insel Hainan: Ein Beitrag zur Volkskunde
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