

The position of Saaroa in the grammatical subgrouping of Formosan languages

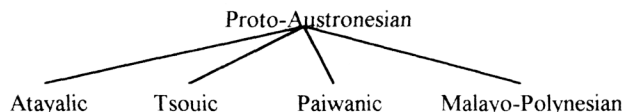
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1. Austronesian subgrouping

1.1 FOS vs. LOS

In his 1995 article, *Proto-Austronesian and the major Austronesian subgroups* (Tryon 1995), Darrell Tryon discusses two mutually exclusive views of higher-level subgrouping in the Austronesian language family. These two views differ especially in the position of whether the Malayo-Polynesian subgroup ('MP') is a first order subgroup of the family or whether it subgroups with one or more of the Formosan aboriginal languages and splits off much later. The first view, which I will refer to as the First Order Subgroup hypothesis ('FOS'), is the one put forward in a number of articles by Robert Blust. It is depicted by Darrell Tryon (Tryon 1995:20, citing Blust 1977) as Figure 1).

Figure 1)



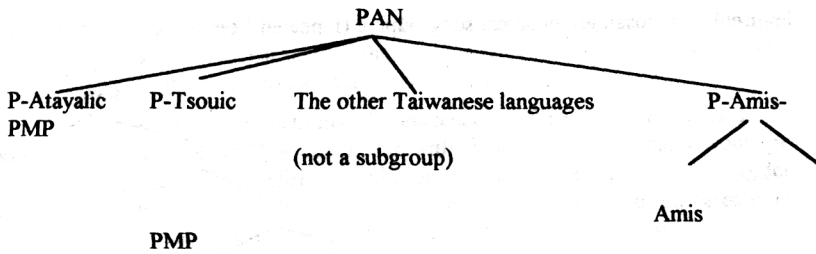
The first three primary subgroups, Atayalic, Tsouic and Paiwanic, include all and only the Austronesian languages spoken in Taiwan, while Malayo-Polynesian includes all the Austronesian languages outside of Taiwan.

Other scholars differ from this view in regarding the Formosan languages as a single primary subgroup (Dahl 1976:128, Ross 1992a, Ross 1992b:361, Ross 1994), though their support for this aspect of the subgrouping tends to be rather lukewarm.

This view of the position of Malayo-Polynesian within Austronesian subgrouping is the most widely accepted one, but not the only contender. An alternative view, which I will refer to as the Lower Order Subgroup hypothesis ('LOS'), was originally proposed by Mark Harvey (Harvey 1979:103-104/ Harvey 1982:92-93), and it embeds the MP languages farther down in the tree, as shown in figure 2).¹

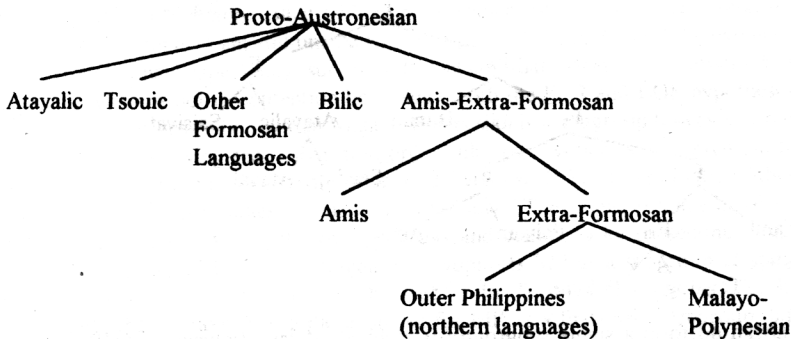
¹ Harvey refers to Formosan aboriginal languages as 'Taiwanese', a term used by all other scholars to refer to the South Min Chinese dialects spoken in Taiwan.

2)



A similar but more elaborated version of LOS, presented by Lawrence Reid in 1982, is depicted by Tryon (Tryon 1995:24) as Figure 3).

Figure 3)



My own work on the grammatical structure of Formosan languages over the last thirty years or so leads me to a grammar-based subgrouping view that is very close to Reid's LOS conception. This view is depicted in Figure 4).

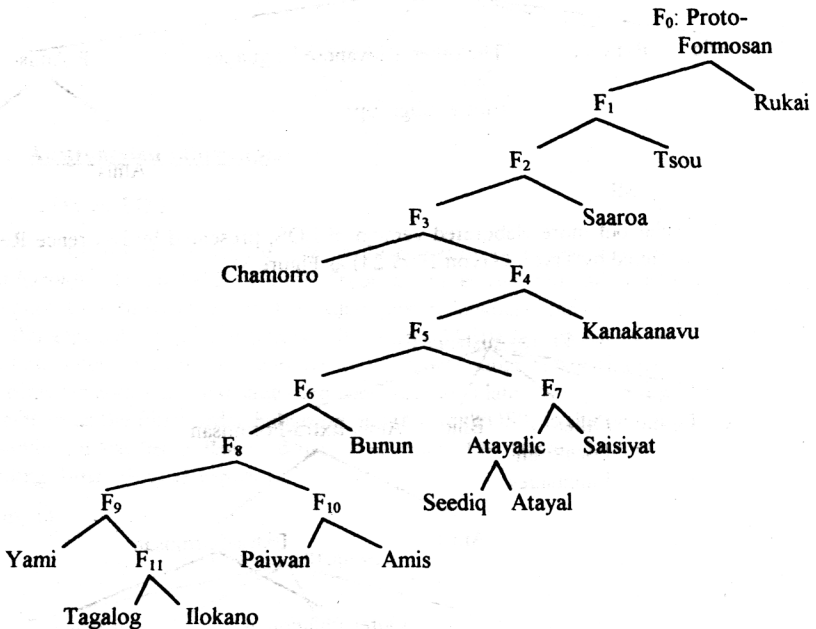
It needs to be emphasized at the outset that there are four separate issues involved in the subgrouping trees presented here:

- Do the Formosan languages form a subgroup?
- Do the Formosan languages constitute one or more first-order subgroups of Proto-Austronesian language family?
- Do the Austronesian languages outside Taiwan form a subgroup?
- Do the Austronesian languages outside Taiwan constitute one or more first-order subgroups of Proto-Austronesian language family?

1.2 The evidence for the FOS hypothesis

As I have indicated above, there is a general consensus regarding b) and c): the Formosan languages do constitute one or more first-order subgroups of the Proto-Austronesian language family (b), and the Austronesian languages outside

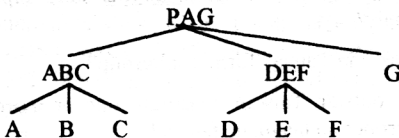
Figure 4) Formosan grammatical subgrouping (repeated from Starosta 1995, Fig. 2)



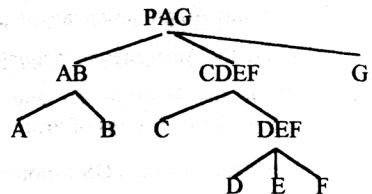
Taiwan do form a single subgroup (c), dubbed 'Malayo-Polynesian' (MP) by Blust (Blust 1977:10). Point a) is often assumed as a working assumption but rarely addressed in a serious way. However, while a considerable amount of evidence has been put forward in support of c) and d), every argument that I have seen in the literature for position d) has turned out to support not d) but rather c).

Schematically, we can distinguish two kinds of situation, as shown in figures 5) and 6).

5)



6)



The choice between these alternate conceptions makes a major difference regarding which languages provide valid evidence for reconstruction at the highest PAG level. Under the subgrouping configuration depicted in 5), any feature found in D, E, or F and also in A, B, C, or G is a strong candidate for reconstruction at the PAG level,

but under 6), a feature found in, say, D and C could not be reconstructed all the way up to the PAG level. Note that under either view, a feature found in A and G can be reconstructed even if it is not found at all in D, E, or F.

It is important to note here that any evidence put forward to show that D, E, and F form a subgroup would be compatible with either 5) or 6), so that it would be a logical error to infer that if DEF is a subgroup, it must necessarily be a first-order subgroup. I believe that exactly this error has been committed repeatedly in discussions of Austronesian subgrouping over the last twenty years or so.

Figure 5) is of course intended to represent the FOS hypothesis, by which the Malayo-Polynesian language family is a first-order subgroup of the Proto-Austronesian language family, and Figure 6) represents the LOS hypothesis, which positions MP much farther down the tree. Most scholars tend to accept the FOS hypothesis uncritically, citing Blust 1977 as their primary source, but after several re-readings of that paper, I am still unable to find support for it there. All the evidence Blust cites in that paper only supports the claim that Malayo-Polynesian is a subgroup, which is not in contention here, since both the FOS and LOS hypotheses assume its correctness. To say that Malayo-Polynesian is a subgroup however is not the same thing as saying that it is a first-order subgroup, which is in contention in this paper, and this point is hardly addressed in Blust 1977. Instead, the author simply assumes the correctness of his own FOS view. The single instance in which he does explicitly distinguish the two positions and claims to be presenting direct evidence in support of FOS in fact again only supports MP as a subgroup at some level, not necessarily at the top of the tree.² In Tryon's overview article, he summarizes what he takes to be the evidence for MP as a first-order subgroup, but again all his points, taken from Blust 1977 and Blust 1982, support only the MP-as-a-subgroup hypothesis, but not the more specific FOS hypothesis.

²11. There is, finally, one further piece of evidence from the reconstruction of the pronouns which supports the claim that all AN languages outside Formosa constitute a single first-order subgroup of the Austronesian family. As noted earlier, in addition to *aku, Dahl reconstructs *a(N)kən₁ '1st sg. Full form'. The descriptions of several languages suggest that this form contains the goal focus suffix *-en; however, to date the only meaning that can securely be attributed to *a(N)kən₁ on the Proto-Austronesian level is that of absolute possession ('mine'):

Pazeh	ni-aken	'mine'
Yami	y-aken	"
Tagalog	akin	"
Okolod Murut	r-akon	"
Merina	ahi	"

Leaving aside the question of how a goal focus morpheme could possibly get attached to a pronoun, I find this statement rather cryptic.

1.3 Support for the LOS hypothesis

1.3.1 Linguistic evidence

In contrast to the absence of evidence supporting FOS, Harvey has presented specific relevant evidence for the view depicted as Figure 6). He indicates a phonological innovation (merger of **t* and **ts* to *t*; Harvey 1982:92)), a grammatical innovation (*ka-* pronouns; Harvey 1982:92)), and a lexical innovations (the 3pl pronoun **t'i-da*; Harvey 1982:82-83,92)) as shared innovations which support the linking of Amis with the rest of the extra-Formosan languages.

1.3.2 Impressionistic support

The LOS pattern is consistent with the kind of picture Ross draws in distinguishing between migrants and 'stay-at-homes' (Ross 1994), with the Formosan languages in the role of the stay-at-homes and MP in the role of the migrants (Tryon 1995:23):

'In spite of subgrouping problems with the Austronesian languages of Taiwan, it appears clear that Proto-Austronesian diversified into a linkage of dialects and/or languages before the speakers of what later became Proto-Malayo-Polynesian (PMP) left Taiwan.'

Oddly enough, another one of the supporters of the LOS hypothesis is Malcolm Ross, whom I cited earlier as a supporter of the FOS hypothesis, and whose morphological reconstruction I will be criticizing in this paper. Thus although Ross crucially assumes the correctness of FOS view in his morphological reconstruction (Ross 1992b:361), he also states (Ross 1992b:378):

'It seems likely that Proto Malayo-Polynesian, the language ancestral to all extra-Formosan languages, may subgroup with a small number of Formosan languages, probably in the south of Taiwan, and research is needed to identify innovations which may be shared by south Formosan languages and Proto Malayo-Polynesian.'

which is a nice characterization of the LOS hypothesis.

Observations by Pawley and Ross (Pawley and Ross 1993) also support the LOS:

Similarities in vocabulary are more obvious across Philippine languages and certain languages of southeast Taiwan than across the rest of Taiwan. Structural similarities, and in particular the elaborate system of verbal 'focus' (in which a wide range of semantic roles may occur as the topic or subject of a clause with each role marked by a distinctive affix on the verb), occur across a range of Philippine languages and some (but by no means all) Formosan and western Indo-Malaysian languages (Blust 1992, Wolff 1973, 1980, Starosta, Pawley and Reid 1982, Ross 1992).

2. Morphological reconstruction

2.1 Morphological versus phonological reconstruction

Most of the previous work on the subgrouping of the Austronesian languages has been done by applying the comparative method in phonological reconstruction. The use of morphological evidence has been much more limited. Several reasons for this are mentioned by J.C. Anceaux (Anceaux 1982:101):

In Austronesian linguistics comparative morphology has never had the attention paid to comparative phonology. There is nothing exceptional about this;... The study of sound laws has to precede morphological comparison, because without them identification of cognate morphemes is not possible.... Historical phonology gives more reliable means for classification. Sound changes have the advantage of being independent of meaning.... In morphology structural coherence and meaning may cause parallel developments. And insight in the classification is necessary for assigning a certain feature or change to a certain branch or to a proto-language. Finally, morphological comparison asks for a much deeper and more thorough knowledge: the data cannot be collected from wordlists and dictionaries and grammatical descriptions usually are a poor substitute for personal familiarity with the languages in question, as exceptions and irregularities may provide clues equally important as those found in rules and regular phenomena.

Anceaux's comment brings out several points that will be important in the discussion that follows. One is the crucial relation between subgrouping assumptions and reconstructions, and the other is the need for more than superficial knowledge in doing morphological reconstruction. Both points are relevant to my criticisms of Ross's reconstructions below, since I will claim that Ross was too uncritical in accepting the FOS hypothesis as a basis for his reconstructions, even against his own better judgment, and that the kind of indirect information he has for doing his reconstructions was not adequate to the task at hand.

2.2 FOS vs. LOS in morphological reconstruction

Within the area of morphological reconstruction, we can again distinguish two approaches, one which uncritically assumes the correctness of the FOS hypothesis and uses MP languages or Paiwanic Formosan languages as crucial witnesses (Wolff 1979, Ross 1992a, 1992b, Blust 1995) and another which is based on and supports a version of the LOS view (Starosta 1995).

Of the former group, Malcolm Ross's work is the most recent and well documented, so I will use his 1992 paper (Ross 1992b) as a representative of the FOS view in morphological reconstruction. I will attempt to show in this paper that (i) Ross's 1992 paper is seriously flawed because of his unfamiliarity with the primary data and because of his uncritical acceptance of the FOS hypothesis, and (ii) that the LOS hypothesis is more easily reconcilable with grammatical facts. The new evidence I will bring to bear on this question in this paper to supplement data from

Tsuchida 1976 is drawn from unpublished field notes on the Saaroa language made by Paul Jen-kuei Li and myself in joint and separate investigations in southeastern Taiwan.

2.3 Malcolm Ross's morphological reconstruction

2.3.1 Ross's tabulation

Ross's reconstruction of Proto-Austronesian focus morphology covers an impressive range of data, some of it very recent, though he has not done any field work on any of the languages he refers to (Ross 1992a:23). His paper includes a number of useful tabulations of the data. One of the tables worth reproducing here is his *Table 7: Morphemes used to form nominalisations and verbal pivot forms*, reproduced here as Figure 7). The abbreviations he uses are the following:

√	root
◊	infix
AC	Actor pivot
IN	Instrument pivot
LC	Location pivot
PF	UG pivot perfective
UG	Undergoer pivot

For each language, the first row of the table refers to verbal reflexes of the proto-morpheme, and the second row nominal reflexes.

2.3.2 Ross's tables reordered and subdivided

One striking feature of this table, and one pointed out by Ross himself, is the big gaps in midsection of the table, the section corresponding to data from Tsou, Kanakanavu, Saaroa, and Rukai. The first three of these languages are regarded as members of a single Formosan subgroup, referred to as 'Tsouic' in Figures 1) - 3), and Rukai is sometimes grouped together with them into a larger Rukai-Tsouic subgroup. In my own version of the LOS position, depicted as Figure 4), these four languages were the first to branch off the Austronesian stock, and the reason that they show no reflexes for most of the morphemes that Ross reconstructs at the PAN level is that these morphemes did not exist in Proto-Austronesian, but are rather innovations that appeared after these languages separated off from the rest of the family.

To illustrate this claim, I will rearrange Ross's table as Figure 7ab). In this version of Ross's table, the languages are listed in the order in which they branched off from the rest as depicted in Figure 4). I then divide this into two sub-tables, one containing only information on 'verbal pivots' (7a) and one containing the information on nominalizations (7b)). I will also replace the names 'Sediq' by the phonologically more accurate form, 'Seediq', and replace Ross's 'AF' by the grammatically more accurate 'intransitive' [-trns]. I have not done any field work on Puyuma, and have tentatively placed it between Amis and Paiwan based on its geographical location and apparent grammatical similarities. I have replaced Ross's

Figure 7): Morphemes used to form nominalisations and verbal pivot forms

PAN	*<um>√	*<in>√	*√-ən	*√-an	*Si-√	*Sa-√
Saisyat	AC	PF	UG	LC	IN	...
	...	s.t. √-ed	...	place of √-ing	...	...
Atayal	AC	PF	UG	LC	IN??	IN??
	...	s.t. √-ed?	s.t. to be √-ed	place of √-ing	instrument??	<---> instrument??
Sediq	AC	PF	UG	LC	IN??	IN??
	...	s.t. √-ed	s.t. to be √-ed	place of √-ing	have N: s-N??	<---> have N: s-N??
Amis	AC	...	UG	...	have N: s-N	...
	...	s.t. √-ed	...	place of √-ing: R-√-an	...	instrument
Tsou	AC	...	...	...	...	...
	...	...	...	place of √-ing	...	...
Kanakanavu	AC	PF	UG	LC	...	...
	...	...	...	place of √-ing: ta-√-an	...	...
	...	...	...	s.t. √-ed: √-an	instrument	...
Saaroa	AC	PF	...	LC	...	'Special pivot'
	...	...	...	place of √-ing	...	...
Rukai	...	...	...	...	...	...
	...	...	...	place of √-ing: [ta]-√-an	instrument	...
	...	...	...	s.t. √-ed: <in> √-an	...	...
Puyuma	AC	...	...	IN	...	...
	√-er	s.t. √-ed	s.t. to be √-ed	place √-ing will occur: R-√-an	instrument	...
	...	...	...	place √ occurred: <in>-√-an	...	...
Paiwan	AC	PF	UG	LC	IN	have quality of N
	√-er	s.t. √-ed	s.t. to be √-ed	place of √-ing	instrument, reason	...

Note: <---> indicates that morphemes cannot unambiguously be assigned to *Si- or *Sa- because of vowel deletion in Atayal and Sediq.

Figure 7ab): Morphemes used to form nominalisations and verbal pivot forms (revised by Starosta)

PAN	*mu-√	*ni-√	*√-an	*√-an	*Si-√	*Sa-√
Rukai	...	...	...	...	...	...
	...	...	...	place of √-ing: [ia]-√-an s.t. √-ed: <in> √-an	instrument	...
Tsou	[-trns]	...	...	...	...	...
	...	...	...	place of √-ing	...	...
Saaroa	[-trns]	PF	...	LC	...	'Special pivot'
	...	...	...	place of √-ing	...	...
Kanakanavu	[-trns]	PF	UG	LC	...	...
	...	...	...	place of √-ing: ia-√-an s.t. √-ed: √-an	instrument	...
Saisiyat	[-trns]	PF	UG	LC	IN	...
	...	s.t. √-ed	...	place of √-ing	...	...
Atayal	[-trns]	PF	UG	LC	IN?? <--->	IN??
	...	s.t. √-ed?	s.t. to be √-ed	place of √-ing	instrument?? <--->	instrument??
Seediq	[-trns]	PF	UG	LC	IN?? <--->	IN??
	...	s.t. √-ed	s.t. to be √-ed	place of √-ing	have N: s-N ?? <--->	have N: s-N ??
Amis	[-trns]	...	UG	...	have N: s-N	...
	...	s.t. √-ed	...	place of √-ing: R-√-an	...	instrument
Puyuma	[-trns] √-er	...	...	IN	...	...
	...	s.t. √-ed	s.t. to be √-ed	place √-ing will occur: R-√-an	instrument	...
	...	...	...	place √ occurred: <in>-√-an	...	...
Paiwan	[-trns] √-er	PF	UG	LC	IN	have quality of N
	...	s.t. √-ed	s.t. to be √-ed	place of √-ing	instrument, reason	...

Figure 7a): Morphemes used to form verbal pivot forms

	Intransitive		Transitive		
	*mu-√	*ni-√	*√-an	*√-an	
PAN					*Sa-√
Rukai	...	...	...	...	...
Tsou	[-trns]	...	...	...	...
Saaroa	[-trns]	PF	...	LC	'Special pivot'
Kanakanavu	[-trns]	PF	UG	LC	...
Saisiyat	[-trns]	PF	UG	LC	IN
Atayal	[-trns]	PF	UG	LC	IN?? < - - > IN??
Seediq	[-trns]	PF	UG	LC	IN?? < - - > IN??
Amis	[-trns]	...	UG	...	have N: <i>si-N</i> ...
Puyuma	[-trns]	...	...	IN	...
Paiwan	[-trns]	PF	UG	LC	IN have quality of N

Figure 7b): Morphemes used to form nominalisations

	Intransitive *mu-√	Transitive *ni-√	*√-ən	*√-an	*Si-√	*Sa-√
PAN	place of √-ing: [ta]-√an s.t. √-ed: <in>√an	instrument	instrument
Rukai	place of √-ing	...	...
Tsou	place of √-ing	...	...
Saaroa	place of √-ing	...	...
Kanakanavu	place of √-ing: ta-√an s.t. √-ed: √an	instrument	...
Saisiyat	...	s.t. √-ed	...	place of √-ing	...	...
Arayal	...	s.t. √-ed?	s.t. to be √-ed	place of √-ing	instrument?? <---> instrument??	...
Seediq	...	s.t. √-ed	s.t. to be √-ed	place of √-ing	have N: s-N?? <---> have N: s-N??	...
Amis	...	s.t. √-ed	...	place of √-ing: R-√an	...	instrument
Puyuma	√-er	s.t. √-ed	s.t. to be √-ed	place √-ing will occur: R-√an place √ occurred: <in>-√an	instrument	...
Paiwan	√-er	s.t. √-ed	s.t. to be √-ed	place of √-ing	instrument, reason	...

*<um> and *<in> by what I reconstruct as their antecedents, the prefixes *mu- and *ni.³ Finally, I have added dashed lines to separate the Rukai and Tsouic languages (actually a 'treetop' rather than a genetic subgroup) from the two lower groups, the F7 languages (comparable to Li's Northern group) and the three southeastern Paiwanic languages, the ones that are commonly recognized as closest in morphological structure to Philippine languages.

2.3.3 Ross's data and conclusions reconsidered

2.3.3.1 Verbal morphology

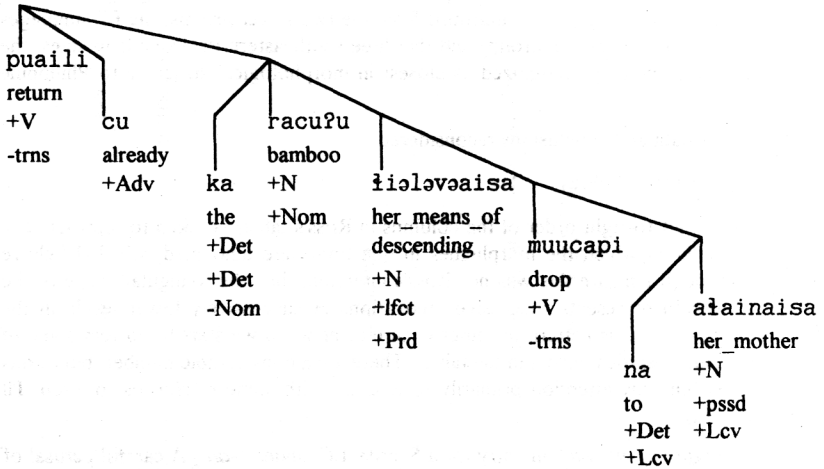
If the left-to-right order of the columns in Ross's tables is taken to represent the historical order in which the morphemes in question were innovated, which I believe they do although I'm sure this was not Ross's intention, then the triangular shape of the resulting pattern represents successive innovations at successively lower levels in the subgrouping tree. This pattern becomes even clearer when we start to correct some of the factual and analytical errors in the table. There are a considerable number, but in this paper I will limit my attention primarily to Saaroa, with some references to Tsou. I'll begin with 7a).

In Figure a), we find an entry for a Saaroa 'LC' under *-an. A careful perusal of Tsuchida 1976, Li to appear, and my own field notes show no justification for such a form. Both Li and Tsuchida do in fact indicate the existence of a 'Locative focus' verb form marked by -a(na) in their tabulations, but these forms are suspicious. First of all, there is an imbalance in the verbal paradigm: the intransitive column (Ross's <um> column) has the most mood and aspect distinctions and the 'Goal focus' column has fewer, but the 'Locative focus' column is limited, with one or two exceptions, to the perfective. Second, the sentential environments in which these forms appear do not substantiate the claim that they are verbs. Li provides no sentential examples at all, and the sentential examples Tsuchida provides all turn out by morphological and syntactic criteria to be nouns. Following are several of his examples with dependency analyses supplied.

By the analysis provided for 1., the literal gloss would be 'The bamboo, which was her means of descending to her mother, returned again.' Tsuchida gives this as an example of a verbal locative focus form, but note the possessive suffix -isa 'her' on both the underived noun *aɬainaisa* 'her mother' and the derived deverbal noun *ɬiəlvəaisa* 'her means of descending'.

³ Laurie Reid has pointed out to me that if this reconstruction is correct, it is going to cause problems with Austric comparisons, since the corresponding infixes occur in Austroasiatic.

1. O277001, Tsuchida 1976:77; my analysis



'The bamboo, by means of which she came down to her mother, shrank back again.'

2. O279002, Tsuchida 1976:79

kumakali	na	paləŋeisa	?ulusu	na	aca:əmana	isana	ka
dig	at	its_base	pillar	at	burial_place	it	of_the
+V	+Lcv	+N	+N	+Det	+N	+N	+Det
-trns	+pssd	+Lcv	+lfct	+prmn			+Gen
	+Lcv	+Gen	+Lcv	+Lcv			

ra:ŋə vinau
leaf vinau_tree
+N +N
+pssd +Gen
+Gen

'They dig at the base of the pillar, where the leaves of the vinau tree are to be buried.'

In 2., *aca:əmana* is annotated as *a-ca:ə-ma-na* 'bury.Lf-Fut by Tsuchida, but if it is a verbal form, why does it immediately follow the locative determiner *na*, a position that otherwise contains only nouns? By my analysis, it is a deverbal noun, and a literal translation of the example would then be, '[They] dig at its base of the pillar, at its future burial-place of the vinau leaves.'

In fact, Saaroa does have instances of verbal locative focus, but they use the older *-i* suffix which reconstructs back to my F_1 level. E.g.

3. 0301004; Li to appear, p. 208, 4):

avuriku	amaɬə	kaniʔi	na
I_will_give	Amaɬə	that	former
+V	+N	+N	
+lfct	+prpr	+dmns	
+futr	+Nom	+Lcv	
'I will give this to Amaɬə.'			

Here *avuriku* can be analyzed as *a-vur-i-ku*, with *-i* the old LF suffix that survives in many Austronesian languages only in subordinate clauses or imperatives, and *-ku* as the agent encoded by a genitive clitic pronoun. By this analysis, and assuming that the language is ergative, the gloss should be 'I will give Amaɬə that old thing.', literally 'Amaɬə will give that old thing by me.'

If my analysis is correct, then there should be no 'LC' reflex of **-an* in the table verbal pivot table.

The next point to be considered is the so-called 'Special focus' forms in Saaroa. These forms are marked by the circumfix *saa-(-a)*, and Ross enters them in his table as reflexes of his instrumental/reason **sa*. He states that 'The function of Tsuchida's (1976:75-76) 'special pivot' is unclear. Its form, and some of his examples, suggest that it was originally IN pivot.' (Ross 1992b:382). However, I have been searching for such meaning in these *saa-* forms for many years, and have yet to find any trace of it. I can see no justification for placing these forms in Ross's **Sa-* column except for the similarity in form. Grammatically, all but one of the SF forms I have found in Tsuchida 1976, Li to appear, and my own notes are transitive ergative constructions with no instrumental or reason semantics whatsoever.

Tsuchida too found his 'special focus' forms rather mysterious: 'The function of SF, as in Kanakanabu, is not clear' (Tsuchida 1976:75), and until very recently I did too. However, one of the properties he listed suggests a possible account of their provenance: 'SF has thus far been observed only in narrations' (Tsuchida 1976:51). This plus the *sa* form suggests a comparison to the Rukai subordinating clauses introduced by the complementizer preposition *sa* 'when' (Li 1974:224). This Rukai preposition may be followed by finite tense-marked verbs, including transitive verbs. I propose that the Saaroa 'special focus' derives from such clauses, with the optional *-a* suffix just the old transitive suffix that can be reconstructed all the way to the F_0 level. This would account for the phonological shape and discourse properties of 'SF', and would constitute another instance of the SPQR process of replacing verbal morphology in root

clauses by nominalizing affixes but leaving it intact in subordinate clauses (cf. Starosta, Pawley and Reid 1982:165). It would however require that they be removed from Ross's **Sa* column altogether, in Saaroa as well as Kanakanavu.

One final entry that should be removed from Ross's verbal pivot table is the Rukai entry under **S-*. The entry, 'have N: *s-i-N*', refers to a process deriving verbs meaning 'have N' from nouns, e.g. *siki?iŋ* 'wear clothes' from *ki?iŋ* 'clothes' (Li 1973:250). I fail to see any instrumental or reason semantics in this form, and would take it out. If Ross's Saaroa verbal reflexes of **-an* and **Sa* can also be eliminated from the table in the ways described, Saaroa falls together morphologically with the three languages above it in the family tree, and the advent of verbal **-an* and **Sa*- moves down to a later chapter in the Austronesian historical annals.

Going one step farther, Ross's **<um>* has clear verbal reflexes in Saaroa, but there is no infix *<in>* at all. Instead, the perfective prefix is *ʔi-*, which supports my claim that *n-* is the earlier form. Since no verbal reflex of this form appears above Saaroa in my subgrouping tree, this suggests that the form was innovated at F₂, the immediate common ancestor of Saaroa and the languages farther down the tree. The infixed form *-in-* would then be innovated first at F₃, since *-in-* appears in Kanakanavu and the languages below it, but not in the ones above. The resulting picture is shown as 7a').

2.3.3.2 Nominal morphology

So how does the picture look on the nominalization side, as depicted above in 7b)? According to Ross, none of the 'Rukai-Tsouic' languages have nominalizing reflexes of his **<um>* or **<in>* or **-an*, and the Tsouic languages have reflexes of **-an* which attach to verbs to derive nouns with the meaning 'place of $\sqrt{\text{ing}}$ '. In fact, none of these generalizations is correct.

Looking at Saaroa, there are examples of the appearance of reflexes of the 'actor focus' **mu-* in one of its four Saaroa forms, *m-*, *um-*, *-um-*, or *u-* (cf. Tsuchida 1976:76) in agentive nominals. One place to look for such forms is in relative clauses and 'wh-questions'. In Saaroa, as in many other Austronesian languages, the way of forming a content question is to use the question word as a predicate, and make the rest of the sentence a nominalization. A Saaroa example of this is 4.

Figure 7a'): Morphemes used to form verbal pivot forms

	Intransitive		Transitive		
	*mu-√	*ni-√	*√-an	*√-an	
PAN	...	...	...	...	*Sa-√
Rukai	...	...	...	...	...
Tsou	[-trns]	...	...	...	...
Saaroa	[-trns]	PF	...	(incipient)	...
Kanakanavu	[-trns]	PF	UG	LC	...
Saisiyat	[-trns]	PF	UG	LC	IN
Atayal	[-trns]	PF	UG	LC	IN?? <-->
Seediq	[-trns]	PF	UG	LC	IN?? <-->
Amis	[-trns]	...	UG	...	have N: si-N
Puyuma	[-trns]	...	...	IN	...
Paiwan	[-trns]	PF	UG	LC	IN

have quality of N

4. O101023 (Li to appear, p. 215, 6); Starosta's field notes)

naɭaisa	ka	maciʔi
who?	the	one_who_died
+N	+Det	+N
+ntrg	+Nom	+agnt
+Prd		+Nom

'Who died?'

Here the presence of the nominative determiner *ka* confirms the nominality of the following form *maciʔi*, a form which is morphophonemically *m-pacay*, with *m-* the 'actor focus' prefix which regularly replaces an initial *p* by 'nasal substitution'.

5. O301094, Li to appear p. 218, 5); stative

mamaini	na	ka	muruaɬə	iɬicu
child	former	the	fearer	ghost
+N		+Det	+N	+N
-prpr		+Nom	+agnt	+Gen
+Prd			+Nom	

'The fearer of ghosts is the child.'

6. O301095, Li to appear p. 218, 6); active and stative

tumataatanji		mamaini	na	ka	maaɬa
one_who_keeps_crying	child		the		hungry_one
+N	+N		+Det		+N
+agnt	-prpr		+Nom		+agnt
+Prd	+Prd				+sttv

'The hungry one is the child that is crying.'

The perfective prefix *ɬi-* can also appear in such constructions, and so fills in the gap on the Saaroa row under *ni-√*; e.g.

7. O301069, Li to appear, p. 257, 9); : Content interrogative

ŋaɭaisa	ɬikumita	na	təsəu
who?	Past_viewer	to	dog
+N	+N	+Det	+N
+pssd	+agnt	+Lcv	+Lcv
+Prd	+Nom		

'Who has seen the dog?' Literally, 'The seer to the dog is who?'

8. O301090.1, Li to appear, p. 217, 1b)

uka?acu	ka	ɬiumaracə	na	mamaini	təsəu
no_longer_exist	the	biter	to	child	dog
+V	+Det	+N	+Det	+N	+N
-trns	+Nom	+agnt	+Lcv	-prpr	+Prd
+ngtv	+Nom	+Lcv			

'The dog that bit the child is no longer there/here.' Literally, 'The biter to the child which is a dog is no longer here.'

9. O301090, Li to appear p. 217, 90); : Nominal Relative clause

uka?acu	ka	təsəu	ɬiumaracə	na	mamaini
no_longer_exist	the	dog	biter	to	child
+V	+Det	+N	+N	+Det	+N
-trns	+Nom	+Nom	+agnt	+Lcv	-prpr
+ngtv			+Prd	+Lcv	

'The dog that bit the child is no longer there/here.' Literally, 'The dog which is the biter to the child is no longer here.'

Then what about the entry for Saaroa in the **-an* column, 'place of √-ing? I consider this somewhat suspect. First of all, there is no *-an* suffix in Saaroa. What there is instead is an *-a* suffix which alternates with an *-ana* suffix in locative nominalizations. This seems a somewhat unlikely reflex of Ross's **-an*, since according to Tsuchida's reconstruction, PAN **-an* becomes *-a* (Tsuchida 1976:216,307), not *-a(na)*, e.g.

10. *-an*-final forms in ancestral forms

PAN	(q _a a-)lipan >	Sar <i>ʔalalipa</i>	'centipede'	216,
166				
PHN	taS ₁₃ aN(-an) >	Sar <i>taʔa-a</i>	'village'	216
PSF	ka-pitu-an >	Sar <i>ka-pitu-a</i>	'the seventh month'	216
		cf. Pai <i>ka-pitu-an</i>		
PAN	-ajan >	Sar <i>ŋ-aʔa</i>	'name'	218,
224				

Tsuchida lists one exception,

PSF	taRuq ₂ an ¹¹³ >	Sar <i>taruan-a</i>	'hunters' hut'	217, 169
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which he attributes to some kind of back-formation⁴ (Tsuchida 1976:218), but in no case does he give an example of **-an* being reflected in Saaroa as *-ana* ~ *-a*. Note now that PT **-a* would also yield *-a*, so then what is the justification for

⁴ I think it could equally well be a loan from neighboring Bunun, which has *taluhan* (Tsuchida 1976:169), with the regular addition of an echo vowel *-a*.

reconstructing the LF nominalization as **-an* rather than as **-a*? I presume it is the existence of apparently cognate forms with final *-n* in Paiwanic and Malayo-Polynesian languages. However, this counts as evidence only assuming the validity of the FOS hypothesis, which is exactly what I am calling into question here.

What I would like to suggest instead is that rather than Sar *-a(na)* being a reflex of PAN **-an*, exactly the opposite may be true: the locative focus form *-an* that appears below F_3 in my subgrouping tree are derived from the F_2 innovation that produced Saaroa *-a(na)*, that is, the capture of a locative case marker by a locational nominalization. The verbal uses then would be subsequently derived from this new nominal form by the usual SPQR reinterpretation process. The synchronic source for the *na* in Saaroa would be the locative demonstrative form *na*. This form appears in noun phrases either as a locative determiner, e.g.

11. O101110

marai <i>ai</i>	a	mamaini	na	amaisa
resemble	the	child	to	his_father
+V	+Det	+N	+Det	+N
-trns	+Nom	-prpr	+Lcv	+pssd
		+Nom		+Lcv

'The child resembles his father.'

or as a postposed demonstrative pronoun, as in:

12. O101002.1

kaiu	na	ia	a <i>l</i> ainaku
that	former	as_for	my_wife
+N	Tpc	+N	
+dmns	+pssd		
Tpc	+Prd		

'That is my wife.'

Etymologically, both forms presumably descend from the archaic demonstrative pronoun **na*, which still survives in modern languages such as Bontok, e.g. Bontok *alaem na* 'You get this' (Laurie Reid, p.c.).

One factor that lends further support to this proposal is that the locative determiner *na* sometimes appears in my field notes as [n] when it is preceded by an *-a*-final word, e.g.

13. O102035.1

[uma]an	sinamunu	mikua	ka <i>l</i> a <i>l</i> atap	a	tu?u]]
/umala	na	sinamunu	mikua	ka <i>l</i> a <i>l</i> atap	a tu?u/
take	to	something	put	space under	the table

'The child (sic) put something under the table.'

14. O102127.1

[ma|aka ʔaamaaman kiuʔu mikua sasaʔoana]
 /umala ka ʔaamaama na kiuʔu mikua sasaruaana /
 take the old man to wood drop ground place
 'The old man dropped the wood on the ground.'

Finally, if **-an* was innovated after the F_2 level, why does Ross have an entry for 'place of $\sqrt{\text{-ing}}$ ' under **-an* for Rukai and Tsou? Since both Rukai and Tsou branched off one or two levels higher than Saaroa by my analysis, then it should not exist in either language, unless it is a loan. In this case, the answer is simple: there is no such form in Tsou, and there is no such form in Rukai: Ross is in error. The suffix *-an* in Rukai is a general nominalizing affix, and only incidentally derives nominalizations with a locative meaning. Instead, the productive locative nominalizing pattern is a circumfix *ta- $\sqrt{\text{-}}$ -an* (Li 1974:292). There is a form *-ana* in Tsou which is glossed by T'ung-ho Tung et al as 'denoting place name or clan name derived from place name' (Tung 1964:446), but this is a suffix that derives nouns from non-verbal nouns, and has nothing to do with $\sqrt{\text{-ing}}$. In neither language is there a reflex of an earlier **-an* which derives locational nominalizations meaning 'place of $\sqrt{\text{-ing}}$ ' from verb $\sqrt{\text{vs. 7b}}$) is a re-drawing of Ross's nominalization table, retaining the verb versus noun partition and incorporating the revisions I have proposed above:

3. Conclusion

If the scenario I have presented above is correct, then much of the morphological material Ross reconstructs for PAN was actually innovated at or below the F_2 level, that is, after the Rukai languages plus Tsou and Saaroa had separated off. To the extent that this morphology is shared between the remaining Formosan language and the Malayo-Polynesian subgroup, it constitutes evidence for regarding Malayo-Polynesian as a lower-order subgroup of the Austronesian language family.

Figure 7b): Morphemes used to form nominalisations

Intransitive		Transitive			
	*mu-√	*ni-√	*√-ən	*√-an	*Si-√ *Sa-√
PAN	instrument
Rukai
Tsou
Saaroa
Kanakanavu	place of √-ing: <i>ta-√-an</i> s.t. √-ed: <i>√-an</i>	instrument
Saisyat	...	s.t. √-ed	...	place of √-ing	...
Atayal	...	s.t. √-ed?	s.t. to be √-ed	place of √-ing	instrument?? <---> instrument??
Seediq	...	s.t. √-ed	s.t. to be √-ed	place of √-ing	have N: s-N?? <---> have N: s-N??
Amis	...	s.t. √-ed	...	place of √-ing: R-√-an	instrument
Puyuma	√-er	s.t. √-ed	s.t. to be √-ed	place √-ing will occur: R-√-an place √ occurred: <m>-√-an	instrument
Paiwan	√-er	s.t. √-ed	s.t. to be √-ed	place of √-ing	instrument, reason

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