A Grammatical Typology of
Formosan Languages[1]

Stanley Starosta

This paper is a an overview of the syntactic and morphological typology of the Austronesian languages of Taiwan, as seen from a lexicase point of view. It is divided into two sections, the first on predicating constructions and the second on nominal constructions. The first section begins with a discussion of the concept of grammatical transitivity and the ways in which this property can be defined semantically, grammatically, and morphologically, and used to determine whether a language is accusative or ergative. Based on these considerations, it is shown that most or all of the Formosan languages, like the related languages in the Philippines, must be regarded as ergative rather than accusative in their case-marking patterns. Most of the languages surveyed are verb-initial, but all allow for pre-posed topics. Verbs are stative or active and transitive or intransitive. Intransitive verbs may be derived from transitives by a process of anti-passive derivation, and 'focus' is analyzed as a matter of lexical derivation producing predicate nouns and verbs which impose new interpretations on their Patient subjects. Fairly deep infinitival complementation is common, and words which translate as adverbs in Chinese or English are often grammatically main verbs. In all the languages, auxiliary verbs are grammatically the main verbs of their clauses, and carry information on aspect and negation as well as serving as hosts for clitic pronouns marking the actor and/or Patient of

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the full-verb clause embedded immediately below the auxiliary. Clauses with non-verbal predicates are also common, and as is typical in western Austronesian languages, they play an important role in the formation of content interrogatives and relative clauses.
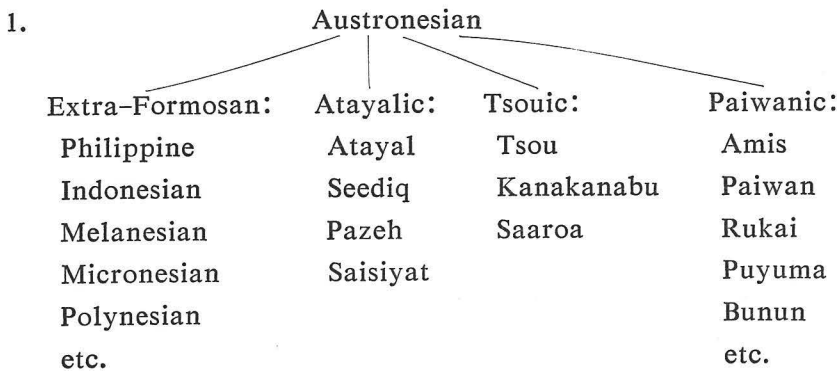
Noun Phrases, like clauses, have a strongly right-branching structure, except for the determiners, which occur before the head noun and are typically differentiated for case form. Head nouns may be modified by equational relative clauses, and words which translate as adjectives are grammatically nouns.

I. Introduction

In accordance with the usual terminology in Austronesian linguistics, I will refer to the aboriginal languages of Taiwan as 'Formosan languages' to distinguish them from Taiwanese, the dialect of South Min Chinese spoken natively by the majority of the inhabitants of Taiwan today. Formosan languages belong to the Austronesian language family, also referred to as the 'Malayo-Polynesian' family. These languages are spoken by most of the indigenous people of the Pacific outside of Australia and New Guinea, and are spread from Hawaii in the north to New Zealand in the south, and from Easter Island at the eastern end all the way to Madagascar, off the coast of East Africa. There are probably more than 900 individual Austronesian languages currently being spoken.

Recent comparative work by scholars such as Robert Blust and Lawrence Reid at the University of Hawaii suggests that the original Austronesian speech community divided up into four branches as shown in figure 1. As best we can tell at this point, Taiwan is the 'homeland' of almost all the languages of the Pacific Ocean. All the languages in three of these four families are spoken in Taiwan, and under the principle of 'area of maximum diversity = homeland', this strongly suggests that the original Austronesian speech community was located in Taiwan. It furthermore indicates that all the information we need to reconstruct the ancestor of all the Formosan

languages is located right on this one island. Formosan languages are thus crucial to the reconstruction of Proto-Austronesian and of the prehistory of the Austronesian peoples, since in principle at least, any feature found in two different members of these First Four Families can be reconstructed for the proto-language.

1.   Austronesian

Extra-Formosan:	Atayalic:	Tsouic:	Paiwanic:
Philippine	Atayal	Tsou	Amis
Indonesian	Seediq	Kanakanabu	Paiwan
Melanesian	Pazeh	Saaroa	Rukai
Micronesian	Saisiyat		Puyuma
Polynesian			Bunun
etc.			etc.

There is of course a high probability that language families in such close proximity for thousands of years will have influenced each other laterally, and this possibilty will have to be taken into account in attempts at reconstruction, by for example giving greater credence to features that are attested in at least one extra-Formosan language, or in one member of each of the three families in Taiwan. Nevertheless, the potential for increasing our knowledge of the proto-language by studying the languages of Taiwan is tremendous.

One of Fang-kuei Li's many areas of research was the aboriginal languages of Taiwan. He not only did his own field work on the Thao language (Li et al 1958), but repeatedly encouraged his Chinese students to get involved with research on these languages, and I would here like to emulate his example in both these respects: i) in writing this paper, I hope to contribute to the ongoing study of Formosan languages by surveying, in a preliminary way, some of their syntactic properties as a kind of orientation for in-depth studies to follow, and ii) I would like to encourage linguistic

students in Taiwan who are reading this article to get to work on the description of these languages as well, for three reasons: i) the languages are important, ii) some of them are on the point of extinction, and iii) these students are in a better position than anyone else to investigate them. Austronesian scholars throughout the world are waiting with baited breath for news about these languages, but unless they speak Chinese or Japanese and have some kind of association with research institutions in Taiwan, it is very difficult for them to get that information themselves, and as each year passes, more of it will be lost forever. They depend on people who can go into the aboriginal areas and communicate directly with the speakers. Scholars like Paul Jen-kuei Li and Shigeru Tsuchida are performing a mighty labor in this area, but they can't do the whole job alone. The students training in linguistics programs in Taiwan right now are in an ideal position to assume part of this responsibility and make a possibly major contribution to linguistic and anthropological knowledge of the Pacific and mainland South China and Southeast Asia. Jyā yóu!

II. Predicating constructions

This paper is divided into two sections, the first on clause-level syntax and verbal morphology and the second on noun phrases. The lexicase grammatical framework will be assumed in the description (Starosta 1988), but the paper should be readable by linguists with no background in this model.

A. Transitivity and ergativity

One aspect of my analysis of Formosan syntax which may not be so transparent to the general reader is the fact that it is becoming increasingly clear that most if not all of the Formosan languages are syntactically ergative. As an aid to following the discussion below, I will give a sketch here of what this conclusion means in general and in terms of a lexicase analysis.

An ergative language is traditionally described as one in which the subject of an intransitive clause (S_i) is marked grammatically like the object (O) of a transitive clause, as constrasted with the S_i in an accusative language such as Chinese or English, which is marked like the agent of a transitive clause (A):

2.
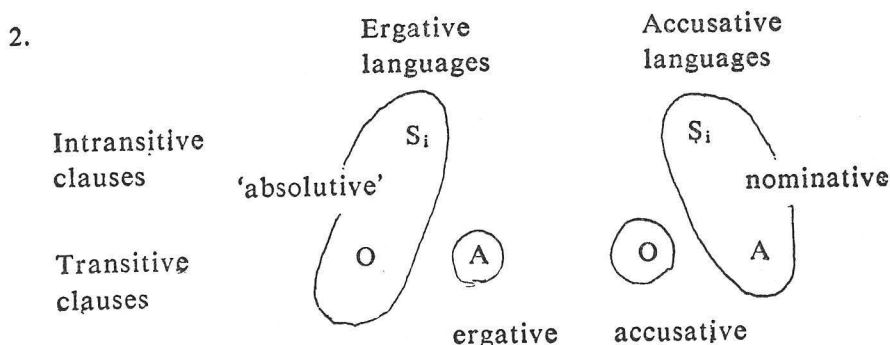
In a lexicase grammar, an ergative language is defined as a language in which the case relation ('thematic relation') Patient is always the grammatical subject of a clause. This definition depends on the assumption that every clause has a Patient, that the subject of an intransitive clause is thus necessarily a Patient (S_i=PAT), and that a transitive clause is one in which an Agent (A) appears in addition to a Patient (O). In addition, an 'actor' is the Agent of a transitive clause or the Patient of an intransitive clause. These assumptions plus the following patterns should be useful in helping the reader follow the subsequent discussion:

3.

Stanley Starosta
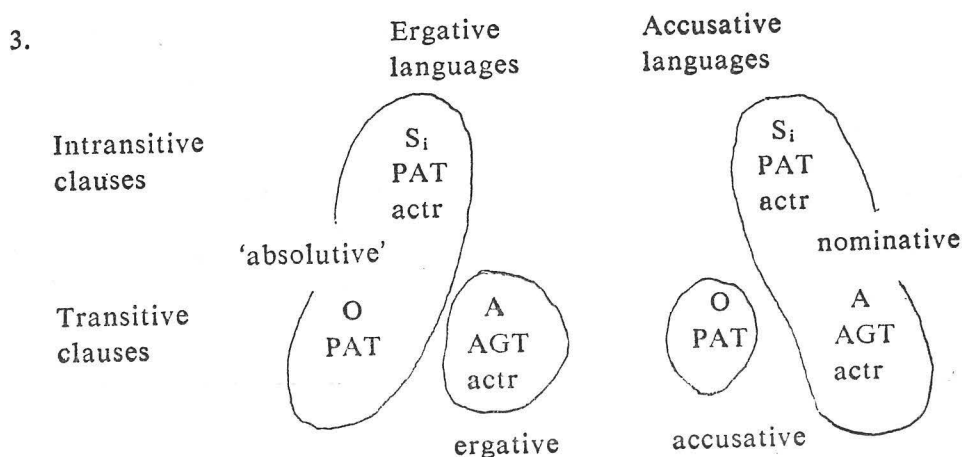
In lexicase, a subject is always in the nominative case, and the Patient of a transitive clause in an accusative language is marked by accusative case. In addition, the Agent in a transitive clause in Formosan and many other ergative languages is marked by the Genitive case. The above configuration then reduces to the following patterns:

4. Accusative pattern: Ergative pattern:
    (Chinese, English)   (Tagalog, Amis)

Accusative pattern: (Chinese, English)		Ergative pattern: (Tagalog, Amis)	
V_{intr}–Subject		V_{intr}–Subject	
Nom		Nom[2]	
PAT		PAT	
actr		actr	
V_{trns}–Subject–Object		V_{trns}–Oblique–Subject	
Nom	Acc	Gen	Nom
AGT	PAT	AGT	PAT
actr		actr	

B. Verbal clauses

1. Word classes

Formosan languages have a very limited repertoire of 'parts of speech', and a given root may occur in more than one syntactic class. All the languages have nouns and verbs, and most of them have a more or less well-developed determiner system, but the existence of adverbs and prepositions is more questionable, and a separate class of adjectives probably does not exist in any of the languages since words which translate as adjectives have the syntactic distribution of nouns. Adverbial concepts tend to be expressed by verbs. It is often difficult to distinguish between determiners and prepositions in a language such as Rukai, and prepositions referring to 'direction toward' or 'direction away from' in English or Chinese often translate as verbs.

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2 The nominative case form in ergative languages is traditionally referred to as 'Absolutive'.

2. Constituent structure

a) Word order in clauses

Formosan languages are in general strongly right-branching, and for all of them with the possible exception of Saisiyat, basic clause-level word order is verb-initial. Two subtypes can be distinguished in terms of the order of the elements following the verb: a VAX type (verb-actor-other elements), as represented for example by Amis, and a VXS type (verb-other elements-subject[3]), as represented by Seediq and Tsou; e. g.

i) V–A–X

5. Amis (Chen p. c.)

```
ma-taqes nia tamdaw ko waco
1         2   3       4  5
+trns         Gen        Nom
              AGT        PAT
              actr
```

'The man hit the dog'
```
2   3   1   4   5
```

ii) V–X–S

6. Tsou; transitive 〔Tung 1964:56, 6d〕

```
i       si   cu atavea eʔhoʔvi no cmoi na sapci-si
1       2    3  4      5       6  7    8  9    10
+trns Gen                         Gen    Nom
+xlry AGT                         AGT    PAT
                                  actr
```

'The bear finally scratched (his) face.'
```
6   7   4   5       10  9
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3 'Subject' here refers to the grammatical subject, as determined by 'coding properties' (Schachter 1976), factors such as indispensability, morphological markedness, and agreement inflection (cf. Biggs 1974), not to the semantic subject, which is determined by control properties and/or translatability by English subjects.

b) Topicalization

While the basic word order in Formosan languages is verb-initial, all the languages[4] have an alternate sentence pattern in which another element, a noun phrase or a place or time element, precedes the verb as a topic.[5] Such topics are marked by pre-verbal position and intervening pause, preceding or following topic morpheme, and/or special determiner class.

i) Following topic morpheme:

7. Saaroa [0101002][6]

kaayoo aɬaiina ya aɬaiyinaako
1   2   3 4 5

'That woman is my wife.'
1   2   5 4

8. Seediq [Q101253]

loʊdən ɣaʔa oʔ sɨmbaaḷi baabʊy ɣaʔa
1   2   3 4 5   6

'That old man is selling pigs.'
2   1- -1   4- -4   5

ii) preceding and following topic morpheme

9. Bunun [B101047.1]

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4 When I refer to 'all Formosan languages', this should be understood to refer to those languages with which I have some familiarity: Amis, Atayal, Bunun, Rukai, Saaroa, Saisiyat, Seediq, and Tsou. While I have also worked on Yami, the language of the original inhabitants of Orchid Island (Botel Tobago), I will not include it in this survey because there is general agreement that Yami is genetically and typologically a Philippine language.

5 I use the term 'topic' in the conventional sense rather than the traditional Philippinist sense, which is more appropriately termed 'subject' (McKaughan 1973).

6 Numbers in square brackets are example numbers from my database. They refer to examples from my own field notes unless otherwise indicated.

maaqa epa to bosol ʔa isqaqanup mataqɖuŋ
1   2 3 4   5 6   7

'This gun is for hunting bear.'
2   4   6- -6   7

iii) special determiner class

(a) Tsou

In Tsou, Nominative and Locative determiners have plain and *i*-prefixed versions, with the *i*-forms almost always occurring on preposed topics and the non-*i* forms occurring post-verbally, especially in the Tapang dialect (Tung 1965:64). The *i*-prefixed locatives mark Locus, but the *i*-prefixed versions of Nominative determiners mark not only subjects but also non-Nominative Agents; e.g.

  i) Topicalized subject

10. Tsou [Tung 1964:240-313]

io mamespiŋi la ahoi to tomaska veaɨnmɨ
1 2   3 4   5 6   7

'The girl begins at sixteen-years-of-age.'
1   2   4   5 6-7

  ii) Topicalized non-subject agent

11. Tsou [C501001]

iʔo mameoi i si fii to mo goen o oko ne hucma
1 2   3 4 5 6 7 8   9 10 11 12
  Tpc   Gen Nom Lcv
  COR   MNS PAT LOC

'Yesterday the old man gave the child five dollars.'
11-12   1   2- -2   5   9   10 8- -8

(b) Amis

The determiners in Amis preposed non-locative NP constructions are identical to the Nominative determiner set minus the initial *k*-(cf. Chen 1987:127):

12. Amis [M101003.31]

?o lima ?ay piða no matoasay caliwən no waawa
1 2   3   4   5   6   7   8   9

The old man's five dollars was borrowed by the child.
6-   -6 5 2   4   7-   -7   8   9

?o = [+Det, +Tpc]; cf. ko [+Det, +Nom], etc.

iv) special determiner class and following topic morpheme

A common topicalization strategy in Amis combines the use of a special class of determiners plus a postposed topic marker *iri*; e. g.

13. Amis [Chen 1977:6.28']

o nanom iri, ma-radom i tebon n-iya babahi
1 2   3 4   5 6   7   8

As for the water, [it is] drawn from the well by/of the woman. Cf.
3   1   2   4   5   6 7   8

14. Amis [Chen 1977:6.28]

ma-radom k-o nanom i tebon n-iya babahi
1   2 3 4 5   6   7

'Water is drawn from the well by/of the woman.'
3   1- -1   4   5   6   7

c) Auxiliaries

A prominent feature of Formosan languages is a system of auxiliary verbs which, depending on the language, may carry information on aspect, negation, and/or such 'adverbial' concepts as instrument, manner, or degree. Such verbs always occur clause-initially (except when preceded by a preposed topic), and non-auxiliary verbs always follow them. Words in this class are best analyzed as the syntactic heads of their clauses (the 'auxiliaries-as-main verbs' or 'AMV' analysis; cf. Ross 1969, Starosta 1982) for a number of reasons. The generalizations which can be captured by assuming that auxiliaries are the syntactic heads of their clauses include the following:

i) Auxiliaries are the initial words of their clauses. If we analyze them as head verbs, we can state that, with the exception of topics, Formosan clause structure is right branching; and

ii) As the head of the entire clause, an 'auxiliary' verb is in a natural position to carry semantic features such as aspect, negation, and manner which have the entire clause in their scope.

In the following sections, I will provide examples of auxiliary verbs in various functions from various Formosan languages to illustrate these two points.

(a) Negation

15. Rukai [R101054.6]

kadua asoala kay marodaŋ
1   2   3   4
'The old man wasn't first.'
3 4- -4 1   2

16. Atayal [Egerod 1966:359]

niux nhaʔ iniʔ hciazi hmgup
1   2   3   4   5

'They do not succeed in practicing witchcraft.'
2   1 3 4   5-   -5

(b) Tense and aspect

Tense or aspect in Formosan languages is typically marked by an aspectual auxiliary verb[7] which occurs at the beginning of the clause and, as the head of the clause, attracts dependent pronouns. The system of aspect-

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7 Transitivity may also correlate with aspect. Thus in Amis, transitive verbs are glossed as perfective and intransitive anti-passives as imperfective, in accordance with the Hopper-Thompson semantic transitivity scale. This system can probably be reconstructed for PAN, and the aspectual system of modern Philippine languages such as Tagalog can be derived from it in one or two simple steps.

marking auxiliaries is perhaps most productive in Tsou, where almost every verbal sentence occurs with an aspect-marking auxiliary; e. g.

17. Tsou [C501025]

mi cu moefʉeso si chumu
1 2 3   4 5

'The water has already boiled.'
4   5   1   2   3

However, it is also very common in Atayalic languages, e. g.

18. Seediq [Q101219]

ɣaʔa maaḷi baabʋy lʋppʋŋ na ka ḷoʋdən niʔi
1   2   3   4   5 6 7   8

'This old man is buying a pig from his friend.'
 8   7- -7 1 2   3   5 4

19. Atayal[8]

nyuxu sakuʔ mima
1   2   3

'I am washing.'
2 1- 3   −1

In Amis, the auxiliary verbs mark future and past tense in main as well as dependent clauses:

20. Amis [M101077]   [M101077. 1]

o pacɨmootay ci loʔoq   na o pacɨmootay ci loʔoq
1 2   3 4   1 2 3   4 5

'Loq is a fisherman.'   'Loq was a fisherman.'
 4   1 2   5   1   2 3

(c) Time

In the following Saisiyat examples, the word for 'yesterday' shows its

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8 All Atayal examples are taken from Huang MS unless otherwise indicated.

auxiliary verb status by occurring initially and attracting dependent pronouns; note the ergative transitivity pattern correlated with intransitive *MU and transitive *EN verbs respectively:

21. Saisiyat [S101041.07]

    sokahira iaako somvit mooyo
    1   2   3   4
    -trns   Nom   -trns Obl

    'Yesterday I hit you(pl).'
    1   2 3   4

22. Saisiyat [S101041.3]

    kahiraʔ maʔan soʔo savotən
    1   2   3   4
    +trns   Gen   Nom +trns

    'Yesterday I hit you.'
    1   2 4   3

   (d) Degree

23. Bunun [Jeng 1977:214]

    mastan ʔaipaʔ matamasa
    1   2   3

    'He is very strong.'
    2   1   3

   (e) Manner

24. Amis [M101118]

    empitsuən a misuurit tu nuhoolam a suurit
    1   2 3   4 5 6   7 8

    'He used a pencil to write Chinese characters
        1-   -1   2 3

    (Ho-lan ones which are writing).'   cf. Japanese *empitsu* 'pencil'.
     6   5   7   8

   i) Auxiliary embedding

(a) Stacking

A number of auxiliaries can cooccur in a single clause; this is most elaborately developed in Tsou, e. g.
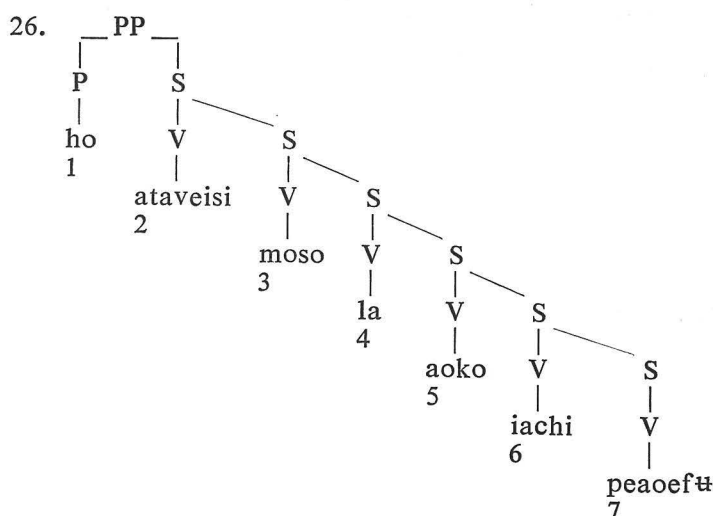
25. Tsou [Tung 1964:346])

    ho ataveisi moso la aoko iachi peaoefʉ
    1 2   3   4 5   6   7

    'He constantly ran alone'; 5 = 'at last'
      2–4   3–7 6

It would be messy to generate such sequences in situ by an iterative expansion of the AUX element, but no extra machinery is required in the AMV analysis; it is rather just a case of recursive embedding:

26.

ii) Auxiliary inflection

In Tsou, verbs typically occur in two different morphological shapes, referred to by Tung (1964:89ff) as *m*-forms and minus-*m* forms. The perfective auxiliaries occur in corresponding parallel *m*- and minus-m sets, and they must agree in *m*-ness with the auxiliary or non-auxiliary which follows them. If auxiliaries and non-auxiliary verbs are members of the same syntactic category, [+V], as is claimed by the AMV analysis, then it

is not surprising that they should share the same morphological properties. Looking a bit deeper, it can be shown that the *m*-forms of both auxiliaries and non-auxiliaries are reflexes of a Proto-Austronesian ('PAN') anti-passive morpheme *MU, and that the agreement pattern results from the rule interpreting an actor of a clause headed by an auxiliary verb to be coreferential with the actor in a dependent infinitival clause, and the subject to be coreferential with the lower subject.

d) Pronoun attraction

Most if not all of the Formosan languages exhibit 'pronoun attraction'; that is, they have a set of dependent pronouns, referred to as 'clitic pronouns' in the Philippinist literature, which follow the first auxiliary if any, otherwise follow the first non-auxiliary verb. For example:

27. Seediq [Q101257]

binaali dha luudən ɤaʔa ka baabuy niʔi ka yooǰi ni katu da
1   2   3   4   5 6   7   8 9   10 11 12

'Yooji and kato have already sold their pigs to the old man.'
9-2- 10 11-2   12   1   6   3- -3
                           dha = 'they'

28. Rukai [R101054.7]
ka so wa-asoalá
1 2 3   4

'You didn't/weren't first.'
2   3 1 3   1 4

Under an analysis which assumes a separate non-verb *AUX* (or *INFL* or *I*) constituent, this situation requires two separate statements to describe, e. g. a dependent pronoun either i) immediately follows the main verb, or ii) precedes instead of follows the main verb if there is an overt auxiliary element. Under an analysis in which auxiliary verbs are the syntactic heads of their clauses, however the 'AMV (auxiliaries as main verbs)' analysis, one simple statement suffices: dependent pronouns immediately follow the highest predicate, that is, the syntactic head of the clause, and an auxiliary

verb is the syntactic head of its clause.

Sometimes a full NP can occur in the same post-auxiliary position as a dependent pronoun, as illustrated in the following Amis example:

29. Amis [M101041.3]

caʔay kiya matʋaasay ka kɨman tʋ naaciḷa-ʔay a hɨmay
1   2   3   4   5   6   7   8 9 10

'That old man won't eat yesterday's food.'
2   3-   -3   1   5   7   8 10

Under the AUX analysis, this situation is completely anomalous. Under the AMV analysis, however, it is not a surprising observation: the position after the main verb of a clause is a normal position for NP's, and dependent pronouns are not the only NP's which can occur there.

When the dependent pronoun follows an auxiliary verb, it is interpreted as coreferential with an overt or covert actant of the following embedded clause. There appear to be two types of dependent pronoun systems attested among Formosan languages, the two-pronoun type and the one-pronoun type.

i) Two-dependent-pronoun systems

In the two-dependent-pronoun system, characteristic of Atayalic and Paiwanic languages (though not of Amis), there are two sets of dependent pronouns, a nominative and a genitive set; a transitive clause may have a nominative and a genitive pronoun attached to the auxiliary, but only a nominative dependent pronoun in an intransitive clause. The genitive if any is coreferential with the (overt or implied) actor of the dependent transitive clause, and the nominative dependent pronoun is coreferential with the (overt or implied) grammatical subject of the following dependent clause.

(a) Intransitive clauses, no auxiliary

30. Atayal

```
pima   saku?
1      2
-trns  Nom
-apsv  PAT
       actr
```

'I am going to wash.'
```
2      1-      -1
```

31. Atayal

```
pəpima saku? sunan
1      2     3
-trns  Nom   Obl
+apsv  PAT   COR
       actr
```

'I am going to wash you.'
```
2      1-      -1    3
```

   (b) Transitive clauses, no auxiliary

32. Atayal

```
pəman saku? nya?
1     2     3
+trns Nom   Gen
      PAT   AGT
            actr
```

'He is going to wash me.'
```
3      1-      -1    2
```

   (c) Intransitive clause, auxiliary verb

33. Atayal

```
nyuxu saku? mima
1     2     3
+xlry Nom   -xlry
-trns PAT   -trns
      actr
```

'I am washing.'
```
2 1    3
```

(d) Transitive clause, auxiliary verb

34. Atayal

```
musa  ku?  nya? pəman
1     2    3    4
+xlry Nom  Gen  -xlry
+trns PAT  AGT  +trns
           actr
```

'He is going to wash me.'
```
3    1-  -1    4    2
```

35. Atayal (there is no 3s Nom: dependent pronoun)

```
musa   maku? pəman hɛya
1      2     3     4
+xlry  Gen   -xlry Nom
+trns  AGT   +trns PAT
       actr
```

'I am going to wash him (with more certainty).'
```
2 1-  -1    3    4
```

ii) One-dependent-pronoun systems

In Tsou, dependent pronouns attach only to auxiliary verbs. Only one dependent pronoun may appear with any given clause. This dependent pronoun is Nominative in intransitive clauses, including *MU anti-passives, and Genitive in transitive clauses. The actual forms of the dependent pronoun are distinct only in third person singular, where Genitive has *si* and *ta* but no dependent third person Nominative pronoun exists. (Overt or implied) Nominative pronouns are coreferential with Nominative actants in the clause embedded under the auxiliary, and Genitive dependent pronouns are coreferential with Agents of embedded transitive clauses.

(a) Intransitive clauses

36. Tsou [C501020]

```
mi     ʔo    sɨʔno  aʔo
1      2     3      4
+xlry  Nom   −xlry  Nom
−trns  PAT   −trns  PAT
       actr         actr
```

'I   got angry.'
1, 4 3- −3

(b) Transitive clauses

37. Tsou 〔C501080.1〕

```
os     ʔo    sɨʔnova e mamespiŋi
1      2     3       4 5
+xlry  Gen   −xlry     Nom
+trns  AGT +trns       PAT
       actr
```

'I got mad at this woman.'
2 3- −3- −3 4   5

iii) Inclusive attributes

One NP construction that strikes speakers of English is the inclusive
attribute construction, in which a single dependent pronoun incorporates the
referents of two distinct actants; e.g.

38. Atayal 〔Lin 1977〕

msazyuʔ sami ki heyaʔ
1   2   3 4

'I quarrel with him;' 〔literally. 'We excl. quarrel with him.'〕
2- 1   3   −2   2   1   3   4

C. Non-verbal predicates

Clauses in Formosan languages may be headed by a verb or a noun or,
for some of the languages, a preposition. Grammatical subjects are always
in the nominative case, and are obligatorily definite. In a lexicase represen-
tation, all clauses share the property that their head word is a predicate,

as indicated by the feature [+prdc]; that is, an S is defined as a prdc' in X–bar terminology, in addition to being either a V', an N', or a P', depending on the category of its head:

39.
$$S = prdc' = V'$$

verb
$\begin{pmatrix} +V \\ -trns \\ +prdc \end{pmatrix}$ noun
Nom
PAT

$$S = prdc' = V'$$

verb
$\begin{pmatrix} +V \\ +trns \\ +prdc \end{pmatrix}$ noun
Gen
AGT noun
Nom
PAT

40. 1.
$$S = prdc' = N'$$

noun
$\begin{pmatrix} +N \\ -trns \\ +prdc \end{pmatrix}$ noun
$\begin{pmatrix} +Nom \\ +PAT \end{pmatrix}$

$$S = prdc' = P'$$

prepo-
sition
$\begin{pmatrix} +P \\ -trns \\ +prdc \end{pmatrix}$ noun
Lcv
LOC noun
Nom
PAT
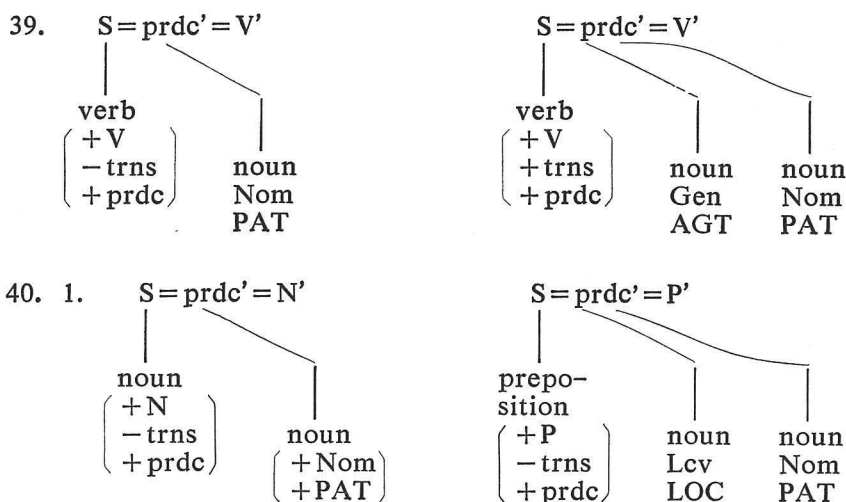
Clear examples of PP predicates have been attested so far only in Paiwanic languages.

1. Underived nominal predicates

Noun–headed clauses are either descriptive or identificational, depending on the definiteness of their predicate nouns. A descriptive clause has an indefinite predicate noun which has no independent referent and which characterizes a function or capacity of the subject, such as an occupation, e. g. teacher or actor; e. g.

41. Amis [M101077]

o pacɨmotai ci loʔoh
1 2   3 4
   +N   Nom
   +prdc   PAT
   +sttn

'Loh is a fisherman.'
3-4 2- 1 -2

An identificational clause has a definite predicate noun which has its own independent referent. Such a clause identifies the subject and the predicate, that is, it asserts that their referents are one and the same individual; e.g.

42. Rukai [Li 1973: 4.6.8-05]

    tamali kuani umas
    1   2 3   4

    'My father is that man.'
    2   1   3   4

43. Rukai [Li 1973:4.6.8-06]

    kuani umas ka tamali
    1   2   3 4 5

    'That man is my father.'
    1   2   5 4

2. Nominalization, cleft equationals

Formosan languages generally have rich verbal nominalization systems inherited from Proto-Austronesian. NP-NP constructions in which a nominalization occurs as the subject or predicate or both will be referred to as cleft equational sentences; e.g.

44. Rukai [Li 1973:4.6.8-03]

    kuani kaaŋ ka wakanɨli
    1   2   3 4 5

    'That fish was eaten by me'; literally,
    1   2   4   5

    'My eaten-thing was that fish'.
    5   4   1   2

45. Rukai [Li 1973:4.2.6-02]

    kuaɖa abiḷil naia ka amani kuaɖa la-wa-ʔacay
    1   2   3   4 5   6   7 8 9

'Those who followed us were those dead people.'
1   2-   -2   3 5   6   8-9 7-9

Such sentences are related to corresponding verbal constructions in the same way as the English sentence 46a is related to 46b–c:

46. a) Tex bought the dachshund.

    b) [$_{NP}$ the buyer of the dachshund] was Tex.

    c) Tex was [$_{NP}$ the buyer of the dachshund].

When a nominalized verb occurs as the predicate of a cleft equational, the result may be very difficult to tell from a pure verbal sentence. In Rukai, for example, the only reliable way to distinguish the two is by the choice of a possessive versus an agentive first person pronoun (Li 1973: 172–3):

47. Rukai [Li 1973:4.2.7.2.1–03]

kinanianli kuani aga
1   2 3   4

'That rice was what was eaten by me'; cf.
3   4   1-   -1- -1   2

48. Rukai [Li 1973:4.2.7.2.1–05]

wakaniaku inia aga
1   2   3   4

'I ate that rice.'
2 1   3   4

This situation is nothing new. Cleft equationals are very important in the history of Austronesian, as they figure crucially in Starosta, Pawley, and Reid's (1982) account of the evolution of 'verbal focus'. Synchronically, they play a major role in two constructions, content questions and relative clauses.

3. Content questions

Content questions are formed with an interrogative pronoun as the predicate of an equational sentence. The subject may be a single noun, as in:

49. Rukai [Li 1973:4.6.7.1-01]

    maniman kuani
    1   2

    'What is that?', literally, 'That is what?'
    1   2

50. Rukai [Li 1973:4.6.7.1-02]

    ania kuani umas
    1   2   3

    'Who is that man?', literally, 'That man is who?'
    1   2   3

Questions corresponding to verbal clauses are also typically (though not always) composed of an interrogative pronoun predicate and a nominalized subject, rather like:

51. a) [$_{NP}$ The man's [$_N$ thing-cooked]] was *what*?

    b) [$_{NP}$ The [$_N$ cooker] of the food] was *who*?

    c) [$_{NP}$ The man's [$_N$ cooking-place] of food] was *where*?

    d) [$_{NP}$ The man's [$_N$ reason-for-cooking] of the food in the garage] was *why*?

To cite some actual examples:

52. Atayal

    nanuʔ cyuxu təhəqun sayun
    1   2   3   4

    'What is Sayun cooking?'
    1   2 4   3

53. Rukai [Li 1973:4.6.8-01]

    kuani kaaŋ ka kinanⁱanŋa
    1   2   3 4   5

    'That fish was eaten already.'
    1   2   4- -4   5

III. Nominal constructions

A. Word classes

1. Nouns

Nouns in Formosan languages may be pronouns, stative nouns, demonstratives, station nouns, relator nouns, or common nouns. Pronouns may be divided into free and dependent ('clitic') subsets (cf. Li 1973:75). Stative nouns often translate as English adjectives, but have the distribution of common nouns, including occurrence with a ligature-marked attribute, e.g.

54. Poyoma [Sprenger 1972:136]

    ini na volai na romaq-mo nino
    1 2 3   4 5   6   7

    'This beautiful house is yours'; 'Your possession is this
    1   3   5   7   7-   -7   1-

    thing which is a beautiful one which is your house.'
    -1   2-   -2 3-   -3 4   5   6

and the ability to occur as the sole N in an NP:

55. Amis [M101133]

    pa-pitorkod ko matoasay to adidiʔay a maʔinayan toya tataʔaŋay
    1 2   3 4   5 6   7 8   9   10

    'The old man made the small cock fight with the big one.'
       4- -4 1   6   8   2- -2   10- -10

Similarly, demonstrative nouns may translate as English demonstrative determiners, but have the distribution of nouns. Station nouns refer to stations or occupations; they are distinguished by their ability to occur as non-

referential predicates of descriptive NP-predicate sentences. Relator nouns are nouns referring to relational concepts such as body parts and locational aspects of objects, such as top, side, rear, etc. They are typically or always modified, and serve as locative case markers in the languages which do not have elaborate determiner systems; e. g.

56. Bunun [B101079]

    panahaan ak simᵇatto ɖaðaʔ ᵇuŋo
    1   2   3   4   5

    'The thing I threw hit the top of the head';

    'My hitting place with a missile was the top of the head.'
    2   1-   -1   3   4   5

Common nouns are divided in Amis into personal and non-personal subsets. The personal nouns are distinguished by cooccurring with a distinct set of determiners and taking a locative case suffix derived from *AN, and include personal names and kinship terms used as names.

2. Determiners

All of the Formosan languages have a class of Determiners, words which occur initially in NP's and mark case, personality, definiteness, and/or proximity. These words are used very sparingly in the Atayalic languages and in Saaroa, for example, but are obligatory and highly developed in Tsou and Amis. In Bunun, they often appear both before and after nouns, as illustrated by the following Bunun examples:

57. Bunun [B101066. 1]

    mahaʊ saak i maɖiŋað ta
    1   2   3 4   5

    'I scolded the old man.'
    2   1   3-5 4-   -4

3. Prepositions

Prepositions in Formosan languages, as in Philippine languages, are

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sometimes difficult to distinguish from determiners or verbs. A particularly difficult case is Rukai *ara* 'with':

58. Rukai [Li 1973:4.3.3.3-06]

kiaciⁱlŋa ara liŋu kay ḷulay inia isiŋ
1   2 3   4   5   6   7

'This child was looked at with glasses by that doctor.'
4   5   1- -1   2   3   6- -6 7

The preposition *ara* is closely related to the Rukai verb *ara* 'use', and in fact many words which translate as English prepositions have such connections. Cf.

59. Rukai [Li 1973:4.3.3.3-17]

kiaaniʔalay sa sasiⱽⁱra twalay tarumak ʔakⱽla liglig kayvay tudaŋ
1   2 3   4   5   6   7   8   9

'This tin roof was blown from Tarumak to the mountain by the wind'
8   9- -9 1- -1   4   5   6   7   2   3

where *twalay* is also the verb 'come from' and *ʔakⱡla* is also the verb 'arrive' (Li 1973: 277). As another example, the optional future complementizer *a* in the following Amis example may indicate that with the *a*, the *tara* is analyzable as the verb *tara* 'go, arrive', and without it, as a preposition *tara* 'toward':

60. Amis [Chen 1987:170, 5.14]

ma-korokoro to kia bekeloq (a) tara i sasa no lotok
1   2 3   4   5 6   7 8   9 10
'The stone is/was rolling downhill': literally,
'The stone is/was rolling to go toward the bottom of the hill.'
3   4   1-   -1   5 6- -6   7 8   9   10

This phenomenon is familiar from Chinese grammar, where prepositions derived from verbs are referred to as 'coverbs'.

B. Constituent structure and word order

With the exception of an initial element which may be analyzable as a Determiner, Noun Phrases in Formosan languages are right-branching; the head noun comes first, and attributes follow. Attributes may be either NP's or S's. Following NP's are either possessors or nominative predicates of equational relative clauses:
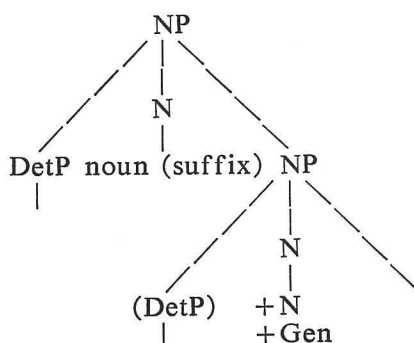
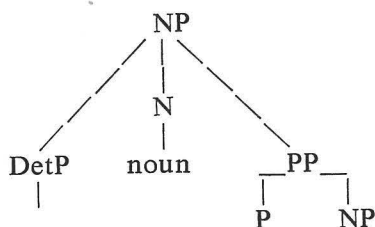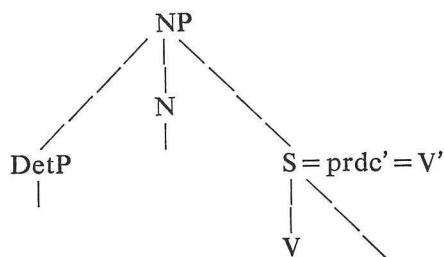61. Possessor   Equational relative clause
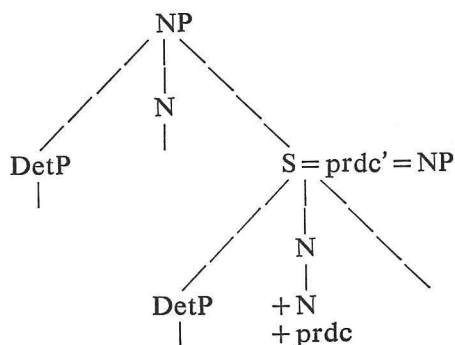
62. PP attribute   Verbal relative clause

1. Possessors

Here are some examples of the possessive construction signalled by juxtaposition without a possessive suffix:

63. Seediq [Q101314]

qəmənəta ku (ka) buusi yuuǰi
1   2   3   4   5

'I saw Yooji's hat.'
2 1   5   4

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64. Atayal

pila nɨkkɨis
1   2

the old man's money
2-   -2   1

and some with a possive suffix on the head noun:

65. Seediq [Q101288]

bahuw luukus mu niʔi
1   2   3   4

'Wash my clothes! Wash these my clothes.'
1   3   2   1   4   3   2

66. Atayal [Egerod 1966:365]

qianux-taʔ taial gaʔ
1   2   3   4

'the fate of us Atayals; our fate of the Atayals which is this'
      1   2 3   2   1   3   4

In at least one language, Saaroa, the possessive suffix may agree with
an overt NP possessor, e. g.

67. Saaroa [Tsuchida 1976:279]

kumakali na palǝŋǝ isa ʔulusu
1   2 3   4   5
                      |___|

'They dig at the base of the pillar'; literally,
'They dig at its base of the pillar'.
      1   2 4   3   5

A possessive absolute construction, rather like "John's is expensive" in
English, also occurs in several languages; e. g.

68. Bunun [B101027]

— 568 —

maaqa holosʔ i ʔa isiya niyon
1   2   3 4 5   6

'These clothes are Neon's.'
3   2   6   5

69. Tsou [C501029.3]

ie fʔue eni oʔa nu to mameoi
1 2   3   4   5   6   7

'This sweet potato is not the old man's.'
1   2-   -2   4   6   7- -7 5

70. Poyoma [Sprenger 1972:136]

ning-ko inalopan ini na vavói i zenan
1   2   3   4   5   6   7 8

'My object of hunting is this wild boar on the mountain.'
2   3-   -3   4   6- -6   7   8

2. PP attributes

In addition to possessors and equational relative clauses, some languages also allow PP attributes of N's; e.g.
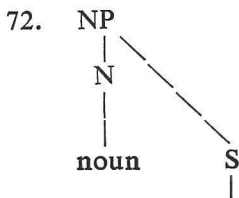
71. Atayal [Egerod 1966:362]

buqul kiʔ qaiaʔ naʔ ual mhoqil
1   2   3   4   5   6

'the tomb including the belongings of the dead person'
     1   2   3   4   6-   -6

3. Relative clauses

a) Constituent structure

Relative clauses in Formosan languages, as in other languages, are S's serving as modifiers of N's:

72. NP
      | \
      N   \
      | \
     noun   S
               |

and the S which modifies the noun contain a 'gap', a missing element which corresponds to the noun being modified. Formosan relative clauses relativize only on subjects, and in order to question or relativize a non-subject NP, Formosan and Philippine languages have elaborate systems of verbal derivation and/or nominalization processes which allow non-Patient actants to be reinterpreted as Patients, thereby placing them in the subject position where they become eligible for questioning and relativizing. The derivational affixes associated with these processes then allow the situational roles of that reinterpreted NP (performer, affectee, instrument, etc.) to be recovered even though grammatically they are Nominative Patients. These verb- and noun- deriving rules will be referred to collectively here, in accordance with Philippinist terminology, as 'focus'. [9]

b) Equational relative clauses

In Philippine languages, and in Formosan languages other than Tsou, the clause which modifies the noun is typically or always a cleft equational construction. Thus all the NP's which function as subjects of content questions can also function as predicates of relative clauses. The following schematic examples give the flavor of this construction; OF = 'Object Focus'/'Goal Focus', AF = 'Actor Focus', LF = 'Locative Focus', RF = 'Reason Focus':

73. a) OF: The spaghetti [s which was [NP the man's [N thing-cooked]]] was delicious.

   b) AF: The man [s who was [NP the [N cooker] of the food]] left early.

   c) LF: The house [s which was [NP the man's [N cooking-place] of food]] is nearby.

   d) RF: The party [s which was [NP the man's [N reason-for-cooking] of the food in the garage]] was fun.

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9 Note, however, that the treatment of focus as verbal and nominal derivation involving reinterpretation as Patient so far seems to be unique to the lexicase analysis.

Herewith a real *LF* example:

74. Seediq [Q101073]

[_{NP} sɨnaw [_S qɨntaʔ-an·mo] kiya] oʔ waada aaḷaŋ
    1   2   3 4   5   6 7   8

'The man that I am in love with went to the village.'
 5   1   4   2   3   7   8

As mentioned earlier, this construction is one of the motivations for the innovation of systems of recentralizing nominalization, the forerunners of verbal 'focus', as a means of placing a variety of actants into the subject position in order to make them available for relativization. For this reason, relative clauses remain one of the best ways to elicit focus constructions in the modern languages.

c) Verbal relative clauses

Relative clauses in Tsou are verbal rather than equational, but as with the other languages, only the subject can be relativized. Again, the focus system, this time verbal focus, is called upon to place actants in the subject position to make them accessible to relativization; e. g.

75. Tsou Locative Focus [C501055]

[_{NP} io [_S i si fii to fʔue] ci oko] mo moŋsi
    1   2 3 4 5 6   7 8   9 10

'The child to whom the sweet-potato was given cried.'
 1   8   4- -4-   5 6   -4   9-10

76. Tsou Goal Focus [C501049]

mo mafeʉesʉ [_{NP} o [_S os ʔo eoʔbaka]]
1 2   3   4 5 6

'The place I hit is very slippery.'
 3   6-   5 4-6   2

77. Tsou Goal Focus [C501054]

mafe [NP si [S i si faeni ta oko] ci fʔue]
1   2 3 4 5   6 7   8 9

'The sweet-potato given to the child is very delicious.'
2   9   5   6   7   1

IV. Conclusion

This paper is only a sample of the richness of Formosan language data. Hopefully it will also serve as an appetizer for linguistics students in Taiwan who are in a position to provide us with the whole feast.

V. List of feature names

actr	actor macrorole
AGT	Agent case relation
apsv	antipassive derivation
COR	Correspondent case relation
Det	Determiner
Gen	Genitive case form
Lcv	Locative case form
LOC	Locus case relation
MNS	Means case relation
N	noun
Nom	Nominative case form
Obl	Oblique case form
P	prepositiuon or postposition
PAT	Patient case relation
prdc	predicate
sttn	station (in life)
Tpc	topic
trns	transitive
V	verb
xlry	auxiliary subclass of verbs

References

Biggs, Bruce.

1974 Some problems of Polynesian grammar. Journal of the Polynesian Society 83: 401-426.

Chen, Teresa M.

1977 Nataoran-Amis. Term paper, Linguistics 770C. Honolulu: Department of Linguistics, University of Hawaii.

1987 Verbal constructions and verbal classification in Nataoran-Amis. In *Pacific Linguistics* Series C, No. 85. Canberra: Department of Linguistics, Research School of Pacific Studies, The Australian National University.

Egerod, Søren.

1965 Verb inflexion in Atayal. *Lingua* 15: 251-82.

1966 Word order and word classes in Atayal. *Language* 42: 346-69.

Gibson, Jeanne D., and Stanley Starosta.

To appear. Ergativity east and west. In Philip Baldi (ed), Linguistic change and reconstruction methodology. *Trends in linguistics*. Berlin: Mouton de Gruyter.

Hopper, Paul J., and Sandra A. Thompson.

1980 Transitivity in grammar and discourse. *Language* 56. 2: 251-299.

Huang, Lillian Meei-Jin. MS (1988). Some remarks on Atayal. Taipei: English Department, National Taiwan Normal University.

Huang, Lillian Meei-Jin, and Stanley Starosta. In progress. Transitivity in Formosan languages.

Jeng, Heng-hsiung.

1977 Topic and focus in Bunun. *Institute of history and philology special publications no. 72.* Taipei: Academia Sinica.

Li, Fang-kuei, Chi-lu Chen, and Mei-chun Tang.

1958   Notes on Thao language [in Chinese with English summary].
        *Occasional papers of the Department of Archaeology and Anthropology,
        National Taiwan University, No. 1; Ethnological researches among the
        Thao of Sun-Moon Lake, Formosa*, pp. 137–166. Taipei: National
        Taiwan University.

Li, Paul Jen-kuei.

1973   Rukai Structure. *Academia Sinica Special Publications No. 64*. Taipei:
        Academia Sinica.

1975   Taiwan aboriginal language research materials and problems [in
        Chinese]. Vol. 40, *Bulletin of the Institute of Ethnology*, Taipei:
        Academia Sinica, 51–84.

1979   Taiwan aboriginal languages [in Chinese]. Thought and Speech
        17:4: 293–306.

1985   The position of Atayal in the Austronesian family. In Andrew
        Pawley and Lois Carrington (eds), *Austronesian Linguistics at the
        15th Pacific Science Congress; Pacific Linguistics* C–88, 257–280.

Lin, Jo Wang.

1987   The distribution of personal pronouns and some related sentence
        constructions in Atayal. Term paper for Paul Jen-kuei Li's Field
        methods course. Hsinchu, Taiwan: Institute of Linguistics, Tsing
        Hua University.

McKaughan, Howard P.

1973   Subject versus topic. In Andrew B. Gonzalez (ed), Parangal kay
        Cecilio Lopez (Essays in honor of Cecilio Lopez on his seventy-
        fifth birthday, *Philippine journal of linguistics special monograph issue
        no. 4*. Quezon City: Linguistic Society of the Philippines.

Ross, John Robert.

1969   Auxiliaries as main verbs. In W. Todd, *Studies in Philosophical
        linguistics, Series One*. Carbondale, Illinois: Great Expectations
        Press, pp. 77–102.

Schachter, Paul.

1976 The subject in Philippine languages: topic, actor, actor-topic, or none of the above? In Charles Li (ed), *Subject and topic*. New York: Academic Press, 491-518.

Schachter, Paul, and Fe T. Otanes.

1972 Tagalog reference grammar Berkeley: University of California Press.

Sprenger, Arnold.

1972 Overt construction markers in Puyuma (Formosa). In Charles T. C. Tang, Jeffrey C. H. Tung, and Anthony Y. T. Wu (eds), *Papers in linguistics in honor of A. A. Hill*. Taipei: Rainbow-Bridge Book Company, 133-145.

Starosta, Stanley.

1982 Affix hobbling. In L. A. U. T. series A, paper no. 95. Trier: Linguistic Agency, University of Trier; reprinted from University of Hawaii *working papers in linguistics 9.1*, 1977.

1988 The case for lexicase: an outline of lexicase grammatical theory. Robin P. Fawcett (ed). *Open linguistics series*. London: Pinter Publishers Limited.

Starosta, Stanley, Andrew K. Pawley, and Lawrence A. Reid. MS (1981). The evolution of focus in Austronesian. Honolulu: Department of linguistics, University of Hawaii.

1982 The evolution of focus in Austronesian. In Stephen A. Wurm and Lois Carrington (eds), *Papers from the third international conference on Austronesian linguistics, vol. 2: tracking the travelers*. *Pacific Linguistics* Series C, No. 75, 145-170.

Tsuchida, Shigeru.

1976 Reconstruction of Proto-Tsouic phonology. *Monograph Series no. 5, Study of languages and cultures of Asia and Africa*. Tokyo: Tokyo Gaikokugo Daigaku.

Stanley Starosta

1983 Austronesian languages in Taiwan (Formosa). In S. A. Wurm and Shirô Hattori (eds), *Language atlas of the Pacific area, Part II: Japan area, Philippines and Formosa, mainland and insular Southeast Asia. Pacific Linguistics, Series C.*

Tung, Tung-ho.

1964 A descriptive study of the Tsou language, Formosa. *Special publications no. 48.* Taipei: Institute of history and philology, Academia Sinica.

摘　　要

本文以「詞格文法」的理論觀點綜觀屬於南島語系 (Austronesian) 的臺灣高山族語的句法和構詞類型。

文章分成兩個部分：第一部分討論文法上及物性的概念及如何從語義，語法和構詞等各方面給這種特性下一個定義，從而決定一種語言在格的標記模式中是屬於賓格語言或主動格語言。若以此作爲考慮的因素，我們發現絕大多數的高山族語和一些相關的菲律賓語相似，就格的標記模式而言，必須歸入主動格語言，而非賓格語言。在所調查的語言中，大多數的動詞都是前置的，同時，也容許有主題前置的現象。研究的動詞包括狀態動詞和主動動詞，以及及物和非及物動詞，透過「逆被動」構詞法，不及物動詞可由及物動詞衍生而來，而所謂的「焦點」可視爲詞彙的衍生，由此產生的謂語名詞或謂語動詞可賦予受事主語新的詮釋。連續深層嵌入的不定互補結構亦十分普徧。在漢語或英語中被當成副詞的詞，在語法上往往屬於主要的動詞。助動詞在各種語言的語法上，屬於分句中的主要動詞。它們附帶了有關動作進行的狀態和否定的信息。它們也是接語代詞的主詞，標記出實動詞分句的施事者和（或）受事者。子句中含非動詞謂語亦十分普徧。這種結構是南島語系西部的典型代表。在構成疑問句及關係從句上扮演著重要的角色。

除了出現在中心詞前的限定詞之外，名詞性詞組和子句相似，有著很強的向右分支的結構。在格形式上，限定詞也有和名詞性詞組不同的標記。中心名詞可由等式關係從句來加以修飾。在這些語言中，形容詞在語法上也往往屬於名詞。