

Word order in Austronesian from north to south and west to east

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Abstract

Donohue (2005a) argues that the SVO order of most southern Austronesian languages found between mainland Southeast Asia and New Guinea is due to contact with non-Austronesian languages. I offer a number of other correlations between word order features and geographic area, establishing that the well-discussed division between “eastern” and “western” (or “Papuan” and “Austronesian”) languages in the Indonesian archipelago is not a crisp one, but is one that should be essentially maintained. Despite the fact that the division, traditionally based on the position of the genitive, generally matches the western boundary of “Central Malayo-Polynesian” (Blust 1993), a better explanation for the break is shown to be influence from languages with a typology matching that found in western New Guinea. At the same time, the much less discussed break between the northern and the southern Austronesian languages is established, mapping the contrast between the northern, “Philippine-type” Austronesian languages and their southern neighbours, despite the lack of any well-accepted genetic boundary between these two areas, implying substratal influence similar to that which characterises the eastern Austronesian languages.

Keywords: adjective, adposition, Austronesian, contact, demonstrative, genitive, linguistic area, numeral, “Papuan”, relative clause, substrate, word order

1. Assumptions about the order of elements

This article argues for a more complex, and less crisp, typological division of the Austronesian languages than is usually assumed, presenting evidence that “north” and “south” are as important in understanding the typology of these languages as are “east” and “west”. The appearance of a basic Genitive-

Noun order in East Nusantara, in sharp contrast to the Noun-Genitive order observed in western Indonesia, Malaysia, the Philippines, and most of Taiwan, has long been noted (at least since Brandes 1884). The Genitive-Noun order is usually being ascribed to non-Austronesian (“Papuan”) substratal influence, as opposed to the (implied) “pure” Austronesian Noun-Genitive order found in the west of Indonesia and in the Austronesian languages of Malaysia. Various other orders of the elements of the noun phrase found in (many) Austronesian languages of Indonesia have not been so carefully scrutinised. I shall introduce the following terminology to describe the different areas in which linguistically distinct groups of Austronesian speakers are found:¹

- Northern Austronesian: the languages of the Philippines and Taiwan, and of some of the northern extremities of Borneo and Sulawesi. All authorities (e.g., Blust 1985, Bellwood 1991, 1997, Pawley & Ross 1993, Adelaar 2005) agree that these languages are closest to the Austronesian homeland in Formosa, and that they represent the most conservative languages in the family.
- Southern Austronesian: the Austronesian languages found between mainland Southeast Asia and New Guinea south of the northern Austronesian group.
- Western Austronesian: the southern Austronesian languages west of a line running to the east of Sulawesi and through the centre of Flores. This area was the site of the first migration south from the northern Austronesian area. (This term has sometimes been used to cover both the languages of the west and south, and the Austronesian languages of the northern area.)
- Eastern “Indonesian”: the southern Austronesian languages east of the line that defines western Austronesian, running as far east as eastern mainland Papua New Guinea.

It is quite clear that the area described as “eastern ‘Indonesian’ ” could just as accurately be described as “(western) Melanesian Austronesian”, or “(greater) New Guinea (Austronesian)”, or any number of other names that do not explicitly refer to the Indonesian nation-state. This name that has been used here

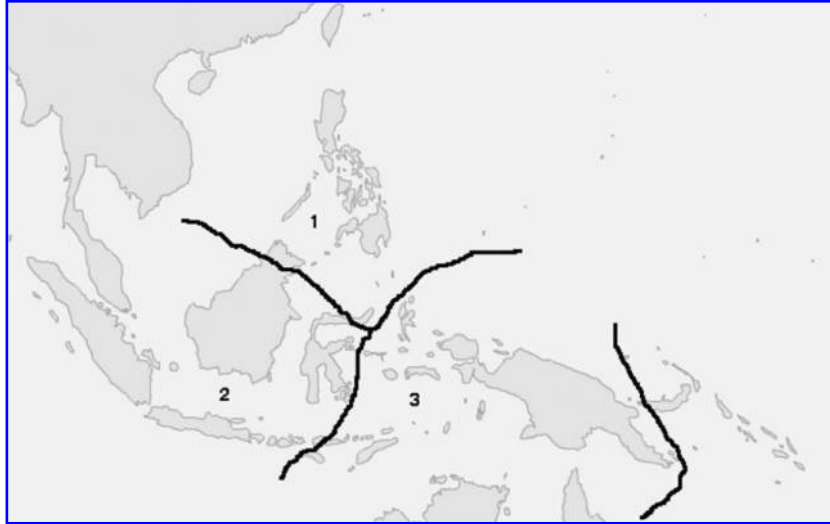
1. Absent from this list are the Austronesian languages of Oceania beyond New Guinea. This is not to deny them their place in a typology of types within Austronesian, but to acknowledge the fact that these languages are practically unrecognisable, typologically, as being related to their proto-Austronesian ancestors, while within the areas defined here significant numbers of proto-Austronesian traits can be observed, albeit in diminishing numbers as one heads south and then east from Formosa and the Philippines.

was chosen because this group of languages will generally be referred to in opposition to the western Austronesian languages, which are largely found in (western) Indonesian. A name such as “eastern Austronesian” would inappropriately imply the many languages of the Pacific beyond New Guinea, and so this has not been used.

The approximate limits of these areas are shown in Map 1. The western area (area 2) contains many non-Austronesian languages in mainland Southeast Asia, and in the eastern area (area 3), which includes New Guinea, the majority of languages are not Austronesian.² Determining the affiliations of those languages remain problematic. While it is generally accepted that there are a large number of languages in New Guinea and certain surrounding islands which cannot be plausibly related to the Austronesian family, there is little agreement as to how those languages form larger genetic groupings. While there are some large families, there are also many areas for which evidence of greater affiliations does not exist. These languages have been collectively dubbed “Papuan”, not with the intention of claiming that they are related to each other, but simply that they are not related to the Austronesian and Australian languages that border them. While the label is unsatisfactory from a comparativist’s perspective, it has been more convincingly used to describe a typological grouping of languages that tend towards head-final phrase structure, and which are in many other ways quite different from the Austronesian languages and Australian languages (see, for example, Wurm 1954, Wurm et al. 1975, Haiman 1980, Foley 1998, 2000). One of the secondary goals of this article is to demonstrate that in fact there is not a consistent “Papuan” linguistic type that extends over the whole area in which Papuan languages are found.

In this article, illustrated with the aid of maps prepared from the *World Atlas of Language Structures* (WALS; Haspelmath et al. (eds.) 2005) and supplemented with additional references to key languages in the region not included in that publication, I demonstrate that Papuan influence can be detected in parameters other than simply the order of genitive and noun. Most specifically, I argue that the order Noun-Adjective, common across all of the southern Austronesian languages of Indonesia, is in need of explanation, and that the explanation is bidirectional influence from non-Austronesian sources. This argumentation builds on Donohue (2005a), which is elaborated here.

2. We can, of course, also consider the languages to the east of the “eastern” area. Here we find the majority of the Oceanic subgroup of Austronesian, though there are some Oceanic languages in area 3 as well. Examining the typological history of these well-researched languages is beyond the scope of this article; the reader is referred to Lynch, Ross, & Crowley (2002).



Key: 1: northern Austronesian; 2: western Austronesian (sometimes 1+2); 3: eastern “Indonesian”; 2+3: southern Austronesian. Note: area 3 includes many languages not genetically related to the Austronesian languages (“Papuan” languages).

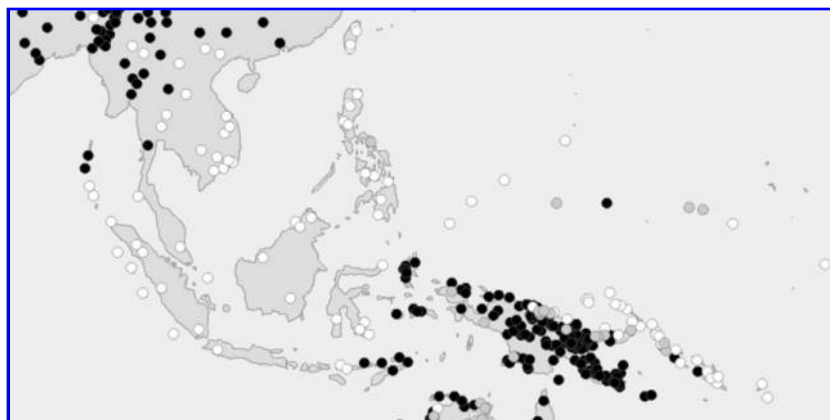
Map 1. *The areas defined*

2. The order of genitives and nouns

The facts of genitive ordering are summarised in Map 2.³ We can see that in the western Austronesian world, the area encompassed by both those Austronesian languages north of Indonesia in Taiwan and the Philippines, and also those languages found in the south, in Malaysia and (western and central) Indonesia, N-Gen is overwhelmingly common, shown on the map with white dots. Examples of this order from the northern Austronesian area, as well as western and central Indonesia in the south, are given in (1).⁴

3. All maps used in this article were generated using the *WALS* software (Haspelmath et al. (eds.) 2005).

4. Data for Tagalog, Indonesian, *Tukang Besi*, *Palu'e*, *Saweru*, *Damal*, *Lani*, *Skou*, *Kanum*, and *One* are from my own notes (with Tagalog supplemented by Schachter & Otanes 1972). Other language data is taken from the sources listed in the references, as follows: *Acehnese*: Durie (1985); *Adzera*: Holzknrecht (1986), Howard (2002); *Arapesh*: Alungum et al. (1978); *Fore*: Scott (1977); *Hanga-Hundi*: Wendel (1993); *Hatam*: Reesink (1999); *Hua*: Haiman (1980); *I'saka*: Donohue & San Roque (2004); *Kambera*: Klamer (1998); *Kéo*: Baird (2002); *Maybrat*: Dol (1999); *Ngad'a*: Arndt (1933), Djawanai & Grimes (1995); *Nuaulu*: Bolton (1990); *Pagu*: Wimbish (1991); *Selaru*: Coward (1990); *Semelai*: Kruspe (2004); *Tobelo*: Holton (2003); *Tugun*: Hinton (1991). The locations of the languages cited are shown in the Appendix.



Key: White dots show languages in which the genitive follows the noun; black dots show languages in which the genitive precedes the noun; grey dots show languages in which the noun and a genitive do not have a fixed order.

Map 2. The order of genitives and nouns

- (1)
- a. Tagalog (northern Austronesian, northern Philippines)
anak ng babae (*ng babae anak)
 child GEN woman
 ‘the woman’s child’
 - b. Indonesian (south-western Austronesian, western Indonesia)
anak perempuan (*perempuan anak)⁵
 child woman
 ‘the woman’s child’
 - c. Tukang Besi (south-western Austronesian, central Indonesia)
ana nu wowine (*nu wowine ana)
 child GEN woman
 ‘the woman’s child’

In New Guinea, however, where non-Austronesian languages dominate, Gen-N is the modal order encountered (the exceptions are mostly immigrant Austronesian languages along the north), shown in black. The area immediately west of New Guinea also shows a dominant Gen-N order, for both Austronesian and non-Austronesian languages. Examples of eastern Indonesian Austronesian languages with this order can be seen in (2) to (4). (5) shows an example of a non-Austronesian language from New Guinea, Skou, with this same word

5. *Perempuan anak* is grammatical with the clausal interpretation ‘(the) woman is a child’, or conceivably ‘the woman of the child’, but not as an expression of the woman as Genitive.

order for possession; as can be seen from Map 2, Skou is typical of the languages of the New Guinea area in this respect.⁶

- (2) Tugun (eastern Austronesian, southern Maluku (eastern Indonesia))
- a. *u-mumu*
1SG.POSS-machete
'my machete'
- b. *laso ni-pei*
mouse 3SG.POSS-faeces
'mouse's faeces'
- (3) Selaru (eastern Austronesian, south-eastern Maluku (eastern Indonesia))
- a. *hahy-ke wasi o-ke*
pig-the own pen-the
'the pig's pen'
- b. *Dorce ama*
Dorce father
'Dorce's father'
- (4) Nuaulu (eastern Austronesian, central Maluku (eastern Indonesia))
- a. *asu neni-e*
dog incisor-3SG.NH.INAL
'dog's incisor'
- b. *momo ne nisi*
grandmother 3SG.HUM.AL garden
'grandmother's garden'
- (5) Skou (non-Austronesian (Skou family), North-central New Guinea)
- ke=bà=fuea rangwaue-ké=ke*
3SG.NF=man=that machete-3SG.NF.GEN=3SG.NF.DAT
'that man's machete'

Not shown on the *WALS*-generated map is a small group of languages in central Flores that show both prenominal and postnominal genitives (though prenominal possession, of the sort seen in (6a) (or (6d), with ellipsis of the possessor NP), is most common; forms such as (6c) are very rare, and (6b) is pragmatically marked). Predictably, these languages are found right on the (fuzzy) border between the N-Gen and Gen-N languages. Here both the western N-Gen and the eastern Gen-N orders are found in one language; the fact that the genitive clitics are consistently postnominal indicates that the conservative

6. I know of only one exception amongst the non-Austronesian languages, I'saka (Donohue & San Roque 2004).

N-Gen order is reflected in Palu'e morphologically, even though it has lost its syntactic uniqueness.⁷

- (6) Palu'e (southern Austronesian, central Flores (southern Indonesia))
- | | |
|---|---|
| a. <i>ana-gu</i>
child-1.GEN
'my child' | b. <i>ana aku(-n-e)</i>
child 1SG-3.GEN-EMPH
'my child' |
| c. <i>ana aku-gu</i>
child 1SG-1.GEN
'my child' | d. <i>ana-gu</i>
child-1.GEN
'my child' |

The division found between west and central Indonesia on the one hand and the east Indonesia/New Guinea areas on the other can be ascribed to a longer and more substantial influence of the pre-Austronesian languages on the immigrant Austronesians in the eastern area, and there is much archaeological evidence supporting this position. I do not wish to argue with this hypothesis, but intend to show that pre-Austronesian influence can be found over a much greater area than simply that delimited by the Gen-N order seen in Map 1. Paradoxically, the area that can unproblematically be said to show "Papuan" features is also much less expansive than the area with Gen-N order. In the following sections I shall examine the evidence from a range of other word-order parameters, and shall argue that the simplest explanation for much of the variation is the effect of a pre-Austronesian substrate on the immigrant Austronesian population.

3. The order of objects and verbs

Examining the order of objects and verbs in the languages of New Guinea and its surrounds reveals an interesting picture. Just as taking Genitive-Noun order will reveal a "New Guinea" that is considerably larger than one confined to the non-Austronesian languages of New Guinea and selected islands in eastern Indonesia, examining the order of the object and the verb results in a smaller "New Guinea" than the entire island.

While the Austronesian languages are uniformly VO, with very few exceptions, the vast bulk of New Guinea (as well as the less acculturated regions in North Halmahera and the Timor-Alor-Pantar region, which contains non-Austronesian languages) shows OV order. Examples are given in (7).

7. The fact that strings such as **ana-gu aku* are not grammatical suggests that the positioning of the clitic is at least partly prosodically, and not syntactically, determined.

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- (7) a. Indonesian (south-western Austronesian, western Indonesia)
Dia me-lihat (se-ekor) burung.
 3SG ACT-see 1-CLF bird
 'She saw a bird.'
- b. *Tukang Besi* (south-western Austronesian, central Indonesia)
No-'ita te kadadi.
 3.R-see CORE bird
 'She saw a bird.'
- c. *Tugun* (eastern Austronesian, southern Maluku (eastern Indonesia))
Fafeik gisan ni-kurukinuli.
 woman make 3SG.POSS-pillow
 'The woman made her pillow.'
- d. *Skou* (non-Austronesian (Skou family), North-central New Guinea)
Pe=ueme táng pe=fu.
 3SG.F=woman bird 3SG.F=F.see
 'A woman saw a bird.'
- e. *Lani* (non-Austronesian (Dani family), Central New Guinea highlands)
(At) towe kege.
 3SG bird see.3SG>3SG.R
 'She saw a bird.'

There are three areas in which this generalisation does not hold (see Map 3); one is the Huon peninsula and Markham valley in eastern New Guinea, an area into which a great number of Austronesian languages have moved. These languages have arrived in such numbers that they have not assimilated to the OV order of their Papuan neighbours, but have preserved the Austronesian VO order. The second VO region is in North-central New Guinea, where languages from the main area of the Torricelli family show SVO order. Despite evidence that these languages were historically SOV, they are now SVO; the motivations for this change are not apparent. The final, and most interesting, area in which SVO is dominant is in the west of the island. Here we see that, in addition to scattered Austronesian languages, the entire northern Bird's Head peninsula has SVO order, despite being linguistically divided into at least three families. Examples are given in (8).

- (8) a. *Adzera* (eastern Austronesian, Markham valley, eastern New Guinea)
Arani da dzi buŋ? ais agu ya dzi naga
 today TIME 1SG FUT IRR.kill 2SG and 1SG IRR.eat

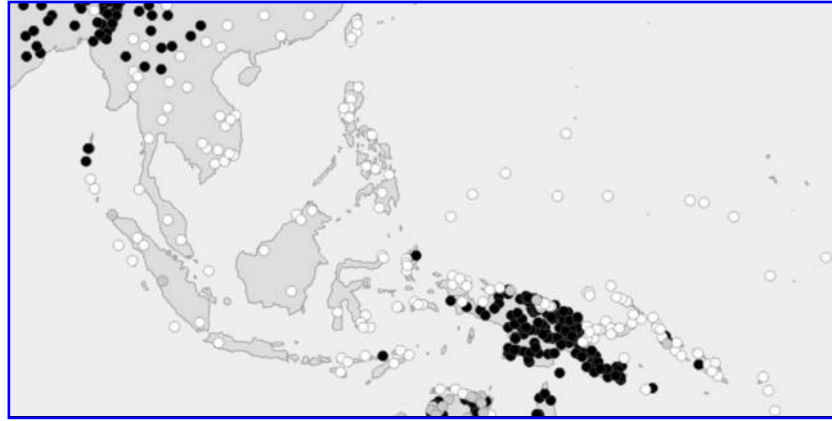
- agu* ...
2SG
'Today I will kill you and I will eat you ...'
- b. One (non-Austronesian (Torricelli family), North-central New Guinea)
Nu pino wani tolla.
that woman see bird
'That woman saw a bird.'
- c. Maybrat (non-Austronesian (West Papuan), West New Guinea)
Ana m-kai mes.
3PL 3-meet fern.vegetable
'They found fern vegetables.'

If the order of object and verb is a deciding criterion for whether or not a language belongs to a "Papuan" linguistic area, as has been implied in much of the literature (e.g., Wurm et al. 1975, Foley 1998), then much of western New Guinea must count as NOT Papuan. By contrast, in the previous section we saw that the Gen-N order extends considerably further west than the borders of the island of New Guinea, appearing in both Austronesian and non-Austronesian languages as far west as central Flores. The isoglosses that indicate "New Guinea" do not line up together; much of the following sections will show that the line between the "Papuan" linguistic type found on the island of New Guinea, and the more conservative southern Austronesian type found in the west of the Indonesian archipelago is a blurred one at best.

4. The order of subjects and verbs

The northern Austronesian languages show overwhelmingly verb-initial clausal order. Donohue (2005a) points out that the Subject-Verb order (part of the SVO typology) found in many southern Austronesian languages can be ascribed to influence from both the languages of mainland Southeast Asia (or their now extinct relatives in insular Southeast Asia), as well as from the languages of western New Guinea, such as those of the Bird's Head.⁸ The fact that many languages along the periphery of the Western Malayo-Polynesian area in Indonesia show verb-initial orders is strong evidence for the hypothesis that the initial Austronesian migration to the south was with a verb-initial order, since this distribution is a classic repeat of the well-known preservation of ancient features on the periphery of a spread zone. That proto-Oceanic, a descendant

8. Since languages of the West Papuan family that are found outside the Bird's Head show SOV order, it is likely that the SVO order in the Bird's Head West Papuan languages is the result of contact with the other, unrelated, languages now found in the eastern part of the area, such as Meyah, Moskona, and Hatam (Reesink 1999, 2002a).



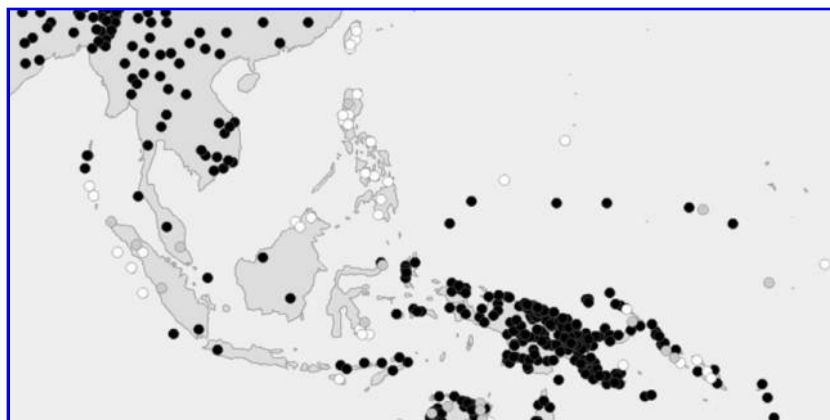
Key: White dots show languages in which the object follows the verb; black dots show languages in which the object precedes the verb; grey dots show languages in which the verb and its object do not have a fixed order.

Map 3. The order of objects and verbs

of Malayo-Polynesian in the Pacific, also showed verb-initial order (Lynch, Ross, & Crowley 2002) is further strong evidence for the retention of verb-initial order in the ancestor of the southern Austronesian languages, especially since changes towards a verb-initial order are so rarely attested crosslinguistically. The simplest explanation for the distribution of verb-initial languages is to assume that they retained the historically prior verb-initial typology.

Example (9a) shows a clause from Tagalog, in the northern Philippines, with modal verb-initial order. (9b) shows the switch to subject-initiality in Indonesian, and (9c) shows *Tukang Besi*, a verb-initial language from the south-eastern fringe of the Western Malayo-Polynesian languages. Similar verb-initial patterns can be found around this “fringe” area, suggesting, as noted in Donohue (2005a), that this represents the original word order introduced in Austronesian languages when the Austronesians moved south from the northern homelands.

- (9) a. Tagalog (northern Austronesian, northern Philippines)
L(um)a-lakad ang bata.
 RED(AV)-walk NOM child
 ‘The child is walking.’
- b. Indonesian (south-western Austronesian, western Indonesia)
Anak itu ber-jalan kaki.
 child that MIDDLE-walk leg
 ‘The child is walking.’



Key: White dots show languages in which the subject follows the verb; black dots show languages in which the subject precedes the verb; grey dots show languages in which the verb and its subject do not have a fixed order.

Map 4. *The order of subjects and verbs*

- c. *Tukang Besi* (south-western Austronesian, central Indonesia)
No-wila ae na ana.
 3.R-go foot NOM child
 ‘The child is walking.’

Map 4 shows the distribution of Subject-before-Verb and Subject-following-Verb languages in Southeast Asia. As discussed in Donohue (2005a), the evidence is that SVO order in Austronesian languages is at least partly the result of contact with SVO languages in Southeast Asia and in western New Guinea. This raises the question of just where the western borders of a “Papuan linguistic type” should be drawn in a discussion of linguistic typology, an issue we have already referred to and which we shall see raised again in the following sections.

5. The order of adjectives and nouns

Following Greenberg (1963) it was widely assumed that an OV, or head-final, order in the clause corresponded most unmarkedly to head-final orders for all other elements, which means that we would expect an Adj-N order for adjectives and nouns in the NP, as shown in (10).⁹

9. This view is still espoused by many. Foley (1998), for instance, argued for consistent head-finality in the Papuan languages of New Guinea, claiming that in general (S)OV order at the

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- | | | |
|------|--------------|------------|
| (10) | Head-initial | Head-final |
| | V O | O V |
| | N Adj | Adj N |

However, Dryer (1992) demonstrated that this expectation only holds for languages from Eurasia, and that in all other regions of the world we expect N-Adj order regardless of the headedness setting for the main clause.

When we examine the order of adjective and noun in the languages of the area in question we find the three broad patterns shown in (11), which show strong correlations with area (see also Map 5).¹⁰

- | | |
|------|--|
| (11) | Adjective-Noun orders in Austronesian languages |
| | North: Noun and Adjective freely ordered, or Adjective (predominantly) precedes Noun |
| | South: Adjective follows Noun |

Examples of these trends are shown in (12) to (14). Tagalog represents a northern Austronesian language with free ordering of the noun and its property modifier.¹¹ Indonesian and *Tukang Besi* are from the south-west and south-centre of the maps' areas. (13c) shows data from *Skou*, a non-Austronesian language typical of the New Guinea area, and (14a) is from *Fore*, a language of the eastern highlands of New Guinea, one of three areas in which OV & Adj-N orders are found. The other areas in which Adj-N orders prevail is the non-contiguous middle Sepik, represented here by *Hanga-Hundi* in (14b), and the far south of New Guinea, shown here in (14c) with *Kanum* data (absent from the *WALS* map).

- | | |
|------|--|
| (12) | Tagalog (northern Austronesian, northern Philippines) |
| | a. <i>ang baro-ng bago</i> b. <i>ang bago-ng baro</i> |
| | NOM dress-LNKR new NOM new-LNKR dress |
| | 'the new dress' |

clause corresponds to an Adj-N order in the NP. We shall see in the following sections (especially note Maps 6, 8, 10, and 12) that this is largely justified, but not entirely.

10. Subtypes can easily be identified within these three macro-patterns. In some languages an NP-internal adjective must incorporate into noun, and not be completely separate (e.g., *Tukang Besi*: Donohue 1999b, Baker 2003), and apparently *West Tarangan* (an Austronesian language of *Aru*, in south-east Maluku; Rick Nivens, personal communication). This may result in an Adj=N or an N=Adj structure. Additionally, it is possible that "adjectives" might be not permitted in the same NP as a noun; in this case the lexemes are probably verbs, despite their (putatively) prototypical property-like semantics.

11. In Tagalog constraints on the ordering of the two elements are phonological, relating to relative length, rather than being syntactic; most Philippine languages with variable ordering show an overwhelming preference for a prenominal adjective, with the postnominal position used for unusual contrast on the adjective. See Hetzron (1978).

- (13) a. Indonesian (south-western Austronesian, western Indonesia)
sarung baru (**baru sarung*)
 sarong new
 ‘(a) new sarong’
- b. *Tukang Besi* (south-western Austronesian, central Indonesia)
te wurai wo’ou (**te wo’ou wurai*)
 CORE sarong new
 ‘(a) new sarong’
- c. Skou (non-Austronesian (Skou family), North-central New Guinea)
ró náti (**náti ró*)
 cloth new
 ‘new cloth’
- (14) a. Fore (non-Austronesian (Goroka family), eastern New Guinea highlands)
te’te mawé (**má’ te’té*)
te’té má’-e
 red soil-INDIC
 ‘(It is) red soil.’
- b. Hanga-Hundi (non-Austronesian (Sepik (Ndu) family), northern New Guinea)
ikapi hapwa
 good place
 ‘good place’
- c. Kanum (non-Austronesian, southern New Guinea)
mpngk atka (**atka mpngk*)
 cold water
 ‘cold water’

The regions of New Guinea with Adj-N order do not form a contiguous area and do not cover the whole of the island (see Map 6), and so cannot in themselves be considered strong evidence for Adj-N as a preferred order in a New Guinea area. I shall, however, show in the following sections that the distribution of these areas is not random, and can in fact be taken to represent the historical “core” of what is typologically “Papuan”, even though this language type is no longer modal in the area.

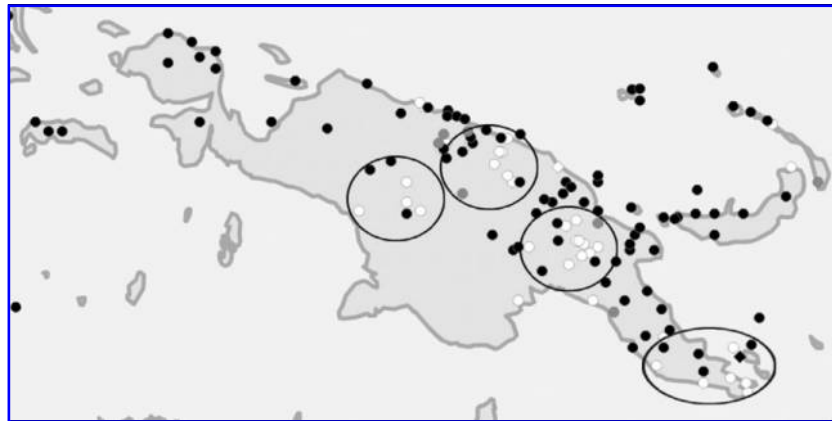
Seen in the light of the conclusions concerning the order of subject and verb in Austronesian languages, we must conclude that the N-Adj order that so characterises the southern Austronesian languages today is a contact-induced phenomenon. For an example of a Southeast Asian language we have Thai in (15), in which, as with most languages of Southeast Asia, N Adj is the order found.

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Key: White dots show languages in which the adjective follows the noun; black dots show languages in which the adjective precedes the noun; grey dots show languages in which the noun and an adjective do not have a fixed order.

Map 5. *The order of adjectives and nouns*



Key: White dots show languages in which the adjective precedes the noun; areas of circled black dots show languages in which the adjective follows the noun; grey dots show languages in which the noun and an adjective do not have a fixed order.

Map 6. *The order of adjectives and nouns in New Guinea*

- (15) Thai (non-Austronesian (Thai-Kadai family), Southeast Asia)
*dek lek (*lek dek)*
 child small
 ‘small child’

What was the original order of adjectives and nouns in Austronesian languages? We cannot tell. It might be that originally, as in modern Tagalog, there was no fixed order, and the N-Adj order became solidified as a result of contact between the southern Austronesian languages and their new-found Southeast Asian neighbours. Alternatively, it might be that the variability in order arose as a result of a group of Adj-N languages coming into contact with N-Adj languages. We simply cannot tell; both scenarios would account for the observed distribution. The fact that the variable order of adjectives and nouns in Tagalog is part of the general variable ordering of elements within the NP suggests that either we posit a series of parallel contact-induced changes resulting in NP-internal non-configurationality, or else we assume that the variable order was original. There is, however, no firm evidence favouring either theory over the other.

6. The order of demonstratives and nouns

The position a demonstrative takes with respect to the noun that it modifies, too, shows a north-south divide within the Austronesian languages. In (16) we can see that a northern language such as Tagalog allows the demonstrative to be either prenominal or postnominal, while in Indonesian (17a) and Tukang Besi (17b) only a postnominal demonstrative is possible.

- (16) Tagalog (northern Austronesian, northern Philippines)
 a. *ito-ng bata*
 that.NOM-LNKR child
 ‘that child’
 b. *ang bata-ng ito*
 NOM child-LNKR that.NOM
 ‘that child’
- (17) a. Indonesian (south-western Austronesian, western Indonesia)
*anak itu (*itu anak)*¹²
 child that
 ‘that child’

12. This NP order is possible, and in some cases the only grammatical order, in various Sinitic-influenced varieties of ‘Bazaar’ Malay, as well as varieties of Malay that show indirect Sinitic influence.

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- b. *Tukang Besi* (south-western Austronesian, central Indonesia)
te ana iso ((te) iso ana)*
 CORE child that
 ‘that child’

The postnominal pattern is also normal in mainland Southeast Asia and in New Guinea, as in (18).

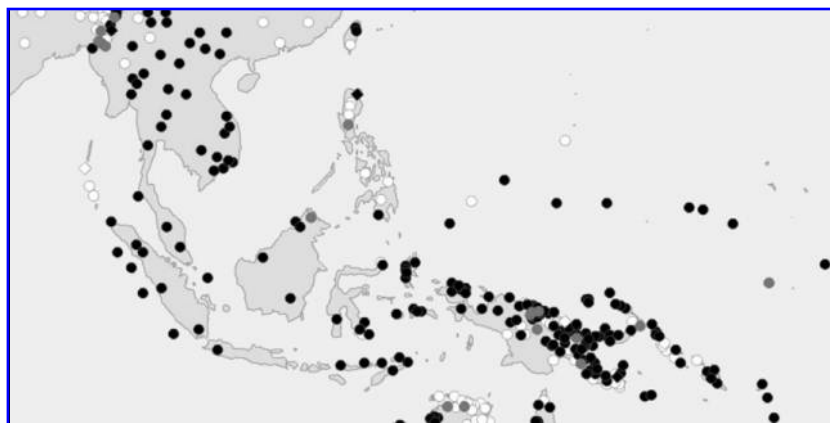
- (18) a. *Thai*
dek nan
 child that
 ‘that child’
- b. *Damal* (western New Guinea highlands)
mitim ina
 dog that
 ‘that dog’
- c. *Skou* (non-Austronesian (Skou family), North-central New Guinea)
naké=fuea
 dog=that
 ‘that dog’

There are a number of pockets of Dem-N order in mainland New Guinea, largely corresponding to the Adj-N areas seen in Maps 5 and 6; examples of this order from Hanga Hundi and Fore are shown in (19). These Dem-N areas are found in inland regions in the east of the island.

- (19) a. *Hanga-Hundi* (non-Austronesian (Sepik (Ndu) family), northern New Guinea)
yapa-mbri ané hépa héra-ta ...
 father-PL this ground get-SIM
 ‘as (our) fathers were getting this ground ...’
- b. *Fore* (non-Austronesian (Goroka family), eastern New Guinea highlands)
má: ntamá
má:’-N na:máN
 this-OBL/GEN house
 ‘this house’

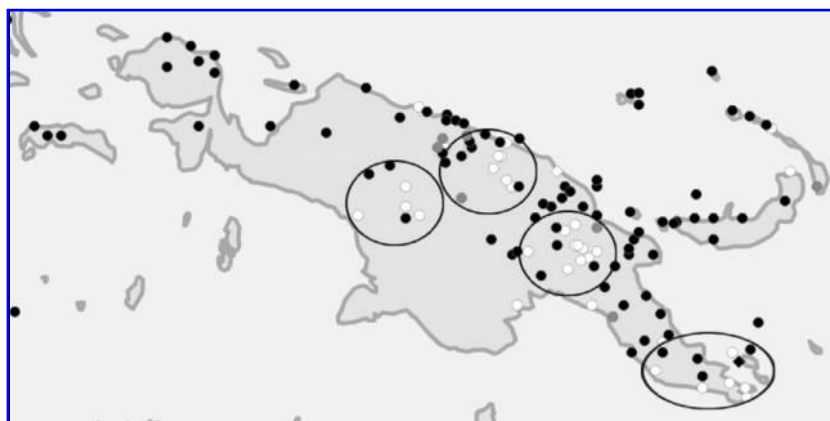
Map 7 shows the distribution of prenominal and postnominal demonstratives, regardless of the form that demonstrative takes (independent word or affix).

The patterning of demonstratives within New Guinea (Map 8) is much less consistent than is the distribution of adjective orderings. All of the languages



Key: White dots show languages in which the demonstrative precedes the noun; black dots show languages in which the demonstrative follows the noun; grey dots show languages in which the noun and a demonstrative do not have a fixed order.

Map 7. *The order of demonstratives and nouns*



Key: Areas of white dots show languages in which the demonstrative precedes the noun; black dots show languages in which the demonstrative follows the noun; grey dots show languages in which the noun and a demonstrative do not have a fixed order.

Map 8. *The order of demonstratives and nouns in New Guinea*

with Adj-N orders also display Dem-N orders, but there are other languages with Dem-N orders that have N-Adj, such as Tauya, Kuman, Sentani, Una, and Asmat. In other words, Adj-N orders are found in areas that are a subset of the Dem-N areas.

Just as examining the order of adjectives and nouns allowed us to split the Austronesian languages into a northern and a southern group, so to the order of demonstratives and nouns follows a northern-southern dichotomy.

7. The order of relative clauses and nouns

Examining the order of relative clauses with respect to their head nouns presents us with a picture reminiscent of that seen with demonstratives, but without any firm line between northern and southern Austronesian. Postnominal relative clauses are favoured in all the Austronesian languages, although prenominal relative clauses are grammatical in the northern languages, such as Tagalog.

- (20) Tagalog (northern Austronesian, northern Philippines)
- a. *ang [tao-ng [l(um)a-lakad sa siyudad]]*
 NOM person-LNKR RED(SI)-walk DAT city
 ‘the person who’s walking to the city’
- b. *ang [[l(um)a-lakad sa siyudad] na tao]*
 NOM RED(SI)-walk DAT city LNKR person
 ‘the person who’s walking to the city’
- (21) a. Indonesian (south-western Austronesian, western Indonesia)
orang [yang jatuh kemarin]
 person REL fall yesterday
 ‘the person who fell down yesterday’
- b. Palu’e (southern Austronesian, central Flores (southern Indonesia))
ata [(wo) vaicvi molu]
 person REL yesterday fall
 ‘the person who fell down yesterday’

Some of the southern languages, such as *Tukang Besi*, also allow internally-headed relative clauses, as seen in (20b), but prenominal relative clauses analogous to (20b) are not grammatical. In short, while there is variation in the northern Austronesian languages between prenominal and postnominal possibilities for relative clauses, this variation solidifies in the south into a ban on prenominal relative clauses (see also Map 9).

- (22) *Tukang Besi* (south-western Austronesian, central Indonesia)
- a. *No-doito na [mia [dinggawi b(um)uti di 3.R-cry NOM person yesterday fall(SI) OBL.R tomba]].*
 mud
 ‘The person who fell in the mud yesterday is crying.’



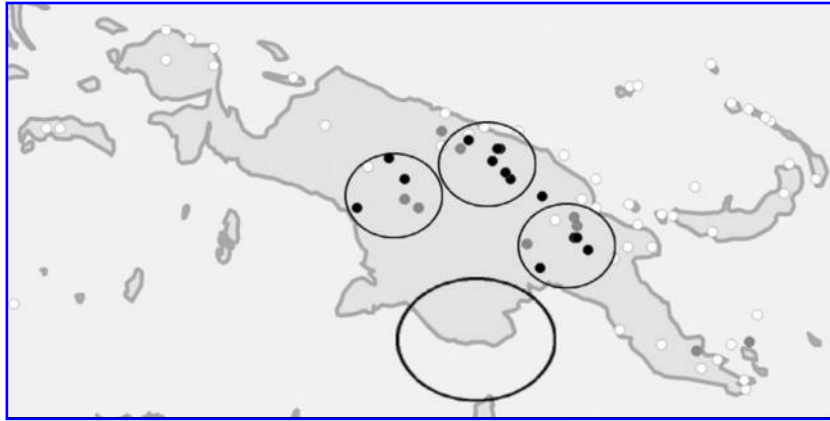
Key: White dots show languages in which the relative clause follows the noun; black dots show languages in which the relative clause precedes the noun; grey dots show languages in which the noun and a relative clause do not have a fixed order.

Map 9. The order of relative clauses and nouns

- b. *No-doito* [[*dinggawi no-buti na mia di tomba*]].
 3.R-cry yesterday 3.R-fall NOM person OBL.R mud
 ‘The person who fell in the mud yesterday is crying.’
- c. **No-doito na* [[*dinggawi no-buti di tomba*] *mia*].
 3.R-cry NOM yesterday 3.R-fall OBL.R mud person
 ‘The person who fell in the mud yesterday is crying.’

This preference for postnominal relative clauses is also found across most of New Guinea, with pockets of prenominal relative clauses found in the same areas that support prenominal adjectives and prenominal demonstratives. Skou, from the north-central coast, and Lani, from the western highlands, illustrate the postnominal relative clause that is the norm across New Guinea.

- (23) a. Skou (non-Austronesian (Skou family), North-central New Guinea)
 [*Manúa [bàng ne=n-ang]=ing a*] *langpí*.
 taro yesterday 1PL=1PL-eat=the delicious
 ‘The taro which we ate yesterday was delicious.’
- b. Lani (non-Austronesian (Dani family), Central New Guinea highlands)
 [*Kom [kobit nenggoraki ti]*] *ombat ambik*.
 taro yesterday 1PL.eat.PAST that delicious very
 ‘The taro which we ate yesterday was really delicious.’



Key: White dots show languages in which the relative clause follows the noun; areas of circled black dots show languages in which the relative clause precedes the noun; grey dots show languages in which the noun and a relative clause do not have a fixed order.

Map 10. The order of relative clauses and nouns in New Guinea

We find clusters of languages with prenominal relative clauses in the eastern highlands, in the middle-Sepik/Torricelli area, in the central highlands spilling into the lowlands with Asmat, and on the far south coast (see Map 10). Fore of the eastern highlands (24a) and Kanum from the far south coast (24b) show prenominal relative clauses from languages of two of the prenominal enclaves.

- (24) a. Fore (non-Austronesian (Goroka family), eastern New Guinea highlands)
Pi'pá aeguyógana purintí ntágawe.
pí'N-pa [[*a-egu'-ó-ke-na*
 that-FOC 3SG.OBJ-hit-1SG.SUBJ-CONJ-3SG.SEQ.SUBJ
puru-nt''-iN *yaga:]-e.*
 die-PERF-3SG.EMPH.SUBJ pig-INDIC
 'That is the pig I killed.' (Scott 1977: 136)
- b. Kanum (non-Austronesian, southern New Guinea)
 [[*Ngkao kw-aomynj*] *tentae*] *py mewae*
 1SG.ABS Y.PAST-eat taro that.ABS delicious
swraya.
 be.3SG.NF.Y.PAST
 'The taro which I ate yesterday was delicious.'

The simple explanation for the successful "intrusion" of N-Rel order into New Guinea is the well-known (reference) principle of weight: a relative clause

is, on average, longer (more weighty) than the nominal it modifies, and so shows a crosslinguistic tendency to appear following the noun it modifies, as do all weighty elements.

8. The order of numerals and nouns

Numerals present a very different picture to that seen in the previous sections, and we shall see that their distribution is reminiscent of the distribution of genitives seen in Section 2, though not identical to it. The numerous complications involved in numeral constructions require elaboration.

Unlike the relatively free order of adjectives and nouns seen in the northern Austronesian languages, both the northern and western Austronesian languages either strongly prefer, or in many cases require, an order in which the numeral precedes the noun in the NP. Tagalog shows a (very) strong preference for the numeral to occur first in the NP, shown in (25). In Indonesian (26) the numeral must precede the noun it modifies, in most registers with a classifier as well. On the other hand, languages further east such as *Tukang Besi* (27) require the numeral to follow the noun. This is the pattern found in other eastern Indonesian languages such as *Nuau*, as seen in (28).

- (25) Tagalog (northern Austronesian, northern Philippines)
 a. [?]*ang baro-ng tatlo* b. *ang tatlo-ng baro*
 NOM dress-LNKR three NOM three-LNKR dress
 ‘the three dresses’
- (26) Indonesian (south-western Austronesian, western Indonesia)
 a. **anak tiga* b. *tiga(-orang) anak*
 child three three-CLF child
 ‘three children’
- (27) *Tukang Besi* (south-western Austronesian, central Indonesia)¹³
 a. *te ana tolu* b. *(*te*) (*to*)*tolu ana*
 CORE child three CORE three child
 ‘three children’
- (28) *Nuau* (eastern Austronesian, central Maluku (eastern Indonesia))
manu hanai msina-ya ua rai
 bird male red-PL two these
 ‘those two red roosters’

The N-Num order is also found in the non-Austronesian languages of eastern Indonesia, such as *Pagu* from Halmahera, in northern Maluku, and *Lani* from the New Guinea (western) highlands.

13. Numerals in *Tukang Besi* have a “long” form, with an initial *Co-*, and a short form (Donohue 1999a, 2005b).

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- (29) a. Pagu
O mia tumuding i-tagi i-jaring.
 ART monkey seven 3.NH-go 3.NH-net.fish
 'Seven monkeys went net-fishing.'
- b. Lani (non-Austronesian (Dani family), Central New Guinea highlands)
Nggewo mbere kom nengge.
 dog two taro 3.ate
 'Two dogs ate taro.'

In the south of Indonesia we find a transition zone in which both orders are found. In Palu'e the Num-N order is found, and is the only order possible, for the numeral *a* 'one'. For all other numerals, illustrated here with *tlu* 'three', the order is N-Num.

- (30) Palu'e (southern Austronesian, central Flores (southern Indonesia))
- | | | | |
|----|------------------|-----|--------------------|
| a. | <i>a ta'u</i> | a'. | <i>*ta'u a(-n)</i> |
| | one person | | person one-MOD |
| | 'one person' | | |
| b. | <i>*tlu ta'u</i> | b'. | <i>ta'u tlu</i> |
| | three person | | person three |
| | 'three persons' | | |

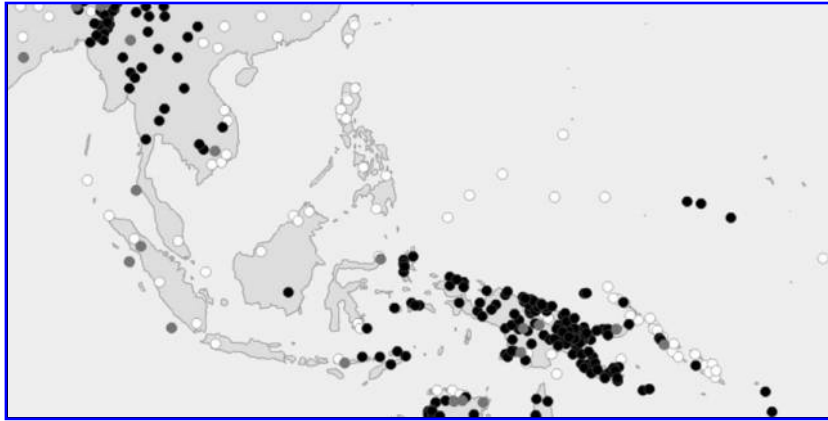
Somewhat peripherally we can note that in compound numerals these patterns are followed when the base is 100 or more (*catu* '100', *rivu* '1,000'), but if the base is *pupu* 'ten', the multiplier must precede.

- | | | | |
|---------|---------------|----|-----------------|
| (31) a. | <i>a-pulu</i> | b. | <i>tlu-pulu</i> |
| | one-ten | | three-ten |
| | 'ten' | | 'thirty' |
| c. | <i>a-catu</i> | d. | <i>catu-tlu</i> |
| | one-hundred | | hundred-three |
| | 'one hundred' | | 'three hundred' |

Similar facts are reported for Ngad'a (Ngadha), found to the west of Palu'e. In Kambara, of Sumba island to the southwest, the Num-N order found in western Austronesian languages is dominant, but an N-Num order is also possible, as seen in (32) (Klamer 1998).¹⁴

14. Unlike Palu'e, Kambara shows the western N-Gen order in possessive constructions:

- (i) *na kalembi-na nyuna*
 ART clothes-3SG.GEN he
 'his clothes'



Key: White dots show languages in which the numeral precedes the noun; black dots show languages in which the numeral follows the noun; grey dots show languages in which the noun and a numeral do not have a fixed order.

Map 11. *The order of numerals and nouns*

- (32) Kambera
- a. *tailu mbua kajawa*
 three CLF papaya
 ‘three papayas’
- b. *da kambamba ba lima mbua-da*
 ART bread CONJ five CLF-3PL.GEN
 ‘five loaves’ (i.e., ‘the loaves that were five pieces of them’)

A number of languages in Map 11 are marked as not showing any dominant order. In addition to Ngad’a and Palu’e, we can also note that in the far west of insular Southeast Asia Nias and Enggano off the west coast of Sumatra, and Toba Batak and Urak Lawoi’ to their north in south-western Thailand, have no dominant order for numerals, and in the northeast of Sulawesi the Tondano language, right on the border of the eastern Indonesian area and, like Palu’e, on the border of the Num-N and N-Num areas, also allows both orders.

We can explain the order of numerals in the southern languages without reference beyond the map.¹⁵ In Palu’e the Num-N order that is found in the more

15. The languages in western Sumatra, Nias, Enggano, and Toba Batak, which are also reported as showing variable placement of the numeral probably reflect this order as a result of ancient contact with non-Austronesian speakers in this western area. Although there are no non-Austronesian languages currently native to Sumatra the presence of Austroasiatic languages in mainland Malaysia and in the Nicobar islands is suggestive that Sumatra might once have been a bridge between these two groups; various phonological features of Aus-



Key: Areas of white dots show languages in which the numeral precedes the noun; black dots show languages in which the numeral follows the noun; grey dots show languages in which the noun and a numeral do not have a fixed order.

Map 12. The order of numerals and nouns in New Guinea

conservative northern and western Austronesian languages is preserved in the numeral *a* ‘one’. All the other numerals, however, show the postnominal order that is typical of the non-Austronesian languages of New Guinea. The Kambara structure is not so “un-Austronesian” as the Palu’e numeral phrase, since the modal order of numerals is prenominal. Nonetheless, the Kambara data shows that, through the “literary” use of relative clauses to encode numerals as in (32b), it is poised on the brink of allowing postnominal numerals (see Donohue 2005b).

In New Guinea (see Map 12) the position of numerals matches that of adjectives, with postnominal numerals being the norm, as illustrated in (33).

- (33) a. Skou (non-Austronesian (Skou family), North-central New Guinea)
naké ná pang héng tong
 dog five three
 ‘seven dogs’

tronesian languages in Sumatera which are unheard of elsewhere in the family, but are common in Austroasiatic languages, add supporting evidence to this proposal. The fact that inland Austroasiatic languages show N-Num order, contrasting with the Austronesian Num-N order, makes these languages likely sources of the word order pattern reported here.

- b. Damal
mitim mat e aw
 dog five + two
 'seven dogs'

The same areas that show prenominal adjectives also show prenominal numerals. Kanum, illustrating this pattern, is from the far south coast.

- (34) Kanum (non-Austronesian, southern New Guinea)
aempy ptae krar
 one six dog
 'seven dogs'

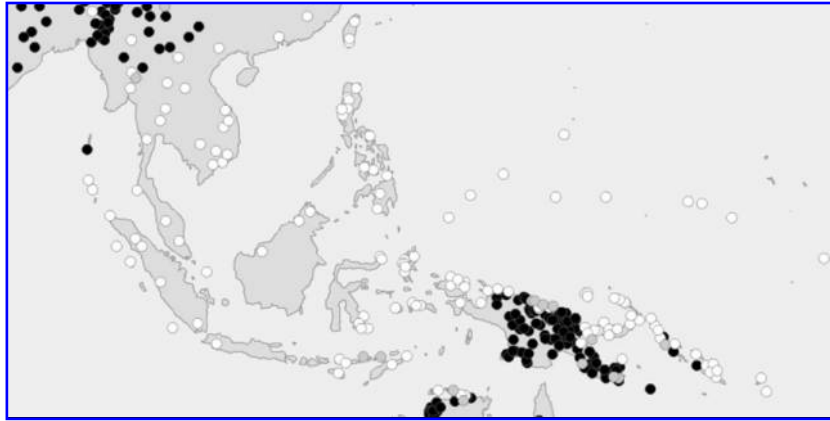
9. The order of adpositions and noun phrases

In the preceding sections we have seen evidence for a number of enclaves scattered about the island of New Guinea, in which right-headedness holds in the NP more completely than it does at clause level. When we examine the position of adpositions we see further evidence for a splitting of any unified New Guinea linguistic area that we might want to posit.

In the Austronesian languages, with the exception of those Austronesian languages which have been heavily influenced by Papuan languages in the south-east of New Guinea, the order Pr-NP overwhelmingly dominates.¹⁶ Examples of non-New Guinean Austronesian languages are given in (35), ranging from the northern Philippines to Palu'e in southern Indonesia, seen previously to be on the edge of the area in which Papuan typology begins to be found.

- (35) a. Tagalog (northern Austronesian, northern Philippines)
para sa bata
 for DAT child
 'for the child'
- b. Indonesian (south-western Austronesian, western Indonesia)
untuk anak
 for child
 'for the children'
- c. Tukang Besi (south-western Austronesian, central Indonesia)
ako te ana
 BEN CORE child
 'for the children'

16. In Sika, an Austronesian language of eastern Flores, both orders are reported in Dryer (2005). To the east of Sika is Woisika, a non-Austronesian language from Alor (a non-Austronesian enclave), which is typologically part of mainland New Guinea in terms of word order parameters.



Key: White dots show languages in which the preposition precedes the noun; black dots show languages in which the postposition follows the noun; grey dots show languages in which the noun and an adposition do not have a fixed order.

Map 13. The order of adpositions and noun phrases

- d. Palu'e (southern Austronesian, central Flores (southern Indonesia))
le ana
 LOC child
 'to the children'

In New Guinea the modal order for adpositions is to follow the NP; no non-Austronesian areas show exclusively prepositional use. The distribution of prepositions and postpositions (which merge into case marking options) in New Guinea can also be seen in Map 13; two simple examples are given in (36), from the western highlands and the far south.

- (36) a. Lani (non-Austronesian (Dani family), Central New Guinea highlands)
Minagi paga nen wagigorak.
 Minagi LOC/ABL ERG/SOURCE 1PL.COME.FAR.PAST
 'We came from Minagi.'
- b. Kanum (non-Austronesian, southern New Guinea)
Mwa-ny k-r-aomynjk-nt-ey kkl.
 house-LOC FUT-1/3.SUBJ-eat-FUT-1/2PL.SUBJ.FUT sago
 'We'll eat sago in the house.'

In North-Central New Guinea a small number of languages (of the Torricelli family, plus one Greater Skou language) show prepositions, or both preposi-

tions and postpositions. In the case of the Torricelli languages we can demonstrate that postpositions are historically prior, but in Arapesh and Au we find a modern predominance of prepositions.

- (37) Arapesh
ama di-nga apé'-i-ngei
 in language-CL10.SG 1PL.INCL-POSS-CL10.SG
 'in our language'

In One, the westernmost Torricelli language, we find only postpositions, such as the accompaniment postposition *mente* in (38a). An alternative means of marking a co-agent involves the verb *ane* 'and', which inflects as a normal verb, and so cannot be counted as a preposition, even though it does appear preceding the nominal it introduces. The string *nane fumpla* forms a relative clause constituent modifying *no* in (38b): 'they [who were and (with) us]'. A similar analysis is true of Olo (see Footnote 12).

- (38) One (non-Austronesian (Torricelli family), North-central New Guinea)
 a. *I i nine mente.*
 1SG go 3PL ACCOMP
 'I went with them.'
 b. *No [RC n-ane fumpla] tere aila aimo=ne.*
 3PL 3PL-and 1DU.EXCL cut wood machete=INSTR
 'They cut wood with us with machetes.'

In Skou both prenominal and postnominal markers of oblique relationships are found, but the prenominal markers are still clearly verbs. In (39a) we can see the postnominal *=pa* 'instrumental', which is an invariant NP-marker. In (39b), on the other hand, the sense 'from' is expressed by a fully-inflecting verb *há* 'from'.

- (39) Skou (non-Austronesian (Skou family), North-central New Guinea)
 a. *Te tang=pa ná te=y-ú hóe*
 3PL canoe=INSTR paddle 3PL=3PL-paddle landward
toe wi a.
 3.come here
 'They arrived by canoe.'
 b. *Te=y-á Te Bapúbi me hi toe.*
 3PL=3PL-from Skou Sai 3PL.return westwards 3.come
 'They came back from Skou Sai.'

A more grammaticalised version of this can be seen in Maybrat, in the Bird's Head area in the west of New Guinea (Dol 1999: 87, 88). Locations, including goals, are expressed with the "verb" *ae* 'be at', serialised with the verb

of directed motion or manner of motion. Here the facts appear to be similar to Skou, except that *ae* does not take normal inflection when appearing in the clause with another verb, but is invariant as *mae*, which Dol glosses as the general (unmarked for number or gender) 3rd person inflection. In this case it is accurate to state that we are dealing with a monomorphemic preposition, despite it having obviously grammaticalised from a verb.

- (40) Maybrat
- a. *Y-ae Sorong*
 3SG.M-at Sorong
 'He is in Sorong.'
- b. *Ait y-amo m-ae amah.*
 3SG.M 3SG.M-go 3UNM-at house
 'He goes home.'

The languages of north Halmahera show even less ambiguous prepositions. Pagu is consistently SOV in order, but has one preposition as well as postposition-like elements such as *-ika*, described as a separate word in Wimbish (1991), but written attached to the noun it governs.¹⁷

- (41) Pagu
- a. *Ma bila ma-ruakit [de ma susungit].*
 ART rice 3SG.F-stir with ART spoon
 'She stirred the rice with a spoon.'
- b. *Oli ka yo-madagi-dagi-ou [o bongan-ika].*
 so only 3PL-journey-REDUP-PERF ART forest-OBL
 'So they just kept going in the forest.'

Saweru, a non-Austronesian language from Yapen island, in Cenderawasih Bay (east of the Bird's Head), and distantly related to Pagu and Tobelo, shows both prepositions and postpositions, though postpositions (or postposed clitics) dominate.¹⁸

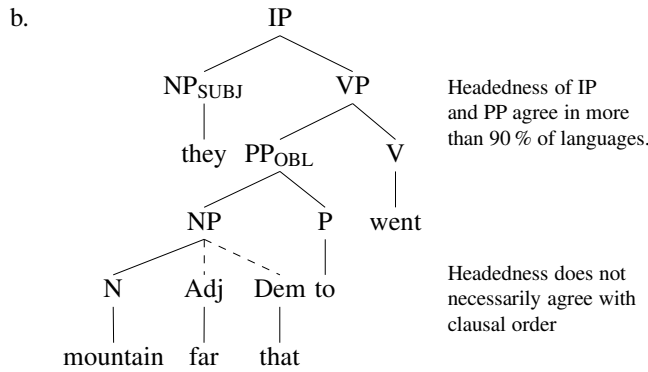
Despite the irregularities of these isolated pockets off the north-west of New Guinea, it is clear that N-Po is the dominant order over non-Austronesian New Guinea. This is only surprising if we consider the largely head-initial order inside NPs. The use of postpositions is, however, consistent with the head-final

17. There is additionally a rich applicative system in the language. The Pagu preposition *de* might be related to, and derived from, the North Moluccan Malay preposition *deng* 'with'. Similar facts are reported for Tobelo (Holton 2003).

18. Dryer reports that both orders are possible in Poko-Rawo, a language of the Serra Hills family within Greater Skou. I'saka is also reported as showing both orders, but this turns out not to be correct.

clause order, in which auxiliaries follow the verb, rather than precede. An NP-Po order represents a right-headed pattern at a level HIGHER than the NP; although NPs show predominantly head-initial orders, with modifiers following the noun over most of New Guinea, the adposition is outside this head-initial domain, and shows head-final order in keeping with the rest of the clause. A representation of a sentence illustrating this is shown in (42), representing an idealised clause in an adpositional language (see Donohue 2005c for discussion of constituency in Papuan languages).

- (42) Lani (non-Austronesian (Dani family), Central New Guinea highlands)
 a. [IP It [VP [PP [NP *purom ndanda ti*] *paga*]
 3PL mountain far that OBL
 nagarak]].
 3PL.eat.PAST
 ‘They went to that distant mountain.’



Crosslinguistically, we find that the order of an adposition and the noun it governs can be predicted with over 90 % confidence from the order of the verb of the clause and the object that it governs, as can the order of an auxiliary and the verb, or the order of the negative and the verb. Examples of auxiliaries preceding verbs in VO languages are shown in (43a, b), taken from a western Austronesian and a southern Austronesian language on the border of east and west, respectively. In (43c, d) we can see postverbal auxiliaries in two OV languages of New Guinea, while (43e) shows a postverbal auxiliary in One, a language of north-central New Guinea that has recently shifted from OV to VO.

- (43) a. Indonesian (south-western Austronesian, western Indonesia)
 Dia sedang makan ubi.
 3SG CONTIN eat tuber
 ‘He is eating sweet potato.’

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- b. *Tukang Besi* (south-western Austronesian, central Indonesia)
Ane no-manga te opa.
 exist 3R-eat CORE sweet.potato
 'They are eating sweet potato.'
- c. *Lani* (non-Austronesian (Dani family), Central New Guinea highlands)
At nen mbi nengge mengge.
 3SG ERG sweet.potato 3SG.eat 3SG.habitual
 'He habitually eats sweet potato.'
- d. *Skou* (non-Austronesian (Skou family), North-central New Guinea)
Ke=angku=fuea rángúeke ke=k-ang i li.
 3SG.NF=child=that sweet.potato 3SG.NF=3SG.NF-eat be do
 'That boy is eating sweet potato.'
- e. *One* (non-Austronesian (Torricelli family), North-central New Guinea)
Wo y-u e tumu.
 3SG 2/3SG-eat be sweet.potato
 'He is eating sweet potato.'

Preverbal negation is shown in the VO languages in (44a–c), and the reverse order is shown in the two OV Papuan languages in (44d, e). (44f) shows postverbal negation in an Austronesian VO language of West New Guinea, Ambai, which has been heavily influenced by Papuan word-order parameters (see Reesink 2002b for a crosslinguistic discussion of negation in this area).

- (44) a. *Tagalog* (northern Austronesian, northern Philippines)
Hindi=siya k(um)ain ng kamote.
 NEG=3SG.NOM eat(AV) GEN sweet.potato
 'He didn't eat sweet potato.'
- b. *Indonesian* (south-western Austronesian, western Indonesia)
Dia tidak makan ubi.
 3SG NEG eat tuber
 'He didn't eat sweet potato.'
- c. *Palu'e* (southern Austronesian, central Flores (southern Indonesia))
Ia ka'a kha ura.
 3SG NEG eat tuber
 'He didn't eat tubers.'
- d. *Lani* (non-Austronesian (Dani family), Central New Guinea highlands)
At nen mbi nengge lek.
 3SG ERG sweet.potato 3SG.eat NEG

- 'He isn't eating sweet potato.'
- e. Skou (non-Austronesian (Skou family), North-central New Guinea)
Ke=angku=fuea rángúeke ke=k-ang ka.
 3SG.NF=child=that sweet.potato 3SG.NF=3SG.NF-eat NEG
 'That boy isn't eating sweet potato.'
- f. Ambai (Austronesian, north-east New Guinea)
I-wati wai sirarami-foi kaha.
 1SG-see kind.of.vine-DEF NEG
 'I didn't see the wai sirarami vine.'

The fact that there are exceptions along the various transition zones simply reflects recent borrowings from head-initial languages into head-final languages, or recent word-order changes that have not yet spread through the language.

10. The advent of the Austronesians

What can we conclude from the discussion in the preceding sections? We have enough data to form strong hypotheses about the changes that happened to Austronesian languages as they travelled south and then east, and also about the linguistic typology of the Papuan languages of New Guinea and its surrounds that they encountered in what is now eastern Indonesia.

We have seen that, while there are clearly differences between the western Austronesian languages and the non-Austronesian languages of New Guinea, as summarised in Table 1, the division between the two extremes is not a simple one. The western Austronesian languages are consistently head-initial for all parameters examined except for the order of numeral and noun; in this regard the western Austronesian languages behave as do most language families in the world regardless of the order of object and verb, and present the numeral before the noun.¹⁹ The non-Austronesian languages of New Guinea have head-final orders in the clause and the adpositional phrase, but with the notable exception of the order of genitive and noun, which is head-final, the elements of the NP are largely head-initial. As shown in Dryer (1992) an N-Adj order is expected in all areas except Eurasia, and the postnominal order for relative clauses can also be explained on the basis of the general "heaviness" of the relative clause with respect to the noun. There is no simple explanation for the preference for postnominal demonstratives, though the postnominal numerals

19. According to Dryer's *WALS* figures 64 % of language families have Num-N order; that the figures are 73 % for VO languages and 52 % for OV languages strongly suggests that the numeral should be thought of as being the head in this relationship, just as the adposition is the head in an adpositional phrase.

Table 1. *Western Austronesian and New Guinea non-Austronesian compared*

	Western Austronesian	NG non-Austronesian
Subject and verb	VS ~ SV	SV
Object and verb	VO	OV
Adposition and noun	Pr-NP	NP-Po
Genitive and noun	N-Gen	Gen-N
Adjective and noun	N-Adj	N-Adj (Adj-N)
Demonstrative and noun	N-Dem	N-Dem (Dem-N)
Relative clause and noun	N-Rel	N-Rel (Rel-N)

might have the same numeral-as-head explanation as was suggested for numerals in Austronesian. As has been pointed out at various points in the text, there are in addition a number of areas in the east of New Guinea, most notably in the eastern highlands and in the middle Sepik, in which consistently head-final order, in the standard typological sense, pertains, these languages do not directly concern us here, since there is no evidence or likelihood that they were even in a social context that would allow them to influence (the word order of) the eastern Austronesian languages.

The influences that we find on the eastern Indonesian languages apply gradually. The most widespread change from northern Austronesian to southern is found in the order of subject and verb; while the northern languages are more strictly verb-initial, reflecting the oldest Austronesian orders, the southern languages are in the main subject-initial (see Section 4). As noted in Donohue (2005a), this probably reflects contact that the Austronesian colonists of insular Southeast Asia had with the pre-Austronesian populations; while the colonising population was verb-initial, both the western and eastern edges of the archipelago contained SVO languages, which influenced the word orders of the Austronesian languages that came into contact with them.

The OV order of the Papuan languages does not easily diffuse into Austronesian languages. There are examples, such as Manam and Motu, of Austronesian languages in the vicinity of New Guinea that have become verb-final, but in all cases these are languages that have been under exceptional levels of influence from the non-Austronesian languages. The only OV pockets that are found beyond New Guinea itself are enclaves of non-Austronesian languages in North Halmahera in the north of eastern Indonesian and in the Timor-Alor-Pantar area in the south. Looked at the other way around, VO order is modal in New Guinea in three areas, the Bird's Head, the Torricelli ranges in the central north, and the Markham valley in the east. This last region is an Austronesian stronghold on the mainland; the Torricelli languages are historically SOV languages, and the better-known western languages have shifted to SVO. The Bird's Head, partic-



Key: The numbered lines show the borders of the areas in which a particular word order is dominantly found. The southern, eastern orders found at each border are: 1: N-Rel; 2: N-Adj; 3: N-Dem; 4: SV; 5: N-Num; 6: Gen-N; 7: OV.

Map 14. *The borders of the word-order defined areas*

ularly the languages ancestral to those found in the eastern Bird's Head, are, as argued above, originally SVO.

The Gen-N order is found a considerable distance away from New Guinea, essentially following the line that was used to define “western” and “eastern” Austronesian. Almost the same line follows the division between Num-N and N-Num orders, with slightly fewer languages included in the set that displays the modal western Austronesian Num-N order.

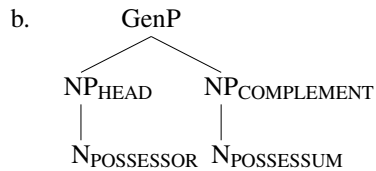
The eastern Austronesian languages show no departure from the modal word order seen in their western relatives in terms of the order of demonstrative and noun, but that simply reflects the fact that N-Dem order is modal in both western Austronesian languages and in the Papuan languages. The Papuan exceptions to this order were not in a position to influence the advancing Austronesian populations. Similar comments apply to the order of noun and relative clause and the order of noun and adjective.

It is clear that the Gen-N and N-Num orders prevalent in the eastern Indonesian languages are a result of Papuan influence on the Austronesian languages that moved into this area. There is no other explanation for the change to Gen-N order that goes against the VO typology that is still dominant in these languages, unless a structure such as (45b) is supposed for phrases such

as (2b), repeated as (45a), in which the genitive, and not the noun, is the head in a Gen-N construction. While this is not inherently implausible, neither is it any more explanatory, since it presupposes a structure for nominal phrases in languages like Kanum that is demonstrably false. Given a phrase such as (46a), the case agreement between the demonstrative and the rightmost element of the NP suggests a structure such as that shown in (46b), in which the genitive is not “higher” than the possessum, but simply one of a list of modifiers.

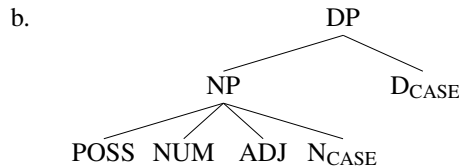
(45) Tugun (eastern Austronesian, southern Maluku (eastern Indonesia))

a. *laso ni-pei*
 mouse 3SG.POSS-faeces
 ‘mouse’s faeces’



(46) Kanum (non-Austronesian, southern New Guinea)

a. *nsao-ne ywaw ntaop krar-w py-engkw*
 1SG.OBL-DAT two big dog-ERG that-ERG
 ‘those two big dogs of mine-ERG’



In short, the differences that characterise the eastern Indonesian languages can be described as assimilation to the pre-Austronesian languages of the area. Assimilation has proceeded at different rates for different grammatical features, with the order of numeral and noun being the first observable difference as we browse from the western Austronesian languages through to those of eastern Indonesia, but proceeding through to clausal word order. All the changes that redefine the headedness of the construction are within the NP; the clausal VO order is retained, even as SV order becomes predominant. One feature of clausal syntax that has been borrowed by the Austronesians is the semantic alignment system (adopting the terminology in Donohue & Wichmann (eds.) 2007; also known as “agentive/non-agentive”, “stative/active”, or “split-intransitive”) that

pervades the Papuan languages of eastern Indonesia, and which is found in unusual guises in the Austronesian languages of the area through diffusion (Donohue 2004, 2007).²⁰

Examining now the relationship between the northern and the south-western Austronesian languages, we see, predictably, none of the Papuan influence that characterises the order of elements in the NP in the eastern Indonesian languages. The shift from VS to SV has already been described, and a number of other word order values are identical. Within the NP, however, we see that while the southern Austronesian languages favour a head-initial setting for most combinations, the northern Austronesian languages are more variable, with freedom of order pertaining to nouns with respect to their modifying adjectives, demonstratives, and relative clauses. The changes that took place between northern and southern Austronesian are all changes that add to the harmony with the head-initial order of clauses and adpositional phrases, since they all create head-initial orders inside the NP (the change from VS to SV involves a change in the position of a specifier, not a complement). By the time the Austronesians were established in Southeast Asia all of their major head-initiality parameters were set as being head-initial, the only exception being that numerals still preceded nouns.²¹ On the other hand, the changes in word order that we see when the Austronesians moved more solidly into contact with the pre-Austronesian peoples of eastern Indonesia show degrees of adaptation towards the OV typology found in most modern Papuan languages. Table 2 summarises the differences between the northern Austronesian languages and their southern cousins, both western and eastern.

It is important to realise that at most stages the changes shown in Table 2 were not categorially applied; for instance, although the VS → SV change has applied in most of the south-western Austronesian languages, there are still Austronesian languages in southern Indonesia, such as Sawu (Hawu), and in the Pacific, such as the Polynesian languages, that preserve verb-initial order.²² Rather than being subgroup-defining changes, the contact-induced changes should be thought of as having gradually permeated into the grammatical systems of the languages in those areas, and either did not completely saturate the

20. Acehnese, on the far western side of the archipelago, also shows a system of semantic alignment (Durie 1985, 1988). In that case it appears likely that the alignment system has diffused from the Austro-Asiatic languages of the area (see, for instance, Semelai; Kruspe 2004), which probably (given their distribution in peninsular Malaysia and the Nicobar islands, as well as the unusual (and very Austro-Asiatic-like) phonologies of the Sumateran Austronesian languages and the considerable number of non-Austronesian toponyms in the area, represent a pre-Austronesian substrate across Sumatera.

21. The special treatment of numerals persisted into the Pacific; see Donohue (2005b).

22. See also Lynch, Ross, & Crowley (2002) for a discussion of the existence of verb-initial order in proto-Oceanic

Table 2. *The history and dependency relationships of word order in Austronesian*

	early changes		late changes	
northern	N-Rel ~ Rel-N ↓ N-Rel	Adj-N ~ N-Adj ↓ N-Adj	Dem-N ~ N-Dem ↓ N-Dem	VS ↓ SV
western			Num-N ↓ N-Num	N-Gen ↓ Gen-N
eastern				VO, Pr-NP ↓ OV, NP-Po
	regularising word order		contact-induced change	

languages of the region or else only did so after further Austronesian migration had taken place, in which the original, pre-contact order was still present.

Numerous other grammatical features cluster along or near the north-south or west-east lines that I have established. A partial list is given in Table 3, drawing mainly on features present in *WALS*; the use of square brackets indicates that the grammatical feature in question is not distributed across the whole of the area, but is restricted to that area. In very few cases do the distributions of these features follow the exact lines that mark the division between west and east as determined by the order of Gen and N, or the order of Num and N, as can be seen in Map 15.

In addition to the main areas that have been named and identified, a number of smaller sub-areas can be identified in or on the borders of the eastern Austronesian area, zones which do not occupy the full range of this larger area, but which are exclusive to the general eastern “Indonesian” area, rather than appearing in the west. These include those features mentioned in Table 4, and it is certain that further research will identify further sub-regions (Donohue 2004, 2006).

In sum, we have examined word order patterns for a range of different parameters in Austronesian languages west of New Guinea, and found that the long-reported split between N-Gen order in the west and Gen-N order in the east is basically robust. This typological division is bolstered by the similar,

Table 3. Grammatical features other than word order establishing the north-south or west-east divisions in Austronesian

Grammatical feature	North-South		West-East	
	North	South(-west)	(south-)West	East
Phonemic voicing	yes	yes	yes	[no] ^a
Phonemic /ŋ/	yes	yes	yes	[no]
Syllable structure	complex	complex	complex	simple
Head-marking	[yes] ^b	no	no	yes
Dependent-marking	[yes] ^b	no	no	no
Possessor affix	suffix	suffix	suffix	prefix
Inflectional morphology	mixed (prefix)	prefix	prefix	prefix
Gender/Classification	no	no	no	[yes]
Numeral classifiers	absent	present	present	present
Nominal plurality	separate word	[mixed] ^c	[mixed, ≠ suffix]	suffix
Possessive classes	no	no	no	yes
Serial verb constructions	[no]	no	no	yes
Passives constructions	no	yes	yes	no
Question particles	yes	yes	yes	[no]
S, A in 'want' complement	absent	absent	absent	overt

a Voicing is absent as a phonological feature, or else under-utilised in series in which it is found, in central Maluku, in eastern Indonesia.

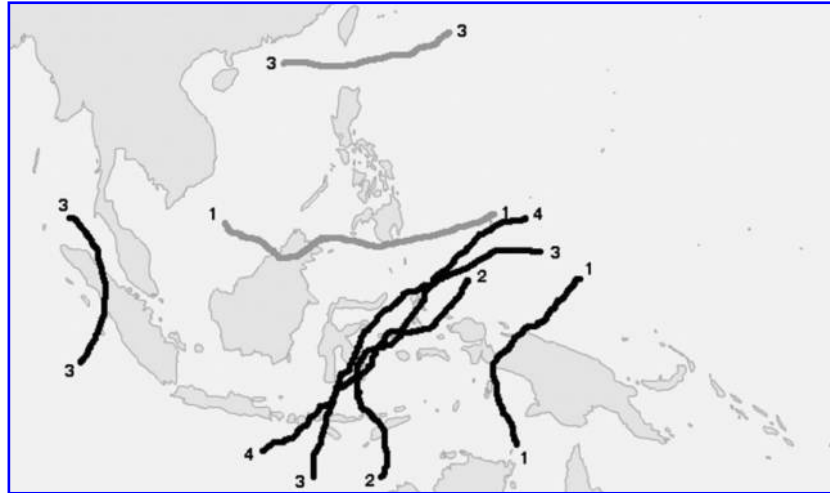
b Some of the languages of Formosa and the Philippines are double-marking.

c almost all possible strategies for indicating plurality are found in south-western Austronesian languages, though suffixal markers of plurality are extremely rare.

Bolding indicates a pattern other than that found in northern Austronesia.

Table 4. Grammatical features defining small areas emphasising the west-east division

Grammatical feature	Notes
Implosion/glottalisation	found along the southern stretch of the west-east border surrounding the Sea of Flores, in which languages commonly display both prenasalised consonants and preglottalised or imploded consonants
Absence of expected /p/	found in the extreme south-east of Indonesia before New Guinea, in across much of New Guinea
Absence of expected /g/	found in unusual concentrations in the extreme southeast or Indonesia before New Guinea
Semantic alignment	found across south-eastern and central-eastern Indonesian before New Guinea, and in north-western New Guinea (Halmahera, Cenderawasih Bay)
Passives	the eastern languages generally lack overt morphological passive (but other voice possibilities, or morphologically covert passives, may be present)



Key: The numbered lines show the borders of the areas in which a particular grammatical feature is found. 1: numeral classifiers occur between the lines; 2: alienable/inalienable distinctions are found east of the line; 3: extensive agreement systems are not found between the lines, but are found to the north (not consistently), west and east of them; 4: serial verb constructions proliferate east of the line.

Map 15. *The limits of alienable/inalienable distinctions, numeral classifiers, extensive agreement systems, and serial verb constructions*

though not entirely identical, isogloss marking the areas in which Num-N or N-Num orders prevail. The fact that there is a division is, along with the SV order present in southern Austronesian languages, attributable to Papuan (or, at least, non-Austronesian) influence on the immigrant Austronesian population. A number of additional typological features approximate the east-west and the north-south divisions that can be identified through examining word orders in the area.

Himmelmann (2005) addresses the distribution of typological features in Austronesian languages along the west-east division, though without being explicit about where this division lies (Himmelmann collapses the northern and south-western groupings described here). Himmelmann has suggested that a number of features correlate with the line marking prenominal and postnominal possession. An eastern group characterised by the presence of a prenominal genitive (“preposed possessor”, in Himmelmann’s terms) is opposed to a western group in which we find “symmetrical voice systems” (voice systems in which each member of the opposition is equally and overtly morphologically marked). The appearance of the alienable/inalienable distinction, agreement for nominative arguments, clause-final negation, noun-numeral order, an absence

of verb-initial order, and the presence of morphosyntactic differences between what Himmelmann calls “narrative” and equational clauses are all bundled into these two categories. This neat typology is weakened by his acknowledgment of a transitional group with mixed features, by the presence of “fuzzy” features (while the eastern languages are said to be “V-second or -final”, the western languages are said to be “V-initial or SVX”, allowing for complete overlap between the two areas in the case of SVO languages, and by not allowing for the presence of languages such as Sawu and Kambera, which are verb-initial while being in the eastern area (see also Footnote 22)). While the eastern languages show “person marking prefixes or proclitics for S, A arguments”, the western area is characterised as “person marking only sporadically attested”, making the divisions non-prototypical and non-exclusive. Furthermore, as I have shown, the areas in which we find Gen-N and N-Num orders are not identical, just as they are not coterminous with the area in which alienable/inalienable distinctions are found, or that in which agreement prefixes/proclitics are found.

Another recent work that addresses the issue of language typology in the Austronesian/Papuan region is Dunn et al. (2005). This article seeks to establish the genetic unity of the non-Austronesian languages spoken on the islands east of New Guinea (to the east of the area defined as “area 3” in Map 1) through a comparison of typological features similar to those seen in Table 3. The two major flaws with this article are, firstly, the fact that it fails to take account of the well-known tendency for typological features to diffuse in the New Guinea area (Foley 1986, 1998, 2000, and the evidence presented in this article); and secondly, that for the evaluation of the data Dunn et al. employed a statistical technique that could not report negative results: that is, there was no possibility of their hypothesis not being confirmed.²³ The data presented in Dunn et al. clearly show areally-determined structural convergences between the Oceanic (Austronesian) group of languages in their sample and the non-Austronesian languages, with only 20 % of the typological features examined showing significant differences in representation among two putative populations. This suggests that, when the Austronesian languages as a whole are compared to the non-Austronesian languages in the east of New Guinea, we will find that the typological differences in the east can be attributed to local areal influence, such as also affects the indigenous non-Austronesian languages, just as we find areal convergences in the islands west of New Guinea.

Further congruence of typological properties can be found in a “fan” as one travels south from the northern Austronesian languages of Formosa and the Philippines into insular Southeast Asia. Although primarily realised in terms

23. For further discussion of this article, see Donohue & Musgrave (2007), and Wichmann, Musgrave, & Donohue (forthcoming).

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of word order, the north-south division is also apparent in the switch to prefixal inflection (and the overall reduction in morphological marking), and the appearance of numeral classifiers. Again, it is likely that more properties will emerge following further study. Importantly, however, we are able to identify that there is a clear north-south division in Austronesian languages, with a number of distinct grammatical features tracing out this division.

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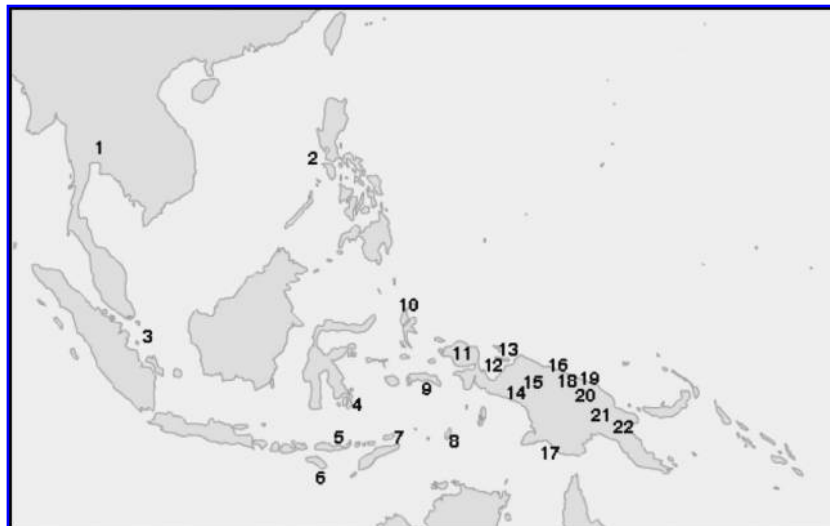
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Abbreviations: A, S, and P following Comrie (1978) for the arguments of monovalent and bivalent verbs; 1, 2, 3 1st, 2nd, 3rd person; ABL ablative; ABS absolutive; ACCOMP accompanier; ACT active voice; AL alienable; ART article; AV active voice; BEN benefactive; CL10 class 10; CLF classifier; CONJ conjunction; CONTIN continuative; CORE core argument; DAT dative; DEF definite; DU dual; EMPH emphatic; ERG ergative; EXCL exclusive; F feminine; FOC focus; FUT future; GEN genitive; HUM human; INAL inalienable; INCL inclusive; INDIC indicative; INSTR instrumental; IRR irrealis; LNKR linker; LOC locative; M masculine; MOD modifier; NEG negative; NF non-feminine; NH non-human; NOM nominative; OBJ object; OBL oblique; PERF perfective; PL plural; POSS possessor; R realis; RED reduplication; REL relative clause; SEQ sequential; SG singular; SI S or A infix; SIM simultaneous; SUBJ subject; UNM unmarked; Y yesterday.

Appendix: Locations of languages cited in the text



Key:

1 Thai	9 Nuauulu	17 Kanum
2 Tagalog	10 Pagu	18 One
3 Indonesian	11 Maybrat	19 Arapesh
4 Tukang Besi	12 Saweru	20 Hanga-Hundi
5 Palu'e	13 Ambai	21 Fore
6 Kambera	14 Damal	22 Adzera
7 Tugun	15 Lani	
8 Selaru	16 Skou	

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