

# Genetic Linguistics

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*Essays on Theory and Method*

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Edited with an introduction and bibliography by  
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OXFORD  
UNIVERSITY PRESS

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Great Clarendon Street, Oxford OX2 6DP

Oxford University Press is a department of the University of Oxford.

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Published in the United States

by Oxford University Press Inc., New York

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First published 2005

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British Library Cataloguing in Publication Data

Data available

Library of Congress Cataloguing in Publication Data

Data available

ISBN 0-19-925772-8 (pbk.)

ISBN 0-19-925771-X (hbk.)

10 9 8 7 6 5 4 3 2 1

Typeset by Newgen Imaging Systems (P) Ltd., Chennai, India

Printed in Great Britain

on acid-free paper by

Biddles Ltd., King's Lynn

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## The Indo-Pacific hypothesis\*

The evidence presented here is intended to demonstrate that the bulk of non-Austronesian [non-AN] languages of Oceania from the Andaman Islands on the west in the Bay of Bengal to Tasmania in the southeast forms a single group of genetically related languages for which the name Indo-Pacific is proposed.<sup>1</sup> The major exception to this generalization is constituted by the indigenous languages of Australia nearly all of which are generally accepted as related to each other. This Australian stock does not seem to align genetically with Indo-Pacific and is excluded from it, at least tentatively. With regard to the remaining languages, membership in the overall family can be asserted with varying degrees of confidence, as will be indicated at appropriate points in the discussion. This uncertainty stems largely from the significant gaps in the linguistic documentation, since as has been pointed by Grace (1968), the study of non-Austronesian languages has, at least until very recently, lagged far behind that of the Austronesian languages of the same area.

In 1958 the present writer prepared an unpublished report on the classification of the non-Austronesian languages of the Pacific for the Wenner-Gren Foundation (Greenberg 1958). This was a preliminary attempt to set forth language groupings viewed at least tentatively as independent. It was chiefly concerned with New Guinea where the largest number of non-AN languages outside of Australia are to be found and which exhibits by far the greatest linguistic diversity. Nine major groups in New Guinea and an additional five on other islands were delineated.

In 1960, in a paper presented to the Association for Asian Studies at its New York meeting, evidence was presented chiefly in the form of etymologies (Greenberg 1960) to show that all of the languages previously described as

\* *Current Trends in Linguistics, vol. VIII: Linguistics in Oceania*, ed. Thomas A. Sebeok. The Hague: Mouton, 1971, 808–71.

<sup>1</sup> I wish to express my appreciation to the Wenner-Gren Foundation for its continued support to my Indo-Pacific researches. I am deeply grateful for assistance in acquiring published or unpublished data to G. W. Grace, J. C. Anceaux, W. Davenport, A. K. Pawley, D. Arnott, P. A. Lanyon-Orgill, A. Chowning, W. Goodenough, and the members of the Summer Linguistic Institute of Ukarumpa, New Guinea, especially Bruce Hooley and Karl Franklin.

independent groupings formed a single family in which the previously defined groupings entered as subgroups. In the present paper these subgroupings, with certain significant modifications, are retained. Evidence is presented for at least some of these subgroupings as well as for the validity of Indo-Pacific as a whole.

Since 1960 there has been a rather considerable increase in the amount and quality of research on the non-AN languages. In particular far more grammatical information is now available so that the nonlexical evidence, at that time virtually confined to the pronouns, can now be significantly expanded. In this period also, particularly for New Guinea, the notion of Papuan as merely a name for genetically diverse languages with only the negative characteristic of not being Austronesian, has largely been superseded by the notion that a very large proportion of these languages are indeed related. Further, as noted by Grace (1968) the subgroupings suggested by the present writer in 1958 and 1960, except for Cowan's West Papuan Phylum, show 'little disagreement with those reported by others'. The question of Cowan's West Papuan Phylum will be discussed later. It should be noted that Cowan deserves signal credit for the first serious attempts to relate New Guinea non-AN languages to those outside of the island.

Since 1960, I have assembled virtually exhaustive vocabulary information from published sources and a few unpublished ones enumerated in footnote 1 and in the second section of the bibliography. These were entered in twelve notebooks each of which contains places for upwards of 350 entries, many of which however are obviously not available in the existing sources. Each notebook contains entries from sixty up to eighty language sources and is organized roughly by groupings of languages whose closer relationship to each other is evident on inspection. In addition detailed notes on grammar were copied in three additional notebooks and reclassified by historically significant rubrics in still another notebook.

In order to avoid unnecessary duplication in the bibliography accompanying this article, Klieneberger (1957) is taken as basic and all sources found in Klieneberger are cited here with the letter K followed by the numbering in that work. Hence the bibliography consists entirely of items either overlooked by Klieneberger, stemming from geographical areas not covered in his bibliography, or published subsequently to it. Unpublished sources are cited by identifying letter and are enumerated in the second section of the accompanying bibliography.

Languages are usually referred to here by the name as it appears in the original source. It is realized that different sources often contain data under divergent names for what are merely dialect variations of the same language

or even the same dialect. Hence this exposition will give a misleading picture of the amount of actual linguistic variation within Indo-Pacific. However this seemed preferable to an attempt to distinguish language from dialect by the use of standard language names. This does not seem for the most part warranted on the basis of our present knowledge. The present procedure also has the advantage that assertions about languages can be immediately traced to the linguistic source which furnishes the information upon which such statements are based.

Even before consideration of the specific language groupings, a word should be said about the problem of detecting and excluding from the evidence cited those forms which are borrowings from AN languages. The existence of two language families in contact over such a vast area is indeed a unique situation. There is also the special influence of Malay as a widespread lingua franca. As a result of this, distant non-AN languages can show startling similarities resulting from independent borrowings from Malay or locally contiguous AN languages. Hence all etymologies were checked with Dempwolff's Proto-AN reconstructions and with Malay. This is, however, not sufficient since there are many locally distributed etymons in AN languages not included in Dempwolff. Hence vocabularies of approximately fifty AN languages similar in scope to those for non-AN languages and concentrating on those languages found in proximity to Indo-Pacific languages were also compiled. This is clearly not adequate and I cannot guarantee that AN loans have been entirely excluded from the present study. Of course, forms of limited distribution within AN as a whole are sometimes borrowings from non-AN languages. What is needed is a series of intensive studies of individual situations. To have done this would have required an effort at least as great as the one involved in the present study as a whole. Hence efforts in this direction were limited in the fashion just described.

Not all such mutual borrowings stem from AN in general or Malay in particular. For example, in the first unrevised set of Indo-Pacific etymologies there was a striking set of resemblances in a word meaning 'axe' or 'knife' involving three consonants and in languages geographically distant from each other. Thus, two geographically distant languages in New Guinea, Demta in West Irian and Sungumana in the Madang area of Australian New Guinea, have *sapere* 'knife' and *sapor* 'axe' respectively. However, Alor *sapada* 'knife' gives away the story, namely that we are dealing in all probability with loans from Portuguese *espada*.

In what follows, I will first consider languages outside of New Guinea in an approximate west to east order and then those of New Guinea itself. Evidence both lexical and grammatical will be adduced in support of a number of the

broader subgroups proposed. This subgrouping is not exhaustive and is in some respects at least quite tentative as will be indicated where appropriate. Such a degree of uncertainty is only reasonable at this stage. After all, in AN studies which are incomparably further advanced there is still no overall subgrouping which has met with general acceptance. After the discussion of individual subgroupings the case for the validity of Indo-Pacific as a whole, both grammatical and lexical, will be presented.

The westernmost group of languages to be considered is that of the Andaman Islands. In an earlier review of classification problems (Greenberg 1953) [§1-Ed.], it was noted that, unlike the languages of the neighboring Nicobar Islands, those of the Andamans did not affiliate with Austroasiatic or indeed with any other language family of the mainland of southern Asia. They were therefore assigned independent status.

Within the Andaman Islands are two separate groups of languages. The first of these covers almost all of Great Andaman, that is, the North, Middle and all except the southern extremity of South Andaman. It is relatively well documented in Portman (1887 and 1898) and other sources. It consists of a northern and a southern dialect cluster. Both the distinction between the two and their close relation are obvious and have been noted by previous observers. The sources of citation for these languages in the etymologies at the end of this article are Portman 1887 which gives data on Biada and Bogijiab of the northern and Kede and Chariar of the southern group, and Portman 1898 which includes Beada and Bale of the northern and Puchikwar, Juwoi, and Kol of the southern. Of these names Beada and Biada are mere nomenclatural variants.

On the southern tip of South Andaman in Great Andaman and on Little Andaman to the south, Jarawa and Önge are spoken respectively. These are merely dialectally different. They differ profoundly from the main group of languages covering most of Great Andaman. They are very meagerly documented in the Önge of Portman (1887). A. R. Brown (1914) gives some examples from a work of Bonig published in 1903 in Fort Blair which was not obtainable. He also shows that the early vocabulary of Colebrook (1795) refers to this language. As pointed out by Brown there are very few vocabulary resemblances between this language and those of Great Andaman and the only real point of contact is typological, the existence of a remarkable system of nominal classification based on parts of the body. A few citations from Önge have been included in the general Indo-Pacific vocabulary, but both its special relationship to the languages of the rest of the Andamans and its assignment to Indo-Pacific must be considered highly provisional.

The next group to be considered consists of certain languages on the islands of Timor and Alor and the small island of Kissar near the eastern extremity of Timor.

At least two non-AN languages are spoken on Portuguese Timor and were first described by Capell (K.359). These are Makasai on the eastern end of Timor and Bunak in the central portion. Berthe (1959) also presents data on Bunak under the name Buna. The ethnographer Josselin de Jong (1937) describes the language of Oirata known to be a Timorese settlement on the nearby small island of Kissar. Another presumably AN language is also spoken on Kissar. Oirata turns out to be non-AN and quite similar to Makasai. Cowan (1963 and 1965*a*) has advanced the thesis that these three languages, Bunak, Makasai, and Oirata, form a group within his larger West Papuan Phylum which also includes the languages of Northern Halmahera and a large group in the western portion of West Irian.

It has evidently not been noted up to now that at least one language of Alor, an island not far distant from Timor, is non-AN. This is Abui for which the work of two ethnographers, Nicolspeyer (n. d.) and Du Bois (1944), provide linguistic data. The former source gives fairly extensive interlinear texts in Dutch and Abui while the latter gives the Abui equivalents of a list of stimulus words for psychological tests as well as other scattered vocabulary. This language is given as AN in the well-known language atlas of Salzner (1960).

The internal subgrouping of the Timor-Alor group is clearly as follows:

1. Abui
2. A. Bunak
  - B. 1. Makasai
  2. Oirata

The following are grammatical formatives common to two or more Timor-Alor languages. As with other subgroups and for lexical as well as grammatical morphemes, some items of broader distribution within Indo-Pacific as a whole have been included along with discussion of that fact. The reason for doing this is twofold. We wish the forms cited to be a first approximation to the common genetic linguistic inheritance of the subgroup and this will obviously include such presumably older elements. In addition, the specific variant of the more widespread element may show common peculiarities and thus have a positive bearing on the establishment of the subgroup. Thus, in Indo-European, English *four*, German *vier*, Italian *quattro* and Spanish *cuatro* are all cognate, but because of a series of shared sound changes and other common

peculiarities such forms have an obvious relevance to the distinctness of Germanic and Italic as subgroups of Indo-European.

Turning now to the grammatical data for the Timor-Alor languages we find the following:<sup>2</sup>

1. First person singular pronoun: Oirata *an*, *an(ri)*, Makasai *ani*, Bunak *ne(to)*, *n-* (possessive), Abui *ne(do)*, *n-* (possessive).

All the languages have forms in *n*. This however is the most widespread type of first singular pronoun in Indo-Pacific in general. Bunak and Abui have a suffix *-to* and *-do* respectively added to other pronouns in their independent form.

2. Second person singular pronoun: Oirata *e:(ri)*, Makasai *ai*, Bunak *e(to)*, Abui *e(do)*. Here again the resemblances in all four languages are clear. As pointed out by Cowan (1965*a*), such second person singular pronominal forms in *e* are found in certain languages of his West Papuan Phylum in West Irian. Otherwise they are rare or nonexistent in Indo-Pacific.

3. Bunak and Makasai share a third person pronominal element in *g-*. Makasai has *gi* as its third person singular pronoun. In Bunak as described by Capell there is a third person singular possessive pronoun *gia* and a plural *gi*. In Berthe's account the possessive and pronominal object prefix for the third person for both numbers is *g-*.

4. As first person plural exclusive pronouns Makasai has *ini*, Oirata *in(te)*, *ina*, *in-* 'possessive', and Bunak *nei*. For Abui, Nicolspeyer gives two first person plural pronominal elements *ni-* and *pi-* without any rule for distinguishing their use. However it is highly likely that *ni-* is really exclusive and *pi-* inclusive as indicated by the close agreement of both with the pronouns of the other Timor-Alor languages.

5. In the first person inclusive plural we find Oirata *ap(te)*, *ap-* 'possessive', Makasai *fi*, and Abui *pi-*.

A first person plural pronoun *ni*, usually without the inclusive/exclusive distinction is extremely widespread in Indo-Pacific. The languages of

<sup>2</sup> Ideally perhaps one would cite all forms in the orthography of the original source but in that case an additional apparatus of interpretation would have to be added since, e.g. *j* stands for a semivowel in Dutch and German sources but usually for a palato-alveolar affricate in English and American sources. I have therefore normalized the transcriptions. In symbolization I have sought to avoid diacritics since these are a constant source of error in the final version. I have generally used digraphs where at all possible. When the two symbols are to be taken in their separate values a dash intervenes. For example, *ng* is [ŋ] but *n-g* is [ŋg]. The following details should be noted. The glottal stop is indicated by *q*, a palatal semivowel by *y*, and voiceless and voiced palato-alveolar affricates by *c* and *j* respectively. The velar lateral which occurs in some New Guinea languages is symbolized by *kl* or *gl*, voiceless and voiced respectively. A bracketed nasal before a voiced stop indicates automatic (non-phonemic) prenasalization.

northern Halmahera agree with Timor-Alor in having a *p*- pronoun for first person plural inclusive. However only the Timor-Alor languages have the pattern *n*- exclusive/*p*- inclusive.

6. For the second person plural pronoun there is agreement among all the languages except Abui. The forms are Oirata *i:(te)*, *i*; Makasai *i*, Bunak *ei*. Forms resembling these are rare and sporadic elsewhere so that we again have a characteristically Timor-Alor pronominal morpheme.

7. Abui *do* 'this, he, she, they' is cognate with Bunak *doe* 'this'.

8. Both these languages have an identical formation involving the foregoing element plus a locative suffix: Abui *do-n*, Bunak *doe-ni* 'here'.

9. Bunak and Abui share another demonstrative element *h* seen in the Bunak *himo* third person singular animate pronoun, *homo* third person singular inanimate and demonstrative, and *halaqi* 'those, they'. The same morpheme probably occurs as *h*- prefixed to verb to indicate an inanimate object. This is probably cognate with Abui *ha*, *he*, *ho* largely in free variation in Nicolspeyer's material. All these forms are described as third person singular possessive prefixes and as indicating the object of a verb. The latter usage is very close to that of Bunak *h*-.

10. Oirata *ita*-, Makasai *ta*- reciprocal verb prefix, and Bunak *t*- reciprocal verb and possessive prefix are probably related. This formation probably exists in Abui also as can be deduced from the pair *aruda* 'to waken' *taruda* 'to awake'.

Lexical evidence for the validity of the Timor-Alor grouping is set forth in the following set of etymologies. Oirata, Makasai, Bunak, and Abui are cited in that order with abbreviations O, M, B, and A respectively. Widespread etyma also found in the general Indo-Pacific list at the end of this paper are preceded by an asterisk. For matters pertaining to transcription and related problems see the accompanying footnote 2.

1. to ask O. *uste*, M. *seti*
2. to bathe B. *wer*, A. *welang* 'to wash'. Compare M. *bani* 'wash'.
3. behind O. *ura*, *uraa*, A. *werka*
4. belly O. *atu*, M. *atu(bere)*. *bere* means 'large' in Makasai. For its use as a suffix cf. 'star'.
5. bird O. *asa* 'fowl', M. *asa*. Compare B. *tie*.
6. to bite O. *tia* 'bite, eat', M. *tio*
7. bitter O. *malare* 'angry, sour, hot, bitter', A. *malohi*
8. brother (older) O. *ka*, *kaka* 'brother', M. *kaka* 'older brother, older male cousin', B. *kaa* 'older brother'
9. child O. *modo*, M. *mata*

10. cold B. *hurat*, A. *palata*
- \*11. come O. *maqu*, M. *maqu*, B. *man*, A. *me*, *mei*, *mirani*
12. to cover B. *pilik*, A. *banuike*
- \*13. to cry O. *oore*, M. *iar*, B. *ɔl*
14. to cut O. *utu*, A. *uti*
15. day O. *wadu*, M. *watu*, A. *wari* ‘sun, day’. Compare B. *hɔt*.
- \*16. to descend O. *ipa* ‘fall down or off’, B. *pai* ‘arrive’, A. *pe*, *pei* ‘descend, go’ (cf. Indo-Pacific ‘to fall’)
17. to die O. *umu*, M. *umu*, A. *amui*(*mana*) ‘the dead’. *mana* is a plural suffix.
18. to dig M. *toi*, A. *tehi*
19. dry O. *tata*, A. *tir*
20. earth<sub>1</sub> O. *miki* ‘mud’ B. *mɔk* (Capell), *muk* (Berthe), A. *mok*
21. earth<sub>2</sub> O. *no*, A. *anai*
- \*22. to eat O. *una*, *nawa*, M. *nawa*, A. *nei*
23. excrement O. *atu*, A. *asi*
- \*24. eye O. *ina*, M. *nana* ‘eye’, *ena* ‘to see’ (cf. Indo-Pacific ‘to see’)
25. face O. *panu*, A. *pong*
26. to fall O. *tapa*, B. *tɔp*
27. to fear O. *mane*, A. *mielang* ‘afraid’
- \*28. female O. *panar* ‘female of animal’, B. *fana* (Capell) ‘wife’, *pana* (Berthe) ‘woman’
- \*29. fire O. *ada*, M. *ata*, B. *ɔtɔ*, A. *ara*
30. fish O. *ahi*, M. *afi*, B. *afu*
31. flower B. (*ɔtel*) (*g*)*ubuk* i.e. (tree its) flower, A. *biek*
32. fly (n.) O. *uhur*, A. *fulfai*
33. foot M. *iti*, B. (*g*)*idi* (Capell), (*g*)*iri* ‘(his) foot’, A. *iti* ‘thigh’
34. fruit M. *isu*, A. *iti*
35. garden M. *ama*, B. *maa*
- \*36. to give O. *ina*, M. (*g*)*ini* ‘to give (it)’
37. to go O. *mara*, B. *mal* ‘to go, to go out’
38. good O. *roo*, M. *rau*, B. *lɔi*
- \*39. hair O. *wata*, M. *asa*, B. *ada*
- \*40. hand O. *tana*, M. *tana*, B. *dɔn*, A. *tang*
41. to hear O. *ware*, *wali* ‘ear’, M. *wali*, B. *fali*, *faling*
- \*42. to hit O. *wewese*, M. *basi*, B. *pas*
43. to hold M. *nai*, B. (*h*)*one* ‘to hold (it)’
44. hole O. *uru*, *uruh* ‘cave, hole’, B. *uul* ‘to open’, A. *ul* ‘gate, hole’
45. inside<sub>1</sub> B. *mil* ‘interior’, A. *min*
46. inside<sub>2</sub> O. *mudu*, M. *-mutu* ‘in’

47. to kill O. *uda*, M. (*g*)*uta* ‘to kill (him)’
48. to know B. *tada* (Capell), *tara* (Berthe), A. *tire* ‘investigate, look at’
49. leaf O. *asah*, M. *asa*
- \*50. long O. *lokide* ‘high’, B. *legul*, A. *lohu*, *lougda*
51. to lose O. *mule* ‘disappear, go astray’, M. *molu*
52. to make M. (*g*)*ini* ‘to make (it)’, B. (*h*)*ini* ‘to make (it)’
- \*53. man<sub>1</sub> O. *nami* ‘husband’, A. *neng* (Du Bois ‘man’, Nicolspeyer ‘male’)
54. man<sub>2</sub> M. *anu*, B. *en*
55. moon O. *uru*, M. *uru*, B. *hul*
56. mouse O. *ura*, A. *rui* ‘rat’
- \*57. name O. *neene*, M. *nai*, A. *hanin*
58. neck O. *mani*, M. *manikai*
- \*59. nose O. *munikain*, A. *min*
60. old<sub>1</sub> M. *matu*, B. *matas*
61. old<sub>2</sub> O. *laite*, M. *laqida* ‘old man’
62. to put O. *rau* ‘lay down, set up’, M. *rai*, B. *lai*
63. rain O. *aya*, M. *ai*, A. *ye* ‘water’
64. to roast O. *raqaye*, A. *rahai*
65. root O. *ai* ‘tendon, sinew, vein’, A. *ai*
66. rope O. *taru* ‘rope, vein’, A. *tila* ‘string’
- \*67. sibling (older) B. *nana*, ‘older sister’, A. *nano*
68. side O. *weqe* ‘side, rim, waist’, B. (*h*)*wa* ‘sky’ = ‘(sun) region’
69. to sing O. *leule* ‘song’, M. *leu*
70. to sit O. *mire*, *imire*, M. *miit*, B. *mit*, A. *miti*
71. to sleep O. *yeete* ‘to lie down, to sleep’, M. *taqe*, A. *iti*, *ta*, *tade*
72. small O. *kiikilai* ‘small, young’, M. *kaqulai*, B. *kol*
- \*73. to smell O. *muee*, M. *qamuhu* ‘to stink’
74. to stand O. *nate*, A. *natei*, *natia* ‘to put up a cult statue’
- \*75. star O. *ihi*, M. *fi(bere)*, B. *bi*. M. *bere* means ‘large’
76. steal M. *mani*, B. *bini*
77. stone<sub>1</sub> O. *here*, B. *hol*
78. stone<sub>2</sub> M. *afa*, B. *op* ‘mountain’, A. *vi*
79. tail O. *ula(pula)*, M. *ula*. O. *pula* means ‘sprout, sprig’
80. to throw O. *lene*, M. *lian*
81. top O. *ia*, *ia-a* ‘the top of’, B. (*do*)*qa* ‘roof’ = ‘(house) top’
82. tree O. *ete*, M. *at*, B. *tel*, A. *tei* ‘bush’
83. to walk M. *wale*, A. *filia*
84. war O. *talu* ‘to resist, vanquish’, M. *sala*, B. *tala*, A. *taloi*, *taluka* ‘to fight’
85. water O. *ira*, M. *ira*, B. *il*

86. what? O. *ina*, M. *naqi*, B. *en*, A. *nala*  
\*87. when? O. *tun* 'time, period', B. *twen*, A. *tena*  
88. where? B. *teo*, A. *tehi*  
89. to wish O. *kaarak*, M. *kaarak*  
90. woman O. *tuhur*, *tuhuru*, M. *tufurai*  
91. to wrap up M. *bɔka*, B. (g)ɔbɔk 'to wrap (it) up', A. *buk* 'to tie'  
92. year B. *to*, A. *tung*.

A number of recurrent correspondences may be noted in the foregoing material. For example Oirata *h* commonly corresponds to *f* in other languages (30, 32, 75, 90) except in final position where it corresponds to zero (44, 49). Abui *h* is found where there is zero in other languages (18, 57, 88), Abui *r* after a vowel usually corresponds to *t* in Makasai and Oirata and to *d* in Bunak (15, 19, 29, 49), Bunak *l* corresponds to the *r* of other languages (13, 37, 38, 55, 62, 77, 85), etc.

The next set of non-AN languages to be considered are those of North Halmahera not far from the western extremity of New Guinea. These languages form an obvious group of closely related languages so that no demonstration is necessary.

The basic cleavage within the group is between the southern languages Ternate and Tidore and the remainder. The languages in roughly geographical order beginning from the north and with closely related languages listed together are as follows: Loda (Hueting 1908; van Baarda 1904; Fortgens 1928), Tobelo (Hueting 1936; Fortgens 1928; Ellen 1916*a* and 1916*b*; van der Roest 1905), Tabaru (Fortgens 1928), Isam (Hueting 1908), Pagu (Ellen 1916*a*; Fortgens 1928), Tololiku (Hueting 1908), Wai or Waioli (Hueting 1908; Fortgens 1928), Sau (Fortgens 1928), Modole (Ellen 1916*b*; Fortgens 1928), Galela (Hueting 1908), Ternate (Hueting 1908; Fortgens 1928, 1930) and Tidore (Hueting 1908).

To the north of the eastern part of New Guinea, non-AN languages are spoken on New Britain and New Ireland. Languages of New Britain for which sources were available to me are Taulil (Laufer K.1032; Futscher 1959), Butam (Futscher 1959), Baining (Rascher K.966; Futscher 1959 for the northern dialect), Sulka (Mueller K.1028) and Uasi (V). Of these Butam and Taulil are hardly more than dialectally different and Taulil-Butam, Sulka, and Baining may be considered a genetic subgroup within Indo-Pacific. Uasi on the other hand seems to be at least as close to the non-AN languages of Bougainville to the southeast. The languages thus far mentioned are all spoken in the central or eastern part of New Britain. Capell (1954: 39) mentions a language Idne in the extreme western part of the island for which no sources are available.

In spite of the separate and equivocal status of Uasi, all the non-AN languages of New Britain will be treated as a subgroup in the Indo-Pacific etymologies in the concluding section of this paper.

There is known to be at least one non-AN language on New Ireland immediately to the north and east of New Britain. It is called Panaras by Capell, and the only material in print is the translation of the phrase 'our Father who art in heaven' (Capell 1954). In Chinnery (n. d.), an anthropological account of Northern New Ireland, kinship systems are recorded and two of these, Limalua and Letatan are non-AN. Their geographical position agrees well with that of Capell's Panaras but the word for 'father' does not in either case resemble that in the phrase given by Capell. Limalua and Letatan are closely related to each other.

To the southeast of New Britain and Ireland, the island of Bougainville, the northernmost major island of the Solomons, is largely inhabited by speakers of non-AN languages. Allen and Hard (n. d.) give a classification of the non-AN languages of Bougainville based on a glottochronological study, but without any accompanying data. Their most general result is that there are two stocks on Bougainville, Kunua-Keriaka-Rotokas-Eivo and Nasioi-Nagovisi-Siwai-Buin. Of the former group, the only published material is on Konua (Mueller K.981), evidently the same language as the Kunua of Allen and Hard. For the latter group there are data from Siwai, also called Motuna (Macadam K.1007), Telei (Grisward K.1035; Thurnwald K.1036; Wheeler K.1037), Baisi (Macadam K.968), Nasioi (Macadam K.1009; Rausch K.1010 and K.1011; Ogan 1966), Koromira (Rausch K.1010) and Koianu (Macadam K.980). Of this second group Siwai, Telei, and Baisi belong together as against Nasioi, Koromira, and Koianu. My own results agree with those of Allen and Hard insofar as data are available. Thus, of the languages just enumerated Konua is the most divergent. At the same time it has enough in common with the remaining languages of Bougainville to justify setting up the non-AN languages of the island as a distinct subgroup of Indo-Pacific.

Farther south in the Georgia archipelago are four non-AN languages on separate islands which seem to constitute another subgroup. These are Bilua on Vella la Vella (Ray K.1162; Ribbe K.1063; Lanyon-Orgill K.1057; I), Baniata on Rendova (Ray K.1069; Waterhouse K.1070; Lanyon-Orgill K.1057), Laumbe (Ray K.1096; I) and Savo (Codrington K.360; Ray K.1132; I; G). This group will be referred to as the Central Solomon languages.

Davenport (1962) has called attention to the non-AN character of the non-Polynesian languages of the Santa Cruz islands to the east of the group just enumerated. He cites glottochronological evidence to divide these into the language of the Reef on the one hand and those of Ndeni, the chief island

of Santa Cruz. These latter are closely related to each other. Davenport has made available copies of the TRIP vocabularies of the Reef language and of Banua, Nea, Noole, and Nabalua. Examination of these materials leads me to agree with Davenport both with regard to the non-AN affiliations of these languages and the subgrouping into Reef and Ndeni. It also appears probable that the Santa Cruz group has a special relationship to the Central Solomon languages. The larger grouping consisting of Santa Cruz and Central Solomons is called here the Central Melanesian group. The term Melanesian is of course generally applied to the AN languages of this area but in the present instance the word Melanesian is intended in its geographical sense. Evidence will be adduced here in support of both the Central Solomon and Central Melanesian group as a whole.

The problem of AN loans as a source of resemblances among non-AN languages is a particularly vexing one in regard to the Central Solomon languages which have been under strong Austronesian influence.

An example is Bilua *kola*, Savo *kalakala* both meaning 'liver'. Since the nearby Melanesian languages Bugotu and Kirunggela have *kola* and *kolae* respectively this item is not cited in the word list below. In other instances forms have been included when on balance it seemed that a reasonable case could be made for a non-AN origin in spite of similarities with AN languages.

The most powerful indication of the unity of the Central Solomon group comes from the pronominal system. A previously strong case is made even more impressive from data in the unpublished Ivens papers. A series of sentences translated from Mota into Savo and Mota into Laumbe give a more consistent and complete picture of the pronominal system than has been available in print. In particular it shows that the Savo inclusive and exclusive first person plural pronouns had been reversed in the published sources. They are now brought into line with other languages of the group. It further appears that Savo has an inclusive-exclusive distinction in the dual also and these forms resemble the corresponding ones in Bilua. Unfortunately nothing is available regarding the pronouns of Baniata except for a probable second person singular form *no* deduced from one of Waterhouse's sentences. The following are the chief points of resemblance:

1. First person singular. Savo *angi*, Laumbe *ngai*, *nga* (object prefix), Bilua *anga*
2. Second person singular. Savo *no*, Laumbe *ngo* (bound subject, object and possessive), Bilua *ngo*, Baniata *no*
3. Third person singular. Laumbe *o* (possessive prefix), Bilua *o* (subject prefix)

4. First person dual exclusive. Savo *angge*, Bilua *engge*
5. First person plural inclusive. Savo *mai*, Laumbe *mee*, *me* (object prefix), Bilua (*ani*)*me*, cf. (*ani*)*vo* first person plural exclusive.
6. First person plural exclusive. Savo *ave*, Laumbe *ee*, Bilua (*ani*)*vo*
7. Second person plural. Savo *me*, Laumbe *imi*, *me* (bound form), Bilua *me*
8. Third person plural (1). Savo *ze*, Bilua *se*
9. Third person plural (2). Savo *mi* (object suffix), Laumbe *ma*, *mi* (bound forms).

The Santa Cruz languages show several agreements with the pronouns of the Central Solomons group. Banua and Noole first person singular (*ni*)*nge* and (*ni*)*ngə* respectively may be compared to item 1 above. Reef *imi*, Nea and Noole (*ni*)*mi* second person plural agree with number 7 above. *ni* is a prefix common to all the pronouns in the Ndeni languages. Finally Reef *ingo* resembles Bilua *enge*. Both are first person plural exclusive pronouns.

The following proposed etymologies involve either agreements among the languages of the Central Solomons or between any of these and the Santa Cruz group. The numerous forms restricted to the Santa Cruz group are not included. Language names are abbreviated as follows: Bi. (Bilua), Ba. (Baniata), L. (Laumbe), S. (Savo), R. (Reef), Bn. (Banua), A. (Nea), O. (Noole), B. (Nabalua). Central Solomon citations are separated from Santa Cruz by a colon. Almost all Santa Cruz nouns occur with an *n* prefix which is not separated here from the stem.

1. beach Bi. *zavanga*, Ba. *sava*
2. belly L. *vala*, S. [*m*] *boli* 'guts', O. *bəlu*
3. black S. [*m*] *boraga* (Capell), [*m*] *borayai* (Grace): A. *blu*, O. *iblu*
4. body S. *minjila*, Ba. *monggu*
5. brother Bi. *visi*, L. *vaes*
6. child Ba. (*orou*)*ve* 'fruit' = '(tree's) child', L. *vo*: A., O. *obue*
7. to cook L. *ofai*: R. *ebi*, A. *ubi*, Bn., O., B. *bi*
8. to cry S. *ngei*: R. *engi*
9. dark Bi. *kutumana*, Ba. *kutu*
10. to die Bi. *vou*, S. *ave*: Bn., A., O. *bə*, B. *iba*
11. to eat Bi. *vuato*, Ba. *oua*, La. *eui*: R. *nuue* 'food', Bn. *novu* 'food', A., O. *neiua* 'food'
12. egg L. *keru*, S. *kolei*
13. to enter L. *ele* 'to land', S. *alei*
14. eye Bi. *vilu*, Ba. *bero*

15. face L. *lemi* ‘eye’, S. *la[m]bi*
16. to fall S. *taui*: Bn. *tao*, A. *itao*, B. *ido*
17. fire Bi. *uga*: B. *aku*
18. five Bi. *sii(ke)*, L. *si-ie*. For *ke* as suffix note Bilua *zouke* ‘three’, *arike* ‘four’.
19. four Ba. *avo*: R. *uve*
20. fruit Bi. *epa*, Ba. *po*: R. *nvvpa* ‘flower’
21. to go S. *[m]bo*, *[m]bua*: O., B. *və* ‘walk’
22. good Bi. *uriawu*, S. *uria*
- \* 23. head S. *[m]batu*, L. *vatu*. Cf. however Tambatamba, Kirunggela (Choiseul) *botu*
24. to know Bi. *niania*, Ba. *nia*
25. left (hand) Bi. *made*, S. *male*: R. *modi-i*
26. to lie down L. *fufui*, S. *pau*: A., O. *iubu*
27. to live Bi. *elo*: R., O. *Ilv*, Bn., A. *lv* B. *Ili*
28. man Bi. *maba*, S. *mapa*
29. many Bi. *kulio*: Bn., A. *kulu*, O., B. *Iklu*
30. to push S. *eri*: Bn. *aro*, O., B. *aluo*
31. rain Ba. *uzia* ‘sky’, S. *uza*
32. road Bi. *keve*, S. *keve*
33. root Bi. *kataikili*, L. *kala*: R. *ni-ikile*
34. saliva Ba. *so*, L. *suav*, S. *suasua*
35. shadow Ba. *uzi* ‘spirit’, S. *vuzi*
36. to sit Bi. *papu*, L. *fifi*, S. *epia*
- \* 37. to sleep Ba. *isia*, S. *izi*
38. small Bi. *siloa*, *sil*, L. *talam*, *tula*
39. Smoke<sub>1</sub> Bi. *iolu*, L. *hou*
40. Smoke<sub>2</sub> S. *akuaku*: O., B. *oko*
41. star<sub>1</sub> L. *simu*, S. *simusimu*
42. star<sub>2</sub> Bi. *pino*, Ba. *finofino*
43. sun Ba. *ui*, L. *kui*, S. *kuli*
44. sweet Ba. *imo*, S. *imo*
45. that Bi. *ko*, L. *hea*: A. *kə*, B. *eka*
46. tongue S. *lapi*: R. *nælibi*, Bn. *nalap*, A. *nalepu*, O., B. *nalepn*. But cf. Nggela *lapi*
47. tooth Bi. *neo*, Ba. *nani*, S. *ngale*: Bn. *nangi*, A., O. *ningu*, B. *nungu*
48. tree Bi. *ore*, Ba. *orou*, L. *houla*, S. *kola*
49. two Bn. *eri*, L. (*kana*)al ‘twenty’ (cf. *kanongam* ‘ten’, *kanelaol* ‘twelve’): R. *lil*, Bn., A. *li*, O. (*a*)*li* (cf. (*a*)*tu* ‘three’, (*a*)*p e* for *a-* as a prefix), B. (*tu*)*li* (cf. (*tu*)*te* ‘one’, (*tu*)*tu* ‘three’ (*tu*)*po* ‘four’)

50. water Ba. *fio*, S. *piva*  
 \* 51. wing Ba. *gofona*, S. *gavara*  
 52. woman Bi. *reko*, S. *a[n]daki*, *adoki*

The last non-New Guinea language to be considered is Tasmanian. All the existing material has been collated in Schmidt (1952). Schmidt distinguishes five dialects North East, Middle East, South East, West, and North. The Northern dialect is the most divergent. The present writer agrees with Schmidt's divisions and Tasmanian is cited in the Indo-Pacific word list in accordance with this dialect division.

Having considered the groupings of Indo-Pacific languages outside of New Guinea, we now turn to the very complex situation in New Guinea and small neighboring islands. Seven large groupings of New Guinea non-AN languages are distinguished here. They are discussed in a roughly west-east order as follows: Western, Northern, Southwestern, Southern, Central, Northeastern and Eastern. There are a small number of minor groups and individual languages, often poorly documented, which do not appear to affiliate on present evidence with any of the major groups.

The Western group consists basically of the New Guinea subdivision of the languages which Cowan has outlined and expanded in successive publications as his West Papuan Phylum. In this he includes also the non-AN languages of Timor and Halmahera which have already received separate discussion. The 'second large grouping' of Cowan (1957*b*) consists of the western portion of my Northern group (called Hollandia in my unpublished report of 1958). It is gratifying that there is independent confirmation and exact agreement on this boundary between Western and Northern inasmuch as my own conclusions were reached prior to the appearance of Cowan (1957*b*). Cowan (1960) incorporated into his West Papuan Phylum the Kapaur group, one of those which Anceaux had discussed in his publication on the languages of the Bomberai peninsula (Anceaux 1958) and which I had already included in this grouping in my 1958 report. The Western subfamily should also be expanded to include another one of Anceaux's Bomberai language groups, namely that consisting of Faranjao, Mairasi and Etna Bay. The unpublished material in Anceaux's notebooks which were made available to me provide material beyond that accessible in print which shows this clearly. Some of this evidence will be presented here.

A listing and subclassification of these languages in close agreement with Cowan follows. Material on this entire group was available to me from Anceaux's notebooks. Therefore this is not stated separately for each language and only other sources are mentioned here.

(1) Meninggo (also called Meax), Mansibaber (Wirz K.477; Cowan K.432, 1957c), Manikion (van der Sande K.476), Mantion (Cowan K.432, 1957c), Amberbaken (Cowan K.432, 1957c), Faranjao, Mairasi (Anceaux 1958), Etna Bay (Anceaux 1958), Mogetemin, Konda (Cowan K.432, 1957c), Jahadian (Cowan K.432, 1957c), Puragi (Cowan K.432, 1957c), Kampong-Baru (Cowan K.432, 1957c), Solowat, Itigo, Bira, Najarago, Tarof, Barau (Anceaux 1958), Arandai, Mor (Anceaux 1958).

(2) Madik (Cowan 1957a, 1957c), Karon (Laglaize K.470; Cowan 1957a, 1957c), Waipu, Moi (Cowan 1957a, 1957c), Seget, Kalabra (Cowan 1957a, 1957c), Moraid (Cowan 1957a, 1957c), Tehit, Waliem.

(3) Ajamaru (Cowan 1957a, 1957c), Asli-Sidi, Maibrat, Aitinjo.

(4) Kapaur (also called Iha) (Anceaux 1958), Baham (also called Patimuni) (Anceaux 1958), Karas (Anceaux 1958).

It will be noted that Faranjao, Mairasi, and Etna Bay have been included in the first subgroup. These languages seem to be most closely related to Manikion and Mantion from which they are separated by a solid block of AN languages to the northwest.

The following are some of the etymologies which indicate the affiliation of the Etna Bay group to the Western New Guinea family in general and the first of the subgroups enumerated here in particular. Entries from the Etna Bay group are given first and separated by entries from the other languages by a colon.

1. belly Faranjao (*ne*)*we* '(my) belly': Mansibaber (*m*)*ifa* 'body', Amberbaken *ifu*. (Mansibaber has an *m*- prefix on almost all nouns.)
2. black Etna Bay (*ka*)*sa**fa*: Maibrat *safi*, Ajamaru, Aitinjo, Mogetemin *safe*. That Etna Bay *ka-* is a prefix as can be seen from (*ka*)*kase* 'red', (*ka*)*sumu* 'heavy', etc.
3. cold Mairasi *argiri*, Faranjao *arjeri*: Manikion *tukurid*, Amberbaken *toguri*. (*r* in Etna Bay languages frequently corresponds to *t* or *d* in other languages.)
4. to come Faranjao *mbuo*: Ajamaru, Seget, Madik, Waipu, etc. *ma*, Jahadian *mo*. (Etna Bay *mb* corresponds to *m* in other languages.)
5. day Mairasi *arawo*: Moi *dewe*, Kampong-Baru *tio*
6. to die Etna Bay *are*: Amberbaken *eut*
7. dog Etna Bay *ansi*, Mairasi *asi*: Mansibaber (*m*)*es* Manikion, Mantion (*m*)*ihi*
8. dry Mairasi *foa*: Mantion *efi*, Amberbaken *ap*
9. ear Mairasi *βira*, Etna Bay *eφura*: Kalabra (*te*)*fit* '(my) ear'
10. to eat Mairasi, Faranjao *oro*: Manikion (*b*)*it* ('eat!' *b* is second person singular pronoun), Waipu (*n*)*at* 'I eat', etc.

11. fire Etna Bay *iboro*, Mairasi, Faranjao *iworo*: Madik *but*, Karon *bot*
12. to fly Etna Bay *phi*: Meninggo *ofu*, Mansibaber *ofu*
13. foot Mairasi (*ne*)*qoro* ‘(my) foot’, Faranjao (*ne*)*oro* ‘(my) foot’: Baham *kweit*, Karas *ko-or*, Mansibaber (*m*)*ukueda*, etc. Mairasi *q*, (glottal stop), Faranjao zero, correspond to Etna Bay *k* and presumably derive from earlier *k*.
14. to go away Mairasi *itai* ‘go away!’: Manikion (*b*)*eta*, Mantion (*b*)*ita* ‘(you) go away!’
15. hand Mairasi (*ne*)*rowo* ‘(my) hand’, Faranjao (*ne*)*roβo* ‘(my) hand’: Kalabra (*ne*)*tefo* ‘(my) hand’
16. lip Mairasi, Faranjao (*ne*)*mbiara* ‘(my) lip’: Amberbaken *imet*; Konda (*pa*)-*meri* (*pa* means ‘mouth’)
17. moon Mairasi, Faranjao *usira*: Meninggo (*m*)*est*, Mansibaber (*m*)*est*, (*m*)*esta*, Tehit *sirou*, Konda *suri*, Jahadian *huro*
18. rain Etna Bay *ghamu*, Faranjao *ijamu*, Mairasi *yamu*: Ajamaru, Aitinjo, etc. *om*
19. root Mairasi *φara*: Kapaur, Baham *pur*, Moraid *pere*
20. shoulder Etna Bay *umburu*: Seget *madu*, Jahadian (*ne*)*madi* ‘(my) shoulder’
21. skin Faranjao *oreiya*: Puragi *atai*, Kampong-Baru (*na*)*re* ‘(my) skin’
22. snake Mairasi, Faranjao *ambere*: Inanwatan *meto*, *medo*, Solowat, Itigo, Bira *medo*
23. to stand Mairasi *isai*: Manikion *esa*
24. sun Etna Bay, Mairasi, Faranjao *tende*: Seget *tale*, Kalabra *til*, Barau *itane*, etc.
25. sweet Etna Bay *ivi*, Mairasi *ifi*, Faranjao *iwi*: Mor *iaba*
26. tail Etna Bay (*na*)*suru*: Manikion, Mantion (*me*)*sera*
27. wet Mairasi *atero*, Faranjao *atoro*: Amberbaken *dot*

There are also important pronominal resemblances. The second person singular absolute pronouns Etna Bay *ne(mi)*, Mairasi, Faranjao *ne(me)*, possessives Mairasi *ne-*, Etna Bay *ni(mbana)* may be compared to Amberbaken, Madik, Karon *nan*, Waipu, Moi, Waliem *nin*, Ajamaru *nyio*, Aitinjo *nio*, etc. Such second person singular pronouns in *n* are uncommon in New Guinea outside of the Western family. This is also true of the third person singular and plural pronouns in *n*. Third person singular Etna Bay *ne(mi)*, Mairasi *nini*, Faranjao *nai* resembles Karon *ne*, Manikion *ena*. The third plural pronouns Etna Bay *ne(nggi)*, Mairasi *niqui*, appear to go with Asli-Sidi *nio*, Ajamaru, Aitinjo *ana*, etc. There is also recorded a second person possessive prefix *ka-* in Faranjao which agrees with Kapaur *ko* ‘thou’.

The next major group to be considered is the North New Guinea stock. The western languages coincide with those in Cowan's 'second large grouping' (Cowan 1957*b*). However Cowan's group stops at the political border between former Dutch New Guinea and the Australian mandated territory to the east. This is hardly likely to be a linguistic boundary and indeed Cowan records the judgement of Capell (1954: 11) that the Vanimos of Australian New Guinea is the same language as Sko in West Irian. The Northern group extends far to the east where it encounters a sharp linguistic boundary with the Northeastern subfamily, a boundary already recognized by Capell in principle. The Ndu-Kwoma subgroup of the Northern family was included too late to be incorporated in the following treatment. These and other languages not assigned here to the seven major New Guinea subdivisions will be treated later.

In the following listing of languages, the Northern stock is divided into five major subfamilies in roughly west to east order. For three languages, Siaute, Nori, and Apris, the evidence, while sufficient to assign them to the family as a whole, is not adequate for subgrouping. For all of the languages in the first two groups there was material in Anceaux's notebooks and once more this fact has not been listed separately.

(1) Sentani group: Sentani (Bink K.508; Moolenburgh K.511; van der Sande K.512; Cowan K.509, 1965*b*), Nafri, Tanahmerah II (in distinction from another Tanahmerah to be mentioned later), Nimboran (Schneider K.484; Cowan K.430; Anceaux 1965), Gresik (Cowan K.430), Kemtuk (Cowan K.430), Kuangsu (Cowan K.430), Waibron Bano-Demenggong (Cowan K.430), Demta (Cowan K.430), Mekei (Cowan K.430), Boven Tor (Cowan K.430), Kwesten (Cowan K.430), Mawes (Cowan K.430), Kaure, Sause.

(2) Tami group: Sko (also called Seko) (Moolenburgh K.507; Cowan K.430, K.506), Sangke (Cowan K.430), Arso (Cowan K.430), Njao (Cowan K.430), Wembi (Cowan K.430), Skofro (Cowan K.430), Ampas (Cowan K.430), Waris (Cowan K.430), Vanimos (Thomas 1941), Kilmeri (Sherman K.887; Capell 1954: 12), Amanab (S).

(3) Arapeshan: Arapesh (Fortune K.845; Laycock 1965*a*), Kombio (S), Mountain Arapesh (S), Torricelli (S), Bambita (S), Wam (S), Yambes (S), Kavu (Klaffi and Vormann K.924), Valman (Klaffi and Vormann K.924; Spölgren and W. Schmidt K.926; W. Schmidt K.925).

(4) Murik group: Murik (J. Schmidt K.902), Angoram (Laycock 1965*a*; Thurnwald 1934 = Tjimundo). Tshamberi (Fortune K.845), Kambot (Laycock 1965*a*).

(5) Monumbo group: Monumbo (Vormann and Scharfenberger K.899; Höltker 1964), Lilau (Capell K.815), Bosngun (Capell K.815), Nubia (Capell

K.815), Makarob (Capell K.815), Igom (Capell K.815), Gamai (Capell K.815), Watam (Pöch K.928; Capell K.815), Tanggum (Capell K.815), Murusapa (Capell K.815), Anaberg (Capell K.815), Atembre (Capell K.815), Gapun (Höltker K.861).

(6) Unclassified: Siaute (Wilkes K.913), Nori (Wilkes K.906), Apris (anon. 1922–3).

In the following word list languages are cited in accordance with the foregoing sixfold division. Cowan (1957*b*) has already presented evidence linking the first and second of these groups.

- \* 1. above (1) Demta *op* (2) Ampas, Waris *op* ‘sky’
- 2. belly (1) Waibron Bano-Demenggong, Mekei *anu*, Boven Tor *unu*, Kwesten *un* (2) Kilmeri *el*, Njao *aor* (3) Valman *an*
- 3. blood (1) Nimboran *king* ‘blood, red’, Gresik, Kemtuk *kin* ‘blood, red’, Kuangsu *king*, Mekei *kin* (2) Njao *kenani*, Wembi *kengga* ‘red’
- \*4. bone (1) Nimboran *dɔng*, Gresik, Kemtuk *don*, Kuangsu *dɔng*, Mekei *den*, Kwesten *ren* (5) Monumbo *irun*
- 5. bow (1) Sentani *fəla*, Nimboran *pro*, Gresik *pra*, Kemtuk *pre*, Kuangsu *para*, etc. (2) Kilmeri *pareawari*, Arso *fare* (4) Murik *panein*
- 6. branch (1) Nimboran, Kemtuk *kali*, Gresik, Kuangsu *kari*, Mekei *kala* (2) Arso *kar* (3) Valman *kolo* (4) Makarob *akari* ‘arm’, Gapun *akan* ‘arm’. (‘Arm’ and ‘branch’ are frequently the same words in languages of this area.)
- 7. breast (1) Sentani *nime*, Nafri *nime* (3) Valman *nyimi*, Arapesh *nyum(ab)* (*ab* is a suffix in the noun class system of Arapesh), (5) Monumbo *nim*, Lilau *nima* (6) Siaute *nime*
- 8. to burn (1) Sentani *honə* (2) Kilmeri *suna*
- 9. to clean (3) Valman *mentyi* (5) Monumbo *mundigak-(tset)* ‘cleaning (make)’
- 10. crocodile (2) Kilmeri *wari*, (4) Murik *warem* (6) Nori *waroma*
- 11. to cut (1) Sentani *akənə* (5) Monumbo *kinat* (6) Apris *akanani*
- 12. to drink (2) Sko *memu*, Arso *müy*, Sangke *mea* (5) Murusapa *umam*, Gamai *am*, Tanggum (*niam*)*mi* ‘(water) drink’, Atembre *ami* ‘eat, drink’, Anaberg (*kpa*)*mi* ‘(water) drink’ (*mi* alone means ‘to eat’)
- 13. dry (1) Sentani (Western dialect) *kəɾəngkəɾəng*, Demta *kakere*, Kwesten *karkara* (4) Murik *kakran* ‘to dry’ (transitive)
- 14. to eat<sub>1</sub> (1) Nimboran, Gresik, Kemtuk, Kuangsu, Mekei, etc. *dam* (4) Kambot *sem* (5) Makarob *tama*
- 15. to eat<sub>2</sub> (1) Kaure *mane* (4) Angoram *aməng*, Murik *mön*

16. eye (1) Gresik *nam*, Kemtuk *numu* (2) Wembi, Waris *nof*, Skofro *nop* (3) Arapesh *nabe(p)*, Yambes *nambep*, Torricelli *nambep*, Kombio *nambæp*, Urat *mbep*, Kavu *nambas* (5) Watam *namak*, Bosngun *lamak*
17. feather (3) Valman *okul* 'hair' (5) Monumbo *okul* ('hair' and 'feather' are usually the same word in these languages)
18. fire (1) Nimboran *hake* 'torch', Uria *syauk* (3) Valman *aseka* (5) Bosngun *səghak*, Watam *zak*
19. foot (1) Sentani (Central) *oro* (*odo* and *oto* in other dialects), Demta *ari* 'leg' (3) Kavu *ariu* (5) Nubia *ruε*, Gamai *ɔr*, Watam *or* (6) Siaute *iro* 'leg'
20. head (1) Kwesten *bar*, Sause *baqar* (2) Kilmeri *pagu*, Arso *bagar*, *beger*, Wembi *mbangger*, Skofro *mbangger*, Ampas *baghe* (3) Arapesh *berag*, Kavu *bagiram*, Mountain Arapesh *bagram* (5) Bosngun *pangən*, Watam *pangan*
21. high (1) Kwesten *bwarbwara* 'long', (3) Valman *vur*
22. long (2) Arso *kur* (5) Makarob *ikwar(imu)* (Makarob *imu* is suffixed to most of the quoted nominal and adjectival forms.)
23. house (1) Kaure *ba*, Sentani *obe* 'young man's house' (2) Sko *pa*, Njao *fa* 'nest' (5) Anaberg *bu*, Atemble *bwi* (6) Nori *bau*
24. leaf (1) Sentani *fe* (2) Arso *fiei*, Njao *feye* (6) Nori *pe*
25. light<sub>1</sub> (adj.) (1) Nafri *fafxɔ* (2) Wembi *fafka*
26. light<sub>2</sub> (adj.) (1) Boven Tor *forera* (2) Kilmeri *pera* (3) Valman *pal*
- \* 27. louse (1) Tanahmerah II *ming*, *min*, Sentani *mī*, Demta *ami* (6) Siaute *imum*, Apris *emana*
- \* 28. meat (1) Nimboran, Kuangsu *ning*, Demta *nini*, Kwesten *nin*, Mawes *enan* (2) Sko *na*, Wembi, Skofro *nenggir*, Ampas *nighi* (3) Murik *nagun*
29. moon (1) Sause *uese* 'star' (2) Kilmeri *wais*, Waris *weis*, Wembi, Skofro, Ampas *ues*, Arso *wes*
30. mosquito (2) Arso *meing*, *ming* (3) Kavu *amungau* 'fly' (6) Nori *emeni*
31. mountain (1) Sentani *mɔxɔ*, *moko*, Nafri *məxɔ* Tanahmerah II *məkɔ* (5) Atemble *mag*, Anaberg *mega* 'stone' ('Stone' and 'mountain' are frequently the same words.)
32. mouse (2) Sangke *sungkri* 'mouse, rat', Skofro *asanggər* (3) Valman *singir* 'rat'
33. new (1) Sentani *nəmə*, Nafri *nimu*, Tanahmerah II *neme*, Nimboran *iniim*, Waibron Bano-Demenggong *nim* (2) Njao *nomu*, Ampas *nəməi*, (3) Arapesh *namu*
34. nose (1) Sause *misik* 'mucus', Boven Tor *mase* (2) Ampas *mosoi*, Waris *mos* (3) Mountain Arapesh *mucuh* (4) Angoram *masik*
35. old (1) Central Sentani *patia* 'old man', Mekei *petüe* 'old man', Nafri *batua*, Tanahmerah II *petua* 'old man' (4) Murik *patengo*

36. palm of hand (1) Sentani *fe* (3) Valman *vi*
37. red (1) Boven Tor *berbere*, Kwesten *birbir* (5) Monumbo *purapura*
38. river (1) Sentani *wi*, Mawes *we*, Uria *uea* (6) Siaute *woi*
39. road (1) Nimboran *tab*, Gresik, Kemtuk, Kuangsu, Mekei *tap* (5) Bosngun *tɔup*, Nubia *tiap*, Makarob *tuap(imu)*, Gamai *taup*
40. short (1) Mekei *tambutə* (2) Njao *timer*, Kilmeri *smori* (3) Valman *tambar*
41. shoulder (1) Central Sentani *dəmə* ‘wing’, Kemtuk, Kuangsu *tabang* ‘wing’, Waibron Bano-Demenggong, Mekei *tambang* ‘wing’ (5) Monumbo *tsombi* (6) Nori *tomu* (‘Wing’ and ‘shoulder’ are frequently the same word in these languages.)
42. soft (1) Sentani *malə*, Nafri *mare*, Nimboran *marema* (3) Valman *malei*
43. sour (1) Nafri *mani* (5) Monumbo *manging*
44. to stand (1) Mekei *asü* (3) Arapesh *atu* ‘stand up’ (5) Makarob *tyu* (6) Siaute *atu*
45. to steal (3) Arapesh *kum* (5) Bosngun *kamba*, Nubia *gamba*, Atemble *kabde* (6) Siaute *kupi* ‘to take’
46. stone (1) Nimboran, Kuangsu *domuo*, Gresik *dum*, Kemtuk *dumu*, Waibron Bano-Demenggong *domo*, Mekei *dəmə* (3) Valman *tomul*, Kavu *utam*, Arapesh *utom*, Urat *wutom*
47. sun (1) Boven Tor *guwer*, Kwesten *kwer* (5) Igom *nggaara(ka)* (almost all nouns cited in Igom have a *-ka* suffix), Tanggum *ghaar*, Anaberg *gəra*, Atemble *gar*
48. unripe (1) Central Sentani *nani* ‘raw’ (2) Sangke *nono* (3) Arapesh *ninabei*
49. vagina (3) Arapesh *uruh* (5) Monumbo *iir*
50. white (1) Nimboran *kekruab*, Kuangsu *kəkrap* (4) Murik *kakrep*.

Since grammatical information regarding almost all of the languages in this group is limited to pronouns, it is not surprising that the evidence linking the subgroups is confined to pronominal forms. The most important is the existence of a third person pronoun of the type *mV* or *mVn*. A typical example is Watam *min* third person absolute pronoun both singular and plural. These and other pronominal forms cited here are largely confined to the Northern group and occur only sporadically elsewhere except that a second person *w* is not uncommon in the Western languages and *g* first person in the Northeastern.

1. First person singular: (1) Nimboran *ngo*, Kuangsu *nga*, Waibron Bano-Demenggong, *kaqu*, Mekei *kat* (2) Arso, Ampas *ka*, Skofro *ki*, Kilmeri *kwo* (5) Makarob *kö*, Igom *ku*, Gamai *aka*, Watam *yak*, Tanggum *ku*, Nubia *nggɔ*, *kö*, Bosngun *nggɔ*, Monumbo *ek*, Lilau *iki*

2. Second person singular (1): (1) Kemtuk *mot*, Mekei *umot*, Boven Tor *mey* (2) Sko *me*, Sangke *me* (4) Murik, Angoram *mi* (5) Bosngun, Nubia *mɔ*
3. Second person singular (2): (1) Demta, Nafri, Tanahmerah II, Sentani *we* (4) Kambot *wun* (5) Gamai *wu, u*, Watam *u*
4. Third person pronoun: (1) Nimboran *m*, element common to all genders and numbers of third person bound subject pronoun, Sentani *mi* third person dual and plural bound object pronoun (2) Sko *me-* his, her, their in kinship terms (3) Arapesh *amun* they (masc.) (4) Murik *mön* 'he, she', *moa* 'they', Chamberi *min* 'he, she' (5) Watam *min* 'he, she, they'. Nubia, Makarob *mɛ* 'they', Bosngun *mwe* 'they', Monumbo *ming* 'they (masc.)', Anaberg, Atemble *mɛ* 'they'.

The next large grouping to be treated, the Southwestern, might also be called Marind-Ok after its two most important subdivisions. Ok is the name proposed by Healey from the common word for 'water' in the Kati and Telefomin languages. In addition to these languages the Awju group to the west of Kati, which incidentally has forms similar to *ok* for 'water', and a Tirio group spoken some distance to the east of Marind, should be included. I have also tentatively included the Kukukuku even farther east of the main body of the Southwestern Group. The relatively few Kukukuku entries are, I believe, due to the sparse documentation available, confined to a few short vocabularies but the evidence as far as it goes is rather striking. There follows an enumeration of sources for languages of this subfamily. In particular the Kati language of the Ok subdivision and the Boazi language of the Marind subdivision are represented by rather numerous vocabularies which are only dialectally different or even the same dialects under separate names.

(1) Tirio group: Tirio (Riley K.550), Tagota (Chalmers K.619), Pisirami (Riley K.636), Arama (Williams 1936), Anima (Williams 1936).

(2) Marind group: (a) Marind proper (also called Tugeri), (Drabbe 1955; Geurtjens K.520; Kolk and Vertenten K.524), Gawir dialect (Drabbe 1955, K.434), Boven Mbian dialect (Drabbe 1955, K.434) (b) Boazi (Drabbe 1955, K.434), Dea (Capell 1954:52), Konmak = Village Y (Austen K.533; Rentoul K.596), Lake Murray (Murray K.601), Jabga (Nevermann K.444), Babwa = Village Z (Austen K.533), Gabgab (Nevermann K.444), Biak = Village X (Austen K.533) (c) Jaqai (Drabbe 1955, K.434), Sohur (Nevermann K.514)

(3) Ok group (a) Digul (Geurtjens K.520), Aran (Capell 1954), Niinati (Drabbe K.434), Metomka (Drabbe K.434), Lower Muiu (Austen K.533) Muju (A. Schoorl n. d.) Kandam (Austen K.533), Iongom (Austen K.535), Upper Tedi (Austen K.535), Awin (Austen K.535), Eastern Tedi (Austen K.535),

Western Donaldson (Austen K.535), Upper Fly (Austen K.535), Upper Muju (Keyzer in Austen K.481) Marapka (Austen K.533). (b) Telefol (also called Telefomin) (Alan Healey 1962, 1964; Phyllis Healey 1965a, 1965b; Capell K.814, 1954:52; Kirschbaum K.824), Unkia (Champion 1926–7), ‘Plain Country’ (Champion 1926–7) (c) Mandobo (A), Dumut (Drabbe K.434), Kaeti (Drabbe 1959), Wambon (Drabbe 1959).

(4) Awju group. Awju Sjiagha (Drabbe K.456, 1959), Awju Jenimu (called Oser by Nevermann) (Drabbe K.456, 1959; Nevermann K.500), Awju Pisa (Drabbe K.456, 1957, 1959)

(5) Kukukuku group. Kukukuku (Chisholm K.598), Ashavi (Humphries K. 599), Madinava (Humphries K.600)

In the following word list items are not included which are common only to subgroups 3 and 4 (Ok and Awju) since these are quite numerous.

1. bat (1) Tirio *pitite* (2) Marind *pud* (4) Awju Sjiagha, Awju Jenimu *piriri*
2. to be<sub>1</sub> (2) Jaqai *tVbV* (variable vowels depending in gender and number of the subject) (3) Telefol *tebe(min)* ‘become, appear’
3. to be<sub>2</sub> (2) Jaqai *ne*, Marind *in* (auxiliary verb) (3) Telefol *n(in)* ‘be, reside’
4. beard (2) Boazi *meitu*, Konmak *moitu* ‘whiskers’, L. Murray *motu* ‘whiskers’ (3) Dumut *matut*, Kaeti, Wambon *matit* (4) Aghu *masü*, Awju Pisa *masi(rō)* (*rō* means ‘hair’)
5. bird (1) Tirio *isupe* (2) Marind *uzub*
6. to bite (1) Tirio *su* ‘tooth’ (2) Boazi, Konmak *se*, Biak *tsi* (3) Wambon *atigo*, Dumut *atinggo* (4) Awju Sjiagha, Jenimu *ati*, Awju Pisa *su*, Aghu *asi*
7. bitter (2) Boazi *kagha* (3) Niinati *ko-ok*, Metomka *kok*, Dumut *koko*
8. blood (1) Tirio *adada* (2) Marind *do*
9. bone (1) Pisirami *toto* (2) Upper Fly *tu*
10. breast (2) Kandam, Marapka, Niinati, Metomka *muk* (5) Madinava *muk*
11. calf (of leg) (1) Pisirami *caron*, Tagota *sara* (3) Unkia *serip* ‘leg’
12. child (2) Jaqai *mak* (4) Aghu *amoko* (5) Madinava *imega-kaivagu*
- \*13. to come (2) Marind *man* (3) Upper Muju, Digul, Niinati, Metomka *mene*, Mandobo *mend*
14. dark (1) Tirio *dinaia* (2) Marind *dino*
15. to die (2) Boazi *ani* (3) Digul *ain*, Metomka *ane*
16. to drink (1) Tagota *iemo*, Tirio *aiamea* (2) Takai *mi* ‘water’, Sohur *mui*, *mi* ‘water’ (3) Kaeti *emi*, Wambon *mi*, Digul *mu* ‘liquid’ (4) Awju Sjiagha, Jenimu, Pisa *mi*, Aghu *mi*, Oser *mwi*
17. dry (1) Tirio *kakaku(gaga)* (For *gaga* as suffix compare *team(gaga)* ‘sour.’) (3) Upper Muju *koknen*, Niinati *kok*

18. ear (2) L. Murray *kumbit*, Marind *kambet* (3) Digul *kembe*, Metomka *kende*, Mandobo, Kaeti, *kere(tap)* (*tap* means ‘hole’) (5) Ashavi *kata*, Kukukuku *kaitu*, Madinava *kada*
- \*19. earth (2) Marind *makan* ‘earth, underneath’, Jaqai *mokon* (3) Telefol *bakan* ‘ground’ (4) Awju Sjiagha, Jenimu *moka* ‘earth, underneath’, Awju Pisa *mokā*, Aghu *makā* ‘underneath’
20. egg (2) Marind *kana* (4) Awju Sjiagha *gena*, Awju Jenimu *gana*
21. fat (n.) (2) Marind *kaber* (3) Digul *kob*, Niinati, Metomka *kop* (4) Awju Sjiagha and Jenimu *kepe*
- \*22. fire (2) Boazi *te* (3) Awin *de, di* (5) Madinava *da*
23. flower (2) Boazi *tetek* (3) Kandam *atet*, Niinati *tet*
24. forehead (2) Marind *nani* ‘face’, Boven Mbian *nenah* ‘forehead, face’, Gawir *nanih* ‘face’ (4) Oser *nene*
25. fruit (2) Marind *mokom* (3) Wambon *mok*
26. heavy (2) Marind *kanir* (3) Digul *kun*, Dumut *kakun*
27. head (2) Jaqai *muku* (3) Dumut *muk* ‘brains’, Kaeti *mök* ‘brain’ (5) Madinava *maha*
28. husband (3) Telefol *imak* (5) Madinava *imaca*
29. jaw (2) Marind *ete* (4) Aghu *te*
30. lip<sub>1</sub> (1) Pisirami *tapar*, Tagota *taper*, Tirio *diware, taware* ‘mouth’ (no doubt the same word recorded two different ways) (2) Marind *utup* (3) ‘Plain Country’ *tobone*
- \*31. lip<sub>2</sub> (3) Lower Muiu *meia(kat)* (*kat* means ‘skin’) Digul *meya(kat)* (5) Ashavi *mea*, Madinava *mega*, Kukukuku *mia* ‘mouth’ (cf. Indo-Pacific ‘mouth’)
32. liver (2) Marind *on* (3) Kandam *oni*, Marapka *onyi* (4) Aghu *ũ*
33. long (2) Jaqai *pe* (4) Aghu *pi*
34. lungs (2) Gawir *ahah* (3) Niinati, Metomka *okok*
35. to make (2) Marind *kam* (3) Niinati, Metomka *kamee*
36. man (1) Tirio *tanim* (3) Telefol *tanum*
37. moon (2) Jaqai *kamo* (5) Ashavi *kaamia*, Kukukuku *kama*
38. mouth (2) Boazi *mangkangka*, Konmak *manganga*, Biak *mangat* (3) Metomka, Niinati, *monggot*, Mandobo *mangot*, Dumut *mangkot*, Kandam *mongo(tem)* (*tem* means ‘hole’) (5) Madinava *manga*
39. nail (of finger) (2) Boven Mbian *tek* (3) Digul *tuk*, Niinati *duk* (4) Awju Sjiagha *dogho*
40. new (2) Marind *noh*, Jaqai *nogoke* (4) Awju Sjiagha *noghonggo*
41. nose (2) Biak *megi* (5) Ashavi *imagwo*, Kukukuku *imuk*
42. root (2) Marind *te*, Gawir *itit* (4) Awju Sjiagha *te*, Awju Pisa *tate*, Aghu *tete*
43. rope (2) Jaqai *kikiner* ‘sinew’ (4) Awju Pisa, Aghu *kiki*

44. to run (2) Boazi *oko* (3) Kaeti, Wambon *ko* (4) Aghu, Awju Pisa *gho*, Awju Sjiagha and Jenimu *xo*
45. saliva (2) Boazi *kasi*, Konmak *kussi*, Marind *kase* (3) Dumut *katet*, Kaeti, Wambon *katet* (4) Aghu *ghasi*, Awju Sjiagha *xate*
46. to say (2) Jaqai *bak* (3) Telefol *bokoo*
47. to see (2) Marind *idih* (3) Kaeti *itigio*, Dumut *eteko*
48. short (2) Jaqai *domakae* (3) Telefol *duumat*, *duumaak*
49. shoulder (2) Boven Mbian, Gawir *muk* ‘upper arm’ (3) Kaeti *mak* (4) Awju Pisa *makie*
50. to sleep (1) Tirio *mua* (2) Marind *nu*
- \*51. to smell (1) Tirio *imsiga* (n.) *intere* (v.) (2) Gawir *imu* (n.) (3) Kaeti *umo*, Niinati *imone*
52. star (1) Tagota *mano* (2) Jaqai *mind*, Marind *mandau* ‘moon’ (3) Marapka *mindong*, Muju *minod*, (4) Awju Pisa, Aghu *mī*, Awju Sjiagha and Jenimu *mi*
53. to steal (1) Tirio *nono* (3) Metomka *niine* ‘seize’
- \*54. stone (1) Tirio *guma* (2) Konmak *kum*
55. tooth<sub>1</sub> (2) Marind *manggat*, Jaqai *mangger* (4) Awju Pisa and Jenimu, Aghu *maga* (5) Ashavi *mangya*, Kukukuku *menyi*, Madinava *manga*
56. tooth<sub>2</sub> (1) Pisirami, Tagota *kama* (2) Lake Murray, Babwa *kama*
57. tree (1) Tirio *kesowa* (4) Aghu *kesaghe*
58. river (1) Tirio *gawa* (5) Ashavi *hauwa*
59. wing (2) Boven Mbian *pur* (3) Niinati *purukap*, Kaeti *mborō*, Wambon *mburui*, Metomka *mburu*
60. wood (1) Tagota *atiati* (2) Marind *de* ‘tree, wood’ (3) Kandang, Marapka, Niinati, Metomka, Telefol *at* ‘tree, wood’ (4) Oser *dadi*

Thanks to the work of Dutch linguists in the Marind, Ok, and Awju languages and research on Telefol by the Healeys, we are much better informed regarding their grammatical structure than is usually the case for Indo-Pacific languages and it will therefore be possible to point to other phenomena than the personal pronouns. The most striking is the following. As will be mentioned in more detail later, grammatical gender is a widely distributed Indo-Pacific characteristic and it is very commonly expressed by vowel alternations. The Marind and Ok language groups share one specific form of this pattern, by which masculine singular is indicated by *e*, feminine singular by *u* and plural for either gender by *i*. It occurs in various aspects of the language but will be illustrated here from the third person pronouns. Examples in the Marind group are Marind *anep* ‘he’, *anup* ‘she’, *anip* ‘they’, Boazi *ndene* ‘he’, *ndunu* ‘she’, *ndini* ‘they’, which are to be compared with

Niinati *ye* 'he', *yu* 'she', *yi* 'them' and similar forms in the Ok languages. The exact correspondence of the two copula verbs in Jaqai, a Marind language, and Telefol seen in the foregoing lexical entries for 'to be' is also striking.

In regarding the ordinary pronominal forms for the Kukukuku languages the only information in print is Capell's note that *na* is the first person pronoun in the dialects of Obi and Kaviropi (Capell 1954: 61). In the Tirio group Riley gives the complete set of independent pronouns for Tirio itself. As will be evident from the following comparisons these pronouns show clear correspondences with other subgroups of the Southwestern stock. The second person plural pronoun in *z* is particularly significant because it is not found elsewhere in Indo-Pacific.

1. First person singular (1) Tirio *nogao*. The one pronoun recorded for Pisirami of this subgroup is *nog* 'thou'. I strongly suspect that it is really the first person singular pronoun, a common reversal under unfavorable conditions of elicitation (2) Marind *nok*, Jaqai *anok*. The remaining subgroups have *n* forms without final *k*. These are very common throughout Indo-Pacific.

2. Second person singular (1) Tirio *ogao* (2) Marind *oh*, Jaqai *ak*, Boazi *gho* (3) Muju *kep*, Telefomin (Capell) *kap*, Dumut, *nggu(p)* (*p* is a suffix found in all pronouns in Dumut), Wambon *nggo* 'thy' (4) Awju Sjiagha *go*, Awju Jenimu and Pisa, Aghu *gu*

3. Third person singular (1) Tirio *igi* (2) Marind *ehe* 'this' (masc. sing.) (Marind *h* often corresponds to *k* elsewhere). (3) Kaeti *ege* (4) Awju Sjiagha *egi*, Awju Jenimu *egi*, Awju Pisa *eki*

4. Third person singular (2) Marind *epe* 'that' (masc. sing.) (4) Aghu *efe*

5. Second person plural (1) Tirio *zogao* (2) Boazi *zu*, Marind *z*- objective bound form

We turn to the Southern subgroup which might be called Kiwaiic after the best known language of the family. It includes the Miriam language of the Eastern Torres Straits Islands between New Guinea and Australia. Miriam shows a special relationship to Jibu, Kunini, and Oriomo on the south New Guinea coast and is therefore included in the same subgroup as these latter languages. The westernmost part of subgroup (7) consists of the languages of Frederick Henry Island and the adjacent mainland and is thus split off from the remaining Southern languages by the intrusion of Marind. Some of the languages of subgroup 7 have borrowed extensively from Marind, in particular Jab and Makleu.

(1) Kiwai (Riley K.550; Riley K.636; Wurm K.595), Ipikoi (Chance K.578), Hibaradai (Austen K.574), Hiwi (Austen K.575), Urama (Herbert K.631),

Iwainu (Woodward K.579), Goaribari (anon. K.587; Ray K.547), Kerewa (Woodward K.588), Turama (Herbert 1914–15), Era River (Herbert 1914–15), Mawata (Ray K.636), Domori (Riley K.550), Wabuda (Riley K.550), Sisiamé (Riley K.550; Ray K.547), Pirupiru (Riley K.550) Dibiri (Woodward K.567), Karami (Flint K.583), Eme-eme (also called Pepeha) (Johnston K.615), Mahigi (Cridland K.602), Tureture (Riley K.550), Tapapi (Austen K.621) (called Tapari in Klieneberger), Buniki (Ray K.547)

(2) Barika (Johnston K.562), Dugeme (Saunders K.569), Karima (Johnston K.706), Foraba (Lind K.571), Ro (also called Keai or Worugi) (Lind K.616), Sesa (Chance K.618), Tumu (also called Dumu or Kibiri) (Chinnery K.570, Bevan K.438)

(3) Kunini (Riley K.550), Masingara (Ray K.548), Oriomo (Riley K.550), Jibu (Murray K.580), Miriam (Ray K.636), Gijara (Lyons K.572)

(4) Bugi (Chalmers K.563), Dabu (Riley K.550; anon. K.565), Dibolug (Austen K.568), Kibuli (Karius K.585), Ngamai-iki (also called Tupadidi) (Lyons K.614), Mbayaka (also called Jindabira) (Lyons K.606), Agob (Lyons K.556)

(5) Parb (Riley K.550), Sanana (Ray K.548), Dungerwab (anon. K.554), Dorro (Riley K.550), Dapo (Lyons K.542), Nombuio (Lyons K.542), Noraia (Lyons K.542), Potaia (Lyons K.542), Tunjuamu (Herbert K.620), Nenum (also called Wakamara) (Lyons K.613), Karigari (Austen K.584), Moi-e (Rentoul K.608)

(6) Peremka (Riley K.550), Bangu (anon. K.554), Wandatokwe (Lyons K.542), Jiminakana (Rentoul K.581), Nausaku (Austen K.612), Kebanagara (Rentoul K.586), Mani (Nevermann K.444).

(7) Jei (Drabbe K.434; Geurtjens K.437), Toro (Ray K.548), Ngowugar (Nevermann K.444), Kanum (Drabbe K.434; Nevermann, K.444; Boelaars K.427), Moraori (Drabbe K.434; Nevermann K.444; Boelaars K.427), Komelom (also called Mombum), (Geurtjens K.437; Drabbe K.478), Koneraw (Geurtjens K.437), Kimaghama (Drabbe K.472), Riantana (Drabbe K.472) Keladdar (Geurtjens K.437), Teri-Kawalsch (Geurtjens K.437), Ndom (Drabbe K.472), Jab (also called Jelmek) (Drabbe K.465; Geurtjens K.437), Makleu (Drabbe K.645).

A list of probable cognates among these seven subgroups of the Southern subfamily follows. These comparisons are so numerous that the following classes of entries have been eliminated; nearly all those which are found in Indo-Pacific more generally and those involving only subgroups 5 and 6 which are particularly close genetically.

1. ashes (1) Iwainu, Kerewa, Pirupiru, Buniki *tu*o, Kiwai *tuwo*, Domori *tue*
- (2) Sesa *tou* 'lime' (3) Miriam *tibi* (7) Jei *tebetebi*, Moraori *timbwe*

2. back (5) Dorro *demi* (6) Peremka *tāmen* (7) Komelom *temmeni* 'behind'
3. bad (1) Wabuda *isabe*, Domori *sosauebi* (5) Dorro *sapute* 'bitter, sour', Parb *tabud* 'bitter, sour' (7) Moraori *saf* 'bitter, bad', Kanum *sam* 'bad, bitter', Jei *capao* 'bitter'
4. belly<sub>1</sub> (2) Dugeme *kambubu*, Karima *kabubu* (3) Jibu *komu*, Miriam *kem* (4) Bugi *kam*, Agob, Dabu, Kibuli, Kawam *kom*, Dibolug *komo*
5. belly<sub>2</sub> (1) Iwainu, Kerema, Domori, Sisiamé, Buniki, Karami *niro* (6) Peremka *nur*, Tokwasa *nar*, Wandatokwe *nernera* (7) Ngowugar *nar*
6. bird (1) Hiwi, Sisiamé *ipoipo*, Mahigi *buwa* (2) Sesa *paa*, Ro, Bara, Ibukairi *ba* (3) Gijara *poiái* (4) Bugi, Dibolug, Kibuli, Kawam, Ngamai, Mbayaka *pa* (6) Jiminakana *iviov*
7. black (3) Oriomo *timi* 'black, charcoal', Jibu *timi* (7) Jab *temit* (compare (1) Urama *tamai-idiidi*)
8. blood (1) Tapapi *dede* (2) Barika *eta* (3) Kunini *udi* (4) Bugi *teia*, Mbayaka *tia* (7) Ndom *eth*, Jelmek *ato* 'red', Teri-Kawalsch *duddu*
9. bone (3) Gijara *kuja* (4) Dabu *kut*, Kibuli, Kawam *kutra*, Dibolug *kute*, Mbayaka *kuic*, Agob, Ngamai *kuta*, Bugi *kwetr* (5) Dorro *goart*, Parb, Dunger-wab *kwod*, Tunjuamu *guat* (6) Tokwasa *kuart*, Bangu *kuar*, Kebanagara *guer* (7) Keladdar *kadrowa*, Moraori *nggwar*
10. boy (3) Miriam *kebi(le)* (*le* means 'person'), Oriomo *kewar* (6) Peremka *kapar*
11. branch (1) Mawata, Kiwai *atomo*, Sisiamé *atema*, Hibaradai, Wabuda *katomo*, (3) Miriam *tam* (6) Jiminakana *idami*, Bangu *tambia* 'hand'
12. to bury (1) Kiwai *ogubiri* (3) Kunini *gapebora*, Jibu *gope-yarenten*, Miriam (*et*) *kobedi* (7) Jab *gubigubi*
13. buttocks (4) Bugi *kum*, Dabu *kuma* (5) Dungerwab *kwomb* (7) Teri-Kawalsch *cumme*, Kimaghama *cōme(börö)* (compare *cōmedadu* 'anus')
14. cheek (1) Goaribari *tavatava*, Domori *tatamu* 'lower jaw' (4) Bugi *tabe* 'jaw', Dabu *teb* 'jaw' (7) Kanum, Moraori *sama*, Kimaghama, Teri-Kawalsch *cama*
15. child (2) Tumu *pori* (5) Parb *pier* 'boy, son', Dungerwab *pierr* 'son' (7) Jei *por*
16. chin (1) Mawata *baga* 'chin, jaw', Kiwai *baga* (3) Miriam *bag* 'cheek' (6) Bangu *bagi(thomba)* 'beard' (*thomba* means 'hair')
17. to come (1) Urama *ouo* 'come here!', Era River *oua* (5) Dorro *awe*, Keraki *auwe* (6) Peremka *awe* (7) Jab *we*
18. crocodile (3) Gijara *kuri* (5) Karigara *karara* (6) Nausaku *kerera* (7) Kanum *keri*

19. to cry (3) Oriomo *iee*, Jibu *ye* (5) Korro, Parb, Dungerwab *ye* (6) Bangu *ye* 'to shout'
20. deep (1) Era River *amuo* 'long' (3) Miriam *muimui* (7) Riantana *moa*, Keladdar *mowi* 'large'
21. egg (1) Hibaradai *kikop*, Hiwi *kikopu*, Wabuda *kikopu* 'egg, fruit' (3) Oriomo *kəp* 'egg, fruit', Jibu *köpö* 'egg, fruit', Kunini *ku-u* 'egg, fruit' (4) Bugi *kapa*, Dabu *kop*, Agob (*pa*)*kop* (*pa* means 'bird'), Kibuli, Kawam *kopa*, Ngamai, Mbayaka *kapo* (5) Dorro *kop*, Nenium *kopo*
22. excrement (1) Mawata, Kiwai, Domori *ne*, Dorro *na*
23. eye (2) Barika, Dugeme *si* (6) Peremka, Wandatokwe, Tokwasa, Mani *si* (7) Kanum *si*, Ngowugar *ji*
24. to fight (4) Dabu *mok*, Kibuli, Kawam *moka* 'war' (5) Tunjuamu *moko*, Keraki *moku*
25. fire (2) Kibiri *ebani*, Tumu *ibani* (5) Dorro *bengi*, Nenium *bonja*, Nombuio *bəsh*, Moi-e *benji* (6) Peremka, Bangu, Tokwasa *meni*, Wandatokwe *mini* (7) Jei *ben*, *beny*, Kanum *mens*
26. foot (1) Mahigi (*dedi*)*kaba* (2) Ro *kaba(kea)* (4) Dibolug *guabo* (5) Potoia *kabkab*, Nombuio *kobkob*, Parb *kabukab*, etc. (6) Bangu *kabokabo*, Tokwasa *kabkab*
27. to give (3) Jibu *ai* (7) Kimaghama *ieye*, Riantana *ii*, Makleu *ai*
28. hand (1) Hibaradai (*koto*)*pata*, Hiwi (*la*)*pata*, Turama (*to*)*pata*, Mawata, Sisiamé (*tu*)*pata* 'palm' (*tu* means 'hand') (4) Dibolug (*tang*)*pute* (*tang* means 'arm') (5) Tunjuamu *pər* (6) Peremka *pata* 'arm'
29. high (1) Turama *tuturu* 'high, long', Era River *tutu*, Urama, Goaribari *tutu* 'long', Dibiri *tuturuna* 'long' (7) Teri-Kawalsch *tutura* 'long'
30. to hit (5) Parb *toar* 'kill', Dungerwab *turendi* 'strike' (7) Jei *tar*
31. house (2) Kibiri *mi* (4) Bugi *mae*, Dabu, Ngamai, Kibuli, Kawam *ma*, Agob *ma* 'house, village', Mbayaka, Dibolug *mai* (7) Jei *ma*
32. island (5) Dungerwab *koor* (7) Jei *kar* 'earth', Moraori *ke-er* 'earth'
33. jaw (1) Domori *ipu-u* 'upper jaw' (3) Miriam *ibu* 'chin, jaw' (7) Makleu *obo* 'cheek'
34. to know (1) Mawata, Kiwai, Domori etc. *umoro* (3) Oriomo *umre*, Kunini, Miriam *umele* (4) Dabu *umarandangar* (7) Kanum *amara* 'to hear'
35. land (1) Pirupiru *sabo*, Buniki *saboa* 'earth', Hiwi *sobkeri*, Kiwai, Dibiri *sopu* 'earth', etc. (3) Miriam *seb*
36. large (1) Kiwai, Mawata, Sisiamé etc. *auwo* (3) Miriam *au* 'large, broad'
- \*37. leaf (1) Sisiamé, Pirupiru *pori* (2) Barika *iboro* (3) Gijara *poringai*, (4) Kawam *per* (7) Komelom *pur*, Mombum *epur*, Koneraw *bur*

38. left (hand) (1) Mawata *pero*, Kiwai, Domori, Sisiamé *pere* (3) Miriam *ber* (4) Dabu *barr*, *berr*
39. light (n.) (1) Sisiamé *parapara* (4) Dabu *paraparan* ‘white’ (7) Mombum *fera-fera* ‘bright’, Jei, Kanum *pela* ‘white’
40. liver (1) Goaribari, Turama, Era River *beru* (7) Kanum, Moraori *mbur*, Jab *bulo* ‘heart’, Jei *ber(kup)* ‘heart’
41. man (1) Kiwai, Domori, Wabuda, Dibiri, etc. *dubu*, Hiwai *ururubi*, Kiwai *arubi*, ‘people’ (4) Dabu *rabo*, Ngamai *labo* (5) Dorro *darube* (7) Kanum *irebe* ‘person’, Komelom *idub*, Koneraw *irew*, Ndom *ref* ‘person’
42. nail (of finger) (3) Miriam *tanka* (6) Bangu *tanka*
43. navel (1) Goaribari, Hibaradai, Domori, etc. *upuru*, Kiwai *upuru*, *gupuru* (3) Kunini *opolo*, Jibu *kopöro*, Miriam *kopor*, Gijara *kopul* (7) Jei *ipr*, *yipel*
44. neck (1) Pirupiru, Buniki *dopa* (2) Bara *doba*, Sesa *dubatugi*, Ro *dabadigi* (3) Miriam *tabo*
45. night (3) Jibu *serin* (4) Kibuli *tirem* (5) Dorro *serumb*, Nenium *cerum*, Karigari, Moi-e *seram*
46. nose (1) Kiwai, Mawata, Domori, Pirupiru, etc. *wodi*, Turama, Era River, Goaribari *wadi* (4) Bugi *wede*, Dibolug *wide*, Mbayaka *wede* (7) Keladdar *wanda*
47. rain (2) Dugeme *mu* ‘water’, Karima *mowa* ‘river’ (7) Kimaghama *moa*, Keladdar *mowa*, Teri-Kawalsch *muwo*
48. road<sub>1</sub> (1) Kiwai, Mawata, Urama, etc. *gabo* (3) Kunini *gabe*, Miriam *gab*
49. road<sub>2</sub> (2) Barika *ti*, Foraba, Ro, Bara *tu*, Ibukairi *du* (4) Mahigi *idi*, (7) Keladdar *do*
50. root (1) Sisiamé, Pirupiru *sipi* (3) Miriam *sip*
51. saliva (4) Dabu *burme*, Kibuli *bolumi*, Kawam *boluma* (5) Dungenwab, Dapo *berim*, Nombuio, Noraia *berem*, Potaia *beram*, Nenium *borom* (6) Bangu *barim*, Wandatokwe, Tokwasa *berem*
52. sand (4) Bugi *cire* (7) Keladdar *cir*, Koneraw *shire*, Mombum *sir*, Jei *jirojiro*
53. side (1) Mawata, Kiwai *bara* in *bara(hara)* ‘rib’ = ‘side bone’, Goaribari *bari* (3) Miriam *ber*
54. to sit (1) Mawata, Kiwai *omioi*, Urama *emie*, etc. (7) Kanum *mi*, Moraori *öme*
55. skin (3) Miriam *gegur* (6) Kebanagara *gogara* (7) Ndom *krikir*
56. snake (2) Barika, Dugeme *kavu*, Kibiri *kapo* (7) Moraori *kaf*
57. soft (1) Dibiri *boroboro* (5) Tunjuamu *abarat* (6) Mani *porfor* (7) Kimaghama *veröverö*

58. star (2) Ibukairi *pure* (4) Dabu, Kibuli, Kawam *piro*, Agob *paro* (7) Kimaghama *böree*, Teri-Kawalsch *mburrewa*
59. stone (3) Miriam *mat* (7) Komelom *mate*, Koneraw *mate*, Kimaghama *mete*, Riantana *metö*, Keladdar *mate*, Ndom *meet*, Jelmek *mata*, Jab *mate*
60. sun (1) Mahigi *ariarima* ‘daylight’ (3) Jibu *loma*, Miriam *lem* (7) Jelmek *alemu* Jab *alim*, Makleu *olimu*
61. tail (1) Kiwai, Domori, Sisiam *wapo* (3) Miriam *upi* (7) Makleu *wibi*, *ubi*, Jab *übi*, Mombum *pi*
62. thunder (1) Urama *guru* (3) Kunini *gururu*
63. tooth (2) Foraba *sregi*, Ro *sirigi*, Bara *sirige*, Ibukairi *seregea* (3) Miriam *tereg* (5) Parb, Dungerwab *tol* (6) Peremka *tar*, Bangu, Wandatokwe, Tokwasa *ter*, Mani *ser* (7) Kanum *tor*, Moraori *terogh*, Ngowugar *tar*, Keladdar, Teri-Kawalsch *turra*, Koneraw *cire*
64. tree (2) Bara *oru* ‘forest’ (3) Kunini *uli*, Miriam *lu* (4) Kawam *orong* ‘forest’, Dibolug *worong* ‘forest’, Bugi *lu*, Dabu, Kibuli, Kawam *ro* (5) Parb *wel*, Dungerwab *wöle*, Dapo *uel*
65. two (2) Foraba, Bara, Sesa *tamu*, Ro *tambu* (5) Parb, Dungerwab *tumbi*, Tunjuamu *tsumbi*, Agob *rombi*, Moi-e *arombi*, Dorro *rombi*
66. village (1) Hiwi *aba* (2) Foraba *be*, Sesa *pei*, Ibukairi *be*, ‘house’ (7) Jelmek *ebi* ‘house’, Teri-Kawalsch *paya* ‘house’
67. to vomit (1) Kiwai, Domori, Wabuda *mamaru* (7) Mombum *memori* (noun), Riantana *morömorö*, Ndom *murmur*
68. wind (1) Goaribari *uroma*, Karami *urami* (2) Sesa *weri* (3) Miriam *rubo* (4) Bugi *wəlam*, Kawam *wele*, Ngamai *wudlam* (5) Dungerwab, Dapo *wəlam*, Tunjuamu *wulam* (6) Tokwasa *wawar*
69. wing (1) Kiwai, Pirupiru *tamu* (3) Oriomo *tame* (4) Bugi *dramba*, Dabu *tama* (5) Dungerwab, Dapo *damb* (6) Bangu *tomba* ‘shoulder’ (7) Moraori *tomof*
70. woman (3) Miriam *mune* ‘vagina’, Bugi, Ngamai, Mbayaka *mala*, Kibuli, Kawam, Dabu *mara* (7) Kanum *mele*, Jei *menaw*, Makleu *meing*, Mombum *men* ‘vagina’

The grammatical evidence in support of the Southern family does not match the abundance of lexical data. The chief reason for this is, I believe, lack of documentation. Only for groups 1 and 7 is there detailed grammatical information. In groups 2 and 6 only the first and second person singular pronouns are reported and elsewhere our sources are almost as scanty. Between groups 1 and 7 there do not appear to be any specific grammatical common features not found elsewhere. My impression is that Kiwai, from which we have most of our data for group 1, is highly innovating grammatically. To

compare a language like Moraori in group 7 with Kiwai in group 1 is like comparing Icelandic with English or Danish.

There does seem to be common to a number of subgroups, however, a second singular and a third person pronoun. The former has an  $m \sim b$  base perhaps going back to  $mb$ -, actually found in several languages. The latter is also labial but is more likely to originate from an original  $p$  appearing as  $f$  and  $b$  also.  $f$  is never found in the second person or  $mb$  in the third.

1. Second person singular. (1) Hibaradai, Hiwi *eme*, Tupati *ma* (2) Barika *amai* (3) Kunini *ma(ne)* (compare first person singular *a(ne)*), Oriomo *ma(n)* (all other personal pronouns end in *-n*), Miriam, Gijara *ma* (4) Bugi *bea*, Kawam *bungo* (5) Dorro, Tunjuamu *bom*, Parb *pom*, Dungerwab *pom, pomo*, Keraki *bom, bomo*, Karigari *bir*, Moi-e *bagai* (6) Mani *mba, mpa* (7) Jei *bu*, Kanum *mbo, mpo*, Makleu *obe*
2. Third person pronoun. (4) Bugi *bo* (singular and plural), Dabu *bo* (singular; plural not recorded) (5) Parb *pe* (singular and plural), Dungerwab *pe* (singular; plural not recorded), Tunjuamu *be* (singular; plural not recorded) (7) Kanum *pi* (singular and plural), Moraori (*ngga*)*fi* (singular only), Mombum *aanggib* (singular only), Ndom *ef*, Jab, Makleu *ib*.

Bordering the large Northern group on the east is a substantial group of languages occupying a large part of the Madang district. The nucleus of such a group is already recognized by Ray in 1919 (K.651). It is here called the Northeastern subgroup or alternatively Madang. The unity of this group is quite obvious so that, in the present study, treatment will be limited to a listing of languages and sources. Only one language, Bongu, has received detailed grammatical analysis but Capell has provided brief grammatical sketches of several of other languages (K.815).

Langtub (Dempwolff K.892), Panim (Dempwolff K.892), Mis (Dempwolff K.892), Bongu (Hanke K.854, K.855), Gorendu (Ray K.651), Bogadjim (Hagen K.849; Hanke K.850, K.854; Ray K.651), Sungumana (Hanke K.854 = Sungum of Ray K.651), Wuong (Hagen K.930; Ray K.651), Wenke (Hagen K.929), Uom (Schmitz 1958), Jimjam (Schmitz 1958), Burumana (Hanke K.854; Ray K.651), Koliku (Hanke K.854; Ray K.651), Kaliko (Ray K.651), Male (Hanke K.854; Ray K.651), Damun (Ray K.651), Shongu (Ray K.651), Banara (Capell K.815 = Moando of Tranel K.846), Tombenam (Zoeller K.839), Dagoi (Schebesta K.859), Bonaputa-Mapu (Schebesta K.853), Bunubun (Capell K.815), Ulingan (Capell K.815), Vanembere (Capell K.815), Bunu (Dempwolff K.858; Ray K.651 = Saker of Kaspruś K.822), Rempin (Dempwolff K.910; Ray K.651 = A'e of Kaspruś K.822), Englam (Ray K.651), Em (Kaspruś K.822), Ate

(Kaspruś K.822), Kemba (Dempwolff K.885; Ray K.651), Bawaipa (Dempwolff K.847), Misdao (Dempwolff K.896), Maragum (Ray K.651), Nupanob (Dempwolff K.903; Ray K.651 = Botelkude of Waugh K.867), Matepi (Waugh K.867).

The most extensive of the New Guinea subgroups is the Central subfamily which extends across much of the interior of New Guinea from the Kapauku of Central West Irian to the Kâte group in the Huon peninsula in northeastern New Guinea. As defined here it is basically equivalent to Wurm's Central and North-East New Guinea Phylum (Wurm 1964). Its nucleus is the Central Highland languages first described in detail in Capell (1948–9, K.814). In my 1958 report I included the languages of the Baliem area of West Irian along with the languages of the Central Highlands. Since then I have come to see that the Kapauku (Ekari-Moni) group belongs with the Baliem languages. The inclusion of the Huon Gulf group of Kâte and related languages was largely stimulated by Wurm's suggestion of a connection of the Highland languages in this direction. It has not apparently been hitherto noted that the languages of the Wantoat region as reported by Schmitz and by Davis are affiliated to this Huon group.

Since Wurm's hypothesis of a North-East Phylum seems to have won general acceptance, no supporting evidence will be presented here. Since, further, Wurm (1964 and elsewhere) gives a detailed classification of the Highlands languages, the languages of this group are not listed here but the publications utilized insofar as they are not already to be found in Klieneberger (1957) are listed in bibliography. The Central group then is divided into three subgroups; Kapauku-Baliem (Western), Highlands (Central) and Huon (Eastern) as follows:

(1) Kapauku-Baliem. (a) Kapauku (also called Ekari or Ekagi) (Drabbe K.461, K.462; Doble 1960), Moni (Drabbe K.479; Larson and Gordon 1958; Le Roux K.480), Jabi (Le Roux K.480), Simori (Le Roux K.480), Wolani (Le Roux K.480) (b) Dem (Le Roux K.480) (c) Uhunduni (Le Roux K.480), Enggipilu (Colijn K.463; van der Water K.480) (d) Dani (also called Ndani) (Le Roux K.480; van der Stap 1966; Bromley 1961, 1967) (e) Northern Ngalik (Bromley 1961), Oeringoep (Wirz K.480), Sawuri-Hablifuri (Le Roux K.480), Southern Ngalik (Bromley 1961), Peseghem (Broek K.502; Nouhuys K.503; Ranneft K.504)

(2) Highland Languages. (a) Gadsup-Auyana-Awa-Tairora (as in Wurm and Laycock 1961) Erima and Tsinyaji (Schmitz 1958) belong here. (b) Gende-Siane-Gahuku-Kamano-Fore (as in Wurm and Laycock 1961) (c) Hagen-Wahgi-Jimi-Chumbu (as in Wurm and Laycock 1961)

(d) Enga-Huli-Pole-Wiru (as in Wurm and Laycock 1961) (e) Karam (Pawley 1966; Biggs 1963 = Aförö of Kirschbaum K.841 (f) Kutubu (Capell K.814; Williams 1936), Fasu (Loeweke and May 1965, 1966)<sup>3</sup>

(3) Huon Group. As enumerated in McElhanon (1967) with the addition of Matap (Schmitz 1960), Jupna Valley (Schmitz 1960), Kandomin (Schmitz 1960), Wantoat (Schmitz 1960; Davis 1964)

The Eastern group is the last of the major New Guinea stocks to be considered. It falls into ten clearly defined subgroups as follows.

(1) Mailu group. Mailu (also called Magi) (Saville K.733; Lanyon-Orgill K.733; anon. K.735), Domara (anon. K.682), Nemea (Bastard K.766), Dom (also called Domu) (Bastard K.742), Merani (Bastard K.743), Morawa (Bastard K.750), Magori (Bastard K.729), Binahari (Grist K.666), Monomor (anon. K.751), Keveri (anon. K.710), Moikoidi (Hooper K.747), Bauwaki (Grist K.664), Kororo (Blyth K.721), Neme (Bastard K.765), Boli (Hooper K.669), Doriaidi (Bastard K.683), Buari (Ray K.653), Okaudi (Ray K.653), Bori (Ray K.653), Saroa (Ray K.653), Yabura (Ray K.653), Avini (Ray K.653), Lauwa (Ray K.653), O'oku (Ray K.653), Lauuna (Ray K.653), Gebi (Grist K.690), Orai-iu (Bastard K.771)

(2) Binandere group. Binandere (also called Binandele) (King K.667; K.668; anon. 1914–15), Mambare (anon. K.658), Musa River (anon. K.658), Aiga (Beaver and Chinnery K.662; anon. 1914–15), Yoda (Ray K.636), Berepo (Ray K.636), Amara (Ray K.636), Adaua (Ray K.636), Yema-Yarawe (anon. 1914–15), Mawai (anon. 1914–15), Yega (Beaver K.806), Tain-Daware (Beaver K.794), Jegasa-Sarau (Beaver K.700), Jauwa (also called Dobodura) (Beaver K.678), Hunjara (Beaver K.698), Tsia (Pilhofer K.830), Giumu (Strong K.691), Tahari (anon. 1914–15), Aru (Capell 1954: 70 dialect of Tahari), Duvera (Capell 1954: 70 dialect of Tahari), Maiheari (Skelley K.603), Upper Musa (Ray K.653), Bargua (Ray K.653), Totore (Ray K.653)

(3) Dimuga group. Dimuga (also called Nawp) (Cawley K.675; Grist K.676; anon. K.677), Tevi (Strong K.696), Kanamara (Blyth K.695), Gwoiden (Ray K.635), Makiara (Ray K.635)

(4) Elema group. Elema (Ray K.457 = Haira of Baker K.573), Kairi-Kaura (Strong K.582), Uaripi (Ray K.547), Toaripi (also called Motumotu) (Ray

<sup>3</sup> To these subgroups should no doubt be added Duna and Mikaru in accordance with Wurm's published statements. However except for two or three short sentences and lexical items in Wurm 1961*a* and Pike 1964 there is no material in print. In general, with the honorable exceptions of Laycock's Ndu and Doble's dictionary of Kapauku, SIL publications give only incidental vocabulary so that in regard to published material at least the earlier work of Capell and other investigators remains basic in this area for lexical data.

K.547; Thomson K.421; anon. K.624), Milareipi (Ray K.547), Orokolo (Ray K.547; Lawes K.772)

(5) Kovio group. Kovio (Ray K.652; Strong K.724), Kuepa (Muscutt K.723), Oru-Lopiko (Egidi K.795), Kunimaipa (Ray K.652; Pence 1964), Sini (Ray K.652), Biaru (Ray K.652), Goiefu (Ray K.652)

(6) Afoa group. Afoa (Ray K.652; Williamson K.687), Tauata (Egidi K.795), Goilala (Armit K.692; anon. K.693), Ambo (Strong 1918–19), Deba (Ray K.652).

(7) Fuyuge group. Fuyuge (also called Mafulu) (Strong K.686; Jackson K.685; Williamson K.687; Egidi K.795), Kambesi (anon. 1917–18 = Tauada of Ray K.652), Sikube (Giulianetti K.786 = Kabana of Chalmers K.540), Korona (Ray K.652), Onunge (Ray K.562), Agita (Ray K.562), Vovoi (Ray K.652), Gomali (Ray K.562)

(8) Mulaha group. Mulaha (also called Iaibu) (Ray K.549, K.562), Manukolu (also called Lakume) (Ray K.549, K.562), Gaira (Ray K.562), Kwale (Ray K.562)

(9) Koita group. Koita (anon. K.719; Ray K.549), Koiari (anon. K.719), Iworo (Ray K.549), Neneba (Macgregor K.767), Gosisi (also called Tobiri) (Macgregor K.767), Kotoi (Brown K.722), Suku (also called Amaseba) (Ray K.549; Giulianetti K.791), Kagi (Brown K.704), Agi (Ray K.549), Hagari (Ray K.549), Uberi (Ray K.549), Maiari (Ray K.549), Nigubaiba (Brown 1918–19), Barai (Brown K.663 = Managalaski of Parlier 1964), Kokila (Ray K.549), Karukaru (Jackson K.708; anon. K.709), Minjori (Blyth K.745), Suambe (Blyth K.789), Uabari (Ray K.652), Wowonga (Ray K.652), Biagi (Ray K.652), Isurara (Ray K.652), Wamai (Ray K.652), Itu (Ray K.652), Iarumi (Ray K.652), Eikiri (Ray K.652), Favele (Ray K.652), Seramina (Brown K.785), Mogoni (Ray K.652)

(10) Namau (also called Maipua) (Holmes K.611; anon. K.604; Ray K.547)

A list of proposed Eastern etymologies follows:

1. ant (2) Mambare *ciri* (9) Neneba *ciri* (borrowing?)
2. arm (7) Kambisa *ia* ‘arm, hand’, Korona *ya*, Kambesi *ia* ‘hand’ (9) Minjori, Suambe *iie*
3. ashes (3) Kanamara *ati* (9) Neneba, Hagari *uti*
4. bad (4) Milareipi *ekapu* (5) Kuepa *kaipi*, Kovio *kepip*
5. bird (2) Binandele, Yema-Yarawe, Mawai, Tain-Daware, Tsia *ni*, Guimu *nei*, Tahari *ne* (3) Tevi, Nawp *neni* (7) Neneba *nea* (8) Manukolu *neni*
6. black (1) Bailu *dabaduba* (2) Musa River *duba* (5) Kovio *dubare* ‘dark’ (7) Mafulu, Kambesi, Sikube *dube*, Korona, Kambesi *dube*, (8) Manukolu *dobo* (9) Neneba *aduve*, Uberi, Maiari *duduba*, Koita *dubu*

7. blood<sub>1</sub> (1) Neme, Doriaidi *dana* (3) Tevi *deniwa*, Dimuga *denip* (7) Mafulu, Korona, Kambesi *tana*, Sikube *tanara*
8. blood<sub>2</sub> (2) Mambare, Binandele, Yega, Tain-Daware *ororo*, Yema-Yarawe *orara* (4) Orokolo *ioru* (8) Manukolu *ro* (10) Namau *aro*
9. bone (1) Bauwaki *ita*, Mailu *ude*, *uda* (2) Musa River *etu*, Tsia *wetu*, etc. (4) Lepu, etc. *uti* (9) Nigubaiba *ita*, Barai *adu*, Suambe *ate*
10. breast (1) Bauwaki, Doriaidi, Mailu, Dom, etc. *ama* (2) Mambare *ami*, Yega, etc. *emi* (3) Kwatewa *am*, Nawp *aam* (9) Neneba, Gosisi, Suku, Hagari *amu* (10) Namau *ame*
11. cloud (2) Tahari *uni* (5) Kovio *unida*, Kuepa *units* (7) Mafulu *unu(me)* 'cloud, fog'
12. to cut<sub>1</sub> (7) Mafulu *tode*, Kambesi *doda* (9) Koita *dodo*
13. to cut<sub>2</sub> (4) Toaripi *foi* 'cut down' (7) Karukaru *boi*, Suambe *puwo* (9) Neneba *vuvuoi* 'cut off' (10) Namau *opai* 'hack'
14. to dig (3) Kwatewa *tsia* (4) Milareipi *isai*, Lepu *isa* (7) Korona *tsie* (8) Mulaha *isani*
15. ear (5) Kuepa *gatagapu* (7) Kambisa, Kambesi *gaderu* (9) Nigubaiba, Barai *gada* 'ear, to hear'
16. egg (1) Bauwaki, Neme, Boli, Doriaidi *baka*, Nemea, Dom *baha* (3) Tevi *bagua*, Nawp *bagu* (8) Mulaha *abegi*
- \*17. eye (1) Mailu, Domara *ini*, Nemea *nii* (9) Suku, Agi, Hagari, Sogeri, Maiari, Koita *ni*, Minjori, Suambe *niie*, Koiari *ni* 'eye, face' (cf. Indo-Pacific 'to see')
18. to fear<sub>1</sub> (4) Milareipi *sia* (9) Koiari *si*
19. to fear<sub>2</sub> (1) Mailu, Domara *dobi*, Magi, Keveri *dobi* 'to frighten' (3) Kanamara *tab*
20. fire (1) Orai-iu *isa* (2) Yema-Yarawe *itu* 'tree' (3) Onjob *itu* 'tree' (6) Oru-Lopiko *iti* (9) Karukaru *idi* 'fire, tree' (10) Namau *iri* 'tree'
21. fruit (6) Tauata *eadauda* 'fruit, flower', Afoa *iadaude* 'flower' (7) Sikube *iudede* (8) Manukolu *ibadade*
22. girl (4) Elema, Orokolo, Milareipi, Toaripi *mori* (7) Kambisa, Sikube *amuri* (9) Sogeri *maoro*
23. to give (1) Mailu *mini*, Domara *miniau* (5) Uaripi *miari* (9) Agi *mairo*, Koiari *minu*, *miru* (different tense forms), Koita *moi*, Barai *ma*, Nigubaiba *maia*
24. to go (1) Mailu *oni* (2) Kororo *ania*, Binandere *ne* (3) Dimuga *aen*, 'went' (10) Namau *enana*
25. head<sub>1</sub> (1) Giumu *iva*, Tahari *iwa* (3) Dimuga *iwa*, Nawp *ewa* (9) Barai *awo*

26. head<sub>2</sub> (1) Gebi *ada* (5) Kovio *ade* 'head hair' (6) Afoa *ade*, Ambo *ate* (7) Mafulu *ade, adede*
27. to hear (1) Domara, Dom, Morawa, Monomor *ope* 'ear' Nemea, Binahari *opi* 'ear' (4) Elema *apai* (8) Manukolu *abi* 'ear' (9) Suki, Agi *evi* Nigubaiba *ife*
28. heart (1) Orai-iu *o-oabai* (2) Musa River *uba* (3) Onjob *bua* (7) Mafulu *ua(ne)* (9) Barai *ua*
29. leg (1) Nemea *auqu*, Morawa *auqu, au*, Binahari *auqu*, Domara, Magi *au*, Monomor *au* 'leg' (3) Wadewinda *abu(umba)* (10) Namau *au* 'thigh'
30. moon (1) Yabura *inua* (2) Yema-Yarawe *inua*, Tsia *inong* (4) Oru-Lopiko *onea*, Kovio *oneau* (5) Afoa *oani*, Tauata, Ambo, Goilala *one*
31. name (2) Musa River *aviri* (3) Kwatewa *ebura* (7) Mafulu *bode* (9) Uberi *evil, ivila*
32. nose (1) Bauwaki, Keveri *iro*, Neme *ilo* (8) Mulaha *ina* (9) Iworo *uni*, Neneba *udi*, Agi *uli*, Karukara, Gosisi, Kotoi, Suki, Hagari, Uberi, Sogeri, Koita *uri*, Minjori, Suambe *ura*
33. rain (1) Binahari *obani*, Nemea *oban* (3) Kwatewa *uben*, Galela *ubin* (9) Uberi, Agi, Koiari, Koita, etc. *veni*
34. red (1) Moikoidi *kaka* 'blood' (2) Yega *kokoi* (9) Nigubaiba *kakai*
35. root (1) Mailu, Domara, Magori *tai* (2) Binandele, Mawai *tai*, Yema-Yarawe *te*
36. saliva (1) Bauwaki, Neme, Doriaidi, Dom *isubu* (7) Mafulu *sabe* (9) Suku *sabai* 'to spit'
37. to see (1) Mailu *eri* (6) Afoa *ali* 'to know' (7) Mafulu *ali, ari* (9) Hagari *elea*
38. to sit (1) Mailu, Domara *auri* (2) Musa River *auri* 'remain', Tahari *orari* 'remain' (3) Onjob *auro*
39. sky (2) Binandele, Aiga, Yema-Yarawe *utu*, Yega, Tain-Daware, Jegasa-Sarau *utu* 'sky, cloud', Adaua *utu* (9) Neneba, Karukaru *oto*
40. star (4) Uaripi, Milareipi, Toaripi, Lepu *koru*, Elema, Orokolo *kou* (9) Koiari *kolo, koro*, Maiari *koro*
41. to steal (1) Mailu *tere* (2) Mambare *tur* 'to pluck' (4) Toaripi, Lepu *torea*, Elema *korea*
42. to take<sub>1</sub> (3) Dimuga *wat* 'to take, have, get' (5) Oru-Lopiko *wade*, Kuepa *wada* 'touch'
43. to take<sub>2</sub> (6) Tauata *mi* (9) Kotoi *ma* (10) Namau *miai* 'to take away'
44. to taste (7) Mafulu *tovogi* (9) Suku *teve*
45. wet (1) Orai-iu, Gebi *oru* 'water' (10) Namau *oru*
46. wife (7) Mafulu *amule*, Kambesi *amera*, Sikube *amuri* 'woman' (9) Iworo, Neneba *amuro*
47. word (4) Toaripi *o* (7) Kambesi *wa* 'thing' (9) Koita *uo*

Relatively little grammatical information has been published regarding languages of the Eastern New Guinea subfamily. Within this limited material nothing has been noted as common to the Eastern languages beyond what is generally Indo-Pacific except once again for the pronouns concerning which we have a basis for comparison in a substantial number of languages. Although not uniquely Eastern, it is probably worth pointing out that seven of the ten subgroups have a first person singular *na* and seven have a second person singular *ni* or *nu*. There is an especially close relationship here between subgroups 6 and 7 as shown in (6) Afoa, Tauata *nui* (7) Mafulu, Kambisa *nu*, Mafulu, Sikube *nuni*. Although *na* and *ni* are both very widespread in Indo-Pacific the Eastern group does distinguish itself from neighboring subgroups by the presence and extent of these two pronominal sets. In addition, the following pronoun forms may be cited as common to a number of subgroups of the Eastern group and either unique or at least of very limited distribution elsewhere.

1. Third person singular pronoun. (2) Yema-Yarawe *o* (7) Mafulu *u*, Kambisa *u*, *hu* (8) Mulaha *o*, Manukolu *oi* (9) Uberi, Koiari (Meroke dialect of Chalmers) *oe* (10) Namau *u*
2. Third person pronoun. (1) Mailu *oma* 'they' (2) Aiga *omo* 'he, she', Jauwa, Hunjara *emo* 'he, she' (3) Dimuga *me* 'he, she', Onjob *mu*, *ma* 'they' (6) Afoa *ome* 'he, she'
3. First person plural pronoun. (5) Oru-Lopiko *dae* (6) Mafulu *di* (7) Mulaha *-di* 'our'
4. Second person plural pronoun. (1) Mailu *aia* (3) Onjob *ya* (6) Mafulu *yi* (9) Uberi *ia*, Koita *ya*, Koiari *ya-* 'your'

The foregoing enumeration and discussion of the seven major subgroups of New Guinea non-Austronesian languages has omitted the mention of a number of individual languages or groups of languages, some of them substantial. A number of these have been definitely assigned to one or other of the seven subfamilies but too late to be included in the lexical or grammatical comparisons. This additional evidence will be presented in an expanded version of the present study.

As before the discussion will proceed in a roughly west-to-east order. First to be discussed is the language now called Yava by Anceaux (1961) and spoken in the central part of the island of Yapen north of Geelvinck Bay. Data on Yava has been cited under the name Mantembu, one of its dialects, by Cowan in several publications (K.432, 1960). There is also a short word list of Saweroe in Anceaux's unpublished materials (A). Saweroe forms the second main

division within Yava as against all the other dialects including Mantembu (Anceaux 1961). Cowan has presented evidence for the inclusion of Yava within his West Papuan Phylum which consists essentially of the Timor-Alor, Halmahera, and Western New Guinea families in the classification presented here.

All of the material on Yava presented in these works is fragmentary and also, for obvious reasons in Cowan's case, not a random sample since only resemblances to his West Papuan Phylum are presented. The additional material of Anceaux, although sparse, is not selected in this fashion. It tends to support the hypothesis that Yava should be assigned to the Western New Guinea group constituting a separate subgroup within it.

Of the languages of the Bomberai peninsula discussed in Anceaux (1958), three were omitted in the foregoing review. For all of these I have had access to additional material from (A). One of these is Tanahmerah, here called Tanahmerah I to distinguish it from Tanahmerah II of the Northern group, the latter a language closely related to Sentani. I have not been able to classify Tanahmerah I. The other two, Asienara and Iria, are closely related to each other. It has not been previously noted that these two languages are to be connected with the Kamoro group to the east from which they are separated both by the Etna Bay subgroup of the Western New Guinea subfamily and by Irahutu, an AN language.

This brings up the status of the Kamoro group which includes besides the aforementioned Asienara and Iria, Kamoro (Drabbe 1953), Mimika (Dumas K.468), Nagramadu (van der Sande K.482), Angadi (van der Sande K.454), Sempan (Drabbe 1953), Asmat (Drabbe 1953, 1963; Voorhoeve 1965) and Kajakaja (Feuilletau de Bruijn K.466). In my 1958 report Kamoro was included with the Western New Guinea group of the present study under the name Vogelkop-Kamoro. Kamoro is tentatively separated from the larger grouping pending a reassessment of the evidence. Another language omitted from this study is Arare spoken on the Juliana River in West Irian and only known to me from the unpublished word list in (A). This language shows important similarities both with the Kamoro group and with the Western subgroup. It thus tends to strengthen the probability that the Kamoro languages will ultimately be shown to have a special relationship to the Western group.

Situated between the Western and Northern families are a number of languages in the Momberamo River system of north central West Irian. These languages fall into two distinct but possibly related groups as follows: (1) Kauwerawet (Le Roux K.471), Koassa (anon. K.451); (2) Tori (anon. K.451), Tori Aikwakai (Feuilletau de Bruijn K.517), Borumessu (anon. K.451), Sidjuai

(anon. K.451), Pauwi I (anon. K.451), Pauwi II (van der Aa K.501), South River (called Südfluss in anon. K.451). The language of the Goliath Mountain Pygmies although scantily represented in de Kock (1912) shows a small number of striking agreements with the first of the two above groups. There are some indications (e.g. the Tori Aikwakai word for 'water' *kwaru* which resembles a widespread Western New Guinea and indeed Halmahera etymon) that these languages will eventually link up with the Western New Guinea subfamily.

Much farther east in the Sepik River basin of central northern New Guinea, Laycock (1965*a*) distinguishes a group of closely related languages to which he gives the name Ndu from the common word for 'man' in these languages. Laycock gives detailed linguistic information on the following languages or dialects, Maprik, Wosera, Nyaura, Manambu, Ngala, Kwusaun, Yengoru, and Yelogu. The first two of these are dialects of what is usually called Abelam for which there is additional scattered linguistic information in the ethnological articles of Kaberry (1941, 1941–42). A vocabulary in anon. K.837: 128 labelled 'Middle Section' (i.e. of the Sepik River), Tombenam to Malu also belongs here. Nyaura is a dialect of Iatmul for which some lexical material is given in Bateson (1936).

Laycock (1965*a*, 1965*b*) presents data for a certain number of non-Ndu languages of this area. Among these Kwoma, Mayo, and Wongamusin appear to form a group. A very small amount of additional linguistic information regarding Kwoma may be gleaned from the ethnological works of Whiting (1941) and Whiting and Reed (1938). More importantly for present purposes, Capell (1954: 18) gives a full set of Kwoma pronouns including forms differentiated for sex in the second and third person from which it appears that Laycock's second and third singular pronouns are the masculine forms and that he was either reporting a different dialect without this distinction or he neglected to give the feminine forms. At any rate, as noted already by Capell, there is striking agreement with the pronouns of the Ndu. There is also some vocabulary resemblance even within the small amount of lexical material available on the Kwoma group. One may therefore speak at least tentatively of an Ndu-Kwoma family. Further, Ndu-Kwoma is to be considered an additional branch of the Northern New Guinea subgroup. In the general Indo-Pacific word list at the end of this study, forms cited from the Ndu-Kwoma languages are included with the Northern subgroup. Capell's data on Kwoma pronouns adds welcome additional evidence in the form of the third person plural pronoun *mi*. It has been seen that third person plurals in *m* are highly characteristic of the Northern New Guinea subfamily.

On the basis of data in Laycock (1965*a*, 1965*b*) and E. Pike (1964), Iwam and Abau are affiliated with the Ndu-Kwoma group probably as a third branch.

Unpublished excerpts from additional languages of the Sepik district were made available to me in the form of short word lists through the courtesy of the Summer Institute of Linguistics. Some of these are readily classifiable and are listed in their appropriate places in the body of the present paper but a few from Aitape and Amanab subdistricts near the border of West Irian are still unplaced. These are Kwanga, Urim, Yuri, Fas, Busa, Amto, Senagi, and Komberatoro. The latter two are evidently related to each other. Kwanga is the same language as Capell's Womsak (1954: 14) for which he gives three words, two of which figure in the unpublished SIL list and are virtually identical in form. All of these languages may be suspected of affiliation in some fashion with the Northern subgroup.

Of the remaining languages not assigned to any of the major subgroups the most important are the Gogodala (also called Gogodara) languages of south central New Guinea. These include Gogodala (Riley K.550), Gaima (Ray K.547), Girara (Ray K.547), Adiba (Riley K.550), and Waruna (Riley K.550). There are strong indications that the Gogodala languages form an additional subgroup of the Southern New Guinea (Kiwaiic) family. Farther east the following are unclassified: Tate (Strong K.622), Williams River (Chisholm 1914–15), Ondoro (Blyth K.769), Aurama (Brown K.560), Huaruha (Murray K.576), Mumeng I (Vicedom K.900), Mumeng II (Capell K.814: 355–6). Mumeng I and II appear to be distinct but closely related languages reported under the same name. Aurama and Huaruha are closely related.

Finally the dialects of Rossel Island in the Lousiade Archipelago east of New Guinea are probably to be considered a single language. The sources are Macgregor (K.809), Armstrong (K.808), Winter (K.811), and Ray (K.810). There are a few special resemblances to the Central Melanesian subgroup, particularly the characteristic second person plural pronoun *mi*, but the evidence does not seem conclusive for its assignment to this or any other subgroup. It should be remarked that of the languages mentioned here as unassigned to any subgroup, all show a number of lexical items which are either generally Indo-Pacific or occur widely in one or more of the New Guinea subgroups.

Having reviewed the subgroups of Indo-Pacific both outside of and in New Guinea, we now proceed to a consideration of some of the lexical and grammatical features which link these groups together into an overall entity. The discussion is by no means complete, since in regard to grammatical features it is largely limited to features of the pronominal and gender systems and for lexicon almost entirely to those etymologies which occur in at least

three subgroups, one at least of which is outside of New Guinea. Since both in the following grammatical discussion and in the presentation of the lexical evidence there is constant reference to the various subgroups as enumerated earlier in this paper, they are referred to by abbreviations which will be obvious for the most part, but which it seems best to enumerate here: AN (Andaman Islands), TA (Timor-Alor), HA (Halmahera), NB (New Britain), BO (Bougainville), CM (Central Melanesia), TS (Tasmania), WNG (Western New Guinea), NNG (Northern New Guinea), SWNG (South West New Guinea), SNG (Southern New Guinea), CNG (Central New Guinea), NENG (North East New Guinea), ENG (Eastern New Guinea). The languages not assigned to any of these groups are indicated by UNG (Unclassified New Guinea).

The grammatical evidence is presented under eleven headings.

1. First person singular pronouns. There are two very widely distributed types of first person pronouns which will be called here the *n* type and the *t* type. The geographical distribution of these two types among the subgroups will be sketched without citing every individual instance since these are very numerous. Then the relation of the two to each other and their place in certain pronominal patterns involving indicators of other than first person singular will be considered.

The *n* first person pronouns are found outside of New Guinea in the following subgroups: TA, NB, BO, and CM. In TA these are the ordinary forms in all four languages: Oirata *an*, Makasai *ani*, Bunak *ne(to)*, Abui *ne(do)*. In New Britain most languages have *ngg* forms but Uasi, which, has been indicated, may be more closely related to Bougainville languages, has *eni*. In the BO group these are the common first person singular forms, e.g. Telei *ne*, Nasioi, and Koromira *n-* 'my'. In CM Nea and Nabalua in Santa Cruz have *ni* but since for these languages *ni* occurs initially in all the pronouns these are perhaps to be analyzed as the general pronominal base plus zero. The other languages of Santa Cruz as well as those of the New Georgia archipelago have *ng* forms except that Savo has a first personal singular object suffix on the verb *-ni*. Since *-i* is common to all these objective forms the base here is presumably *-n*.

On New Guinea WNG has both *n* and *t* forms in different subgroups. In general the Konda-Jahadian group and the Kapaur group have *n*. Examples are Kampong-Baru *ne(ri)* (cf. *e(ri)* 'thou'), Tarof *ne(iga)* (cf. *a(iga)* 'thou'), Karas *aan*, Kapaur *On*.

In NNG *ngg* and *k* forms predominate as indicated earlier in the discussion of that group. However in the Ndu-Kwoma subgroup the *n* forms are the common ones in all the Ndu languages, e.g. Maprik *unə* while Kwoma and

Mayo have *an*. There is also the Sko (Tami subgroup) possessive prefix *ne-*. In SWNG *n* forms are the common ones found in all the languages for which we have data. In SNG *n* forms are the normal ones in the western subgroup, e.g. Kimaghama *no*, Riantana *na*, Ndom *ne*. It reappears again the easternmost group where some of the Kiwaiian languages show it, e.g. Hibaradai, Hiwai *na* although most of the subgroup has pronouns like Kiwai *mo*. The Gogodala group which probably affiliates with SNG also has *n* forms. In the vast CNG group *n* is the normal form in virtually every subgroup except for some of the Tairora subgroup of the Central Highlands which have *t*. In contrast I know of no sure case in NENG, which is a stronghold of *t* forms. As indicated earlier *n* forms of the first person pronoun occur in seven of the ten subgroups of ENG. Finally among the unclassified languages there is Huaruha *ano* and *n* forms on Rossel Island. In summary, first person pronoun forms with *n* occur in four of the six extra NG groups and completely predominate in two of these and occur in all of the seven New Guinea subgroup except NENG and are the predominant or even exclusive form in three of these.

The northern subgroup of AN, which embraces all but the southernmost language Önge, has *t* forms. An example is Chariar *tio* 'I' when compared to *ngio* 'thou'. In HA *t* forms are found in all the languages. The normal subject form is *t(o)* in which *o* is a subject indicator. An example is Galela *t(o)* 'I' (cf. *n(o)* 'thou'). The object forms are generally *j(i)* in which (*i*) is an object indicator and *j* is probably a palatalized form of *d*. Similar variations are found in WNG whose *t* and *d* forms have already been connected with the Halmahera pronouns by Cowan.

Roughly half the WNG languages have such *t* and *d* forms while the rest have *n*. Examples are Manikion *tani* (cf. *ban* 'thou'), Madik *ji*, Waipu *tit* (cf. *nin* 'thou'). For the remainder of New Guinea, however, *t* forms are far less frequent than those in *n*. There are however three areas of substantial occurrence; one of these is the Central Highlands subgroup of CNG especially the Tairora languages, e.g. Gadsup *te* but also Benabena *-te* 'my' in a different subgroup. Another area of dominance which has been alluded to earlier is NENG. Palatalized variants occur as in HA and WNG. Examples are Mis *da*, Bongu *aji*, Nupanob *ta*, *da*, *ita*. The third *t* area in New Guinea is the Koita subgroup of ENG in which it predominates although some languages have *n* forms. Examples here are Koita, Uberi, etc. *da*. In the same languages the possessive is a prefixed *di-*. Finally Paremka of CNG has *tea* 'I'.

Both of these alternatives are as can be seen of enormously wide distribution, *n* being somewhat more common. Presumably they should both be original. There are, however, three languages in which both *n* and *t* are known to occur and it is, I believe, very strong evidence for the general Indo-Pacific

hypothesis that the division of function is analogous in all of them. It has been already noted that in Makasai on Timor *ani* is the absolute pronoun used in all other uses and *asi* is the possessive with  $s < t$ . In Baham (Patimuni) of the Kapaur subgroup of WNG the absolute pronoun is variously recorded as *antu* or *andu* (cf. Kapaur *ɔn*) while the possessive pronoun is a bound prefix *ta-*. In Benabena of the Central Highlands of New Guinea (Capell's Hofaga) the independent pronoun is *nani* whereas the possessive is a suffix *-te*.

The first person *n* pronoun participates over a very large part of New Guinea in an opposition to second person *k* usually in the form *na/ka*, a pattern to be discussed later separately. The vowel following *n* is probably most frequently *a*. In this form it often contrasts with the widely found first person plural *ni*. The number contrast *na/ni* has in some instances been extended analogically to the second person. A good example is the 'benefactive' (dative) set for Moni (western subgroup of CNG), *na* 'for me', *ni* 'for us', *ka* 'for thee', *ki* 'for you'.

2. Where the *na/ka* pattern does not dominate, the most common second person singular pronoun is *ngi* or *ni*. I suspect that *ngi* is original and has frequently become *ni* either by direct phonetic change or under the influence of first person singular *n*. In a few cases analogy has probably worked in the opposite direction. This would perhaps explain the *ng* first person forms in NB and CM. An example is Baining (NB) *ngoa*, *ngu* 'I', *ngi* 'thou'.

The following citations will give some idea of the extent of these second person forms in *n* or *ng* commonly but not by any means always followed by *i*. In some instances the base is simply *n* or *ng*. AN Biada *ngol* (cf. *dol* 'I'), Kede *ngui* (cf. *tui* 'I'). Ōnge of Little Andaman in the south has *ngi* (but first person singular *mi*), one of the few strong pieces of evidence for its affiliation to Indo-Pacific; HA Galela and other languages *no* 'subject', *ni* 'object', *ngona* 'independent pronoun'. Compare the first persons *to*, *ji*, *ngohi* (Loda *ngoji*); NB Baining *ngi*, Taulil *nggi*, *ngginggi*, Uasi *nini*; CM Savo *no*, Laumbe *inu*, bound form *ngo*, Bilua *ngo*, Baniata *no*. The *o* vowel is distinctive for the Central Solomon subgroup of CM. Santa Cruz has *m*; TS all dialects *ni(na)* (cf. *mi(na)* 'I'). WNG Amberbaken, Madik, Karon *nan*, Waipu, Moi, etc. *nin*, Aitinjo, etc. *nio*. Patimuni *na-*, Mairasi *ne-* (possessives); NNG Makarob *nɔ*, Tanggum *nu*, Murusapa *na*, Anaberg *ne*, Atemble *nə*, Kavu *na(k)*, Mayo *nə*. In general *m* forms are more frequent in NNG. SWNG, not found, exclusive predominance of pronouns of *na/ka* pattern; SNG *m/b* forms or *na/ka*; CNG, *na/ka* pattern is also general in this subgroup but *n* forms are found in the Central Highland, e.g. Gadsup *en*, Binumarien *ane*, Chimbu *ene*, Dom, Sinasina, Tjuave, Sua *ne*, Karam *nant* (cf. *yant* 'I'), Fasu *ne*, *ni*, Kewa *ne(me)*. NENG, forms in *n*, particularly *ni* almost exclusively found, e.g. Langtub, Bongu, Saker,

Sungumana, Burumana, etc. *ni*, Banara *no*, Vanembere *ne*, Nupanob *na*, etc.; ENG seven of ten subgroups have *n* forms, e.g. Binandere subgroup Hunjara *ni(mo)* (cf. *na(mo)* ‘I’), Yema-Yarawe, Giumu, Tahari *ni*; Kovio group Kovio, Oru-Lopiko *ni*, Kuepa *ne*; Afoa group Afoa *nu*, *nui*, Tauata *nui*; Mafulu group Mafulu, Kambisa *nu*; Namau *ni*. Many of the ENG languages show the *na/ni* contrast between first and second person singular. Rossel Island (UNG), e.g. Yela, shows this also *na*, *nga* ‘I’, *nyi* ‘thou’.

3. First person plural pronoun *ni*. TA Oirata *in(te)*, Makasai *ini*, Bunak *nei*, Abui *ni*. All these (including presumably Abui for which simply two variants *ni* and *pi* are given) are exclusive; HA object inclusive forms are *na* in almost all the languages; BO Telei, Nasioi *nii*; *ni* ‘our’ WNG Solowat, Itigo, etc. *ni(ti)* exclusive as in TA (cf. *dai(ti)* inclusive); NNG Anaberg *ni*, Tanggum *nai*, Sko, Sangke *ne*, Ndu group *nanə*, *nani*, *nan*, Kwoma *no(ta)* (cf. *ko(ta)* ‘you’); SWNG Boazi *ni*, Upper Muju *ne*, Telefol *nu(ta)*. In SWNG we often find singular first person *n* forms with plural suffix used on all pronouns, e.g. Awju Pisa *nu* ‘I’, *nugu* ‘we’ SNG Kanum, Koneraw, Ndom, etc. *ni* (western subgroup, elsewhere almost no data except Kiwaian proper which usually has *nimo*); CNG Ndani *ni(t)*, Ekari *ni*, Sau *ni(gi)*, Chimbu *no*, Dom *ne*, Hube *nini* (exclusive) etc.; NENG, not found; ENG Dimuga, Onjob *nu*, Jimajima *no*; Tauata *nane*; Mulaha *nai* (inclusive); Koita *no*, *ni-ni* ‘our’, Koiari *ni-* ‘our’. Rossel Island (UNG) *nu-* ‘our’. Note that no Tasmanian pronouns are recorded outside of the first and second person singular.

4. First plural inclusive pronoun. TA and HA agree in having an inclusive pronoun in \**p*. TA Oirata *ap-* ‘our incl.’ Makasai *fi*, Alor *pi*. HA Modole, etc. *po* (subject pronoun).

5. Third person plural pronoun. TA Abui *da-*, *de-* *de(ning)*; NB Taulil, Butam, Sulka *ta*; CM Savo *ze*, Bilua *se* (cf. Savo *izi*, Baniata *isia* ‘to sleep’ with the common *t* and *d* forms elsewhere, e.g. Siwai *at*, Galela *idu*); NNG Sko *tea*, Sangke *te*; Ndu group [*n*]*di*, [*n*]*dɔy*, etc.; CNG Dem *ta*, Hoiyevia, Tarifururo *ti*, Matap *ita*; ENG Yema-Yarawe, Mawai *eto*, Tauata *ote*. In the Gogodala group probably affiliated with SNG we find Waruna, Gogodala *de*, Gaima *da*. Perhaps also the *-t* suffixed to the class prefixes to form the plural in the North Andaman group belongs here.

Although of rather limited distribution this is probably the distinctive Indo-Pacific third person plural pronoun. It is in competition with the *y* singular pronoun often used with a pluralizer or common to both numbers as well as demonstratives often used as third person pronouns without distinction of number.

6. The suffix pronominal pattern (SPP). By SPP is meant here a specific pattern usually suffixed to the verb to indicate the pronominal subject. It is

widely found in the far-flung CNG group. Pawley (1966) has already noted its existence in Karam and gives a comparative table (p. 198) of Karam and a number of languages in the East Central Highlands group. However it can also be traced in the western (Baliem) and eastern (Huon) subgroups of CNG, in SNG, in NNG, and in the Kamoro group (possibly affiliated to WNG). Its characteristic features are first person singular *u*, *w*, second person singular and first person plural nasal consonant (usually *n*), and third person singular *i*, *y*. The second and third person plural are usually identical and in CNG at least possibly go back to \**aw*. In addition, many of the CNG languages have a dual.

The subject suffixes for the primary verb (i.e. one that always ends a sentence and is never subordinate) in Kanite, a Central Highland language of CNG, may serve as an example.

	SINGULAR	DUAL	PLURAL
1p.	- <i>u</i>	- <i>uq</i>	- <i>un</i>
2p.	- <i>an</i>	- <i>aq</i>	- <i>a</i>
3p.	- <i>i</i>	- <i>aq</i>	- <i>a</i>

This whole pattern doubtless takes its start with the Indo-Pacific *n* pronouns of the second person singular and first person plural already discussed and the common *i*, *e* or *y* third person pronoun which also figures in the *na/ka/i* prefix pattern which will be discussed later. The first person -*u* is, however, unique and a virtually constant feature.

A good many other instances of this pattern from Central Highlands languages might be cited but this is unnecessary since a number of them are already found in the work of Pawley already cited.

A number of examples are found in languages of the eastern subgroup of CNG, i.e. the Kâte or Huon Gulf group. Naturally enough one or other characteristics of the pattern may be absent in specific instances. The following are the subject suffixes of the perfect tense in Deduae of the Huon Gulf subgroup of CNG.

	SINGULAR	DUAL	PLURAL
1p.	- <i>dua</i>	- <i>diq</i>	- <i>d̄ing</i>
2p.	- <i>dang</i>	- <i>daoq</i>	- <i>dau</i>
3p.	- <i>daq</i>	- <i>daoq</i>	- <i>dau</i>

In this paradigm, *d* is, of course, the tense marker. Note the *u* of the first person and the nasal *ng* in the second person singular and first person plural. In the Huon Gulf languages the -*y* third person singular is apparently not

found although *y* is prominent as the basis of independent third person pronoun. On the other hand we find *-au* in the second and third person plural which may be compared to Fore *-aw*, likewise second and third plural.

Fore is a Central Highlands language. Note also the agreement between Deduae and Kanite in the final glottal stop (*q*) in the dual. Still within CNG what is no doubt the same pattern in attenuated form is encountered in the western (Baliem) subgroup. Van der Stap (1966) in his description of Dani gives the following set as the normal suffixes on the verb to express the person-number category of the subject:

	SINGULAR	PLURAL
1p.	<i>-y</i>	<i>-o</i>
2p.	<i>-en</i>	<i>-ep</i>
3p.	<i>-e</i>	<i>-a</i>

The phonetic value of *y* is not clear. It seems to be [ɪ]. Whether it comes from *u* I am unable to say. Second singular *en* is normal and third singular *e* may well represent \**i*. The absence of a form with nasal consonant for the plural first person is a real deviation but third person plural *a* is quite normal and the most common form in the Central Highland languages.

In SNG, as has been earlier noted, except for Kiwai proper, our only solid grammatical data are from languages of the westernmost subgroup. Here SSP can be found in Jei (prefixed to indicate object), Kanum (prefixed to indicate object) and Mombum (suffixed to indicate subject). Hence in Mombum its position and syntactic functions are like those of CNG, whereas in the first two languages it differs. The forms in these three languages and their basic agreement with the CNG examples can be seen from the following table.

	JEI	KANUM	MOMBUM
1s.	<i>wo</i>	<i>u</i>	<i>u</i>
2s.	<i>ne</i>	<i>n</i>	<i>im</i>
3s.	<i>ye</i> (masc.) <i>gwe</i> (fem.)	<i>i</i>	<i>i</i>
1p.	<i>ne</i>	<i>n</i>	<i>om</i>
2p.	<i>ye</i>	<i>i</i>	<i>om</i>
3p.	<i>ye</i>	<i>i</i>	<i>a</i>

Finally it occurs in Nimboran in NNG. It functions here in the normal way as a suffixed subject indicator in the verb. However, here we have only a single set which in unmarked form functions in the singular and with the additional presence of *ke* 'dual' or *i* 'plural' added to the verb stem expresses the dual and plural respectively. The unmarked singular forms are first person *u*,

second person *e*, third person: masculine *am*; feminine *um*. In the third person *-m* is most probably the widespread third person *m* of the NNG while, as will be shown later, the vowel alternation for gender represents another widespread pattern. The first person *u*, the coincidence of function and position and the existence of satisfactory explanations for the third person suggesting fairly strongly that this is still another manifestation of the same underlying pattern, SSP, which to my knowledge does not occur outside of New Guinea, serves thus to link three major groups, NNG, CNG, and SNG.

7. By PPP (pronominal prefix pattern) will be indicated a pattern of even broader distribution though still confined to New Guinea. It may appear as a set of independent pronouns but, most characteristically it occurs prefixed to the noun to indicate possession and/or to the verb to express the pronominal object. With regard to the former, there are frequent instances in which it is confined to kin terms, while other nouns express possession analytically by preposing an independent pronoun in accordance with the usual Indo-Pacific order of possessor–possessed or preposing the pronoun followed by a genitive particle. In such instances all non-kin nouns are then expressing pronominal and nominal possession by the same construction.

When prefixed to kin terms there are commonly only three forms used for all numbers. The first and second person forms are *na-* and *ka-* or *ga-* respectively or in a few languages *na-* and *ha-* where *h* can in every case be shown plausibly to originate from *k*. The third person is most frequently *i-*, an obvious point of contact with SSP and the common third person pronoun element *i*, *y*.

An example is Marind in SWNG where the possessive construction for non-kin terms may be illustrated as follows: *anim end igiz* ‘man of name’, i.e. man’s name; *oh end igiz* ‘you of name’, i.e. your name. In contrast we find *na-zeb*, ‘my, our grandchild’, *ha-zeb*, ‘thy, your grandchild’, *i-zeb* ‘his, her, their grandchild’. It also is notable that a general third person prefix undifferentiated for gender occurs in languages like Marind which possesses sex gender in other constructions.

The other chief occurrence is as prefixed, or infix, object in the verb complex. Here number is usually distinguished by a separate plural set while PPP functions for the singular. Often the specific verb which can occur with PPP is a limited and small subset of the verbs. Various other indicators occur in third person, often several different ones in the same language with different verbs. PPP occurs in WNG (subject to some qualification), SWNG, SNG, CNG, and ENG, as well as the unclassified Tanahmerah I.

In WNG, the occurrence of PPP is marginal. In the Kapaur subgroup the first and second person singular pronouns show *n* and *k* respectively, e.g.

Kapaur *on* 'I, *ko* 'thou', and Karas *aan* 'I, *ka(me)* 'thou' cf. *ma(me)* 'he, she, it'. Little is known regarding the grammar of these languages but there are probably no pronominal bound forms. In the Etna Bay group we have a possessive prefix *ka-* 'thy' for Faranjao and the available word list often shows a prefix *ne-* which may mean 'my'. If so we would have the usual possessive prefixes at least for the first and second person.

The three subgroups of SWNG for which we have detailed information, Marind, Ok, and Awju all show this pattern in the languages for which relevant data exist. An example is Marind from which an example of the possessive use with kinship terms has already been quoted. A number of verbs express the pronominal object by prefixing or infixing other variants of this set differentiated for number. The following will illustrate a common pattern of infixing used with certain formative suffixes, e.g. *-ib*, *kah-ib* 'to bind', *kahan-ib* 'to bind me or us', *kaha-h-ib* 'to bind thee', *kaha-z-ib* 'to bind you or them', *kah-ib* 'to bind him, her, or it'. We may suspect that *-ib* is an old auxiliary with prefixed object. An example of prefixing is *na-sak* 'to hit me or us', *ha-sak* 'to hit thee', *u-sak* 'to hit him, her, it', *i-sak* 'to hit you or them'. *u* or *w* is one of the common third person singular variants found in a number of languages.

In SNG the pattern is attested once more in the westernmost subgroup where we have detailed grammatical information. Here it does not occur in bound forms; an example is the subject-independent pronouns of Riantana *na* 'I, [ng]gö 'thou', *yö* 'he, she, it'.

In CNG, the PPP type is heavily represented in all three main branches, western, central, and eastern. We may illustrate from Dani in the western group. In this language as in Marind and elsewhere the employment of the PPP set as possessives with nouns is confined to a limited set, in this case kin-terms, parts of the body, and personal belongings. The following is an example: *n-eilegen* 'my eyes', *h-eilegen* 'thy eyes', *eilegen* 'his, her eyes', *nin-eilegen* 'our eyes', *hin-eilegen* 'your eyes', *in-eilegen* 'their eyes'. The same set is usually infixing in the verb in different forms for the direct or indirect object e.g. *sal-na-p-in* 'to cover me', *sal-ha-p-in* 'to cover thee', etc., in which *-p-* marks the infix as a direct object and *-in* is the infinitive suffix and *isat-ne-s-in* 'to cook for me', *isat-he-s-in* 'to cook for thee' etc. in which *-s-* marks the dative. As in Marind there is a limited group of verbs which take prefixes: *na-s-in* 'to hit me', *ha-s-in* 'to hit thee', *wa-s-in* 'to hit him', *nina-s-in* 'to hit us', *hina-s-in* 'to hit you', *ina-s-in* 'to hit them'.

Finally in ENG one subgroup, Dimuga, has independent (presumably) pronouns of this type in the first and second person singular, e.g. Dimuga *ne*,

ge; Onjob *na, ga*. Virtually nothing is known of the grammatical structure of these languages.

8. Another pronominal pattern found in languages of the three subgroups SWNG, SNG, and CNG will be illustrated by a verb paradigm from Magobineng of the Huon (eastern) subgroup of CNG, in this case that of a tense labelled Perfect I, with the following suffixes indicating the subject:

	SINGULAR	DUAL	PLURAL
1p.	- <i>baq</i>	- <i>baleq</i>	- <i>baneng</i>
2p.	- <i>maq</i>	- <i>bileq</i>	- <i>bineng</i>
3p.	- <i>yeq</i>	- <i>bileq</i>	- <i>bineng</i>

The significant points which define this pattern are: (1) in the non-singular number or numbers the second and third persons are identical; (2) the first person is distinguished from the non-first persons by a vowel change which is the same for dual and plural if there is a dual.

The vowels involved may be different even in the same language in different tenses. We may symbolize the pattern by the vowel of the first person followed by the vowel of the non-first person, e.g. *ai* in the above instance. An example of two patterns in the same language is Kate *eli* and *ali* in different tenses. The recurrent types are *ai*, *ei*, *ui* and *ie* (i.e. those which occur in more than one language). This pattern is found in a number of languages in the central and eastern branches of CNG. It is also found in Kati of the Ok subgroup of SWNG and in Jei and Kanum of the western subgroup of SNG.

9. Unlike the preceding three items, this one is found both in New Guinea and elsewhere. Abui in TA has a plural *-mana* as in *amui-mana* 'the dead'. Moni in the western subgroup of CNG has plural suffix *-mena* used with relationship terms and Binandere of ENG has two plurals *-mono* and *-mane* of which the former is exclusively used with relationship terms and the latter for the most part. These resemblances might not appear to be particularly significant since they are found in so few languages. However, when one considers that the overwhelming majority of Indo-Pacific languages do not inflect the noun for number at all, or have only a few special, often irregular plurals for a few words such as 'man', 'woman', 'boy', etc., these agreements become noteworthy.

10. A major point of agreement linking a whole series of groups both in and out of New Guinea is the expression of sex gender. The most important pattern once more involves vowel alternations and has received incidental illustration several times in the course of this study. A convenient starting point is the system as it operates in Marind of the SWNG group. As in a number of other instances there are other genders besides masculine and feminine, in this case two others. The chief manifestation of gender is by vowel

change in nominal modifiers, the noun itself usually not having any overt gender mark. The vowel alternation may affect, depending on the specific modifier, a medial or final vowel or both. The four genders are (1) masculine human, (2) feminine human and animals, (3) inanimate, (4) inanimate. Only genders (1) and (2) have a separate plural and this plural is the same for both and always coincides in formal expression with gender (4), the inanimate gender *par excellence*.

The basic and most frequent pattern is: *e* masculine singular, *u* feminine singular, *a* first inanimate gender, *i* second inanimate and plural of masculine and feminine. An example is the adjective 'light' which has the inflections *akek*, *akuk*, *akak*, and *akik* in accordance with the above scheme. A few illustrative sentences are: *patur epe papas ka* 'young-man the small is', *kivasom upe papus ka* 'young-woman the small is'. The same pattern appears in a few verb forms which mark the gender of the subject, e.g. *epiziget* 'he sleeps', *upiziget* 'she sleeps', *ipnaiziget* 'they sleep'. In this last *na* is a common marker of third person plural subject.

A further manifestation is found in some nouns in which vowel alternations express sex differences. These are chiefly relationship terms. An example is *anem* 'man', *anum* 'woman', *anim* 'people'.

Although the vowel pattern thus far illustrated is the basic one, certain variations are found. For example *a* instead of *e* for the masculine singular appears in the adjective 'wild' *akhata* masculine, *akhatu* feminine, *akhati* inanimate and human plural and in the pair *zam* 'husband', *zum* 'wife'. Another variant is masculine *i* as in *wananggib* 'son', *wananggub* 'daughter', *wanangga* 'children'. In view of these and other variations in the vowels, and on the assumption that the protolanguage may have shown similar variations, it is not surprising to find a variety of vowel alternations among the various Indo-Pacific languages. One remarkable feature has been found to hold in well over twenty examples with the only clear exceptions being the New Britain and Bougainville languages which consistently reverse it. The masculine singular vowel is always more front than the feminine or, if you will, has a higher second formant. If we write the basic vowels then in the order *i*, *e*, *a*, *o*, *u*, the masculine vowel will always be to the left of the feminine vowel. A further illustration beyond the Marind examples *e/u*, *a/u*, *i/u* cited above is Moraori, a language of the SNG subgroup in which the gender of the verb object is expressed by vowel changes which moreover are different in different tenses. Examples are *termi* 'thou strikest him' (present tense), *torma* 'thou strikest her' (present tense), *kesnemefti* 'you struck him' (before yesterday past), *kosnomafi* 'you struck her' (before yesterday past). Here we find the following vowel changes from masculine to feminine *e/o*, *i/a*, *e/a*, all of which conform to the above rule.

The following are the basic facts regarding the distribution of this pattern. In Halmahera we find that while the masculine and feminine singular have consonantal indicators, there is agreement with one basic feature of the Marind system. There is a third neuter gender, it coincides with the neutralized plural of the masculine and feminine, and it is expressed by *i* exactly as in Marind. Thus the verb subject pronouns in Galela are masculine singular *wo*, feminine singular *mo*, neuter *i* and plural *i*. On New Britain, Taulil and the closely related Butam likewise show a neuter *i* in contrast with masculine *a*, feminine *e* in the singular. In the plural the widely distributed pronoun *ta* is found.

It seems reasonable to hypothesize that the widespread third person pronoun *i*, *ɣ*- which functions, as has been seen, in SSP and PPP, but is even more widely distributed, takes its rise from the neuter and plural third person *i*.

In the Nasioi language of Bougainville, Ogan (1966) who reports on the kinship terminology, gives minimal sex contrasts based on vowels which involve the reversed pattern in some instances. Examples are *nuring* 'son', *norang* 'daughter', *naung* 'husband', *naang* 'wife'.

It was noted earlier that the only published evidence regarding the non-Austronesian language of New Ireland is one sentence in Capell (1954) and kinship terminologies in the ethnological report of Chinnery (n. d.). It is therefore all the more remarkable that it should give us further examples of vowel alternation and this time in conformity with the usual New Guinea pattern. From Limalua (p. 17) Chinnery gives *poirang* 'son', *poirung* 'daughter'. The *a/u* alternation is found in Marind, as previously noted.

From New Guinea we find instances of these vowel alternations in NNG, SWNG, SNG, and CNG. In the first of these, NNG, we note that Monumbo with a five-gender system has feminine singular *u*, neuter singular *i*, as in the independent pronouns *uk* and *ik*. The other indicators are consonantal. There is here complete coincidence with the normal *u* feminine and *i* inanimate of Marind. In the Nimboran verb the sex of the third person subject is indicated in the singular by the suffixes *-am* 'masculine', *-um* 'feminine', in which *m* as pointed out in earlier discussion, is the common third person morpheme of NNG. The vowels *a/u* coincide with the New Ireland and Marind patterns quoted earlier.

In SWNG, to which Marind belongs, all the languages of the Ok and Marind subgroups exhibit the features being discussed here. It was indicated in the treatment of SWNG as a group that the agreement between these two subgroups in the particular local variant *e* masculine singular, *u* feminine singular, *i* plural was an important piece of evidence in favor of the unity of SWNG. Examples are so numerous here that they need not be further quoted.

In SNG an example of vowel changes for sex of third person object was noted for Moraori earlier. In CNG, examples are available from the western and central subgroups. The Huon (eastern) subgroups do not have sex gender. Ekari in the western subgroup uses an *i/a* contrast as suffixed verb subjects and *i/o* in the demonstrative. The only example I have found in the central (Highlands) subgroup is in Enga kinship terminology (Wirz K.919) *wanengk* 'son', *wanangk* 'daughter'. There are also instances of vowel contrast for sex in the relationship terms in Asmat of the Kamoro group which is one of those left unclassified in the present study.

Consonantal indicators of sex gender are also common. They are quite various but there are some points of contact among different subgroups. One of these deserves special mention, the occurrence of *m* as a feminine marker. This was already noted for the singular pronoun in the Halmahera languages. In Anceaux's unpublished materials it occurs as verb subject in Aitinjo in WNG, e.g. *tamo* 'he goes', *mamo* 'she goes'. It also occurs in Yava, the language of central Japen (Anceaux 1961) which was tentatively assigned to WNG. The examples here are the Mantembu pronouns *ue* 'he', *uem* 'she', and the verb subject prefix in *more* 'she goes' contrasting with *de* 'he goes'. Since these languages are all assigned by Cowan to his West Papuan Phylum this is important grammatical evidence for this grouping. It does, however, seem to occur in the Telei language of Bougainville, e.g. in the indefinite pronoun singular *niinu* 'masculine singular', *noma* 'feminine singular', *nogo* 'masculine plural', *nomi* 'feminine plural', and with the same plural *g/m* opposition in the independent plural pronouns *igau* 'they, masc.', *emi* 'they, fem.'

11. The formation of a past tense by means of a suffix containing a velar consonant has been widely noted. Where there are several past tenses it tends to be the more remote. The examples recorded come from three subgroups outside of New Guinea and four within New Guinea as follows: AN *-ka* (all languages in the main or northern subgroup); HA *-ka* (where there is evidence, except Galela which has *-oka*); CM Bilua *-ke*; NNG Nimboran *-k-*, Sentani *-ka-* (labelled 'aorist'), Anaberg *-g*; Yelogu *-k-*; Wosera *-k-* (in interrogative sentences); SWNG Aghu *-k-* 'before yesterday past', Jaqai *-k-* or *-b-* (*promiscue* according to Drabbe); SNG Jei *-ag-*, *-eg-* 'remote past', Mombum *-agha-* 'remote past', Ndom *gh*; CNG Dani *-k-* 'remote past', Moni *-ga* 'remote past', *-g-* immediate past; Duna *-gu*, Karam *-k-*, Kewa *-uga-* 'remote past, Ono *-ko-* 'remote past'. This element regularly follows the root. Where indicated as nonfinal here it is followed by obligatory inflectional elements.

Table 1 summarizes the distribution of the preceding items. By 1a is meant the *n* first person pronoun, by 1b the *t* first person pronoun. By 10a is meant

the vowel pattern of gender discrimination, by 10b the occurrence of *m* as a feminine indicator.

TABLE 1

	1a	1b	2	3	4	5	6	7	8	9	10a	10b	11
AN	-	+	+	-	-	+	-	-	-	-	-	-	+
TA	+	+	-	+	+	+	-	-	-	+	-	-	-
HA	-	+	+	-	+	-	-	-	-	-	+	+	+
NB	+	-	+	-	-	+	-	-	-	-	+	-	-
BO	+	-	-	+	-	-	-	-	-	-	+	+	-
CM	+	-	+	-	-	+	-	-	-	-	-	-	+
TS	-	-	+	-	-	-	-	-	-	-	-	-	-
WNG	+	+	+	+	-	-	-	+	-	-	-	+	-
NNG	+	-	+	+	-	+	+	-	-	-	+	-	+
SWNG	+	-	-	+	-	-	-	+	+	-	+	-	+
SNG	+	-	-	+	-	+	+	+	+	-	+	-	+
CNG	+	+	+	+	-	+	+	+	+	+	+	-	+
NENG	-	+	+	-	-	-	-	-	-	-	-	-	-
ENG	+	+	+	+	-	-	-	+	-	+	-	-	-

In evaluating the significance of the table, there are several considerations to be kept in mind. Some of the negative entries are most probably the result of poor documentation. At one extreme we know virtually nothing of Tasmanian grammar whereas, thanks largely to work of the SIL group, we probably know most about the grammar of the CNG languages. Moreover this is an arbitrary selection of grammatical features and, of course, lexical evidence does not figure at all. With all these reservations the following observations may be offered. HA, TA, and WNG corresponding to Cowan's West Papuan Phylum may constitute a 'super-group'. This would receive some support from lexical distributions also. On a similar level there appears to be a nuclear New Guinea group consisting of NNG, CNG, SWNG, and SNG. It is noteworthy that the NENG (Madang) definitely does not belong here and shows just as much resemblance to non-New Guinea as to New Guinea languages. There may also be a similar high-level grouping containing NB, BO, CM and Rossel Island.

It should be emphasized that the above presentation probably by no means exhausts the grammatical evidence. Among other possible lines of investigation that might be pointed out are the following. The existence of separate verb stems for singular and plural (sometimes dual) action is widely reported (e.g. Andamanese, SWNG, CNG, NB). This was not investigated in detail

and might well uncover specific points of contact among the subgroups. Another interesting feature is consonantal ablaut, e.g. the initial consonant alternations of the Halmahera language, consonant alternations of the suffix forms in New Britain languages, and typologically similar alternation in CNG. This was also not investigated here. Whether indeed the question of historical connection among these can be resolved on present evidence is doubtful.

Although not in itself decisive it is perhaps worth remarking that certain typological traits of word order, the direct opposite of those of Austronesian languages, appear with great consistency. The typical Indo-Pacific word order in transitive sentences is subject–object–verb and for the genitive construction the possessor regularly precedes the possessed. In Austronesian languages the object normally follows the verb which often comes first in the sentence and the genitive order is possessed followed by possessor. Among Indo-Pacific languages only the Santa Cruz subgroup of CM has the usual Austronesian order. Every other group has the typical Indo-Pacific order in all or a great majority of the languages.

I believe that the evidence presented here is sufficient to establish the point that the vast majority of non-Austronesian languages outside of Australia, on which judgement is still reserved, have a common origin. For the non-Australian languages, we must of course consider the fact that there are still a fairly large number of languages for which we have little or no data so that nothing can yet be stated concerning them. For Tasmanian the relative paucity of data including the virtual absence of grammatical information necessarily produces a somewhat weaker case than in other instances. Still what evidence we have does point in this direction.

In judging this evidence it is reasonable to ask the reader not to lose sight of the main body of evidence in noting, as he no doubt will, some inaccuracies in citation and some comparisons which perhaps will not stand up in the light of further investigation. In a first attempt, and this is a first attempt, to delineate the basic features of such a vast family, some errors are indeed inevitable.

Regarding the first of these possible inaccuracies in citation, I should point out that, except for an initial period in which I received assistance from George Grace, all of this material was copied from original sources by myself over a period of twelve years during which it occupied a major share of my attention. I have tried to check carefully but in the multiple process of my own copying, secretarial typing, and typographer's typesetting I would be surprised if there were not at least some minor errors.

During this period, particularly as new data were published adding continuous corroboration to old etymologies and grammatical comparisons and giving rise to new ones, more and more points of contact appeared among these languages which, to begin with, appeared to me to be very divergent. My hope is that the present study will help to hasten the long overdue demise of the notion of Papuan as merely a scrapheap of assorted languages bound together by the negative characteristic of being non-Austronesian. May the comparative study of this major linguistic stock, which has been so strangely neglected and whose importance for many Austronesian problems is basic, finally come into its own.

### Indo-Pacific Etymologies

1. above TA Abui *epe* 'upon, at'; BO Konua *piai* 'upwards'; CM Savo *piai* 'go up, upwards'; WNG Mairasi *oβiβi*; NNG Ampas, Waris *op* 'sky'. Demta *op* 'high', CNG Jabi, Ekari *epa* 'sky' Dani *pu* 'up', Agarabi *opu* 'sky', Gende *pea* 'above', Ago, Naga *paiq*, Mape, Wamola *faiq*, Migaba *feiq*, Hube *hoi*, Kate *fai*; NENG Em *fia*; ENG Namau *upai*; UNG Iria, Asienara *ope(ra)*, Asmat *op* Mimika *opo*
2. all<sub>1</sub> AN Biada *doga* 'much'; TA Abui *toka*; NB Taulil *tugus*; BO Siwai *tuki*; WNG Baham *taghiia*; CNG Dibiri *tugarama*; NENG Bongu *jegar*, Sungumana *jaqar*; UNG; Asmat *takas*
3. all<sub>2</sub> HA Modelo *odomu*, Tabaru *odumu*; WNG Najarago, Tarof *udumia* 'much', Mairasi *qatmaqia*; NNG Valman *comcom* 'many', Manambu *αMαCαM* 'much'; SWNG Jaqai *ndom*; SNG Dabu *tomambi* 'all, many', Kimaghama *ndom*; CNG Dem *ondoma*, Ekari *idima*, Moni *edema*, *ontoma*
4. arm (upper) AN Puchikwar, Juwoi, Kol *ben* 'shoulder blade'; WNG Teminabuan *mbeng* 'shoulder'; Kapaur *mbe* 'shoulder'; NNG Kwesten *fan* 'hand', Murik *pena-garöb* 'shoulder'; SWNG Kati *ben*, Telefol *ben* 'forearm in counting', Metomka *mbe* 'arm, hand'; SNG Goaribari, *bena* 'upper arm', Turama, Urama, Iwainu, Kerewa, Era River *bena* 'shoulder'; Eme-eme *beno* 'shoulder'; CNG Jabi *benai*; NENG Saker *ben* 'hand, branch'; UNG

- Asmat, Kajakaja *ban* 'hand', Kauwerawet *pan* 'upper arm', Koassa *ban* 'upper arm'
5. arrow AN Kede *tul*, Chariar *taul*, Bale *del*, Juwoi *tol*; WNG Barau *taure*, Mor *taura*, Kampong Baru *tauru*; SNG Karami, Eme-eme *tiri* 'bow', Goari-bari, Kerewa, Turama, Mawata, Kiwai, Wabuda *tere*, CNG Tsaga *telya*, Tjiranki *tela* Fasu *tare*; UNG Kamoro *tearə*, Mimika *tiarə*
6. ashes AN Beada *bug*, Bale *buk*; HA Ternate *fika*; WNG Asli-Sidi *bok*, Mogetemin *boh*, Maibrat *buh*, Ajamaru *box*; SWNG Boazi *pokok*, Konmak *pokak*
7. bark (of tree) AN Kede *kapo*, Chariar *kaba*; TA Bunak *koma*; Bo Baitsi *kamu*, Siwai *kang*; NNG Maprik, Wosera, Manambu *cəpə*, Yelogu *cəfi*, Nyaura *cəmbə*; SNG Karima *kaibo* 'skin', CNG Kiniageima, Jalimo Anggapuruk (*na*)*kap* '(my) skin', Jupna *gap* 'skin' ENG Namau (*iri*)*kape* '(tree) skin = bark'
8. to bear (a child) AN Chariar *otu*, Kede *te* 'child' TA Abui *yadi* BO Telei *utu* 'be born', CM Reef *too*; WNG Mairasi (*iwo*) *atu* '(tree) child = fruit'; NNG Nimboran *tu* 'child', Mekei *do* 'child'; CNG Jabi, Ekari *uta* 'fruit' Pesechem *ot* 'child'; NENG Bongu *at*; ENG Mailu *odi*, Dimuga *otua* 'offspring'
9. beautiful HA Pagu *ofiofi*; WNG Mor *iaba* 'good, sweet', Barau *boe* 'sweet', Mairasi *iβi* 'sweet', Etna Bay *ivi* 'sweet', Faranjao *iwi* 'sweet', Meringgo *owf*, Mansibaber *eif*; NNG Sentani *foi* 'beautiful, good', Tanahmerah II *poi* 'good', Arapesh *apui*, Ngala *afʌ* 'good'; SWNG Aghu *yafi*; SNG Tunjuamu *poio* 'good'; CNG Moni *poya*, Ndani *op* 'good', Tsaga, Tjiranki *epe* 'good', Augu *eve* 'good', Hube *fea* 'good'; ENG Korona *ifi* 'good', Mafulu *ifa(ne)*
10. belly CM Nabalua, Noole *bilu* 'guts'; TS Northeast *pla(na)*, Middle East *peri(na)*, West *pile(re)*; NNG Nori *buri* 'heart', SWNG Telefol *bubul* 'heart'; SNG Keladdar *puri*, Jei *buri*, Jab *bulo* 'heart'
11. blood BO Nasioi *ereng*; *ereere* 'red', Baitsi *erei*, Koianu *ereng*, Siwai *iri*; CM Baniata *aroa* 'red'; WNG Solowat, Itigo, Bira *aruo*, Madik *el* 'red'; NNG Sko *olo*, *oli* 'red'; SNG Urama *ora*, Era River *ola*,

- Koneraw *irri*, Miriam *arau* ‘red’; CNG Moni *era*; NENG A’e *uring* ‘red’, Bogadjim *leng* ‘red’, ENG Mambare, Binandere, Yega, Tain-Daware *ororo*, Manukolu *ro*, Namau *aro*
12. bone TS Southeast *teni*; WNG Madik, Karon *dini*; NNG Mekei *den*, Kwesten *ren*, Kamtuk *don*, Nimboran, Kuangsu *dong*; NENG Bogadjim *tanu* ‘bone, body’, UNG East and West Rossell I. *dona*, Yela *donna*, Kwai, Olango, South West Rossell *döna*
13. to break TA Abui *bal*; NB Uasi *vala*, Taulil *varka*; BO Konua *huri*; SNG Kimaghama *boro*, Ndom *börbör*, Teri-Kawalsch *burriye*, Jei *belna*; UNG Yela *bwari*
14. bush HA Pagu *bongana*; TS North East *bangala* ‘bush, forest’
15. buttocks AN Biada *dama*, Bale *doamo*, Puchikwar *tomo*, Juwoi, Kol *tome*; TA Oirata *itim*; WNG Etna Bay *sombo*; NNG Monumbo *tsimba*, Yelogu *dyambu*; Sentani *dəmə* ‘tail’; Demta *dum* ‘tail’; SWNG L. Murray *dumu*; SNG Dorro *temi* ‘tail’ Keraki *semi* ‘tail’; Kimaghama *cöme*, Riantana *cambö* ‘tail’, Teri-Kawalsch *cumme*; CNG Kate *domba* ‘root of tail’, ENG Oru-Lopiko *dama(nota)* ‘anus’ (*nota* probably = ‘hole’); UNG Waruna *odoba* ‘tail’, Mimika *atabu*
16. child AN Kede *etira* ‘boy’, Chariar *etire* ‘boy, Bogijiab *tire* ‘boy, child’, Juwoi *tre* ‘baby’; TA Oirata *doli* ‘small’; NB Taulil *idila* ‘small, child’; NNG Kilmeri *turi*; ENG Uaripi, Lepu *aturea*, Mailu *ature*; UNG Olango (Rossel I.) *tier*
17. cloud TA Bunak *taho*, Abui *tabo*; HA Modole *dipa* ‘sky’ BO Koianu *tubei-tubei*, Nasioi *tupetupe*; CM Banua, Nea, Noole, Nabalua *duba*; WNG Barau *tuva* ‘sky’; NNG Siaute *tapai*, Nori *utepo*, Kamtuk *ndop* ‘smoke’; Ngala *tu[m]bu*, Yelogu *tu[m]bu*; SNG Peremka *dapar*, Parb *dabar*, Bangu *davwar*, Dorro *jafarr*, Dabu *dapar*, Kiwai *tobore*, Sisiamé, Pirupiru, Buniki *toboro* ‘cloud, sky’, Dibiri *toboro*, Dungerwab *dabar* ‘sky’
18. to come TA Bunak *man*; Oirata, Makasai *maqu*; Abui *me*, *mei*, *mirani*; BO Nasioi *maniai* ‘to go’; SWNG Marind *man*, Digul Upper Muju, Niinati, Metomka *mene*, Mandobo *mend*; SNG Moraori *umon*, Teri Kawalsch *muinane*, Ndom *aman*, Jab *man*, Jibu *mane*; CNG Dem *nem*, Simori *meina*, Wolani *mena*, Ekari *mind*; NENG Sungumana *minjaa*;

- ENG Gosisi *mana* 'bring', Namau *mina* 'bring'; UNG Tate *mane*
19. to cry AN Puchikwar, Kol *war*, Juwoi *yar*, Chariar *olo*; TA Oirata *oore*, Makasai *iar*, Bunak *ɔɔ*; HA Pagu, Modole *ali*, Galela, Loda, Tabaru *ari*, Sau, Wai *adi*; SNG Kunini *ele*; CNG Sinasina *ale*, Dom *ali*; NENG Bongu *ara* 'scream'; ENG Mailu *ari* 'ceremonial mourning', Iworo *ario*; UNG Tanahmerah I *aire*
20. to dance NB Taulil *men*; Baining, Butam *mein* NNG Nori *mondai* 'to sing'; SNG Mawata, Kiwai, Wabuda *amaro*, Pirupiru *omaro*, Oriomo *omare*; CNG Tsaga *mali* 'dancing, singing'; NENG Langtub *muni* 'Tanzfest', Bongu *muun-(dawagh)* 'to dance, to sing', Sungumana *mun-(tuwa)* 'to dance'; ENG Oru-Lopiko *aemario* 'song'
21. to die TA Oirata, Makasai *umu*; NENG Banara *uma*, Bongu, Saker *mo*, A'e *mɔ*, Em, Ate *mau*; ENG Namau *imua*
22. dog HA Galela, Tabaru *kaso*, Tobelo *kaho*, Modole *qaho*; BO Konua *keesa*; SNG Barika, Dugeme *kase*, Karami *kso*, Ipikoi *gaho*, Hibaradai *gaha*, Eme-eme *gaso*, Mahigi *gahola*; CNG Fasu *kasa*, Deduae, Ono *kasi*, Hube *kazu*
23. ear NB Taulil *tama(ka)*, Baining *sdem(ki)*, Uasi *lomu* 'to hear'; BO Telei, Koianu, Baitsi *rom*; WNG Kampong-Baru *odaba* 'to hear', Inanwatan, Solowat, Bira *tobo* etc. 'to hear'; NNG Anaberg *rɔmu*; SNG Turama *demeriwai* 'to hear'; NENG Sungumana *damoi*, Burumana, Koliku, Male *damui*, Bongu *dab*, Ate *dabi*, Em *deb*, Rempin *debur*; ENG Giumu, Tahari *doma*
24. earth AN Bale *moga* 'bottom', Bogijiab *mika* 'underneath', Puchikwar, Juwoi, Kol *mikam* 'underneath'; TA Bunak *mɔɔk*, Oirata *miki* 'mud', Abui *mok*; NB Sulka *miie*; TS Middle East, Southeast *mara*; SWNG Awju Sjiagha *moka* 'earth, underneath', Awju Pisa *mokā*, Marind *makan* 'earth, underneath'; Jaqai *mogon-(ape)* 'underneath', Aghu *makā* 'ground', Telefol *bakan* 'ground'; CNG Gadsup *makai*, Gende *mikai*, Siane *mika*, Benabena *meqi*, Wagamb, Kuno *mar*, Chimbu *magan*, Dem *mok*, Jubi *maki*, Wolani *marai*, Ekari *maki*, *magi*, Moni *may*, *mayi*; ENG Minjori *moia*, Suambe *moia*, Elema *mea* 'land', Haira *mea*, Kairi-Kaura *mio* 'land', Uaripi, Milareipi, Toaripi *mea* 'land'

25. to eat TA Oirata, Makasai *nawa*, Abui *nei*; BO Nasioi *noi* ‘eat, drink’, Koianu *nai* ‘drink’; HA Galela *ino* ‘food’; WNG Konda *no*, Puragi *niga*, Kanpaur *nowa*, Baham *nou*, Patimuni *nawa*, Karas *nanet*; NNG Wembi *nana*, Skofro *nəna*, Ampas *neu*, Sentani *anə* ‘eat, drink’, Nafri *an*, Valman *nago* ‘drink’, Arapesh *nig* ‘feast’; SWNG Niinati *ane*, Telefol *unin*, Awju Pisa *nī*, Wambon *en*, Aghu *ē*; SNG Komelom *noku*, Mombum *noku*, Kanum *anang*, Jibu *nina* ‘food’, Karima *novu* ‘food’, Bara *na* ‘food’, Dabu *none*, Bugi *nana*, Koneraw *nugu* ‘food’, Goaribari, Turama, Era River *naa* ‘food’, Tunjuamu *nune* ‘food’; CNG Tjuave, Sinasina *nega*, Kuman *neinga*, Dom *neeka*, Tsaga *ne*, Tjiranki *ne*, Uhunduni *no*, Enggipilu *nu*, Dem *nen*, Forei, Gadsup *na*, Tairora *na* ~ *ne*, Gende *nua*, Jamafi *nowa*, Medlpa *nui*, Kewa *na*, Sau *nee* ‘food’, Tugi *nano* ‘food’, Sua *no* ‘food’, Matap *nang(at)* ‘I eat, drink’, Wantoat *na* ~ *nāp*; ENG Yema-Yerawe *nai*; *nena* ‘food’, Mawai *nona* ‘food’, Kwatewa *nat-ni* ‘food’, Dimuga *nana*, Onjob *na* ‘eat, drink’ *nana* ‘food’, Oru-Lopiko *naro* ‘eat, drink’, Kuepa *neka* ‘food’, Afoa *nana*, Tauata *nai*, Mafulu *nene*, Kotoi *nananu*, Mulaha *ina* ‘drink’, Namau *nav* ‘eat, drink’; UNG Tate *nove*, Gaima *nou*, Pauwi I *ani*, Kamoro, Sempan *ne*, Asmat *an* ~ *n*, Mimika *ena*, Yela (Rossel I.) *нна* ‘feast’
26. egg AN Biada *molo*, Bogjjiab *mula*, Kede *mulo*; WNG Aitinjo, Mogetemin *make*; SWNG Jaqai *moko*, Awju Pisa *mugo*, Aghu *mügo*; CNG Aua *mokl*, Gawigl, Mogeï, Medlpa *mukl*, Wagamb, Kuno *murū*, Nondugl *muro*, Chimbu *muklo*, Dom, Boumai *mile* ‘egg, fruit’, Sinasina *mile*; ENG Domara *murū*, Mailu *murū*-<sup>4</sup>
27. to fall AN Biada *pa*; TA Oirata *ipa*, Bunak *pai* ‘arrive’, Abui *pe*, *pei* ‘go down’; CM Laumbe *foava*, *foama*, Banua *voi* ‘go down’, SNG Teri Kawalasch *paa*; CNG Wantoat *epu* ‘come

<sup>4</sup> In this and a few other etymologies (and in others confined to New Guinea and not contained in this list) one finds an unusual correspondence of *k* or *g* with *r* or *l*. In the present instance some of the CNG languages with *kl* (i.e. a velar lateral) show the source for these divergent phonetic developments. This sound is probably more widespread than appears from existing sources. Thus the name of the Ekari language of some sources is written Ekagi by Drabbe in his grammar of that language. Doble, a professionally trained linguist, reports this sound to be indeed a velar lateral. What is probably the same sound is described by Feuilletau de Bruijij in somewhat sensational terms as ‘Een merkwaardige letter is een achter in de keel gebrouwen *r* die als het ware een overgangslatter vormt tot de *k* en daarmee ook wel verwisseld wordt’ (K.517: 144).

- down'; NENG Banara *ipapa*, Saker *vo*; ENG Mailu *poo* 'fall, of fruit', Toaripi *foi*
28. female TA Bunak *fana, pana* 'woman, wife', Oirata *panar* 'female of animals' BO Siwai *panna* 'wife'; WNG Aitinjo *finya* 'women', Mogetemin *fanya* 'woman', Asli-Sidi *finia* 'woman'; CNG Wolani, Moni *pane* 'girl', Karam *pany* 'daughter', Dem *pani* 'female'; NENG Langtub *pano* 'woman, wife'
29. fingernail AN Bea *pag* 'claw', Bale *poag* 'claw'; NB Sulka *paaga*; WNG Baham *pag*, Teminabuan *pek*; NNG Nafri *faxa*; ENG Amara *foka*; UNG Tate *faha* 'claw'
30. fire AN Bogijjab, Kede, Charier *at*; TA Oirata *ada*, Makasai *ata*, Bunak *ατο*, Abui *ara*; BO Nasioi *nta, tai* 'to burn', Konua *eto* 'to light a fire'; TS Southeast *to*, West *toi*; WNG Madik *yet*; SWNG Boazi *te*, Awini *de, di*, Madinava *da*; SNG Jab *te*, Melmek *ete*, Ipikoi *tai*, Goaribari *taetae* 'burn', Makleu *atha* 'burn'; CNG Jabi, Simori *utu*, Moni *usa*, Tsaga *te* 'burn(intr.)'; NENG Nupanob *ote* 'fever'; ENG Gebi *ita*, Mailu *odaoda* 'hot', Mafulu *ade* 'burn', sogeri *taite* 'hot'; UNG Kamoro, Mimika *uta*
31. fish BO Telei *topi*, Nasioi *tavi*; WNG Mor *daba*; NNG Atemble *jab*; SWNG Boazi *seve*, Konmak *seva*; SNG Bangu *caua*; NENG Langtub *sieb*; ENG Uaripi, Milateripi *tava* 'mullet', Suku *seva*, Karukaru *sivi*
32. fog AN Biada, Bale, Puchikwar *pulia*, Juwoi *pulye*, Kol *polia*; TS Middle East *prü'a*, Southeast *bura* 'smoke', WNG Merani *bilu* 'smoke'
33. forest AN Biada *erema*; TA Oirata *irim, irimi*; NB Baining *inim* 'bush land'; CM Laumbe *aram* 'land'; SWNG Telefol *atem* 'forest', WNG Mailu *arima* 'plot of ground'; UNG Kauwerawet *idim* 'grondgebeid'
34. to give TA Oirata *ina*, Bunak *ani, ini*; NB Baining *een*; WNG Asli-Sidi, Mogetemin *ne*, Purgai *naq*; NNG Atemble *ani*; CNG Moni *ena*; ENG Afoa *inie*, Tauta *ini*
35. good HA Galela *tebi* 'beautiful, clean', Tobelo *tebini* 'beautiful, clean', Pagu *tebin* 'clean', Loda *tebini* 'clean'; BO Baitsi *tabei*, Nasioi *tampara*; SWNG Telefol *tambal* 'well'; SNG Miriam *debe*; CNG Karam *te[m]p*; NENG Ate *teiba*; ENG Kambesi *teba* 'sweet'

36. hair AN Önge *de*; TA Oirata *wata*, Makasai *asa*, Bunak *adu*; HA Tobelo, Modole, Wai *utu*; CM Bilua *tou* ‘hair, feather’; CNG Moni *tu* ‘feather, hair’, Dani *esi*, Upper Pyramid, etc., (Ndani) (*n*)*iti* ‘my hair’, Tsaga *iri*, *id* ‘hair, feather’, Tjiranki, Samberigi *iri* ‘hair, feather’, Augu *iri*, Sau *iri(gi)*, Kewa *iri*, Fasu *iti* ‘hair, feather’; ENG Uaripi *utu*, Kivio *ada*, Binandere, Yema Yarawe, Jegasa Sarau, Yega, Aiga, Tahari *tu*; UNG Mimika *iti* ‘feather’, Olango *to* ‘feather’, Kwai *doa* ‘feather’
37. hand AN Kede, Charia *tong* ‘arm’; TA Oirata, Makasai *tana*, Bunak *dɔn*, Abui *tang*; BO Nasioi *tanka* ‘arm, hand’; WNG Kapaur *taan*, Karas *tan*; SWNG Upper Tedi *teni* ‘arm’, Niinati *tini*, Telefol *teeng*, Upper Fly *teng* ‘finger’, Kandang *tini*, Unkia *teng*; SNG Gijara, Dabu, Dibolug, Kibuli, Mbayaka, Agob *tang* ‘arm’, Ngamai *tan* ‘arm’; UNG Goliath *tang*
38. head TA Bunak *ubul*; BO Siwai *puri*, Telei *pure*, Nasioi, Baitsi *borei*; CM Savo [*m*]*batu*, Laumbe *vatu*; TS Northeast *pace*; WNG Mnasibaber (*me*)*bir*, Manikion (*me*)*btu*; UNG Kauwerawet (*na*)*par* ‘(my) head’, Koassa (*na*)*bara* ‘(my) skull’, Wamiu *mbada*, Kwai, S. W. Rossell, E. Rossell, W. Rossell *mbara*, Olango *mböda*
39. to hear TA Bunak *ilek*; BO Siwai *lung*; NNG Siaute *elung* ‘listen’; CNG Sawuri Hablifuri (*na*)*ruk* ‘(my) ear’, Enggipilu *eloh* ‘ear’ Gafuku *lagh* ‘ear’; NENG Bongu *lagh*
40. to hit TA Oirata *wewese*, Makasai *basi*, Bunak *pas*; HA Loda *posana*, Modole *poha*; CM Bilua *pazo* ‘scourge’
41. horn AN Biada, Kede *wulu*; TA Oirata *uru*; HA Tobelo *gugul*<sup>5</sup>
42. husband CM Nea *mve(nale)*, Noole *mv(nale)*, Nabalue *mve(nalu)* ‘husband = spouse (male)’ cf. *lupnale* ‘wife’ in Nea etc.; WNG Mairasi *umo*; SWNG Aghu *amo*; SNG Ro *mui* ‘man’, Mahigi *ami* ‘man’; CNG Dom *eme* ‘man’; NENG Dagoi *mu*; ENG Tauata *mu* ‘husband, man’, Koita *mo* ‘male’, Yema Yarawe *ema*, Keveri, Bauwaki, Neme *emi* ‘man’, Kororo, Boli, Doriaidi *eme*, ‘man’, Tsia *emo* ‘man’; UNG Inora *meoa*, Sempan *mao*, Kwai *mma* ‘man’, Olango *mmö* ‘man’

<sup>5</sup> In the Halmahera languages there is a set of initial consonant alternations including one in which *g* may alternate with zero.

43. knee HA Tobelo *buku*, Pagu *bubukul*, Modole *bubuqu*, Tabaru *bubuku*, Loda, *wuwuku*; BO Koianu *poku*; SNG Teri Kawalsch *bugu*; NENG Saker *bakbakam*, Tombenam *ambakan*
44. leaf NB Uasi *boloxu*; BO Koromira *bara*, Nasioi *para*, Baitsi, Naisioi *pana*; TS Northeast *paroko*, West *paroce*, Middle East *perote*; CNG Sisiamé, Pirupiru *pori*, Barika *iboro*, Gijara *poringai*, Kawam *per*, Komelom *pur*, Mombum *epur*, Koneraw *bur*; ENG Manukolu *evarau*, Suku, Koiari, Maiari, Koita *hana*; UNG Mantembu *bara*
45. lip AN Biada, Bogijjab *pe*, Bale, Puchikwar *pa*; WNG Konda, Jahadian *pa* ‘mouth’, Kampong Baru *epa* ‘mouth’; NNG Nori *epu*, Gamai, Watam *uup* ‘mouth’; SWNG Oser *bo*; CNG Jabi, Ekari *ebe* ‘mouth’ Moni *bay* ‘mouth’, Mid Grand Valley Dani (*na*)*be* ‘(my) mouth’, Oeringoep *ambe*, Gende *apa*, Naga, Mape, Wamola, Magobineng, Deduae *bibiq*, Kate *bipiq*, Ono *pi*; ENG Amara *pe*, Aiga, Berepo *pe* ‘mouth’, Binandere, Yema Yarawe, Mawai, Yega, Tain Daware, Jauwa, Hunjara *be* ‘mouth’, Neme, Morawa, Binahari, Monomor *bebe*, Merani *bebe* ‘mouth’, Orai-iu *bebeu* ‘mouth’, Kambisa *uba*, Kairi Kaura *ape*, Uaripi, Haira, Milareipi, Toaripi, Lepu, Orokolo *ape* ‘mouth’, Mulaha *abe* ‘mouth’; UNG Mimika, Asmat *mbe* ‘mouth’, Gogodala *epo*
46. long TA Bunak *legul*, Abui *lohu*, *lougda*, Oirata *lokide* ‘high’; HA Tobelo, Galela *luku* ‘deep’; NB Uasi *alelaxu*
47. louse TA Oirata *amin*; NB Uasi *meni*; WNG Kapaur *meng*, Baham *min*, Teminabuan *men*, Amberbakan *im*, Karon, Patimuni *mim*; NNG Apris *emana*, Siaute *imum*, Tanahmerah II *ming*, *min*, Sentani *mi*, Demta *ami*, Maprik, Wosera *nyəmu*; SWNG Digul *im* ‘louse, flea’, Marapka *um*, Metomka *im*; SNG Hiwi, Iwainu, Kerewa, Kiwai, Mawata, Domori, Wabuda, Sisiamé *nimo*, Jei *nim*, Kimaghama, Riantana *nöme*, Teri Kawalsch *numme*, Ndom *neemön*, Karigari, Moie *ianame*, Dorro *yaname*, Miriam *nem*, Koneraw, Komelom *am*; CNG Moni *amu*, Tsaga, Tjiranki, Samberigi, Tugi *rema*; Siane, Mogeï *nema*, Chimbu, Wagamb, Kuno *numan*, Dom, Sinasina, Boumai, Tjuave *niman*, Kate *imeng*, Mape, Wamola, Magobineng, *imang*, Hube *iming*, Bulum *imin*, Ono *emen*, Naga *yəməng*, Momale, Migaba, Deduae *yomeng*, Sene *ime*; NENG Bongu, Bogadjim *mana*, Sungumana *manag*, Em, Ate, A’e, Nupanob, Botelkude *mi*, ENG Manukolu

- nomone*, Mulaha *uman*, Neneba *uma-a*, Agi, Uberi, Koiari, Maiari *umu*, Koita *omo*, Gosisi *mumu*; UNG Mantembu *eme*, Kamoro *mamo*, Mimika *mama*, Kamoro, Sempan *im* 'flea', Gaima *ami*, Yela *yema* 'flea', Olango *iyema*, Southwest Rossell *yiema*
48. male TA Oirata *nami*, Abui *neng* 'husband'; BO Nasioi *nema(ka)* (pl. *nema*) 'boy'; WNG Baham *namia*, Mor *niamia* 'man'; CNG Ndom *namun* 'husband'; Mombum *nam* 'male, man', Koneraw, Keladdar *nam* 'man'
49. man AN Biada *liga* 'boy'; HA Galela *roka* 'husband'; Tobelo, Modole *rokata* 'husband' Isam, Tololiku *lokat* 'husband', Ternate *raka* 'husband'; NB Taulil *loka*; BO Siwai *lugang*, Telei *lugang, dugang*
50. meat TA Oirata *mede* 'to eat'; NB Taulil *mat* 'food', Baining *mes* 'to eat', Butam *matmat* 'eat'; NNG Boven Tor *matan*; SNG Teri-Kawalsch *muje* 'food', Kunini *madzu*, Miriam *med*, Oriomo *mər*, Jibu *möre*, Dabu *mid*; CNG Aua, Wagamb, Gawigl, Mogeï, Kuno, Tsaga *minc*, Tjiranki *mincu*, Nangamb *mince*, Kate *mitung* 'piece of meat'; NENG Saker *mizan*, Em *meda*; ENG Mafulu, Korona *mise*, Neneba *misiwa* 'flesh', Gosisi *misive* 'flesh', Suku *misi*, Hagari *ove-misi*, Sogeri *mihika*, Koiari *misika*, Koita *misika-a*, Oru-Lopiko *muditsi*; UNG Asmat *amas* 'sago, food'
51. moon AN Biada *akar*, Bade *ogar*; NB Baining *xorevet(ki)*; BO Nasioi *kara*; NNG Gamai *karwe*, Gapun *kareb*, Murik *karevan*, Anaberg *gəra* 'sun', Atembre *gar* 'sun', Kwesten *kwer* 'sun'; SWNG Telefol *kaliim*; CNG Siane *ikana*, Gahuku *ikani*, Kamano, Kanite *iqkana*, Asaro *ikeqna*, Upper Asaro *geqna*, Gawigi *kalimp*, Medlpa *katilimb*, Mogeï *kalyimp*, Tsaga, Tjiranki *kana*, Pong *karib* 'sun', Keseraua *karip* 'sun', Kandomin *kandam* 'moon, sun'; NENG Mis, Saker, A'e, Nupanob, Kemba, Misdao, Botelkude *kalam*, Em *kalam* 'sun'
52. mouth NB Baining *m(ki)*; TS North East *mo* 'lip', Middle East *mu* 'lip', South East *moye* 'lip'; SWNG Lower Muiu *meia-(kat)*, Digul *meya(kat)*, Ashavi *mea* 'lip', Madinava *mega* 'lip', Kukukuku *mia*; CNG Kate, Naga, Wamola, Magobineng, etc. *miq*, Tsinyadji *ma*; UNC Mumeng I *mya* Huaruha *mii*
53. mud AN Biada *lab*; HA Tobelo *lepa*; CM Reef *lapo* 'dirty'
54. name TA Oirata *neene*, Makasai *nai*, Abui *hanin*, CM Savo *nini*, Bilua *ngi*, Reef *(n)ingu*; WNG Kapaur, Teminabuan *ne*,

- Najarago *anaia*, Tarof *anai*, Baham *niye*; NNG Monumbo *inu*; SNG Kimaghama *ne*, Teri Kawalsch *neene*, Oriomo *ne*, Kunini *ngi*; CNG Ekari *ena*; ENG Namau *noi*
55. nose AN Bea, Bale *mun* ‘mucus’, Puchikwar, Kol *mina* ‘mucus’, Juwoi *mine* ‘mucus’; TA Abui *min*, Oirata *munikain*; TS Middle East *munu*, North East *minera*; SNG Komelom *mene*, Koneraw *munne*, Nombuio *mi-in*, Potaia *meneni*, Dapo *mənia*, Tunjuamu *menye*; CNG Fore *ʌmoni*, Sau *mine-(gi)*; NENG Bongu *mana*, Bogadjim *mana*; ENG Musa R., Tain Daware, Jauwa *mende*, Adaua, Mawai, Yega, Jegasa Sarau *mendo*, Wadewinda *modu(amba)* ‘nose (my)’; UNG Gaima *mina*, Asienara *minika* ‘mucus’, Iria *miniqā* ‘mucus’
56. old AN Biada, Bogijjab *tam*, Kede, Chariar *taum*; HA Tobelo *timono* ‘to be old’; CM Bilua *tam*; CNG Jei *tamana*, Moraori *tamon*
57. to plait AN Biada *tepi*; HA Tobelo *topi*
58. to push AN Bogijjab *tera*; HA Tobelo *tila*
59. rain<sub>1</sub> AN Bogijjab *leke*; NB Uasi *lexa* ‘water, river’; TS North East *lega* ‘water’, Middle East, South East *lia* ‘water’; ENG Haira *lahi*, Kairi-Kaura *lahe*, Elema etc. *lai*
60. rain<sub>2</sub> TS West *moka*, North East, West, North *moka* ‘water’; WNG Aitinjo *moka* ‘wet’, Mogetemin *moka* ‘wet’; NNG Bosngun, Nubia *mək* ‘rain, water’, Nyaura, Yengoru *mayk*, Maprik, Wosera, Ngala *mac*; SWNG Pisirami, Tagota *mauka* ‘water’
61. sea TA Bunak *mo*; NB Sulka *mau*; TS West *moi* ‘water’; WNG Jahadian *mu* ‘water’; SWNG Oser *mui, mi* ‘water’; UNG Kamoro, Sempan *mi* ‘water’
62. to see TA Oirata *nana, ina* ‘eye’, Makasai *ena*; WNG Waipu *no*, Jahadian *nu, ni* ‘eye’; NNG Anaberg *na*, Nimboran, Kuangsu *nu* ‘eye’; CNG Mono *ini*, Forei *qana*, Agarabi *one*, Magobineng *ona*; NENG Banara *na*; ENG Mailu, Domara *ini* ‘eye’, Nemea *nii*, Suki, Agi, Hagari, Sogeri, Maiari, Koita *ni* ‘eye’, Minjori, Suambe *niiē* ‘eye’, Koiari *ni* ‘eye, face’; UNG Tate *ini* ‘eye’
63. sibling (older) TA Abui *nana*, Bunak *nana* ‘older sister’; WNG Baham *ano*; NNG Vanimo *nonei*, Sentani *eneā*, Nori *eno* ‘sister’, Wosera *anyo* ‘older brother’; SWNG Wambon *nani* ‘older sister’, Kaeti *neni* ‘older sister’, Aghu *eni* ‘older sister’, Niinati *oni* ‘older sister’, Awju Jenimu *noni* ‘older sister’, Dumut *ani*

- 'older sister'; SNG Kimaghama *nanu*, Kunini, Oriomo *nane* 'older brother', Jei *neny* 'older brother', Moraori *nin* 'older sister', Jab, Jelmek *nana*; CNG Moni *ana* 'older sister'; ENG Tauata *ene* 'older brother', Agi *nana*, Suku *nanave*, Koiari *nani* 'older brother', Tahari *nani* 'woman speaking', *nane* 'man speaking'; UNG Girara *naniwa*
64. to sit, HA Tobelo *gogeruku*; TS all dialects *kraka*
65. to sit<sub>2</sub> SNG Makleu *man*, Jab *mön*; CNG Siane *min* 'stay, sit', Gende *mina* 'stay', Kamano *meniḡnoe*, Mogeï *mana-(munt)*, Kuno *amen-(nyint)*, etc.; NENG Langtub *min* 'stay'; UNG Adiba *mana*, Waruna *mana* 'dwell', Gaima, Gogodala *mana* 'sit, stay', Tanahmerah I *mena(φFeta)*, Inora *mena(vera)*
66. skin AN Bogijab *kait*, Bale, Puchikwar, Juwoi, Kol *kaic*; BO Telei *katua*; CM Savo *korakora*; TS North East *kite*; SWNG Kandan, Lower Muju, Marapka, Niinati, Metomka etc. *kat*, Kaeti, Mandobo *kota*, Wambon, Dumut *kotae*; CNG Ekari *kado*; NENG Em *gal*, Bogadjim *gara*, Ate *garav*; WNG Uaripi, Lepu *kauri*, Kovio *koro(si)*, Afoa *goti(pe)*, Tauata *kotsi(pe)*, Goilala *koti(pi)*; UNG Tanahmerah I *katane*, Koassa *korora*, Kauwerawet *kora*
67. to sleep TA Abui *iti*; HA Modole *idu*, Loda *adu*; BO Siwai, Telei *at*, Nasioi, Koianu *asi*; CM Savo *izi*, Baniata *isia*; TS Middle East, South East *ur*; WNG Mor *ute*; NNG Murusapa *isiatei* 'it lies'; SNG Kunini *ute*, Miriam *ut*, Turama *utua* 'to lie', Era R. *utaa* 'lie', Mawata *utuwa* 'lie down', Kiwai, Domori, Sisiamé, Pirupiru *utua* 'lie down', CNG Dem *utawe*, Medlpa *ur* 'sleep (n.)'; NENG Saker *us* 'to lie'; ENG Onjob *utan*, Wadewinda *itun*, Mafulu *ito* 'to lie down'; UNG Kamoro *ete*, Asmat *isi es* (verbal noun + verb)
68. small AN Biada *ketia*, Bogijab *ketawa*; NB Baining *kitua*; TS Middle East *kaita*, *kita*
69. to smell TA Oirata *muee*, Makasai *qamuhu* 'to stink'; HA Tabaru, Loda *ame*; NB Sulka *mmi*, Uasi *mua* 'to breathe'; NNG Maprik, Kwusaun, Yengoru, Yelogu *yama*; SWNG Kaeti *umo*, Gawir *imu* 'smell (n.)'. Tirio *im(siga)* (n.), *im(tere)* (v.)
70. to stand TS South East *pegera*, West *pegere*; CNG Naga, Mape *pakale*, Wamola *fahale*; NENG Vanembere *figiru*

71. star TA Bunak *bi*, Makasai *fi(berε)*, Oirata *ihī*; CM Reef (*n*)*ivɔ*, Banua *vei*, Nea *vui*, Noole *bei*, Nabalue *pupi*; TS North East *poε*; WNG Madik, Karon *bi*, Karas *pop* ‘moon’; NNG Waris *pai*, Maprik, Wosera [*m*]bapmu, Nyaura [*m*]bwap, Manambu [*m*]bapu, Kwusaun [*m*]bapwɔ, Yengoru [*m*]bwavwɔ, Yelogu [*m*]bwapwɔ; SWNG Tirio *opapa*; SNG Karima *baiba* ‘moon’; Ro *bafa* ‘moon’, Karami *bube*, Ipikoi *opopu*, Urama *piu*, *biu*, Era R. *piu*, Mahigi *bubel* ‘moon’; CNG Tsaga, Tjiranki *bui*, Gende *mbei*, Kuman, Sinasina, Dom, Boumai *ba* ‘moon’, Kate *bɔping*, Mape *babang*, Womola *bɔpəŋ*, Magobineng, Sene *bɔbing*; NENG Langtub *boai*, Bongu *baing*, Tombenam *pop*, Bogadjim, *boi* ‘evening star’; ENG Barai *boio*; UNG Tsinyadji *bai*, Aurama *boe* ‘moon’
72. to steal TA Abui *taluk*; HA Tobelo *tolik*
73. stone<sub>1</sub> BO Siwai *kubuli*, Nasioi *kapang*; CM Savo *ko[m]borei*; NNG Monumbo *ikupul*; SWNG Tirio *guma*, Konmak *kum*; SNG Jei *kumu*, Dugeme *kamu*, Karima *kamo*, Foraba, Sesa *kabu*, Ro, Ibukairi *kabo*, Bara *kapu*, Karami *akabu*; CNG Aförö *ka[m]bö*, Chimbu *kombuglo*, Dom *kobule*, Sinasina *kovile*, Boumai *hobure*, Kuno *kimp-* ‘mountain’; ENG Boli *gebiro*, Musa R. *gembiro*, *gambiro*, Mailu, Domara *gomana*, Dom *gamu*, Merani *goma*, Adaua *gibiri*, Mafulu *kume*, Kambisa *kumo* ‘mountain’, Suku *kume* ‘mountain’; UNG Koassa *kovi* ‘mountain, stone’, Ondoro *kambe* ‘mountain’
74. stone<sub>2</sub> HA Ternate, Tidor *mare*, Pagu, Tololiku *mamaling*, Isam *mamalin*; BO Siwai, Telei *menu* ‘mountain’, Nasioi *minani*; WNG Mantion *meni* ‘mountain’, Manikion *meinyi* ‘mountain’; NNG Kamtuk *məndiung*, *mudung* ‘mountain’, Kuangsu *məndung* ‘mountain’, Waibron Bano-Demenggong *mendung* ‘mountain’; SNG Ipikoi *meno*; CNG Fore *ɔmuni* ‘mountain’, Nangamb *maar*, Kuno *muro*, NENG Burumana, Male *mening*, Koliku *meneng*, Panim *menin*, Nupanob *man*, Botelkude *men*, Bogadjim *mening*, Sungumana *man* ‘mountain’; ENG Gosisi, Agi, Kagi, Hagari, Uberi, Koiari, Maiari, Koita *muni*, Suku *mune*, Sogeri *muna*, Barai *manu*, Nigubaiba *umari*, Kokila *umare*; UNG Kamoro *omani*, Tate *mena* ‘hill’
75. thing AN Biada *min*, Bale *ming*; CM Laumbe *mina*, Reef (*kele*)*mengge* ‘this’ = ‘(this) thing’; NNG Nyaura *mənda*

- 'thing, what', Arapesh *mane* 'what?'; SWNG Kati *man* 'something'; CNG Matap *mina* 'what?'
76. tongue BO Siwai *mini*, Nasioi *meneng*, Baitsi, Koianu *mene*, Telei *mere*; TS (all dialects) *mena*; WNG Kalabra *men*, Tehit *mar*; NNG Monumbo *menεp*, Angoram *menöng*, Skofro *mer*; SNG Hibaradai *men*, Miriam *mer* 'language', Kanum *imen*, Jei *amar*; CNG Pesechem *mere*, Ndani *mele*, Oeringoep *amela*; NENG Langtub *muni*, Bongu *muin*, Sungumana *mien*, Bogadjim *mieng*, Em *melal*, Saker *mule*; ENG Manukolu *manane*, Moikoidi, Kororo, Neme, Doriaidi *meana*, Boli *miana*, Dom, Merani *maina*; UNG Kamoro, Mimika *mare*, Sempan *omane*, Asmat *komen*, Kauwerawet *men*
77. tooth AN Önge *ku*, *kwe*; TA Bunak *igɔ*; BO Baitsi *kai-i*, Siwai *kewi*; TS Middle East *kayi*; NNG Ngala *aka* 'to bite', Manambu *wuk*; CNG Mid Grand Valley Dani, Sawuri-Hablifuri, etc. *(na)ik* '(my) tooth', Ekari *ego*, Naga, Ono, Kate *ki* 'to bite', Sene *eke* 'to bite', Sua *ki*; ENG Maiari *gi*, Sogeri etc. *egi*, Mulaha *kui* 'bites'; UNG Williams R. *ke*
78. underneath HA Tobelo *timi*; NNG Kwesten *tum* 'earth'; SNG Dibiri *toma* 'earth'; CNG Gende *teme*, Fasu *tomo*, Sene *dome*
79. urine AN Biada *ulu*, Kede *wile*, Chariar *ili*; TA Oirata *iri* 'urine, excrement' WNG Etna Bay, Mairasi *iri* 'excrement' CNG Mombum *ir*, Koneraw *iyere*
80. to walk AN Önge *cige* 'leg', Biada, Bogijiab *cag* 'leg', Puchikwar, Juwoi *cok* 'leg' TA Abui *tuku* 'leg, foot'; HA Pagu, Modole, Galela, Tabaru, Loda, Ternate *tagi*; CM Savo *tetegha* 'foot, lower leg'; TS Northeast *tage(na)*, North *taka(ri)*; NNG Arso *taka* 'foot', Sko *tae* 'foot'; SWNG Marind *tagu*, Telefol *tek* 'to go, singular subject'; SNG Kanum, Moraori *tegu* 'foot' (possible borrowing from Marind), Mombum *itögh* 'foot', Bara *togoi* 'leg'; CNG Mid Grand Valley Dani *(ne)sok* '(my) foot', Jalimo Anggapuruk *(nu)juk* '(my) foot' (similar forms in other Dani dialects), Ekari, Wolani *togo*, Mikaru *saga* 'foot', Matap *tag* 'hip'; ENG Mafulu *soge* 'foot', Kambisa *suga* 'foot', Korona *sogo* 'foot', Kabana *suge* 'foot', Sikube *suku* 'foot', Hunjara, Jegasa Sarau *tegi*

- 'foot'. (For the semantics compare Gresi *masi* 'leg', *masimasi* 'to walk'.)
81. when? AN Biada *ten*, Bale *tan*; TA Bunak *twen*, Alor *tena*
82. white NB Uasi *keakea*; NNG Monumbo *keakeak*, Ampas *keke*; SNG Domori, Sisiambe *keakea*, Pirupiru, Buniki, Mawata, Kiwai *kea*; CNG Matap *kakaia* 'light (n.)' NENG Ulingan *kia*; ENG Domara *gaia*
83. wing NB Baining *ighivaret(ki)*; CM Savo *gavara* (Grace, *ghavara*), Baniata *gofona*
84. yellow HA Tobelo *kurati*, *gogurati*, Modelo *qoqurati*, Pagu *kulati*; NB Uasi *kuakuala*; BO Baitsi *kakarasa*; NNG Demta *kekēr* 'green', Murik *kuukuur*, Siaute *kala*; CNG Bulum *korotkorot*; ENG Mailu *korakora* 'green', Binandere *korakorara* 'green'

### 12.1 Appendix: A comparison of Greenberg's and Wurm's classifications of the non-Austronesian, non-Australian languages of Oceania, by Timothy Usher

These tables compare Greenberg's Indo-Pacific family (§12) to the classification of Papuan languages in Wurm (1982). The comparison is divided into two tables. The first gives Greenberg's Indo-Pacific classification. Greenberg's lowest groups are compared to the closest low-level group in Wurm's classification; these are separated by the solid line. A group label of the form 'X/Y' in the Wurm classification indicates that Greenberg's lowest group is a language (Y) that Greenberg lists separately from other members of Wurm's group (X). The second table gives Greenberg's lower level groups, the Wurm counterparts, and where they fit into Wurm's classification. The position of the Wurm group in Wurm's overall classification is indicated by the affiliations appearing to the right. The rows with the lowest-level groups are numbered so that the two tables can be compared directly (groups are given in the same order in both tables). The tables were prepared by Timothy Usher.

Stephen A. Wurm. 1982. *The Papuan Languages of Oceania*. Tübingen: Gunter Narr.

#### Abbreviations

CSNG Central and South New Guinea  
TAP Timor-Alor-Pantar

TABLE 1

Greenberg: Indo-Pacific				Wurm
1	Andamanese	Andamanese	Andamanese	[not included]
2	West Indo-Pacific	N. Halmaheran	N. Halmaheran	N. Halmaheran
3		Timor	Timor	Timer-Alor-Pantar
4		West New Guinea	WNG-1 [Meninggo etc.]	Kebar (= Mpur)
5			WNG-1 [Meninggo etc.]	E. Bird's Head
6			WNG-1 [Meninggo etc.]	S. Bird's Head
7			WNG-1 [Meninggo etc.]	Mor
8			WNG-1 [Meninggo etc.]	Mairasi-Tanah Merah
9			WNG-2 [Madik etc.]	W. Bird's Head
10			WNG-2 [Madik etc.]	N. Bird's Head
11			WNG-3 [Ajamaru etc.]	C. Bird's Head
12			[not listed]	Borai-Hattam
13			WNG-4 [Kapaur etc.]	West Bomberai
14		unclassified (?WNG)	Yava	Yava
15			[not listed]	E. Geelvink Bay
16		unclassified (?WNG)	Kamoro	Asmat-Kamoro
17		unclassified (?WNG)	Juliana River	Kayagar
18		unclassified	Mamberamo (1) [Koassa, Kauwerawet]	Northern (Kwerba)
19		unclassified	Mamberamo (1) [Goliath Mtn]	Mek
20		unclassified (?WNG)	Mamberamo (2) [Aikwakai, Tori, Tori Aikwakai, Südfuss . . .]	C. Lakes Plain
21		unclassified (?WNG)	Mamberamo (2) [Pauwi]	Warenbori
22		unclassified (?WNG)	Mamberamo (2) [Boromessu]	Taurap
23	Nuclear New Guinea	North New Guinea	NNG-1: Sentani	Sentani
24			NNG-1: Sentani	Nimboran
25			NNG-1: Sentani	Tor
26			NNG-1: Sentani	Mawes
27			NNG-1: Sentani	Kaure
28			NNG-2: Tami	Border
29			NNG-2: Tami	Vanimo
30			NNG-3: Arapeshan	Torricelli/various families
31			NNG-4: Murik	Nor-Pondo
32			NNG-5: Monumbo	Monumbo
33			NNG-5: Monumbo	Taiap (= Gapun)
34			NNG-5: Monumbo	Ramu
35			Ndu-Kwoma	Sepik
36			NNG unclassified: Nori (= Warapu)	Krisa
37			NNG unclassified: Siaute (= Olo)	Wapei/Olo
38			NNG unclassified: Apris	[unidentified]
39		unclassified (?NNG)	Senagi-Komberatoro	Senagi
40		unclassified (?NNG)	Fas	Kwomtari
41		unclassified (?NNG)	Amto	Amto-Musian
42		unclassified (?NNG)	Busa	Busa
43		unclassified (?NNG)	Yuri	Yuri
44			[not listed]	Pauwasi
45			[not listed]	Nagatman
46			[not listed]	Arai
47		Southwest New Guinea	SWNG-1: Tirio	Tirio
48			SWNG-2: Marind (a)	Marind proper
49			SWNG-2: Marind (b)	Boazi
50			SWNG-2: Marind (c)	Yaqay
51			SWNG-3: Ok (a) [except Awin]	Lowland Ok
52			SWNG-3: Ok (b) [except Plain Country]	Mountain Ok
53			SWNG-3: Ok (a/b) [Awin, Plain Country]	Awin

TABLE 1 (continued).

Greenberg: Indo-Pacific			Wurm	
54	(Nuclear New Guinea)		SWNG-3: Ok (c)	Dumut
55			SWNG-4: Awju	Awyu
56			SWNG-5: Kukukuku	Angan
57			[not listed]	Oksapmin
58			[not listed]	Bosavi-E. Strickland
59		South New Guinea	SNG-1: Kiwai	Kiwai
60			SNG-1: Kiwai	Inland Gulf
61			SNG-1: Kiwai [Hiwi, Hibaridai, Tapapi]	Pahoturi/Waia
62			SNG-2: Barika	Turama-Kikorian
63			SNG-2: Barika	Teberan-Pawaian
64			SNG-3: Kumini	E. Trans-Fly
65			SNG-4: Bugi	Pahoturi
66			SNG-5: Parb	Nambu
67			SNG-6: Peremka	Tonda
68			SNG-6: Peremka [Jiminakana, Nausaku]	Suki
69			SNG-7: Jei	Yey
70			SNG-7: Jei	Tonda/Kanum [also Ngowugar]
71			SNG-7: Jei	Moraori
72			SNG-7: Jei	Mombum
73			SNG-7: Jei	Kolopom
74			SNG-7: Jei	Bulaka River
75		unclassified (?SNG)	Gogodala	Gogodala
76	Nuclear New Guinea	Central New Guinea	CNG-2: Kapauku-Baliem (a)	Ekagi-Wodani-Moni
77			CNG-2: Kapauku-Baliem (b)	Dem
78			CNG-2: Kapauku-Baliem (c)	Uhunduni
79			CNG-2: Kapauku-Baliem (d)	Southern (Dani)
80			CNG-2: Kapauku-Baliem (e)	Southern (Ngalik-Nduga)
81			CNG-2: Highland (a)	Eastern
82			CNG-2: Highland (b)	East-Central
83			CNG-2: Highland (c)	Central
84			CNG-2: Highland (d)	West-Central
85			CNG-2: Highland (d)	Wiru
86			CNG-2: Highland (e)	Kalam
87			CNG-2: Highland (f)	Kutubuan
88			CNG-3: Huon [incl. Finisterre]	Finisterre-Huon
89		East New Guinea	ENG-1: Mailu	Mailuan
90			ENG-1: Mailu	Yareban
91			ENG-2: Binandere	Binanderean
92			ENG-3: Dimuga	Dagan
93			ENG-4: Elema	Eleman
94			ENG-5: Kovio	Goilalan
95			ENG-6: Afoa	Goilalan
96			ENG-7: Fuyuge	Goilalan
97			ENG-8: Mulaha	Kwalean
98			ENG-9: Koita	Koarian
99			ENG-10: Namau	Purari
100			[not listed]	Manubaran
101	Northeast New Guinea	Northeast New Guinea	Northeast New Guinea	Madang-Adelbert
102	Pacific	Pacific	New Britain	New Britain
103			Panaras	New Britain
104			Uasi	New Britain
105			C. Solomons	C. Solomons
106			[not listed]	Kazukuru
107			Bougainville	Bougainville
108			Santa Cruz	Reef-Santa Cruz
109	unassigned	unassigned	Rossel Island	Yele
110	Tasmanian	Tasmanian	Tasmanian	[not included]

TABLE 2

Greenberg: Indo-Pacific		Wurm		
1	Andamanese	[not included]		
2	N. Halmaheran	N. Halmaheran	N. Halmaheran	N. Halmaheran
3	Timor	Timor-Alor-Pantar	Timor-Alor-Pantar	Timor-Alor-Pantar
4	WNG-1 [Meninggo etc.]	Kebar (= Mpur)	Kebar (= Mpur)	Kebar (= Mpur)
5	WNG-1 [Meninggo etc.]	E. Bird's Head	E. Bird's Head	E. Bird's Head
6	WNG-1 [Meninggo etc.]	S. Bird's Head	S. Bird's Head	S. Bird's Head
7	WNG-1 [Meninggo etc.]	Mor	Mor	Mor
8	WNG-1 [Meninggo etc.]	Mairasi-Tanah Merah	Mairasi-Tanah Merah	Mairasi-Tanah Merah
9	WNG-2 [Madik etc.]	W. Bird's Head	W. Bird's Head	W. Bird's Head
10	WNG-2 [Madik etc.]	N. Bird's Head	N. Bird's Head	N. Bird's Head
11	WNG-3 [Ajamaru etc.]	C. Bird's Head	C. Bird's Head	C. Bird's Head
12	[not listed]	Borai-Hattam	Borai-Hattam	Borai-Hattam
13	WNG-4 [Kapaur etc.]	W. Bomberai	W. Bomberai	West Bomberai
14	Yava	Yava	Yava	Yava
15	[not listed]	E. Geelvink Bay	E. Geelvink Bay	E. Geelvink Bay
16	Kamoro	Asmat-Kamoro	Asmat-kamoro	C. & S. New Guinea
17	Juliana River	Kayagar	Kayagar	Kayagar
18	Mamberamo (1) [Koassa, Kauwerawet]	Northern (Kwerba)	Dani-Kwerba	Dani-Kwerba
19	Mamberamo (1) [Goliath Mtn]	Mek	Mek	Mek
20	Mamberamo (2) [Aikwakai, Tori, Tori Aikwakai, Südfluss...]	C. Lakes Plain	C. Lakes Plain	C. Lakes Plain
21	Mamberamo (2) [Pauwi]	Warenbori	Warenbori	Warenbori
22	Mamberamo (2) [Boromessu]	Taurap	Taurap	Taurap
23	NNG-1: Sentani	Sentani	Sentani	Sentani
24	NNG-1: Sentani	Nimboran	Nimboran	Nimboran
25	NNG-1: Sentani	Tor	Tor	Tor
26	NNG-1: Sentani	Mawes	Mawes	Mawes
27	NNG-1: Sentani	Kaure	Kaure	Kaure
28	NNG-2: Tami	Border	Border	Border
29	NNG-2: Tami	Vanimo	Vanimo	Vanimo
30	NNG-3: Arapheshan	Torricelli/var. families	Torricelli	Torricelli
31	NNG-4: Murik	Nor-Pondo	Nor-Pondo	Nor-Pondo
32	NNG-5: Monumbo	Monumbo	Torricelli	Torricelli
33	NNG-5: Monumbo	Taiap (= Gapun)	Sepik-Ramu	Sepik-Ramu
34	NNG-5: Monumbo	Ramu	Ramu	Ramu

TABLE 2 (continued).

Wurm continued				
1	[not included]			
2	N. Halmaheran	N. Halmaheran	N. Halmaheran	W. Papuan
3	Timor-Alor-Pantar	Timor-Alor-Pantar	S. Bird's Head-TAP	Trans-New Guinea
4	Kebar (= Mpur)	Kebar (= Mpur)	Kebar (= Mpur)	W. Papuan
5	E. Bird's Head	E. Bird's Head	E. Bird's Head	E. Bird's Head
6	S. Bird's Head	S. Bird's Head	S. Bird's Head-TAP	Trans-New Guinea
7	Mor	Mor	Mor	Trans-New Guinea
8	Mairasi-Tanah Merah	Central & Western	Main	Trans-New Guinea
9	W. Bird's Head	W. Bird's Head	Bird's Head	W. Papuan
10	N. Bird's Head	N./C. Bird's Head	Bird's Head	W. Papuan
11	C. Bird's Head	N./C. Bird's Head	Bird's Head	W. Papuan
12	Borai-Hattam	Borai-Hattam	Borai-Hattam	W. Papuan
13	West Bomberai	Central & Western	Main	Trans-New Guinea
14	Yava	Yava	Yava	Geelvink Bay
15	E. Geelvink Bay	E. Geelvink Bay	E. Geelvink Bay	Geelvink Bay
16	C. & S. New Guinea-Kutubuan	Central & Western	Main	Trans-New Guinea
17	Kayagar	Central & Western	Main	Trans-New Guinea
18	Dani-Kwerba	Central & Western	Main	Trans-New Guinea
19	Mek	Mek	Mek	Trans-New Guinea
20	C. Lakes Plain	Tor-Lakes Plain	Northern	Trans-New Guinea
21	Warenbori	Warenbori	Warenbori	isolate
22	Taurap	Taurap	Taurap	isolate
23	Sentani	Central & Western	Main	Trans-New Guinea
24	Nimboran	Nimboran	Nimboran	Trans-New Guinea
25	Tor	Tor-Lakes Plain	Northern	Trans-New Guinea
26	Mawes	Tor-Lakes Plain	Northern	Trans-New Guinea
27	Kaure	Kaure	Kaure	Trans-New Guinea
28	Border	Border	Northern	Trans-New Guinea
29	Vanimo	Vanimo	Vanimo	Sko
30	Torricelli	Torricelli	Torricelli	Torricelli
31	Nor-Pondo	Nor-Pondo	Nor-Pondo	Sepik-Ramu
32	Torricelli	Torricelli	Torricelli	Torricelli
33	Sepik-Ramu	Sepik-Ramu	Sepik-Ramu	Sepik-Ramu
34	Ramu	Ramu	Ramu	Sepik-Ramu

TABLE 2 (continued).

Greenberg: Indo-Pacific		Wurm		
35	Ndu-Kwoma	Sepik	Sepik	Sepik
36	NNG unclassified: Nori (= Warapu)	Krisa	Krisa	Krisa
37	NNG unclassified: Siaute (= Olo)	Wapei/Olo	Torricelli	Torricelli
38	NNG unclassified: Apris	[unidentified]	[unidentified]	[unidentified]
39	Senagi-Komberatoro	Senagi	Senagi	Senagi
40	Fas	Kwomtari	Kwomtari	Kwomtari
41	Amto	Amto-Musian	Amto-Musian	Amto-Musian
42	Busa	Busa	Busa	Busa
43	Yuri	Yuri	Yuri	Yuri
44	[not listed]	Pauwasi	Pauwasi	Pauwasi
45	[not listed]	Nagatman	Nagatman	Nagatman
46	[not listed]	Arai	Arai	Arai
47	SWNG-1: Tirio	Tirio	Tirio	Tirio
48	SWNG-2: Marind (a)	Marind proper	Marind proper	Marind proper
49	SWNG-2: Marind (b)	Boazi	Boazi	Boazi
50	SWNG-2: Marind (c)	Yaqay	Yaqay	Yaqay
51	SWNG-3: Ok (a) [except Awin]	Lowland Ok	Ok	C. & S. New Guinea
52	SWNG-3: Ok (b) [except Plain Country]	Mountain Ok	Ok	C. & S. New Guinea
53	SWNG-3: Ok (a/b) [Awin, Plain Country]	Awin	Awin-Pa	C. & S. New Guinea
54	SWNG-3: Ok (c)	Dumut	Awyu-Dumut	C. & S. New Guinea
55	SWNG-4: Awju	Awyu	Awyu-Dumut	C. & S. New Guinea
56	SWING-5: Kukukuku	Angan	Angan	Angan
57	[not listed]	Oksapmin	Oksapmin	Oksapmin
58	[not listed]	Bosavi-E. Strickland	Bosavi-E. Strickland	C. & S. New Guinea
59	SNG-1: Kiwai	Kiwai	Kiwai	Kiwai
60	SNG-1 Kiwai	Inland Gulf	Inland Gulf	Inland Gulf
61	SNG-1: Kiwai [Hiwi, Hibaridai, Tapapi]	Pahoturi/Waia	Pahoturi/Waia	Pahoturi/Waia
62	SNG-2: Barika	Turama-Kikorian	Turama-Kikorian	Turama-Kikorian
63	SNG-2: Barika	Teberan-Pawaian	Teberan-Pawaian	Teberan-Pawaian
64	SNG-3: Kunini	E. Trans-Fly	E. Trans-Fly	E. Trans-Fly
65	SNG-4: Bugi	Pahoturi	Pahoturi	Pahoturi
66	SNG-5: Parb	Nambu	Morehead-Upper Maro	Morehead-Upper Maro
67	SNG-6: Peremka	Tonda	Morehead-Upper Maro	Morehead-Upper Maro
68	SNG-6: Peremka [Jiminakana, Nausaku]	Suki	Gogodala-Suki	Gogodala-Suki
69	SNG-7: Jei	Yey	Morehead-Upper Maro	Morehead-Upper Maro
70	SNG-7: Jei	Tonda/Kanum [also Ngowugar]	Morehead-Upper Maro	Morehead-Upper Maro
71	SNG-7: Jei	Moraori	Morehead-Upper Maro	Morehead-Upper Maro
72	SNG-7: Jei	Mombum	Mombum	C. & S. New Guinea
73	SNG-7: Jei	Kolopom	Kolopom	Kolopom
74	SNG-7: Jei	Bulaka River	Bulaka River	Bulaka River
75	Gogodala	Gogodala	Gogodala-Suki	Gogodala-Suki

TABLE 2 (continued).

Wurm continued				
35	Sepik	Sepik	Sepik	Sepik-Ramu
36	Krisa	Krisa	Krisa	Sko
37	Torricelli	Torricelli	Torricelli	Torricelli
38	[unidentified]	[unidentified]	[unidentified]	[unidentified]
39	Senagi	Senagi	Senagi	Trans-New Guinea
40	Kwomtari	Kwomtari	Kwomtari	Kwomtari-Baibai
41	Amto-Musian	Amto-Musian	Amto-Musian	Amto-Musian
42	Busa	Busa	Busa	isolate
43	Yuri	Yuri	Yuri	isolate
44	Pauwasi	Pauwasi	Pauwasi	Trans-New Guinea
45	Nagatman	Nagatman	Nagatman	isolate
46	Arai	Arai	Arai	Arai
47	Tirio	Trans Fly	Trans-Fly-Bulaka River	Trans-New Guinea
48	Marind	Central & Western	Main	Trans-New Guinea
49	Marind	Central & Western	Main	Trans-New Guinea
50	Marind	Central & Western	Main	Trans-New Guinea
51	C. & S. New Guinea-Kutubuan	Central & Western	Main	Trans-New Guinea
52	C. & S. New Guinea-Kutubuan	Central & Western	Main	Trans-New Guinea
53	C. & S. New Guinea-Kutubuan	Central & Western	Main	Trans-New Guinea
54	CSNG-Kutubuan	Central & Western	Main	Trans-New Guinea
55	CSNG-Kutubuan	Central & Western	Main	Trans-New Guinea
56	Angan	Central & Western	Main	Trans-New Guinea
57	Oksapmin	Oksapmin	Oksapmin	Trans-New Guinea
58	CSNG-Kutubuan	Central & Western	Main	Trans-New Guinea
59	Kiwai	Trans Fly	Trans-Fly-Bulaka River	Trans-New Guinea
60	Inland Gulf	Inland Gulf	Inland Gulf	Trans-New Guinea
61	Pahoturi/Waia	Trans Fly	Trans-Fly-Bulaka River	Trans-New Guinea
62	Turama-Kikorian	Turama-Kikorian	Turama-Kikorian	Trans-New Guinea
63	Teberan-Pawaian	Teberan-Pawaian	Teberan-Pawaian	Trans-New Guinea
64	E. Trans-Fly	Trans Fly	Trans-Fly-Bulaka River	Trans-New Guinea
65	Pahoturi	Trans Fly	Trans-Fly-Bulaka River	Trans-New Guinea
66	Morehead-Upper Maro	Trans Fly	Trans-Fly-Bulaka River	Trans-New Guinea
67	Morehead-Upper Maro	Trans Fly	Trans-Fly-Bulaka River	Trans-New Guinea
68	Gogodala-Suki	Central & Western	Main	Trans-New Guinea
69	Morehead-Upper Maro	Trans Fly	Trans-Fly-Bulaka River	Trans-New Guinea
70	Morehead-Upper Maro	Trans Fly	Trans-Fly-Bulaka River	Trans-New Guinea
71	Morehead-Upper Maro	Trans Fly	Trans-Fly-Bulaka River	Trans-New Guinea
72	CSNG-Kutubuan	Central & Western	Main	Trans-New Guinea
73	Kolopom	Kolopom	Kolopom	Trans-New Guinea
74	Bulaka River	Bulaka River	Trans-Fly-Bulaka River	Trans-New Guinea
75	Gogodala-Suki	Central & Western	Main	Trans-New Guinea

TABLE 2 (*continued*).

Greenberg: Indo-Pacific		Wurm		
76	CNG-2: Kapauku-Baliem (a)	Ekagi-Wodani-Moni	Wissel Lakes-Kemandogha	Wissel Lakes-Kemandogha
77	CNG-2: Kapauku-Baliem (b)	Dem	Dem	Dem
78	CNG-2: Kapauku-Baliem (c)	Uhunduni	Wissel Lakes-Kemandogha	Wissel Lakes-Kemandogha
79	CNG-2: Kapauku-Baliem (d)	Southern (Dani)	Dani-Kwerba	Dani-Kwerba
80	CNG-2: Kapauku-Baliem (e)	Southern (Ngalik-Nduga)	Dani-Kwerba	Dani-Kwerba
81	CNG-2: Highland (a)	Eastern	Eastern	Eastern
82	CNG-2: Highland (b)	East-Central	East-Central	East-Central
83	CNG-2: Highland (c)	Central	Central	Central
84	CNG-2: Highland (d)	West-Central	West-Central	West-Central
85	CNG-2: Highland (d)	Wiru	Wiru	Wiru
86	CNG-2: Highland (e)	Kalam	Kalam	Kalam
87	CNG-2: Highland (f)	Kutubuan	Kutubuan	Kutubuan
88	CNG-3: Huon [incl. Finisterre]	Finisterre-Huon	Finisterre-Huon	Finisterre-Huon
89	ENG-1: Mailu	Mailuan	Mailuan	Mailuan
90	ENG-1: Mailu	Yareban	Yareban	Yareban
91	ENG-2: Binandere	Binanderean	Binanderean	Binanderean
92	ENG-3: Dimuga	Dagan	Dagan	Dagan
93	ENG-4: Elema	Eleman	Eleman	Eleman
94	ENG-5: Kovio	Goilalan	Goilalan	Goilalan
95	ENG-6: Afoa	Goilalan	Goilalan	Goilalan
96	ENG-7: Fuyuge	Goilalan	Goilalan	Goilalan
97	ENG-8: Mulaha	Kwalean	Kwalean	Kwalean
98	ENG-9: Koita	Koarian	Koarian	Koarian
99	ENG-10: Namau	Purari	Eleman	Eleman
100	[not listed]	Manubaran	Manubaran	Manubaran
101	Northeast New Guinea	Madang-Adelbert	Madang-Adelbert	Madang-Adelbert
102	New Britain	New Britain	New Britain	Yele-Solomons-New Britain
103	Panaras	New Britain	New Britain	Yele-Solomons-New Britain
104	Uasi	New Britain	New Britain	Yele-Solomons-New Britain
105	C. Solomons	C. Solomons	Yele-Solomons	Yele-Solomons-New Britain
106	[not listed]	Kazukuru	Yele-Solomons	Yele-Solomons-New Britain
107	Bougainville	Bougainville	Bougainville	Bougainville
108	Santa Cruz	Reef-Santa Cruz	Reef-Santa Cruz	Reef-Santa Cruz
109	Rossel Island	Yele	Yele-Solomons	Yele-Solomons-New Britain
110	Tasmanian	[not included]		

TABLE 2 (continued).

Wurm continued				
76	Wissel Lakes-Kemandogha	Central & Western	Main	Trans-New Guinea
77	Dem	Dem	Dem	Trans-New Guinea
78	Wissel Lakes-Kemandogha	Central & Western	Main	Trans-New Guinea
79	Dani-Kwerba	Central & Western	Main	Trans-New Guinea
80	Dani-Kwerba	Central & Western	Main	Trans-New Guinea
81	E. New Guinea Highlands	Central & Western	Main	Trans-New Guinea
82	E. New Guinea Highlands	Central & Western	Main	Trans-New Guinea
83	E. New Guinea Highlands	Central & Western	Main	Trans-New Guinea
84	E. New Guinea Highlands	Central & Western	Main	Trans-New Guinea
85	E. New Guinea Highlands	Central & Western	Main	Trans-New Guinea
86	E. New Guinea Highlands	Central & Western	Main	Trans-New Guinea
87	CSNG-Kutubuan	Central & Western	Main	Trans-New Guinea
88	Finisterre-Huon	Central & Western	Main	Trans-New Guinea
89	Mailuan	Eastern	Main	Trans-New Guinea
90	Yareban	Eastern	Main	Trans-New Guinea
91	Binanderean	Eastern	Main	Trans-New Guinea
92	Dagan	Eastern	Main	Trans-New Guinea
93	Eleman	Eleman	Eleman	Trans-New Guinea
94	Goilalan	Eastern	Main	Trans-New Guinea
95	Goilalan	Eastern	Main	Trans-New Guinea
96	Goilalan	Eastern	Main	Trans-New Guinea
97	Kwalean	Eastern	Main	Trans-New Guinea
98	Koiarian	Eastern	Main	Trans-New Guinea
99	Eleman	Eleman	Eleman	Trans-New Guinea
100	Manubaran	Eastern	Main	Trans-New Guinea
101	Madang-Adelbert	Madang-Adelbert	Madang-Adlbert	Trans-New Guinea
102	Yele-Solomons-New Britain	Yele-Solomons-New Britain	Yele-Solomons-New Britain	East Papuan
103	Yele-Solomons-New Britain	Yele-Solomons-New Britain	Yele-Solomons-New Britain	East Papuan
104	Yele-Solomons-New Britain	Yele-Solomons-New Britain	Yele-Solomons-New Britain	East Papuan
105	Yele-Solomons-New Britain	Yele-Solomons-New Britain	Yele-Solomons-New Britain	East Papuan
106	Yele-Solomons-New Britain	Yele-Solomons-New Britain	Yele-Solomons-New Britain	East Papuan
107	Bougainville	Bougainville	Bougainville	East Papuan
108	Reef-Santa Cruz	Reef-Santa Cruz	Reef-Santa Cruz	East Papuan
109	Yele-Solomons-New Britain	Yele-Solomons-New Britain	Yele-Solomons-New Britain	East Papuan
110	[not included]			

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