

NOTES ON THE LINGUISTIC SITUATION IN THE TRANS-FLY AREA

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1. INTRODUCTION

The Trans-Fly area of the Western District of the Territory of Papua and New Guinea, i.e. the land lying between the Fly River in the north and the West Irian border in the west, is a thinly populated country occupied by a number of linguistically, culturally and physically rather diverse groups of people (Williams 1936).

Of the languages encountered in that area, only Kiwai, on the eastern coast and adjacent islands, received detailed attention at a relatively early date (Ray 1931, Wurm 1951). On the other languages, only a few short notes and remarks were published (Ray 1907, 1923, Williams 1936, Capell 1962) with the information on Kunini - now recognised as a dialect of the Bine language - more extensive than on the other languages of the area. Riley (and Ray) (1930-31) published quite lengthy vocabularies of several of the Trans-Fly languages, and some texts in Kiwai (Riley 1931) are available. Translations of portions of Scripture were published at a relatively early date in the Island Kiwai dialect of Kiwai (later revised) and in the Kunini dialect of Bine (in part issued in a new version in 1969). Some materials on a few of the languages, especially the Kunini dialect of Bine and on Tirio, were collected by A. Capell in the field, and also by a few other workers.

Some attempts at classifying the languages of the area were undertaken by Ray (1907, 1923), Williams (1936) and Capell (1962), and Wurm (1951) attempted a classification of the languages of the Kiwai Family.

In 1966, the present writer carried out fieldwork in the Western District in the course of which he was able to collect extensive information on Bine, Gidra, Gizra and Agöb, and also on the Island Kiwai dialect of Southern Kiwai and on Wabuda. He was very greatly assisted in this by Mr Tatie Olevale and his brother Mr Ebia Olevale (now a member of the House of Assembly) from Kunini village, and by pupils of Daru High School through the kind offices of Mr J. Baker, the headmaster of the School, and also by Rev. Cullingford who kindly arranged for Island Kiwai and Wabuda informants to be made available to him. In 1970, the present writer was able to carry out another stretch of fieldwork in the Western District, which, with the help of pupils from Daru High School and the assistance of Mr J. Baker, resulted in the collection of extensive information on Tonda, Nambu, Idi, Tirio and Aturu and of further materials in Trans-Fly languages investigated in 1966. The present writer's thanks are due to all his informants and those assisting and helping him in his work, and also to Mr Ian Holmes, District Commissioner of the Western District, who kindly made census and map materials available to him and,

together with the good offices of members of the Local Government Council, arranged for working space for him while he was interviewing and recording informants in Daru. His special thanks are also due to Dr A. Capell, of the University of Sydney, for putting at his disposal notes on Trans-Fly languages collected by him in the field years ago.

The present Notes constitute a brief report on the results of an assessment of the available information on the languages of the Trans-Fly area - much of this information consisting of the author's own field notes.

After his 1966 field trip, a short preliminary assessment of his materials in the languages studied by him on that fieldtrip had been undertaken, and the results embodied into this contribution on the Papuan Linguistic Situation in Current Trends in Linguistics, volume 8 (Wurm 1970a). Earlier these preliminary results had also been drawn upon by Voorhoeve in his work on the general classification of the languages of the central southern part of the New Guinea mainland which led to the establishment of the Central and South New Guinea Phylum by him (Voorhoeve 1968). In a modified form, they were utilised in his and McElhanon's subsequent work which lead to the recognition of the existence of the Trans-New Guinea Phylum (McElhanon and Voorhoeve 1970, Wurm 1972).

2. HISTORY OF THE CLASSIFICATION OF THE TRANS-FLY LANGUAGES

2.1. VOORHOEVE'S 1968 CLASSIFICATION

On the basis of the results of this first preliminary assessment of the author's 1966 field materials, and other available materials, both the present writer and Voorhoeve had come to the conclusion that the languages of the Trans-Fly area were interrelated, but constituted a number of clearly distinguishable groups.

In his first overall classification of the languages constituting the Central and South New Guinea Phylum, Voorhoeve (1968) mentioned the existence of the following language groups in the Trans-Fly region:

1) The Kiwai Family represented in the area in question by the Southern Kiwai language (with its dialects Island Kiwai, the Coastal Kiwai sub-dialects such as Mawatta, Tureture, Daru, Parama and others, as well as the Doumo dialect in the Fly Delta), and marginally by the Wabuda language in the Fly Delta area.

2) The Oriomo River Family composed of Bine, Gidra and Gizra.

3) Tirio which was at that stage regarded as a family-level isolate.

4) Agöb, regarded at that stage as a family-level isolate.

These four groups and isolates were looked upon by Voorhoeve as occupying family-level positions¹ within his Central and South New Guinea Stock which constituted by far the major part of his Central and South New Guinea Phylum. It may be mentioned that of languages adjacent to the Trans-Fly area, he included Miriam on the Eastern Torres Straits Islands, and Gogodala north of the Fly River, as further family-level isolates¹ within the Central and South New Guinea Stock and kept Suki in the north-western part of the Trans-Fly, unclassified.

5) The Morehead River group occupying the western half of the Trans-Fly area. The materials available in the form of Riley's (and Ray's) (1930-31) wordlists on three of the languages of this group, Peremka, Dorro and Parb, suggested that these three were members of the same family, but the overall classificatory situation within the group remained unclear. Voorhoeve regarded this group as constituting a distinct stock within his Central and South New Guinea Phylum.

On the basis of Drabbe's (1954) materials, Voorhoeve included Yey, Kanum and Moraori spoken to the west of the West Irian-Australian New Guinea border, into one stock, named by him the Yey-Kanum-Moraori Stock, and regarded it as another distinct stock within the Central and South New Guinea Phylum.

2.2. WURM'S CLASSIFICATION IN CURRENT TRENDS IN LINGUISTICS, VOLUME 8

In his contribution to *Current Trends in Linguistics*, volume 8, *Linguistics in Oceania* (Wurm 1970a), the present writer took essentially the same view as Voorhoeve (1968) with regard to the classification of the languages of the area under consideration. The only differences introduced by him into the classification were:

1) Tirio, instead of being regarded as a family-level isolate¹ within the Central and South New Guinea Stock, was assumed to be a family in that stock and to consist of three languages, Tirio, Tagota and Mutum.

2) Voorhoeve's Morehead River Group was described by him as a stock-level family consisting of Peremka (or Semariji-Gambadi), Dorro (or Keraki) and Parb, and was believed to also include Mikud.

3) Agöb was thought to constitute a stock-level, rather than a family-level, isolate¹.

4) Suki which Voorhoeve 1968 had regarded as unclassified, was tentatively included as a member of the Yaqay-Marind-Boazi Family within the Central and South New Guinea Stock.

2.3. VOORHOEVE'S 1969 CLASSIFICATION

In 1969, Voorhoeve carried out additional classificatory work in the languages of the area, and changed his earlier views quite considerably. A summary of his findings was included in Wurm 1970a as a supplement. The basic feature of his reclassification was the assignment of stock-level status to a number of groups and isolates which had been given family status in his 1968 classification.

Apart from this, he recognised the existence of a closer relationship of Suki to Gogodala than to the languages of what in 1968 he had called the Yaqay-Marind-Boazi Family, and now regarded as a stock, named by him the Marind Stock. In consequence, he combined Suki and Gogodala into a separate stock, the Suki-Gogodala Stock (Voorhoeve 1970). In this, it seems possible that, as suggested in Wurm 1970a, Gogodala in fact constitutes a family composed of the Gogodala and Waruna languages.

At the same time, he found that Mikud was not a member of the Morehead River stock-level Family¹, but closely related to Agöb and constituting with it a two-language stock-level family, the Agöb Family.

The Morehead River stock-level Family¹ proposed by Wurm (1970a) was re-constituted by Voorhoeve as a stock consisting of two families, the Bensbach River Family and the Morehead River Family. Within the latter, it appeared that Dorro and Keraki were in fact two separate, though closely related, languages, and not alternative names for one language.

In the light of this, the Trans-Fly region and adjacent areas, according to Voorhoeve's classification in Wurm 1970a, appeared to be occupied by the following groups and isolates:

Stocks = Suki-Gogodala, Morehead River, and Yey-Kanum-Moraori.

Stock-level families¹ = Agöb, Oriomo River, Tirio, and Kiwai.

Stock-level isolates = Miriam (considered as possibly combinable, as a family-level isolate, with the Kiwai Family into a Kiwai-Miriam Stock).

In his subsequent studies as a result of which Voorhoeve, in collaboration with McElhanon, established the existence of the Trans-New Guinea Phylum (McElhanon and Voorhoeve 1970), Voorhoeve largely adhered to the classification as outlined above. The only differences were the reversal of the Tirio stock-level Family to the status of stock-level isolate, and the re-naming of the Agöb stock-level Family and the Yey-Kanum-Moraori Stock as the Pahoturi River Family and Upper Maro River Stock respectively.

2.4. VOORHOEVE'S 1969-70 CLASSIFICATION

In late 1969 and early 1970, Voorhoeve attempted a reappraisal of the classificatory situation of the languages of the Trans-Fly area and adjacent regions in the light of a more detailed assessment of the present writer's 1966 materials, and with the help of additional vocabulary materials culled from a variety of newly unearthed sources, mainly patrol reports.

The present writer is indebted to C.L. Voorhoeve for putting the as yet unpublished results of this reappraisal work at his disposal.

An important result of this reappraisal was the recognition by Voorhoeve, of the existence of stock-level relationships¹ amongst languages belonging to his Oriomo, Pahoturi, Morehead and Bensbach Rivers Families and what was previously his Upper Maro River Stock (now a group on the borderline between stock and family) which made it possible to include all these families into a single stock. At the same time, he could, on the basis of a chain relationship, marginally include the Bensbach and Morehead River Families into a single family.

Voorhoeve's figures of percentages of basic vocabulary cognates are largely based on rather short lists because of the inadequacy of the materials available to him when carrying out his reappraisal work, with the number of lexical items generally between 80 and 120 per list, and a few instances of higher and lower figures. To adjust the percentage figures arrived at by him to a 200-item list basis, an adaptation of a procedure proposed by Thomas and Healey (1962; see also Voorhoeve 1968 and Wurm 1970b) has been followed by the present writer, and the results are given below.

Voorhoeve's percentage figures of cognates shared by members of the same family within the new stock established by him are as follows:

Oriomo River Family:

Bine

37 Gidra

28 24 Gizra

Pahoturi River Family:

Agöb

63 Mikud

56 70 Warubi

Note: Warubi represented by a short list of 60 items, appears to be the northernmost member of the Family.

Morehead River Family:

Keraki

54 Dorro

46 47 Parb

Bensbach River Family:

Peremka

44 Kebana Gara

Note: Kebana Gara, represented by a very short list of 40 items, appears to be located north of Peremka.

When combining the Morehead and Bensbach Rivers Families into a single family, the following percentage figures appear:

Peremka

30 Dorro

26 54 Keraki

22 47 46 Parb

The combination of the two families into one is made possible through the figure of 30% cognates shared between Peremka and Dorro. This figure is the above-28% connecting point of chains of percentage figures on both sides which are persistently above 28%. No inter-family figures have been worked out by Voorhoeve for Kebana Gara.

In what was previously his Upper Maro River Stock, Voorhoeve gives the figures of 24% cognates shared between Yey and Kanum, but no figures referring to Moraori. This figure, while considerably higher than the 17% given by him in Voorhoeve 1968, still falls short of the minimum figure of 28% diagnostic for recognising two languages compared as members of the same family. However, it is higher than any of the figures given by Voorhoeve as reflecting percentages of cognates shared between languages belonging to different families within his newly established stock. On these grounds, it seems possible to assign at least to Yey and Kanum, the status of two languages which constitute a recognisable sub-group within the new stock as a whole.

To substantiate his theory that the languages of the families mentioned above, and the Yey-Kanum group are members of the same stock, Voorhoeve quotes the following percentage figures of shared cognates:

Agöb - Bine	18
Agöb - Gidra	20
Agöb - Gizra	21
Agöb - Dorro	19
Agöb - Keraki	15
Agöb - Parb	19
Kanum - Peremka	20
Kanum - Keraki	20

With these figures Voorhoeve limits himself to illustrating the relationships of languages belonging to adjacent families, and in consequence, speaks of a "Trans-Fly Superstock" characterised by chaining percentages which are persistently above 12% - the lower limit of percentages of shared cognates diagnostic of languages belonging to the same stock - if languages belonging to different families are compared with each other.

Voorhoeve does not include the Kiwai and Tirio Families with this stock. However, he establishes a figure of 18% for cognates shared between Tirio and the Island Kiwai dialect of Southern Kiwai which would be indicative of at least these two languages being members of one stock. However, he finds the cognation between Tirio and Gidra to be a very low 4%, and that between Tirio and Agöb on a perhaps even lower level (-4%). The one between Tirio and Gogodala, of the Suki-Gogodala Stock (Voorhoeve 1970) is 10%. At the same time, he finds that the Tureture dialect of Southern Kiwai shows the following percentages of cognates shared with members of the Oriomo River Family:

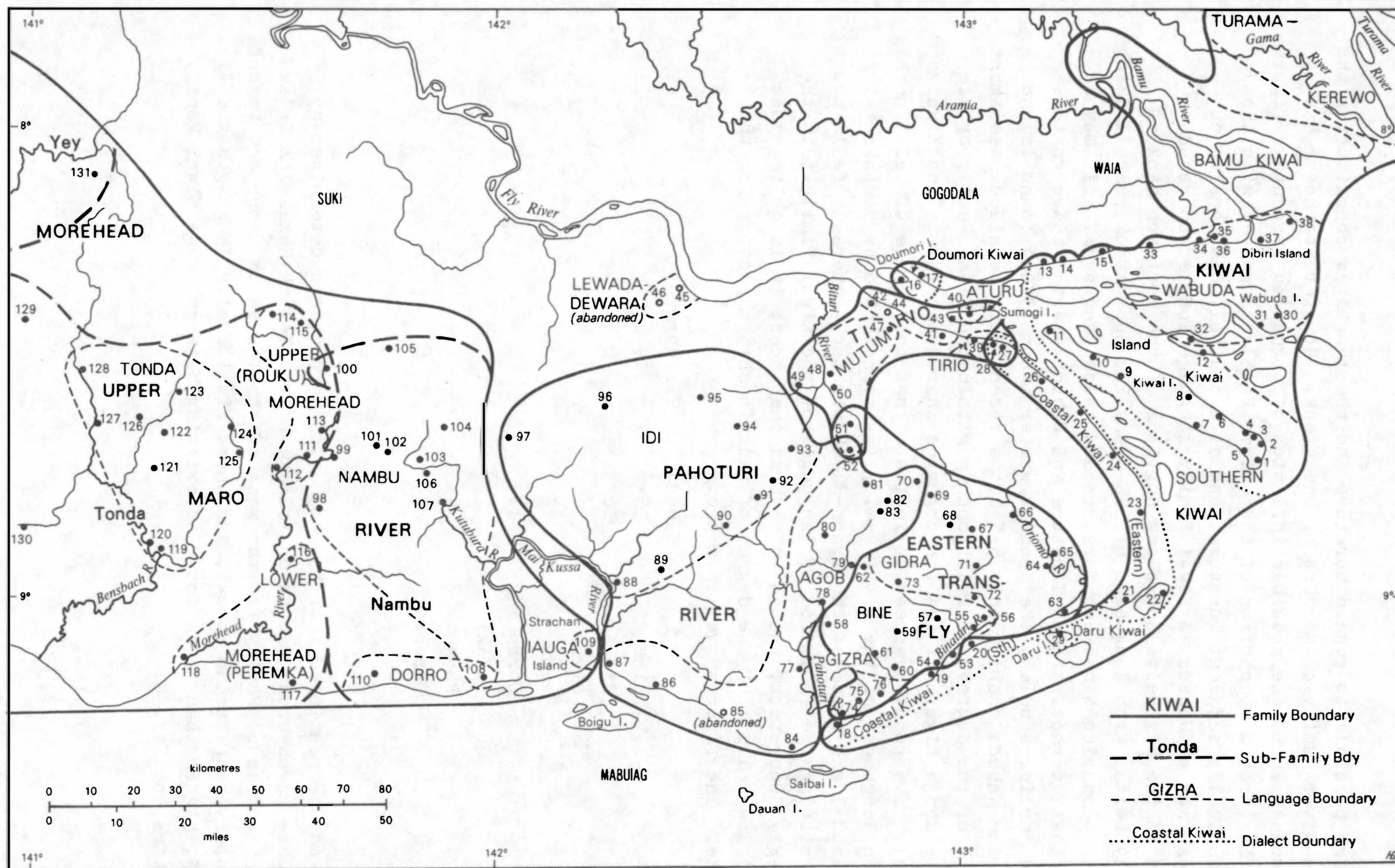
Tureture - Bine	19
Tureture - Gidra	11
Tureture - Gizra	12

Voorhoeve regards the Tureture-Bine figure as most certainly inflated by borrowing, and the other two figures are on, and 1% below, the 12% figure diagnostic of two languages being members of the same stock, if the percentage figures are based on a 200-item list (Swadesh 1955). At the same time, the lexicostatistical criteria for the determination of two languages being members of the same stock has been re-defined for the purpose of New Guinea linguistics (Wurm 1970), and the following applies: languages are classified as belonging to the same stock if they show lexicostatistical cognation of usually below 28% and more frequently below 20%, but not often below 12%, based upon regular sound-correspondences in the majority of the cases, and on the assumption that a list of about 200 items is employed in the comparison. In the light of this,

it seems possible to regard Tureture and the languages constituting the Oriomo River Family as members of one stock. However Voorhoeve has felt uneasy about the possible inflation of cognation percentage figures resulting from a comparison of the Oriomo Family languages with the geographically adjacent Tureture, and as a control, has carried out a comparison of Wabuda, a Kiwai Family language located on Wabuda Island in the Fly Delta and along portions of the northern bank of the Fly Delta, with languages of his Trans-Fly Superstock, parallelling it with comparisons between Tureture and these languages. (It may be noted that Voorhoeve found Tureture and Wabuda sharing 65% cognates. In his earlier studies, the present writer (Wurm 1970a) found Island Kiwai and Wabuda sharing only 51% but a recent more detailed assessment of some of the degrees of relationship within the Kiwai Family by him has yielded a figure of 66% for cognates shared between Island Kiwai and Wabuda). The results appear to indicate that the degree of relationship between languages of the Kiwai Family (as represented by Southern Kiwai and Wabuda) and those of the Trans-Fly Superstock generally falls short of permitting the inclusion of languages of the Kiwai Family into the Trans-Fly Superstock, though in several instances, it is quite close to the lower limit of the degree of relationship mandatory for this purpose. The figures available are:

	Wabuda	Tureture
Bine	15	19
Gidra	10	10
Gizra	11	12
Agöb	8	12
Dorro	11	11
Keraki	7	7
Parb	5	6
Peremka	5	6
Yey	3	3
Kanum	6	5

It may be mentioned that the cognation percentages determined by Voorhoeve as observable between Yelmek, of the Yelmek-Maklew or Bulaka River stock level Family (to the west of the Yey-Kanum Group and beyond the intervening Marind Stock), and these Kiwai Family languages are 4% and 4%, higher than those found as existing between these Kiwai Family languages and Yey.



VILLAGE NAMES APPEARING ON MAP I AND LANGUAGES SPOKEN IN THEM:

KIWAI FAMILY:

Southern Kiwai:

Island Kiwai Dialect:

1. SAGUANE
2. OROMASAPUO
3. IPISIA
4. AGOBARA
5. SAMARI
6. SAGASIA
7. IASA
8. WOPA'URA
9. KUBIRA
10. DOROPO
11. SEPE
12. AIBINIO
13. ABERAGEREMA
14. KENAME
15. WARIOBODORO (Southern Kiwai-
Wabuda transition dialect)

Doumori Kiwai Dialect:

16. DOUMORI
17. PAGONA

Coastal Kiwai Dialect:

Southern Coastal Kiwai Sub-dialect:

18. MABADUAN
19. MAWATTA
20. TURETURE

Eastern Coastal Kiwai Sub-dialect:

21. KATATAI
 22. PARAMA
 23. SUI
 24. DAWARI
 25. SEWERIMABU
 26. KOABU
 27. MADAME
 28. WEDEREHIAMO
- } in part Coastal
Kiwai-Tirio bi-
lingual villages

Daru Kiwai Dialect:

29. DARU

Wabuda:

30. DAMERATAMU
31. GESOA
32. WAPI
33. DAMERA
34. MADADUO
35. KOAVISI
36. SAGERO
37. TIRERE
38. MAIPANI (in part Wabuda-Bamu-
Kiwai bilingual village)

TIRIO FAMILY:

Tirio:

39. TIRIO
 28. WEDEREHIAMO
 27. MADAME
- } in part Coastal
Kiwai-Tirio bi-
lingual villages

Aturu:

40. ADULU

Lewada-Dewara:

41. BALAMULA
 42. LEWADA
 43. DEWALA
 - (44) PISIRAMI
 - (45) TAGOTA
 - (46) WERIDAI
- } abandoned

Mutum (Paswam):

47. MUTUM
48. UPIARA
49. SANGUANSO
50. TEWARA
51. RUAL (predominantly Gidra
speaking)

52. KAPAL (predominantly Gidra and Agöb speaking)

EASTERN TRANS-FLY FAMILY:

Bine:

53. KUNINI
54. MASINGLE (MASINGARA)
55. BOZE
56. DIRIMU (plantation)
57. GININGAREDE
58. SEBE (WABOZI)
59. TATI
60. IRUPI
61. DRAGELE
62. SOGALO

Gidra:

63. DOROGORI
64. ABAM
65. PEAWA
66. ZIM
67. WONIO
68. IAMEGA (in part Agöb speaking)
69. PODARI
70. WIPIM (a few Agöb speakers)
71. KURU
72. UME
73. GAMAEVE

52. KAPAL (in part Mutum and Agöb speaking)

51. RUAL (in part Mutum speaking)

Gizra:

74. TOGO
75. KUPERI
76. WAIDORO

PAHOTURI RIVER FAMILY:

Agöb:

77. GNAO
78. KIBULI
79. GLABI
80. NANU

81. KANEL/WIM

82. BIAMBOD 1

83. BIAMBOD 2

68. IAMEGA (in part Bine speaking)

70. WIPIM (mostly Gidra speaking)

84. SIGABADURU

85. TABATATA (largely abandoned)

86. BER

87. BUJI

52. KAPAL (in part Mutum and predominantly Gidra speaking)

Idi:

88. SIBIDIRI

89. DIMIRI

90. BUBUJI

91. MALAM

92. LIMOL

93. KINKIN

94. KONDOBA

95. BUK

96. DIMSISI

97. BIMADEBUN

MOREHEAD AND UPPER MARO RIVER FAMILY:

Nambu Sub-Family:

Nambu:

98. MIBINI

99. GARAITA

100. SETAVI (Nambu-Upper Morehead bilingual village)

101. MATA

102. SARAINA

103. PONGAKI (or PANGARAKI)

104. GUBAM

105. KERU

106. DERIDERI

107. ARUFI

108. TAIS (Nambu-Dorro transition dialect)

Iauga (Parb):

109. IAUGA

Dorro:

110. MARI

108. TAIS (Dorro-Nambu transition
dialect)**Tonda Sub-Family:****Upper Morehead (Rouku):**

111. ROUKU

112. IOKWA

113. UPARUA

100. SETAVI (Upper Morehead-Nambu
bilingual village)

114. SIRISA

115. KIRIWO

Lower Morehead (Peremka):

116. TONDA

117. JARAI

118. BULA

Tonda:

119. BUNDABER

120. WANDO

121. KOROMBO

122. MENGETE

123. INDORODORO

124. TOKWA

125. WEMENEVRE

126. KANDARISA

127. WEAM

128. WEREAVE

Kanum:

129. SOTA

130. BRONGA (or BERONK)

Yey:

131. KWARI

For the sake of completeness, it may be mentioned that the cognation established by Voorhoeve as existing between Suki, of his Suki-Gogodala Stock (Voorhoeve 1970), and the languages of his Trans-Fly Superstock, the Kiwai Family and Tirio is generally of a higher level than that observed by him as prevailing between the languages of the Trans-Fly Superstock and languages of the Kiwai Family and Tirio. His figures are as follows:

	Suki
Wabuda	5
Tureture	6
Tirio	9
Bine	5
Gidra	12
Gizra	8
Agöb	10
Mikud	11
Warubi	10
Dorro	10
Keraki	8
Parb	10
Peremka	5
Kanum	5
Yey	6

The cognation between Suki and the two members of the Yelmek-Maklew (or Bulaka River) Family is lower than any of the figures given above, i.e.:

	Suki
Yelmek	3
Maklew	+4

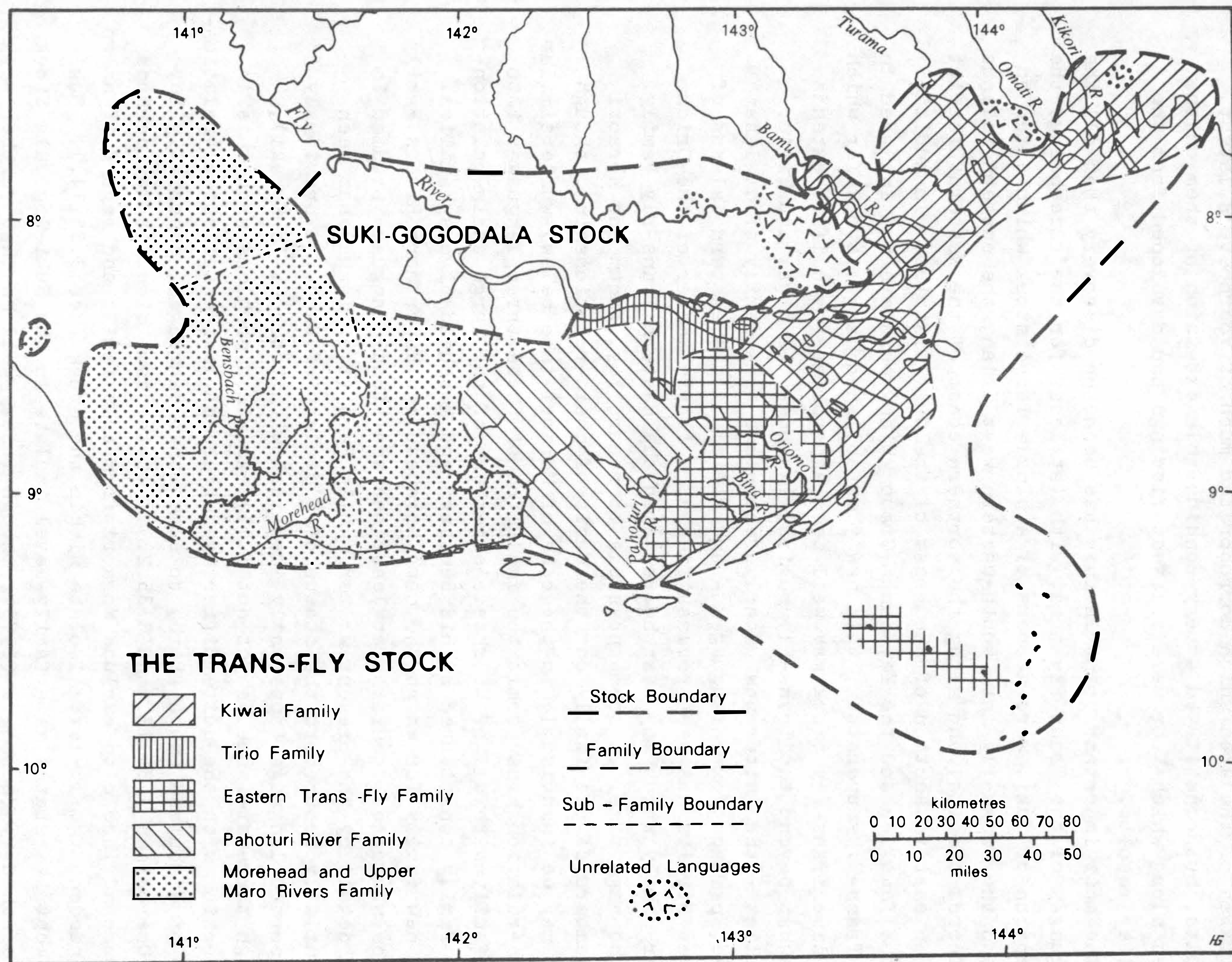
3. THE TRANS-FLY STOCK

3.1. INTRODUCTORY REMARKS

The present writer's 1970 fieldwork was undertaken against the background of this changeable and obviously still preliminary picture of the classificatory situation of the languages of the Trans-Fly region and adjacent areas, with a view to collecting additional information on languages of the area, and to place classificatory approaches involving the Trans-Fly languages on a firmer ground. The first assessment of his extensive new materials in several languages not recorded before in any detail in

conjunction with a reappraisal, by the present writer, of the results arrived at on the basis of his earlier materials, and materials from other sources, led to the recognition of a classificatory picture of the languages of the area which corroborated much of Voorhoeve's latest results, but constituted a very considerable extension of them on the lines along which Voorhoeve's latest findings had developed from the earlier results.

The most important point in this has been the discovery that all the languages of the Trans-Fly area, with (at least for the time being) the exception of Suki, were members of a single large stock which extended beyond the Trans-Fly into south-eastern West Irian, the eastern islands of Torres Straits, and along the northern coast of the Western District and an eastern section of the coast of the Gulf District. In addition to the families and the Yey-Kanum Group which Voorhoeve had included in his Trans-Fly Superstock, this newly established larger stock for which the name Trans-Fly Stock may well seem appropriate even if it extends somewhat beyond the Trans-Fly region, includes the Kiwai and Tirio Families - the latter now clearly recognised as a family of at least three, perhaps four, languages - and Miriam of the eastern islands of Torres Straits has been reclassified as a fourth member of the Oriomo River Family which may best be re-named the Eastern Trans-Fly Family. At the same time, it seems possible to regard Yey, Kanum and Moraori as members of one family on the basis of chain-relationships, though this may be inadvisable in the case of Moraori (see below) while similar chain-relationships permit the inclusion of these three languages into one family with all of Voorhoeve's members of the large chain-relationship family constituted by his Bensbach and Morehead Rivers Families. This new family for which the name Morehead and Upper Maro Rivers Family may be suggested, contains at least one additional language studied in some detail by the present writer, while Parb (i.e. Iauga) has been essentially reduced to the status of a dialect of Nambu, a previously unreported language (apparently identical with Voorhoeve's Keraki), though there are some as yet not fully explained problems with this in connection with the quite differing degrees of lexicostatistical relationship of Nambu and Iauga (Parb) to some other languages, especially Yey and Dorro (see 3.35.13. and 3.35.2.). At the same time, it may perhaps be more advisable to exclude Moraori from this family and regard it as an independent family-level isolate within the stock (see 3.35.14.). Suki has kept its status as a family-level isolate in the Suki-Gogodala Stock established by Voorhoeve (1970), though it may well be that further work may make it possible to include it, and perhaps also Gogodala, into the



M A P 2

new Trans-Fly Stock.

For the most part, percentages of shared cognates as established by the present writer for compared language pairs already lexicostatistically assessed by Voorhoeve lie above to well above Voorhoeve's figures. The reason for this is quite obvious: as has been the case with all instances of the recognition, in recent years, of spectacular and far-reaching relationship links between Papuan languages previously believed to be unrelated, or only very distantly related, (see Wurm 1970a, 1971, 1972), the abovementioned discrepancies in percentage figures are attributable to the fact that extensive additional information now available on most of the languages involved, several of which were only poorly documented or almost entirely unknown before, has made possible the recognition of regular sound correspondences or indirect relationship links involving third languages, between words which were formerly believed to be non-cognate.

The new Trans-Fly Stock contains between twenty-two and twenty-four languages according to how two communalects, at least one of which is on the border between dialect and language status, are treated (in the listing given below, these two cases have been indicated by swallow-brackets). Of these languages, nineteen to twenty-one are located in the Trans-Fly region itself, or in areas immediately adjacent to it.

3.2. COMPOSITION OF THE TRANS-FLY STOCK

The Trans-Fly Stock shows the following composition (the population figures are close approximations):

Trans-Fly Stock	32060
A) Kiwai Family ²	20950
1) Southern Kiwai	9700
Island Kiwai	3500
Doumori	400
Coastal Kiwai dialects	4800
Southern Coastal Kiwai	1800
Eastern Coastal Kiwai	3000
Daru Kiwai	1000
2) Wabuda	1700
3) Bamu Kiwai	4100
4) Turama-Kerewo (Goari)	2550
Mogiri and Gama River dialects	1150
Kerewo (Goari)	1400

5)	Urama-Gope	2900	
	Urama	1500	
	Gope	1400	
B)	Tirio Family	1350	
1)	Tirio	280	
2)	Aturu)	220	
	)		
3)	Lewada-Dewara)	450	
4)	Mutum (Paswam)	400	
C)	Eastern Trans-Fly Family	4450	
1)	Bine	1550	
2)	Gidra	1600	
3)	Gizra	600	
4)	Miriam	700	
D)	Pahoturi River Family	2000	
	Agöb	1100	
	Idi	900	
E)	Morehead and Upper Maro Rivers Family	3310	
Ea)	Nambu Sub-Family	800	
1)	Nambu)	700	
	)		
2)	Iauga (Parb))	25	
3)	Dorro	75	
Eb)	Tonda Sub-Family ³	1470	
1)	Upper Morehead (Rouku)	350	
2)	Lower Morehead (Peremka)	200	
3)	Tonda	600	
4)	Kanum	320	
Ec)	Yey Sub-Family	1000	
	Yey	1000	
Ed)	Moraori Sub-Family	40	
	Moraori	40	

Note: These are good grounds (see 3.35.14.) for regarding Ed) as constituting a separate family within the Trans-Fly Stock. In such a classification, the Morehead and Upper Maro Rivers Family would only contain the sub-families Ea), Eb) and Ec), and one would have to add:

F) Moraori Family (isolate) 40

Moraori

40

In addition to these languages, the following are located in, or adjacent to, the Trans-Fly area:

1) Suki, a family-level isolate of the Suki-Gogodala Stock (Voorhoeve 1970).

2) On Saibai, Boigu and Dauan Islands off the south coast, a dialect of Mabuiag, an Australian language, is spoken (Ray 1907).

With the exception of Mabuiag, all the languages of the Trans-Fly area are Papuan languages and belong to that part of the Trans-New Guinea Phylum (McElhanon and Voorhoeve 1970, Wurm 1972) of Papuan languages which constituted the Central and South New Guinea Phylum in previous classifications (Voorhoeve 1968, Wurm 1970a).

The percentages of cognates shared by Suki with languages of the Trans-Fly Phylum are generally around 10% or below (see 2.4. but in the light of comparisons made with the help of more extensive materials in languages of the Trans-Fly Stock, some of the very low percentage figures given there have moved up, close to the 10% range).

Percentage figures illustrating the stock-level interrelationships of languages belonging to different Families within the Trans-Fly Stock will be given in 3.4. Suffice it to say here that all the figures resulting from comparisons between such languages from various parts of the Trans-Fly area in which the present writer has collected extensive materials himself, are above to well above the lower limit diagnostic for stock-level interrelationships. The same applies to such comparisons based on materials from other sources, but these materials are usually more limited and in some instances of a lower level of reliability.

It seems likely that all the figures for intra-Trans-New Guinea Stock relationships are somewhat inflated by borrowing, but even if a drop in the percentage figures by one-fifth or even one-quarter were allowed for this reason, almost all of them would still be above the lower limit necessary for the recognition of stock-level interrelationships. At the same time, the nature of sound-correspondences between items recognised as cognates suggests that most of them are reflexes of proto-forms, and not straight borrowings.

In addition to lexical comparisons, typological and structural features were taken into account when establishing the stock. Typologically speaking, there are essentially two somewhat distinct types encountered in the languages constituting the Trans-Fly Stock, with more or less pronounced deviations from these two basic types met with in the languages of the Kiwai Family on the one hand, and in those of the Tirio Family on the other, as well as in Moraori which has been tentatively included in the Morehead-Upper Maro Rivers Family as a sub-family level isolate. At the same time, there is considerable formal agreement between languages in a number of structural features, and all the languages share both specialised typological, and some structural, features.

A discussion of the phenomena briefly outlined here will be given in 3.5. Remarks on the individual families will be given first.

3.3. THE FAMILIES INCLUDED IN THE TRANS-FLY STOCK

3.31. THE KIWAI FAMILY

3.31.1. Remarks on the Individual Languages

The Kiwai Family consists of the closely interrelated Southern Kiwai, Wabuda, Bamu Kiwai, Turama-Kerewo (Goari), Urama-Gope languages, and occupies much of the south-eastern and eastern coasts of the Trans-Fly area, parts of the southern (right) and northern (left) banks of the Fly Delta and several islands in it, and the coastal areas and lower courses of the rivers in the Bamu, Gama, Turama, Kikori, Urama and Era Rivers areas.

A considerable amount of work has been carried out in languages of the Kiwai Family. A detailed grammar of Island Kiwai was written by Ray (1931), a comparative-historical study of what was known about the Kiwai languages in 1950 was attempted by the present writer (Wurm 1951), detailed field studies have been carried out by the present writer in the Island, Coastal and Daru Kiwai dialects of Southern Kiwai and in Wabuda, by C. Voorhoeve in Bamu Kiwai, and by J. Harris in Urama. Riley (and Ray) (1930-31) published lengthy vocabularies of the Tureture, Island and Doumori dialects of Southern Kiwai, of Wabuda, and of two dialects of Bamu Kiwai, and Riley also published some Kiwai texts (Riley 1931). Rev. B. Butcher produced a manuscript grammar of Kerewo. Translations of Scripture are available in Island Kiwai, Bamu Kiwai and Kerewo (Goari), and, in duplicated form, in Daru Kiwai.

The internal classification of the Kiwai Family is under re-study by the present writer, and only those of its languages and dialects which

have some bearing on the linguistic situation in the Trans-Fly area, i.e. Southern Kiwai, and marginally Wabuda, will be referred to here in greater detail.

3.31.11. Southern Kiwai

Southern Kiwai, which has about 9,700 speakers, is sub-divisible into four distinct dialects, at least one of which has two or more sub-dialects. It seems likely that the results of studies now in progress will affect and modify the current classificatory picture presented by the Southern Kiwai dialects as given below.

3.31.11.1. *Island Kiwai Dialect*

Island Kiwai is spoken in the villages of Saguane, Oromasapuo Ipisia, Agobara, Samari, Sagasia, Iasa, Wopa'ura, Kubira, Doropo and Sepe on Kiwai Island in the Fly Delta, by about 2,600 speakers⁴, and in a somewhat different form, in the village of Aibinio on Aibinio Island, and in those of Aberagerema, Kename and Warriobodoro on the left bank of the Fly (the last one constituting a Southern Kiwai-Wabuda transition dialect) by about 900 speakers which gives a total of about 3,500 speakers⁴ of the Island Kiwai dialect. It has become the standard form of Southern Kiwai through its early use in missionary work, and the publication of sizable portions of Scripture in it as early as 1917. It is, in addition, the only member of the Kiwai Family to have attracted extensive interest by linguists at an early date (e.g. Ray 1907, 1931, Wurm 1951). It shows the most complex structure of all the Kiwai languages and dialects - with the exception of Wabuda and perhaps the Doumori dialect of Southern Kiwai, the structures of the other Kiwai languages and dialects give the appearance of more or less extensively decayed and simplified versions of a structure represented by Island Kiwai in its full form. Wabuda structure is, in some respects, quite different from that of the other Kiwai languages, and Doumori structure is near-identical with that of Island Kiwai.

3.31.11.2. *Doumori Dialect*

The Doumori dialect is spoken in the village of Doumori on Doumori Island, in the western part of the Fly Delta, and in that of Pagona on the left bank of the Fly, downstream from Doumori Island, by a total of about 400 speakers⁵. The main published material available on it comprises Ray's (1923), Capell's (1962) and the present writer's (Wurm 1951) notes and Riley's wordlist (Riley (and Ray) 1930-31), but

materials were collected in it by A. Capell, the present writer and members of the UFM Mission at Wasua. The dialect shares some phonological features with Coastal Kiwai though it has special phonological features of its own such as general Kiwai *-ai>e*, and in its vocabulary it stands half-way between Coastal Kiwai and Island Kiwai. Structurally it is very much like Island Kiwai.

3.31.11.3. *Coastal Kiwai Dialects*

The dialects spoken in villages on the southern and eastern coasts of the Trans-Fly area, and the eastern portion of the southern bank of the Fly Delta constitute Coastal Kiwai. The dialects of the various villages differ slightly, but a division into at least two main sub-dialects appears possible:

1) Southern Coastal Kiwai

This sub-dialect is spoken in the villages of Mabaduan, Mawatta and Tureture, by a total of about 1,800⁶ speakers.

2) Eastern Coastal Kiwai

This sub-dialect is found in the villages of Katatai, Parama, Sui, Dawari, Sewerimabu, Koabu, Madame and Wederehiamu (the latter two are in part Coastal Kiwai-Tirio bilingual villages) by a total of about 3,000 speakers⁶. The total number of speakers of Coastal Kiwai dialects is therefore about 4,800⁶.

The main published materials in Coastal Kiwai are Ray's notes and vocabularies (Ray 1907, 1923), the present writer's notes (Wurm 1951), Capell's (1962) notes, and Riley's (and Ray's) vocabularies (1930-31) in the Tureture local dialect of Southern Coastal Kiwai. The present writer has collected sizable materials in Tureture.

The coastal Kiwai dialects contrast with Island Kiwai in a few phonological features, such as the appearance in many instances, of *h* for Island Kiwai *s*, especially in Southern Coastal Kiwai, and the presence of a somewhat simpler verb morphology than that met with in Island Kiwai.

3.31.11.4. *Daru Kiwai Dialect*

Daru Kiwai is spoken on the Island of Daru by the resident population, apart from those living in the village corners who speak the dialects and languages of their respective home villages. The total number of native speakers of this dialect is around 1,000, but it is used in addition as a lingua franca by many of the village corner residents.

Published materials in this dialect are Government notices and instructions, as well as duplicated portions of Scripture. The present writer has collected fairly extensive materials in this dialect.

Daru Kiwai is basically a Coastal Kiwai local dialect, but with greatly simplified morphology.

3.31.12. Wabuda

The Wabuda language is spoken in the villages of Dameratamu and Gesoa on Wabuda Island in the Fly Delta, in Wapi on Aibinio Island in the Delta, and in the villages of Damera, Madaduo, Koavisi and Sagero on the left bank of the Fly. It is also spoken in the villages of Tivere and Maipani on Dibiri Island, but the latter is, to a limited extent, a Wabuda-Bamu Kiwai bilingual village, and, as has been mentioned in 3.31.11.1., the dialect spoken in Waribodoro on the left bank of the Fly, constitutes an Island Kiwai-Wabuda transition dialect. The total number of speakers of Wabuda is about 1,700⁷.

The main published materials on Wabuda are Ray's (1923), Capell's (1962) and the present writer's Wurm (1951) notes and Riley's (and Ray's) vocabulary (1930-31), but the present writer has carried out extensive studies in it and collected sizable materials.

Wabuda differs quite markedly from all other languages of the Kiwai Family in showing what appear to be archaic features in the phonological shape of many of its lexical items - such as the appearance of -k- or -t- in places where in other Kiwai languages, a glottal stop is found between two vowels, or two vowels adjoin each other without an intervening consonant - in possessing an abundance of long vowels which are lacking in most other Kiwai languages, apparently lacking a tonal system, and in displaying unique morphological features and forms and syntactical features which are aberrant when compared with those of all other Kiwai languages. It appears possible that the present speakers of Wabuda originally spoke a different language, and adopted a Kiwai language at some time in the past, preserving in the process, some of the features of their original language in it.

3.31.13. Bamu Kiwai

Bamu Kiwai is spoken in several dialects by about 4,100⁸ speakers in the Bamu Delta and Bamu River area, as far inland as the point at which the Guavi and Wawoi Rivers merge to become the Bamu River. The chief published materials in it are Ray's (1923), Capell's (1962) and the present writer's (Wurm 1951) notes, and Riley's (and Ray's) (1930-31)

vocabularies in two Bamu Kiwai dialects, Sisiame and Pirupiru. Translations of portions of Scripture in Bamu Kiwai were published in 1952. C.L. Voorhoeve collected materials in a Middle Bamu dialect.

The Bamu Kiwai dialects are characterised by some loss of intervocalic consonants when compared with Southern Kiwai, and a morphology which is considerably more simplified than the Coastal Kiwai dialects when compared with the Island Kiwai dialect, but simplified in a different manner than is the case with the Daru Kiwai dialect of Southern Kiwai.

3.31.14. Turama - Kerewo (Goari)

The dialects spoken in the Lower Turama and the Gama Rivers area on the one hand, and those located between the Omati River area and Bevan Sound on the other are on the borderline between constituting two greatly differing dialects of one language, or two very closely related languages. For the purpose of this paper for which they are only of marginal interest, the first alternative has been adopted.

The dialect spoken on the Lower Turama River as far inland as the village of Saragi (K. Franklin, personal communication) is known as Morigi, and has about 600 speakers. The closely related dialects in the Gama River area are spoken by approximately 550 people, giving a total of about 1,150 speakers for the Turama and Gama Rivers dialects.

The closely interrelated dialects spoken from just west of the mouth of the Omati River eastwards to Bevan Sound and inland as far as Kikori town and approaching Aird Hills, and completely surrounding the non-related Porome language located at Aird Hills and south of Kikori town, are known as Kerewo (or Goari) and have about 1,400 speakers (K. Franklin, 1968 and personal communication). The total number of speakers of Turama-Kerewo is therefore approximately 2,550. Published materials in the dialects mentioned above are Ray's (1923), Capell's (1962) and the present writer's (Wurm 1951) notes, and sizable translations of Scripture (1946) are available in Kerewo. Franklin (1968) mentions them in this survey. A manuscript grammar and vocabulary of Kerewo has been compiled by Rev. B. Butcher and K. Franklin collected materials in Turama-Kerewo dialects in 1971.

Of the two dialects, Morigi and the Gama River dialects constitute phonologically and structurally a transition between Bamu Kiwai and Kerewo, though lexically they are closer to the latter. Kerewo is characterised by the quite frequently occurring replacement by glottal stop, or the complete absence, of intervocalic consonants found in Southern Kiwai equivalents of Kerewo morphemes, and a simplification in

morphological elaboration which goes further than that observed in Bamu Kiwai when compared with the Island Kiwai dialect of Southern Kiwai.

3.31.15. Urama-Gope

Two dialects constituting a separate language within the Kiwai Family are located east of the Aird Hills area and extend as far as the Pie River. One of these, Urama, with about 1,500 speakers, takes up the southern half of the region and occupies the coastal and peninsular areas and the islands, whereas the other, Gope, with about 1,400 speakers, is located north of the Urama territory and spoken in villages along the Ivi River and in some villages on the Wapo River. The total number of speakers of Urama-Gope is therefore about 2,900.

Some notes have been published on these dialects by Ray (1923), Capell (1962) and the present writer (Wurm 1951), and Franklin (1968) mentions them in his survey. J. Harris has collected very extensive materials in Urama and carried out a thorough study of it (unpublished), and materials in the dialects were also collected by K. Franklin and Rev. J. Cribb.

Urama-Gope show an even stronger tendency than Kerewo to replace by a glottal stop, or to lack, intervocalic consonants found in Southern Kiwai equivalents of morphemes in them. At the same time, the resulting large number of homophones has led to the secondary development of a two-tone system of relatively high functional load which constitutes an elaboration of the two-tone system present in the Kiwai languages (with the apparent exception of Wabuda) but which has an extremely low functional load. The morphological system is even simpler than that met with in Kerewo.

3.31.2. Internal Relationships of the Languages of the Kiwai Family

The lexical interrelationship of the members of the Kiwai Family is quite close. No complete lexicostatistical grid has been worked out for the purpose of this article, but the following figures will serve as illustrations (Sisiame and Pirupiru are two Bamu Kiwai dialects):

Island Kiwai

66	Wabuda			
66	60	Sisiame		
58	59	84	Pirupiru	
58	52	50	52	Kerewo

Additional figures:

Island Kiwai - Tureture	84
Wabuda - Tureture	68
Island Kiwai - Turama (Mogiri)	56
Sisiame - Turama (Mogiri)	53
Turama (Mogiri) - Kerewo	79
Kerewo-Gope	56

Structurally, the languages of the Kiwai Family are in principle, very similar to each other, though, as has already been mentioned in 3.31.11.1., the structures of most Kiwai languages and dialects appear to be versions of Island Kiwai structure more or less simplified in varying degrees.

3.31.3. Typological and Structural Features of the Languages of the Kiwai Family

In this section, only such features as are relevant to a comparison with features encountered in member languages of other families will be mentioned. The Kiwai languages have a relatively simple phonology. The consonant phonemes found in them are p t k ʔ b d g m n r s h w, with s and h excluding each other in several languages and dialects. l appears in some of the northern languages instead of r. The vowel phonemes are a e i o u, with several diphthongs. Long vowels are frequent in Wabuda, and occur in the northern languages, but are very rare or absent in Southern Kiwai dialects. The suprasegmental system manifests itself in a complex stress system with rhythm principles, and a two-tone system is present in all the languages, except apparently Wabuda. Its functional load is extremely low in most languages except for Urama-Gope where it is quite high. Syllable structure is very simple; no consonant clusters occur (except for the very rare presence of -nd- in Kerewo) and all syllables are open. Clusters of up to three vowels are present if the two parts of a diphthong are counted as two vowels.

The morphology is characterised by the distinction of four numbers; singular, dual, trial and plural, and three persons in the pronoun, but only two, speaker and non-speaker, in the verb morphology. There are only two basic sets of pronouns, one for singular and one for plural - the dual and trial forms are derived from the plural forms through suffixes. Possession is expressed through the preposed personal pronouns which usually carry a suffix, which also functions as ergative and emphasis marker. Numerous noun (and pronoun) suffixes are present and denote a variety of local relationships, and the ergative. Adjuncts precede the words which they determine, except for Wabuda in which certain adjuncts follow the determined word.

The verb morphology is elaborate. The verb stem and sometimes its prefixes, undergo changes to denote singularity and non-singularity of the object, and special stem suffixes denote a variety of aspects such as punctiliarity, repetitiveness and continuity. Prefixes denote modes of actions such as spontaneity, and reflexivity. Several past and three future tenses as well as a present are met with and are indicated by tense forms of subject prefixes, together with combinations of prefixes, suffixes and tense forms of the affixes indicating the number of the subject. In many verb forms, the tense is signalled several times, often first in a general form by the shape of the subject prefix - i.e. present, past or future only - which is then followed by the indication of a specific past or future tense. The person of the object is indicated by a subject-object portmanteau prefix only if the object is in the first person, but the number of the object is marked, in a general form - by the form of the verb stem (and of the stem-prefixes) and in the case of the object being non-singular, its specific number - dual, trial or plural - is denoted by affixes. Special negative verb forms exist, several imperative forms are present, and verbal nouns play an important part.

A feature of the Kiwai languages which is important for their typological comparison with languages of other families in the Tran-Fly Stock is the total absence of any gender distinction in the morphology.

It may be noted here that the present writer's earlier studies in the Kiwai languages (Wurm 1951) as well as Voorhoeve's (personal communication) have shown that the present-day Kiwai languages show strong connections with languages of the Upper Fly River area. It seems likely that the ancestors of the present-day Kiwai speakers migrated down the Fly to the Fly Delta area. The ancestors of the present-day Wabuda speakers who may have spoken a non-Kiwai language, appear to have taken over an archaic form of Kiwai, at the same time perserving features of their earlier language. Kiwai then appears to have spread southwards along the eastern and and southern coast of the Trans-Fly, and north to the Bamu and perhaps the Gama and Turama Rivers areas.

Subsequently, further language migrations carried Kiwai languages to the north-east from the original dispersal area and the coast of the Trans-Fly. These migrations are discernable from the stratification of the vocabularies of the individual Kiwai languages which, especially in the northern languages, contain items which represent quite different sets of sound correspondences and which are attributable to different migrations. In addition, loan words from non-Kiwai languages provide useful evidence.

So, for instance, loan words from Bine, a language of the Eastern Trans-Fly Family, are found in Urama in the extreme north-east.

3.32. THE TIRIO FAMILY

3.32.1. Remarks on the Individual Languages

The Tirio Family which occupies a section of the right bank of the upper region of the Fly Delta, and Sumogi Island, consists of the Tirio and Mutum (or Paswam) languages, and of the dialects spoken in the villages on the right bank of the Fly, upstream from Tirio, and in the village of Dewala on Sumogi Island (Lewada-Dewara) on the one hand, and that of the village of Adulu (Aturu) on Sumogi Island on the other. Aturu and Lewada-Dewara are on the borderline of being two closely related languages, or dialects of one language, though the lexico-statistical evidence favours the first of the two possibilities. The criterion of mutual intelligability is not applicable, because passive tri-lingualism involving these two communalects and Tirio, is practically universal amongst speakers of the two doubtful languages (or dialects) and Tirio.

Materials in print on languages of the Tirio Family comprise a vocabulary by Chalmers (1897) of a dialect of Lewada-Dewara, Ray's (1907, 1923), William's (1936) and Capell's (1962) notes, and Riley's (and Ray's) (1930-31) vocabulary of Tirio. Materials in languages of the Tirio Family were collected by A. Capell, Rev. Nigel Gore and Rev. T. Hoel of the U.F.M. Mission, and by the present writer.

3.32.11. Tirio

Tirio is spoken in the Tirio village by about 240 speakers, and the villages of Wederehiambo and Madame, to the east of it, are in part Tirio-Coastal Kiwai bilingual villages. The total number of Tirio speakers, including those living in Daru, is about 280.

3.32.12. Aturu

Aturu is spoken in the village of Adulu on Sumogi Island by about 200 speakers. In addition, there may be about a dozen or so Aturu speakers in Daru which brings their total number to about 220.

3.32.13. Lewada-Dewara

The group of dialects referred to as Lewada-Dewara (see above in 3.32.1.) is spoken in the villages of Balamula and Lewada on the right bank of the Fly, and in the village of Dewala on Sumogi Island, by a

total of about 450 speakers. Lewada is close to the site of the no longer existing village of Pisirami reported by Ray (1907), and Dewala contains the populations of the villages of Tagota (Ray 1907, 1923) and Weridai (Williams 1936) which used to be a considerable way upstream on the right bank of the Fly, but which are now abandoned, along with the village of Narakiwai which used to be further downstream, but whose population has also migrated to Dewala village.

The communalects spoken at Lewada, Balamula and Dewala are closely enough related to be regarded as dialects of a single language, and as has been pointed out above in 3.32.1., it may be possible to regard Aturu also as a dialect of the same language.

3.32.14. Mutum (or Paswam)

Mutum (or Paswam) is spoken in the villages of Mutum, Upiara, Sanguanso and Tewara, and there are Mutum speakers in Rual and Kapal, in addition to the Gidra (and in the latter, also Agöb) speakers there. The total number of speakers of Mutum (Paswam) is about 400.

3.32.2. Internal Relationships of the Languages of the Tirio Family

The lexical interrelationship of the languages of the Tirio Family is not very close, though in their structures they are very similar.

The following lexicostatistical percentage figures will serve to illustrate the degrees of lexical interrelationship between the dialects of Lewada-Dewara on the one hand, and those dialects and Aturu on the other:

	Dewara		
	81	Lewada	
	78	78	Aturu
Lewada-Balamula	84		

The Tirio Family shows the following percentages:

Tirio			
45	Aturu		
36	78	Lewada-Dewara	
38	43	47	Mutum

A remarkable feature of this grid is the large discrepancy between the figures for Tirio-Aturu (45) and Tirio with Lewada-Dewara (36) in the light of that for Aturu with Lewada-Dewara (78).

3.32.3. Typological and Structural Features of the Languages of the Tirio Family

The phonology of the languages of the Tirio Family is relatively complex. The results of a superficial phonological study are still tentative, but they seem to possess the following consonant phonemes:

p t k ʔ p^w b d g b^w ŋ^w b^y d^y~dʒ mb nd ŋg
 m n (ŋ) n^y (f) ɸ ɸ^y s z^z r l w y. The bracketed phonemes are doubtful. The vowel phonemes appear to be: a æ e i o u œ ə. Vowel length is phonemic. Several diphthongs occur. Stress appears to be phonemic, and a complex rhythm system is present. No tonal system has been observed. The syllable structure is comparatively simple and open syllables consisting of C+V or C+V+V are overwhelmingly predominant initially and medially. However, word-final nasals, stops and -r are frequent, and low-frequency syllable-boundary clusters of nasal + stop, -r + stop, -l + stop or nasal, -s + nasal and -ʔ + stop are found, as well as -g+z- and the three consonant cluster -l + stop + nasal-. Clusters of up to three vowels are met with.

The morphology is characterised by the distinction of masculine and feminine gender in the third person which affects the pronoun system and the subject and object indication with the verb. Four numbers, singular, dual, trial and plural are distinguished in the verb morphology, but the pronouns display only singular and plural forms. Three persons are distinguished in the pronoun system and in the verb morphology, with the third person having a masculine and feminine form in singular, and in part also in the plural. Possession is indicated through the preposed personal pronouns which carry special suffixes to denote possession. An ergative is absent, and noun (and pronoun) suffixes denoting local relationships are relatively few. Adjuncts mostly precede the words which they determine but a few follow such words.

The verb morphology is complex. The verb stem undergoes changes to denote the number of the object (and in some instances that of the subject), but sometimes one form appears with singular and dual objects, and another with trial and plural objects, or there are three different forms, with distinct forms found with trial and with plural objects. Aspects are quite numerous. There are several past tenses but only one future and a present. The tenses are indicated in a general form - i.e. present versus past versus future - by tense forms of subject prefixes, together with suffixes and particles which denote the exact tense. The number of the subject is indicated by the use of specific subject prefixes for the different numbers. A large number of different verb classes or conjugations appears to exist and the subject prefixes and object number

affixes show differences in them. The person of the object is indicated by subject-object portmanteau prefixes and its number by the form of the verb stem and, if it is not in the singular, by additional affixes. Special negative verb forms are found, and several imperative forms are present.

3.33. THE EASTERN TRANS-FLY FAMILY

3.33.1. Remarks on the Individual Languages

The Eastern Trans-Fly Family (formerly - Voorhoeve 1968, Wurm 1970 - called the Oriomo River, or Binaturi and Oriomo Rivers Family) occupies the Binaturi and Oriomo Rivers area, most of the country between the Binaturi and Pahoturi Rivers, and the eastern islands of Torres Straits. It consists of the four languages Bine, Gidra, Gizra and Miriam.

The main materials in print on these languages comprise notes by Ray (1907, 1923), Williams (1936) and Capell (1962), and wordlists in Riley (and Ray) (1930-31). A detailed grammar and an extensive wordlist of Miriam has been published in Ray 1907, and translations of Scripture have appeared in Bine (Kunini dialect) (1934, a new version in 1969) and Miriam (1902). Materials in the mainland languages were collected by A. Capell and the present writer, and in Miriam by A.C. Woodward whose notes were kindly put at the disposal of the present writer by J. Beckett.

3.33.11. Bine

Bine is spoken in the villages of Kunini, Masingle (appearing as Masingara on most maps), Boze, Dirimu (plantation), Giningarede, Sebe (Wabozl), Tati, Irupi, Dragele, and Sogalo by a total of about 1,550 speakers.⁹ It has a much simpler phonology than the other languages of the family, a fact which may perhaps be attributable to Kiwai influence.

3.33.12. Gidra

Gidra is spoken in the villages of Dorogori, Abam, Peawa, Zim, Wonio, Iamega (in part Agöb speaking), Podari, Wipim (a few Agöb speakers), Kuru, Ume and Gamaeve, as well as in those of Kapal (some Mutum and Agöb speakers) and Rual (some Mutum speakers) which, including Gidra speakers living in Daru, gives a total of about 1,600 speakers.

3.33.13. Gizra

Gizra is spoken in the villages of Togo, Kuperi and Waidoro by close to 600 speakers.

3.33.14. Miriam

Miriam is spoken in the eastern part of the Torres Straits on the Murray Islands (Mer, Dauar and Waier), Darnley Island (Erub) and Stephen's Island (Ugar) by about 700 speakers.

3.33.2. Internal Relationships of the Languages of the Eastern Trans-Fly Family

The lexical interrelationship of the languages of the Eastern Trans-Fly Family is relatively distant, as can be seen from the lexicostatistical percentage figures given below for illustration:

Bine				
42	Gidra			
38	34	Gizra		
28	26	37	Miriam	

Though the figure of 26% for Gidra-Miriam is below the level diagnostic for a family-level relationship on the basis of a 200-items basic vocabulary list (see 2.4.), the presence of a relationship chain of persistently above 28% which links Gidra with Miriam through Gizra makes it possible to regard both Gidra and Miriam as members of the same family.

3.33.3. Typological and Structural Features of the Languages of the Eastern Trans-Fly Family

As has been mentioned above in 3.33.11., the phonology of Bine is relatively simple in contrast to that of the other members of the Family. It shows the following consonant phonemes: p t k ʔ b d g m n ŋ nʸ s ẓ r l w y, and the vowel phonemes a æ e i o u. Vowel length is phonemic. Several diphthongs occur. The suprasegmental system shows a complex stress system with rhythm principles, and apparently a two-tone system of very low functional load. The syllable structure is rather simple, and open syllables consisting of C + V or C + V + V predominate. No closed syllables occur word-finally. However, word-initial clusters of stop + l- or r- are found, and relatively low-frequency syllable-boundary clusters of stop + nasal or r- or l-, nasal + l-, -ʔ + stop, and -ŋ + w- are present. Clusters of up to three vowels are met with.

In Gidra the consonant phonemes are: p tʸ t k ʔ pʷ kʷ b dʸ d g gʷ mb ndʸ nd ŋg ŋgʷ m n nʸ ŋ ŋʸ f s ʃ h v z ʒ (ɣ) ɾ l w y. Consonantal length seems to be phonemic and is frequently present with b g nʸ and s. The vowel phonemes are: a ɛ e i ɔ ɔ̃ ɨ ʉ æ ə. The bracketed

phoneme is doubtful. Vowel length is phonemic. A few diphthongs occur, but are of very low frequency. The suprasegmental system appears to be comparable to that encountered in Bine, but the tonal system seems to have an even lower functional load. The syllable structure is relatively complex, and closed syllables ending in a single consonant abound. Double-closed syllables also occur. Initial clusters of two or three consonants are relatively frequent, though apparently restricted to stop or $v-$ + $\tilde{r}-$ or $l-$, and $gl-$. Word-finally, stops, nasals, $-v$, $-s$, $-l$, $-r$ and $-w$ have been observed, as well as nasals + stops and long stops, especially $-b:$ and $-g:$, and $-s:$. Amongst syllable-boundary clusters of two consonants, nasal or $-l$ or $-v$ or stop + $r-$ or stop, as well as stop or $-w$ or $-r$ + nasal or $-l$ have been frequently observed. Also $-r$ or nasal + $y-$ are common, as are stop + $f-$. This list is however not exhaustive. In stop + stop clusters, voiced + voiceless stops cluster without assimilation (e.g.) $-tḡw-$ contrasts with $-tk^w-$). Of syllable-boundary clusters of three consonants, $-vlt-$ has been recorded.

In Gizra, the consonant phonemes are: p t^v t k^v k $ʔ$ p^w
 k^w b d^v d g^v g g^w mb nd^v nd $ṅg^v$ $ṅg$ $ṅg^w$ m n^v
 n $ṅ$ s $ʃ$ h z $ʒ$ (y) $\tilde{r}\tilde{y}$ l w y . Consonantal length seems to be phonemic, but is not so frequently encountered as in Gidra. The vowel phonemes are: a $æ$ e i o $ɔ$ $ɪ$ $æ$ $ə$. The bracketed phoneme is doubtful. Vowel length is phonemic. A few diphthongs occur and their appearance is of higher frequency than in Gidra. The suprasegmental system is similar to that present in Gidra. The syllable structure is simpler than in Gidra, but more complex than in Bine. Closed syllables ending in a single consonant are frequent word-finally, but very much less frequent medially than in Gidra. Double-closed syllables and initial clusters are absent, as are syllable-boundary clusters of more than two consonants. Amongst syllable-boundary clusters of two consonants, stop + $l-$, nasal or $-\tilde{r}$ or $-l$ or $-s$ + stop, as well as $-\tilde{r}$ + nasal are common. Word-finally, stops, nasals, $-l$, $-\tilde{r}$ and $-z$ have been observed.

The phonology of Miriam - in which the present writer did not collect any materials himself - appears to be similar to that of Gizra.

In the morphology, there is a rudimentary distinction between masculine and feminine gender in the third person through the appearance of different object prefixes according to the sex of the object if the object is a human being, or a certain animal (e.g. a pig). Also, some verbs such as "go" and "come" have different subject markers in the third person, and in some instances even different stem forms, according to

whether the subject refers to a male or female person. No gender distinction has been observed in the pronominal system. In the verb morphology, four numbers, singular, dual, trial and plural, are distinguished, but the pronouns display only singular and plural. Inclusive and exclusive forms are distinguished, and this distinction carries through to the indication of person with the verb. Possession is indicated through the preposed personal pronouns which carry special suffixes to denote possession. An ergative is present, and noun (and pronoun) suffixes denoting local relationships are numerous. Special suffixes marking nouns and pronouns as objects occur. Adjuncts precede the words which they determine.

The verb morphology is of great complexity. The verb stem mostly undergoes extensive changes to indicate the number of the object, and there are a number of verb classes according to whether the verbs have one form for all numbers of the object, or two, three or four. The distribution of these forms with regard to the number of the object also depends on the verb class, i.e. some verbs with two forms have one form for singular and dual objects, and the other for trial and plural, others one form for singular and the other for the non-singular forms, or one for all numbers except plural and the other for plural, etc. A few verbs show a similar multiplicity of stem forms according to the number of the subject. Aspects are quite numerous and are usually marked by suffixes. There are several past tenses, but basically only one future, and a present. The tenses are indicated by suffixes and through tense forms of the suffixes denoting the number of the objects (and subjects) and, to a limited extent, through tense forms of the object prefixes, or combined object + subject portmanteau prefixes. The person of the subject is denoted by suffixes in conjunction with subject-object portmanteau prefixes. In Bine and Gidra a full range of subject persons suffixes is found for all numbers, with or without additional subject number markers. In Gizra, the person suffixes are more limited, and in part defective and in Miriam they are lacking entirely: only the subject number suffixes appear, and the person of the subject is signalled by the object-subject prefixes, the preposed personal pronouns and to a limited extent with intransitive verbs, by subject prefixes. The person of the object is indicated by the subject-object portmanteau prefixes, and its number by the appearance of special object prefixes for various numbers, the changes in the verb stem and special suffixes. The negative is expressed by a particle, but there are traces of special negative verb forms in Gidra and Gizra. Several imperative forms are present.

3.34. THE PAHOTURI RIVER FAMILY

3.34.1. Remarks on the Individual Languages

The Pahoturi River Family (formerly - Voorhoeve 1968, Wurm 1970 - called the Agöb Family) occupies the Pahoturi River area and the country to the west and north-west of it. It consists of the two closely inter-related languages Agöb and Idi (called Mikud in McElhanon and Voorhoeve 1970).

The main materials in print on these languages consist of notes by Ray (1907, 1923), Williams (1936) and Capell (1962), and a wordlist in Riley (and Ray) (1930-31). Agöb is generally referred to in these sources as Dabu, and dialects of it as Bugi or Buji and by village names. Materials in the languages of this family were collected by A. Capell and the present writer.

3.34.11. Agöb

Agöb is spoken in the villages of Gnao, Kibuli, Glabi, Nanu, Kand/Wim, Biambod 1 and Biambod 2, Wipim (mostly Gidra speaking), as well as in Sigabaduru, Tabatata (now largely abandoned), Ber and Buji. Some Agöb speakers are also at Kapal. The total number of speakers of Agöb, including those living in Daru, is about 1,100.

3.34.12. Idi

Idi is spoken in the villages of Sibidiri, Dimiri, Bubuji, Malam, Limol, Kinkin, Kondoba, Buk, Dimsisi and Bimadebun by a total of about 900 speakers, including Idi speakers living in Daru.

3.34.2. Internal Relationship of the Languages of the Pahoturi River Family

The lexical relationship of Agöb and Idi is very close. The lexicostatistical comparison of the Idi dialect of Dimiri and the Agöb dialect of Gnao has yielded a percentage figure of 77. Geographically closer and more distant villages yield proportionally higher and lower figures, but even the most distant dialects of the two languages are still very closely related.

3.34.3. Typological and Structural Features of the Languages of the Pahoturi River Family

Agöb and Idi are almost identical in structure. Their phonology is simpler than that of the majority of the members of the Eastern Trans-Fly Family, and shows the following consonant phonemes: p tʷ t k b dʷdʒ d g m nʷ n ŋ s v z ʃʷʃ l w y. The vowel phonemes are: a æ i ɔ u œ ə. Vowel length is phonemic. Several diphthongs occur and appear with moderate frequency. The supra-segmental system manifests itself in a relatively complex stress system with rhythm principles, but no tonal system seems to be present. The syllable structure is of medium complexity. Open syllables predominate by far medially, but closed syllables ending in a single consonant are quite frequent finally. Double-closed syllables occur finally, but are limited to nasal + stop. Amongst syllable-boundary clusters of two consonants, stop + nasal or r-, nasal + stop or r-, and stop or r- + nasal occur. Word-finally, stops, nasals, -r, -l and, as has been mentioned above, nasal + stop are found. Clusters of up to three vowels are met with.

In the morphology, no gender distinction has been observed. In the verb morphology, three numbers, singular, dual and plural are regularly distinguished and there are traces of a trial number. However, in the pronoun system only singular and plural forms are present. The pronoun system is also defective in having only one form for the second and third person plural. Possession is indicated through the preposed personal pronouns which carry special suffixes to denote possession. An ergative is present and there are quite a few noun (and pronoun) suffixes indicating local relationships. A few occurrences of special suffixes marking nouns and pronouns as objects have been observed. Adjuncts precede the words which they determine.

The verb morphology is elaborate. Characteristic features are the fact that verbs usually have double stems of which the first is often nominal in character, and the appearance of extensive changes in the initial syllable of the verb forms to denote tense. For instance, in intransitive verbs which have no subject-object prefix, the initial consonant of the verb stem changes for tense. The verb stem does not undergo changes to indicate the number of the object as is the case in the languages of the Kiwai, Tirio and Eastern Trans-Fly Families. Only a few verbs such as "to give" show some changes of this kind. Several past tenses are present, but basically there is only one future and a present. It has been mentioned above that tense is indicated by changes in the initial syllable of the verb form - the initial syllable can be part of the verb stem

itself or an object or combined object-subject-prefix, and also, through suffixes and changes in the suffixes, can denote the number of the subject and the object. The person of the subject is indicated by suffixes, though they are absent in some verb forms, and/or through the subject-object portmanteau prefixes. In some verbs, subject-prefixes occur. The number of the subject is marked by the form of the subject affixes, or by special suffixes. The person of the object is shown by these subject-object portmanteau prefixes, sometimes in combination with suffixes, and its number by suffixes. The negative is expressed by particles, and the imperative forms are relatively simple.

3.35. THE MOREHEAD AND UPPER MARO RIVERS FAMILY

3.35.1. Remarks on the Sub-Families and Individual Languages

The Morehead and Upper Maro Rivers Family which is a combination of the Morehead River Family (Wurm 1970, but excluding Mikud), the Morehead and Bensbach River Families (Voorhoeve's reclassification in Wurm 1970) and the Yey-Kanum-Moraori (Voorhoeve 1968) or Upper Maro (McElhanon and Voorhoeve 1970) Stock, occupies the Morehead River area and much of the country to the east of it including Strachan Island, as well as the region between the Morehead and Bensbach Rivers, the Bensbach River area itself, the Upper Maro River area in West Irian and one village far to the north of the Bensbach area.

It consists of four sub-families, the Nambu, Tonda, Yey and Moraori Sub-Families, of which the latter may, in a different classification, be regarded as constituting a different family (see below 3.35.11.).

The main materials in print on the languages of the Nambu and Tonda Sub-Families comprise Ray's (1907, 1923), William's (1936) and Capell's (1962) notes (languages and group names found in these sources and Bangu, Sanana, Wandatokwe, Tokwasa, Dungenwab and others), as well as wordlists of the Lower Morehead (Peremka) language, Dorro and Parb in Riley (and Ray) (1930-31). For Kanum, Drabbe's (1954) and Boelaars' (1950) grammars, vocabularies and notes provide excellent published sources.

Materials in some languages of these two sub-families were collected by A. Capell and the present writer. For Yey and Moraori, Drabbe's (1954) and Boelaars' (1950) publications are again the best published sources.

3.35.11. The Nambu Sub-Family

3.35.11.1. *Remarks on the Individual Languages*

The Nambu Sub-Family is located between the Morehead, Kutubora and Mai Kussa Rivers, and consists of the Nambu languages, with the Iauga (or Parb) dialect on Strachan Island, which could also be regarded as constituting a separate language within the sub-family, and the Dorro language.

3.35.11.11. *Nambu*

Nambu is spoken in the villages of Mibini, Garaita, Setavi (a Nambu-Upper Morehead bilingual village), Mata, Saraina, Pongaki (or Pangaraki), Gubam, Keru, Derideri, Arufi and Tais by a total of about 700 speakers. The dialect of Tais is a transition dialect between Nambu and Dorro.

3.35.11.12. *Iauga (or Parb)*

Iauga is spoken in the village of Iauga on Strachan Island by about 25 speakers.

3.35.11.13. *Dorro*

Dorro is spoken in the village of Mari on the south coast by about 75 speakers. Riley (and Ray) (1930-31) describe Dorro as spoken by an inland tribe, however it appears to be spoken nowadays only by the inhabitants of the coastal village. The dialect of Tais has been mentioned in 3.35.11.11. as a member of Dorro transition dialect.

3.35.11.2. *Internal Relationship of the Languages of the Nambu Sub-Family*

The degree of the lexical interrelationship between the languages of the Nambu Sub-Family can be seen from the following lexicostatistical percentage figures:

Nambu		
83	Iauga (or Parb)	
62	51	Dorro

From these figures it seems clear that Iauga (Parb) could, at least on the lexical level, be regarded as a dialect of Nambu. At the same time, its lexical relationship to Dorro is considerably lower than that existing between Nambu and Dorro.

3.35.11.3. *Typological and Structural Features of the Languages of the Nambu Sub-Family*

The present writer has information from his own fieldnotes, on the structures of Nambu and Iauga (Parb) which are virtually identical. The following notes reflect only their features.

The phonology is quite complex, and the following statements are also tentative. The consonant phonemes appear to be: p~ɸ t k ʔ b d g kp mb nd ŋg ndʲ~ndʒ~ndz m nʲ n ŋ f θ s (sʲ) v~β ð z (ɣ) ʃ~ʂ l w y. The bracketed phonemes are doubtful. In addition, a large number of labialized consonants are present. Their phonemic status is not yet clear. The following have been observed: pʷ gʷ kpʷ ŋgʷ ŋʷ yʷ. Consonantal length seems to be phonemic and to affect mainly k. The vowel phonemes appear to be: a æ e i ɔ ɒ u w œ ü ə. Vowel length is phonemic. Several diphthongs are found. The suprasegmental system appears to consist of a relatively complex stress system with rhythm principles, but no tonal system seems to be present. The syllable structure is of some complexity. Open syllables predominate, but closed syllables are nevertheless frequent. Double-closed syllables occur finally, but are limited to nasal + stop. Amongst syllable-boundary clusters of two consonants, stop or nasal or -r + stop or nasal or s- (or v), stop + r-, -s + v- and -r + s- occur. Amongst syllable-boundary clusters of three consonants, -nbɽ has been found and the combination -m + kp- (two phonemes) may be mentioned as occurring with some frequency. Word-finally, nasals, stops and -ɽ are common, as well as nasal + stop as has been mentioned above.

In the morphology, no distinction of gender appears to be present. In the verb morphology, three numbers: singular, dual and plural, are regularly distinguished, and traces of a trial member are present. In the pronoun system, only singular and plural forms are regularly distinguished, though dual and trial forms exist for the first and second persons, but are rarely used. The pronoun system is defective in having only one form for the third person singular and plural and another for the second person singular and plural. Possession is indicated through the preposed personal pronouns which carry special suffixes to denote possession. As ergative seems to be present and several noun (and pronoun) suffixes indicate local relationships. Adjuncts precede the words which they determine.

The verb morphology is of some complexity. Verbs usually have double stems of which the first is often a noun. The first syllable of the verb forms undergoes changes to indicate tense. The verb stem does not show changes in accordance with the number of the object. Several past tenses

occur, but only one future and a present. In addition to being marked by changes in the initial syllable of the verb forms, the tenses are indicated by suffixes and changes in the suffixes denoting the number of the subject and the object. The person of the subject is in part indicated by suffixes, but they are defective. At the same time, it is signalled by subject-object portmanteau prefixes. Subject prefixes seem to occur in some verbs. The number of the subject is shown by the forms of the subject suffixes, or by special suffixes. The person of the object is denoted by the subject-object portmanteau prefixes, and suffixes sometimes co-occur. Its number is indicated by suffixes. The negative is shown by a particle, and there are traces of a negative conjugation. Imperative forms are relatively simple.

3.35.12. The Tonda Sub-Family

3.35.12.1. *Remarks on the Individual Languages*

The Tonda Sub-Family is located in the Morehead and Bensbach Rivers areas and the country between the two rivers, and it extends westwards into the south-eastern corner of West Irian. It consists of the Upper Morehead (or Rouku) and Lower Morehead (or Peremka) languages, the Tonda language centred on, and east of, the Bensbach River area, and the Kanum language in the adjacent part of south-eastern West Irian. Dialects in the villages assigned to these four languages do to some extent constitute chains, especially between Tonda and the Upper Morehead and Lower Morehead languages, and between the latter two so that the delineation of the language boundaries is rather arbitrary. The break between Tonda and Kanum is more definite.

3.35.12.11. *Upper Morehead (or Rouku)*

What may be described as the Upper Morehead (or Rouku) language is spoken in several dialects in the villages of Rouku, Iokwa, Uparua, Setavi (an Upper Morehead-Nambu bilingual village), Sirisa and Kiriwo by a total of about 350 speakers.

3.35.12.12. *Lower Morehead (or Peremka)*

Lower Morehead (or Peremka) is spoken in the villages of Tonda, Jarai and Bula by a total of about 200 speakers. The language of which a wordlist is given in Riley (and Ray) (1930-31) under the name Peremka is this language. It is very closely related to the Upper Morehead language.

3.35.12.13. *Tonda*

Tonda is spoken in several dialects in the villages of Bundaber, Wando, Korombo, Mengete, Indorodoro, Tokwa, Wemenevre, Kandarisa, Weam and Wereave by a total of about 600 speakers. The language for which the name "Tonda" is used officially today, and is recognised by the speakers of it, is not spoken in the village of Tonda itself which belongs to the Lower Morehead language area, though the two languages are lexically quite closely related. Structurally the two languages seem to be identical.

3.35.12.14. *Kanum*

According to Drabbe (1954), Kanum is spoken in three dialects, one of them in two villages called Yenggalntyur and Onggaya by 165 speakers, the second by the 57 inhabitants of the village of Sota close to the

Australian border north-west of the Tonda-speaking village of Wereave, and the third by about 100 speakers in six other villages, amongst them the village of Bronga (or Beronk) just beyond the Australian border south-west of Weam. The total number of Kanum speakers was therefore about 320 round 1950.

3.35.12.2. *Internal Relationships of the Languages of the Tonda Sub-Family*

The following table of lexicostatistical percentage figures will demonstrate the degree of the lexical interrelationship between the languages of the Tonda Sub-Family.

Upper Morehead (Rouku)

71	Lower Morehead (Peremka)		
60	55	Tonda	
39	39	40	Kanum

It is evident from these figures that the Upper Morehead (Rouku), Lower Morehead (Peremka) and Tonda languages form a unit in contrast to Kanum. As a result of the presence of general passive tri-lingualism amongst speakers of Upper Morehead, Lower Morehead and Tonda, all tend to regard their three lexically distinct languages as a single language which they call "Tonda".

3.35.12.3. *Typological and Structural Features of the Languages of the Tonda Sub-Family*

The present writer has at his disposal information on the structure of Tonda, and some brief notes on that of Lower Morehead (Peremka) from his own fieldnotes, on Upper Morehead (Rouku) from A. Capell's fieldnotes, and on Kanum from Drabbe's (1954) and Boelaars' (1950) publications. The languages are virtually identical in structure, though Kanum appears to differ somewhat from the other three in phonology.

The phonology of the languages of the Tonda Sub-Family is rather complex, though perhaps somewhat less so than that of those of the Nambu Sub-Family. The consonant phonemes appear to be: $p^{\sim}\phi$ $t^{\sim}t^{\sim}f$ t k
 $^{\sim}p^{\sim}$ $k^{\sim}$ b $d^{\sim}d^{\sim}z$ d g mb $nd^{\sim}nd^{\sim}z$ nd ng m $m^{\sim}$ $n^{\sim}$
 n η θ s v δ z $\check{r}^{\sim}\check{r}$ l w y . The vowel phonemes appear to be: a æ e i ɔ ʌ u ʊ æ $\ddot{u}$ ə . Vowel length is phonemic. A considerable number of diphthongs are found, but clusters of more than two vowels seem to be absent. The suprasegmental system appears to manifest itself as a fairly complex stress system with rhythm principles, but no tonal system appears to be present. The syllable structure seems to be somewhat less complex than in the Nambu Sub-Family, but shows more complicated syllable-boundary clustering. Open syllables predominate more than in the Nambu Sub-Family, though closed syllables are still common. Double-closed syllables occur finally, but are limited to nasal + stop. Amongst syllable-boundary clusters of two consonants, stop or nasal or $-r$ + stop or nasal or $s-$, stop + $r-$ or $l-$, $-s$ + stop, $-r$ + $\theta-$ or $v-$, $-l$ + $v-$, and $-v$ + $r-$ occur. Amongst syllable-boundary clusters of three consonants, $-r^{\sim}t^{\sim}r$ has been found. Word-finally, stops, nasals and $-r$ are common, as well as nasal + stop as has been mentioned above.

The morphology shows a distinction between masculine and feminine gender in the third person through the appearance of distinct object prefixes according to the sex of the object if the latter is a human being or an animal of a certain kind (e.g. a pig). Also, some verbs such as "come" have different subject markers in the third person according to whether the subject refers to a male or female person. No gender distinction is present in the pronominal system. In the verb morphology, three numbers, singular, dual and plural, are present, and traces of a trial number are found. In the pronoun system, only singular and plural forms are met with. The pronoun system is also defective in having only one basic form for the third person singular and plural. Possession is denoted through the preposing of the person pronouns which carry special suffixes to indicate possession. An ergative is present,

and several noun (and pronoun) suffixes are found indicating local relationships. Adjuncts precede the words which they determine.

The verb morphology is complex. Most verbs have double stems, the first of them often a noun. The first syllable of the verb forms undergoes changes to denote tense. The verb stem shows no changes in accordance with the number of the object. There are at least three past tenses, but only one future, and a present. Tenses are indicated by the changes in the initial syllable of verb-forms and in addition by suffixes and changes in the suffixes denoting the number of the subject and object. The person of the subject is in part marked by suffixes, which are, however, defective. It is also shown by subject-object portmanteau prefixes. Some intransitive verbs have subject prefixes. The number of the subject is denoted by the shape of the subject affixes, or by special suffixes. The person of the object is indicated by the subject-object portmanteau prefixes, and its number by suffixes. The negative is denoted by particles and there are traces of a negative conjugation. Imperative forms are relatively simple.

3.35.13. The Yey Sub-Family

The Yey Sub-Family consists of the sub-family level isolate Yey which is spoken in several dialects in southeastern West Irian in a number of villages in the Upper Maro River area, west of the Australian border and in the Trans-Fly in the village of Kwari, north of the Tonda Sub-Family and west of the Suki areas. The total number of the speakers of Yey is about 1,000.

Lexically, Yey is a member of the Morehead and Upper Maro Rivers Family only through sharing 30% cognates with Kanum which provides a chain through which it can be included in the Family, because with one exception all its cognation percentages with other members of the family lie below 28% (see 3.35.2.), the lower limit of percentage figures diagnostic for inclusion into the same family of languages sharing them. The one exception is constituted by Iauga (Parb) with which Yey shares 28%. This is a very surprising figures, because with Nambu of which Iauga (Parb) is a dialect, Yey shares only 21%. An explanation for this unexpectedly high cognation of Yey with that member of the Morehead and Upper Maro Rivers Family which is geographically farthest removed from the Yey-speaking area may perhaps be offered by the fact that, according to Williams (1936), the village of Buji (Bugi), at the mouth of the Wai Kussa virtually opposite the village of Iauga, used to be a resort of refugees from different areas. While it may be too far-fetched to assume that Yey

refugees lived there, the equally high figures of 28% for Iauga-Kanum - the same as that for Iauga-Tonda though Tonda is geographically closer to Iauga - suggests some connection between speakers of Iauga, and of the West Irian members of the Morehead and Upper Maro Rivers Family.

Typologically and structurally, Yey is very much like the languages of the Tonda Sub-Family, except that an ergative is present in a rudimentary form only, and its pronoun system is defective in having only one form for the third person singular and plural forms, as well as another single form for the second person singular and plural forms, as is the case with languages of the Nambu Sub-Family (see above). There is considerable formal agreement between Yey morphemes and morphemes encountered in languages of the Tonda Sub-Family.

3.35.14. The Moraori's Sub-Family

The Moraori Sub-Family consists of the sub-family level isolate Moraori which in the early 1950's was spoken only by the 40 or so inhabitants of the village of Mbur, situated about ten miles east of Merauke.

Like Yey, Moraori is lexically a member of the Morehead and Upper Maro Rivers Family only by virtue of its sharing 30% cognates with Kanum which provides a chain through which it can be included in the family. However, its cognation percentage figures with other members of the family are very considerably lower than those shared by Yey with members of the family, and the percentage of cognates which it shares with Yey is only 25. This, and its typological and structural differences from the other members of the family (see below) may make it seem likely that a more realistic classification of Moraori may be to give it the status of an independent family-level isolate within the Trans-Fly Stock (see 3.2.).

Phonologically, Moraori appears to be similar to Yey and the languages of the Tonda Sub-Family. In its morphology, it shows a distinction between masculine and feminine gender in the third person through the appearance of distinct object markers according to the sex of the object if it is a human being. These markers are formally identical with the comparable markers found in languages of the Eastern Trans-Fly Family (see 3.33.3.). No gender distinction is present in the pronoun system. In the verb morphology, three numbers, singular, dual and plural, are met with. It is not clear whether a trial number may be expressed in it. In the pronoun system, only singular and plural forms are present. Possession is indicated by the preposing of the personal pronouns to which special suffixes are added to express possession. The presence of an ergative

seems doubtful. Several noun (and pronoun) suffixes are present to denote local relationships. Most adjuncts precede the words which they determine, but some follow such words.

The verb morphology is of considerable complexity. The most prominent feature in it is the appearance of quite different stem forms for different numbers of the object and the subject, a feature which is strongly reminiscent of characteristics of the languages of the Eastern Trans-Fly Family (see 3.33.3.), and to a lesser extent of those of the Tirio (see 3.32.3.) and Kiwai Families (see 3.31.3.). There are three past tenses, but only one future and a present. Tenses are indicated by changes in the subject suffixes. The person and the number of the subject are marked by suffixes, in part defectively. The person of the object is indicated by suffixes, infixes, or prefixes and its number by the shape of these affixes. The negative is indicated by a particle, and a negative conjugation is present. Imperative forms are simple.

3.35.2. Internal Relationships of the Languages of the Morehead and Upper Maro Rivers Family

The lexical interrelationship of the languages of the Morehead and Upper Maro Rivers Family is demonstrated by the table of lexicostatistical percentage figures given below:

Nambu								
83	Iauga (Parb)							
62	51	Dorro						
41	34	33	Upper Morehead (Rouku)					
33	35	37	71	Lower Morehead (Peremka)				
35	28	31	60	55	Tonda			
26	28	25	39	39	40	Kanum		
21	28	22	25	25	24	30	Yey	
19	18	15	22	22	21	30	25	Moraori

Of particular interest in this table are:

a) The comparatively low figure of 51% for Dorro-Iauga in contrast to the Dorro-Nambu figure of 62% if it is taken into account that Nambu and Iauga share 83% cognates and are dialects of one language. No satisfactory explanation is available for this phenomenon, except a suggestion that the special stratification of Iauga vocabulary through the intake of loan-words from refugees (see 3.35.13.) may be responsible for this skewed picture.

b) The comparatively high figure of 41% for Upper Morehead (Rouku)-Nambu which has obviously been inflated by loan-words.

c) The comparatively high figures for Iauga-Kanum and Iauga-Yey (in contrast to the figures of cognates shared by Kanum and Yey with other members of the Nambu Sub-Family) have already been commented on in 3.35.13., as have the figures relevant for the inclusion of Yey, and perhaps Moraori, into the Morehead and Upper Maro Rivers Family (see 3.35.13. and 3.35.14.).

3.35.3. Typological and Structural Features of the Languages of the Morehead and Upper Maro Rivers Family

As will be seen from a comparison of the discussion of the typological and structural features of the various sub-families of the Morehead and Upper Maro Rivers Family (see 3.35.11.3., 3.35.12.3., 3.35.13., 3.35.14.), the languages of this Family except Moraori, are typologically and structurally very similar, the only important difference between them being the presence of some gender distinction in the members of the Tonda and Yey (and also Moraori) Sub-Families in contrast to those of the Nambu Sub-Family. The attention of the reader may at the same time be drawn to the great similarity of the typological and structural features of the Nambu Sub-Family in particular, to those of the Pahoturi River Family (see 3.34.3. and 3.35.11.3.), and of some features of Moraori to those of the languages of the Eastern Trans-Fly Family and to a lesser extent, to those of the Tirio and Kiwai Families (see 3.35.14.).

3.4. INTERNAL RELATIONSHIPS WITHIN THE TRANS-FLY STOCK

To illustrate the degrees of interrelationship between languages included in the Trans-Fly Stock, the present writer has established a grid of lexicostatistical percentages of shared cognates of some of those languages on which he has collected materials himself. It is given in the table below:

Island Kiwai

21	Tirio								
17	45	Aturu							
29	21	22	Bine						
27	27	25	42	Gidra					
24	26	25	38	34	Gizra				
18	22	22	24	22	28	Agöb			
17	20	20	23	22	26	77	Idi		
18	18	19	17	18	19	25	24	Nambu	
19	20	19	17	19	17	17	17	35	Tonda

Additional Figures:

Island Kiwai - Miriam	27
Kanum - Agöb	21
Kanum - Yey	19
Kanum - Moraori	11

The following of these figures may call for some comment:

- a) The relatively high percentage figures for cognates shared by Island Kiwai with Bine, Gidra and Gizra may to some extent reflect inflation by borrowing, but apart from that they are indicative of the relatively close relationship of the languages of the Eastern Trans-Fly Family with those of the Kiwai Family.
- b) Of the unexpectedly high figures for Tirio-Gidra and Gizra (and Aturu - Gidra and Gizra). The ones referring to Gidra can be regarded as inflated by borrowing, but this would be difficult to assume for Gizra which is geographically removed from the Tirio Family area. It appears that there is a common lexical element in Gizra (and Gidra) and the languages of the Tirio Family which is absent from Bine (or supplanted in it by a Kiwai element).
- c) The high figures of Agöb-Gidra is probably attributable to inflation by borrowing.
- d) The relatively high percentage figures of cognates shared by Agöb and Idi with Nambu reflect the relatively close interrelationship between these languages rather than inflation by borrowing. It is remarkable in this connection that the percentage for Idi-Nambu is lower than that for Agöb-Nambu, though Idi is geographically closer to the Nambu area than Agöb.

3.5. TYPOLOGICAL AND STRUCTURAL FEATURES OF THE LANGUAGES OF THE TRANS-FLY STOCK

The languages of the Trans-Fly Stock display a good measure of typological and structural similarity, and share a considerable number of features. On the phonological level, they all share a suprasegmental system which manifests itself in a complex stress system with rhythm principles, and in addition, the languages of the Kiwai and Eastern Trans-Fly Families possess a two-tone system with usually low to very low functional load. The segmental phonologies are mostly quite complex, only the languages of the Kiwai Family have quite simple systems, and that of Bine of the Eastern Trans-Fly Family is also much simpler than those of

the other languages, though it is more complicated than those met with in the Kiwai Family.

On the morphological level, a large number of features are generally shared. These are: the distinction of at least three numbers: singular, dual and plural, in the verb morphology, with an additional trial number present either in full or at least in a rudimentary form or in traces. At the same time, the pronominal system usually shows only singular and plural forms. Only the languages of the Kiwai Family have forms for all numbers, but the dual and trial forms are clearly derived from the plural forms. The languages of the Nambu Sub-Family of the Morehead and Upper Maro Rivers Family possess dual and trial forms in their pronoun system, but they are rarely used. The pronoun systems of the languages of the Pahoturi and the Morehead and Upper Maro Rivers Families (except for Moraori) are also defective in having only one form for two distinct pronouns. In the first person plural of the pronoun system of the languages of the Eastern Trans-Fly Family, inclusive and exclusive forms are distinguished, and this distinction carries over into the indication of person with the verb. Possession is, in all the languages, indicated by the preposed personal pronouns which carry special suffixes to mark possession. An ergative is generally present, although it appears to be absent in the languages of the Tirio Family. In Moraori its presence is doubtful and in the languages of the Kiwai Family it is somewhat rudimentary. All languages have a number of noun and pronoun suffixes to indicate local relationships. In most languages, adjuncts precede the words which they determine, although in the languages of the Tirio Family and in Moraori some adjuncts are met with which follow such words.

In the complex verb morphology features shared by the languages include the indication of the person and number of the object with the verb though prefixes in all languages, with the partial exception of Moraori and the languages of the Kiwai Family, and in some cases in combination with suffixes. In Moraori, the object is indicated through prefixes with some verbs, but other verbs have object suffixes or infixes. In the languages of the Kiwai Family, the indication of the person of the object is rudimentary. The object prefixes are in all languages to some extent subject-object portmanteau prefixes. In addition to the partial marking of the subject through these prefixes and, especially with intransitive verbs - and in the languages of the Kiwai Family in most instances - through pure subject-prefixes, all languages, except those of the Tirio Family, have suffixes to mark at least the number, if not the person, of the subject. Subject-person suffixes are absent in the languages of the Kiwai and Tirio Families, in Miriam and in part in

Gizra of the Eastern Trans-Fly Family, and are defective in the languages of the Morehead and Upper Maro Rivers Family, except for Moraori. The number of the object is in all languages, except Moraori, indicated by suffixes (in the languages of the Tirio Family by affixes including suffixes). However the languages of the Kiwai, Tirio, and Eastern Trans-Fly Families, and Moraori, show changes in the forms of the stems of the verbs in accordance with the number of the object, and in some cases also with the number of the subject. In those of the Pahoturi River Family only a few rudimentary changes of this kind occur. All languages have a number of past tenses, but all of them, except those of the Kiwai Family, have basically only one future and present. In the languages of the Pahoturi River, and the Morehead and Upper Maro Rivers Families, tenses are indicated through changes in the first syllable of the verb forms irrespective of whether they are part of the verb stem, or prefixes. In addition, tenses are indicated in these families through suffixes, and through changes in the suffixes denoting the number of the subject and the object. Similar indication is to some extent present in the languages of the Kiwai and Eastern Trans-Fly Families: in the former, tenses are denoted in part by tense forms of the subject prefixes, and in part through suffixes and tense-forms of the suffixes denoting the number of the subject. In the languages of the Eastern Trans-Fly Family, tenses are denoted predominantly through suffixes, as well as by tense-forms of the suffixes indicating the number of the subject and the object. Tense-forms of the subject-object portmanteau prefixes play only a very minor part. In the languages of the Tirio Family, tenses are denoted by tense-forms of the subject prefixes, as well as through suffixes and particles. In Moraori, tenses are indicated by tense-forms of the subject suffixes.

A very important feature of the majority of the languages of the Trans-Fly Stock is the distinction between two genders, masculine and feminine. This feature is present in the languages of the Eastern Trans-Fly and Tirio Families, and of the Tonda, Yey and Moraori Sub-Families of the Morehead and Upper Maro Rivers Family. However, in all these languages, except for those of the Tirio Family, the indication of gender is limited to the marking of the third person object with verbs, and to the subject marking of a few verbs. No gender distinction is present in the pronoun systems. Only in the languages of the Tirio Family, is gender distinction present in the third person in the pronoun system, and in the subject and object indication with the verb.

Of the other features of the verb, the fact may be mentioned that in all the languages, the negative is indicated by a particle, and in most languages, except apparently those of the Pahoturi River Family, there are traces of a negative conjugation. Full negative conjugations are present in the languages of the Kiwai and Tirio Families, and in Moraori. Imperative forms are simple in the languages of the Pahoturi, and the Morehead and Upper Maro Rivers Families, but there are several imperatives in those of the Kiwai, Tirio and Eastern Trans-Fly Families.

When assessing the typological and structural features of the languages of the Trans-Fly Stock as a whole, it is evident that they share a considerable number of features. With regard to those features which are not generally shared, a clear separation exists between the languages of the Pahoturi, and Morehead and Upper Maro Rivers Families (except for Moraori) on the one hand, and those of the Kiwai, Tirio and Eastern Trans-Fly Families on the other, with Moraori siding in part with this second group. The languages of the Kiwai and Tirio Families, and Moraori, are in some ways aberrant, and those of the Eastern Trans-Fly Family have also a few aberrant features. The most prominent features of the first group are: changes in the initial syllable of verb forms for tense; no changes in the verb stem according to the number of the object or the subject (except for a few traces of this in the languages of the Pahoturi Family); defectiveness of the mostly limited pronoun system through the presence of only one form for two different pronouns; and simple imperatives. The absence of a two-gender system in the languages of the Pahoturi Family and the Nambu Sub-Family of the Morehead and Upper Maro Rivers Family may be mentioned in passing. The pronouns in the languages of this first group display far-reaching formal similarity. On the phonological level, all these languages appear to lack a tonal system.

The second group is typologically and structurally less homogeneous than the first. Its most prominent features are the presence of stem changes according to the number of the object (and sometimes also the subject), the absence of the defectiveness of the pronoun system which is characteristic of the languages of the first group, and the presence of more than one imperative. Moraori shares the first of these two features. A two-gender system is present in the languages of the Eastern Trans-Fly and Tirio Families, and constitutes a full system in the latter. It is lacking in the languages of the Kiwai Family. At the same time, the languages of the Kiwai and Tirio Families have full negative conjugations - in those of the Eastern Trans-Fly Family, only traces of it are present. Moraori also has a full negative conjugation, and it may be mentioned

that the gender markers in the Moraori verb are formally identical with those met with in the languages of the Eastern Trans-Fly Family. The pronoun systems of this second group display very much less formal similarity than is the case with the pronoun systems of the first group, and they also show little similarity with those of the first group, except for Moraori. On the phonological level, the languages of the Kiwai and Eastern Trans-Fly Families possess a two-tone system of generally very low functional load, but it appears to be absent from the languages of the Tirio Family.

Of the aberrant features of the languages of the Kiwai Family, the following may be mentioned: a rudimentary system of indication of the person of the object by prefixes; the distinction of only two persons, speaker and non-speaker, in the verbal system (three persons are distinguished in the pronoun system); the presence of three future tenses; perhaps the absence of a gender system; and the presence of a comparatively simple phonology. The most prominent aberrant features of the languages of the Tirio Family are the absence of suffixes to mark the number of the subject and object, and the complete limitation of the subject-marking to prefixes. Also, the presence in it of a full two-gender system in the third person both in the pronoun system and in the marking of person with the verb, is exceptional for the languages of the Trans-Fly Stock.

The most striking aberrant feature of Moraori is the appearance of object suffixes and infixes (though the object prefixes characteristic of the languages of the Trans-Fly Stock are also found with some verbs) and the exclusive marking of the subject through suffixes.

An unusual feature of the languages of the Eastern Trans-Fly Family is the presence of inclusive and exclusive forms in the first person plural, both in the pronoun system and the person marking system with the verb.

3.6. WIDER CONNECTIONS OF THE LANGUAGES OF THE TRANS-FLY STOCK, AND CONCLUDING REMARKS

The languages which have now been included in the newly established Trans-Fly Stock were recognised by Voorhoeve (1968) as forming parts of the Central and South New Guinea Phylum established by him. This phylum was included by the present writer into the Central New Guinea Macrophylum (Wurm 1970a). The inclusion of the old Central and South New Guinea Phylum into the wider Trans-New Guinea Phylum (McElhanon and Voorhoeve 1970) and the replacement of the Central New Guinea Macrophylum by an expanded version of the Trans-New Guinea Phylum by the present writer makes the languages of the Trans-Fly Stock members of the largest group of interrelated Papuan languages established to date.

Amongst the stock-level members of the old Central and South New Guinea Phylum, the Yelmek-Maklew (or Bulaka River) Stock-level Family (Voorhoeve 1968) may be more closely related to the Trans-Fly Stock than some other stocks, though the level of lexical relationship between the two is not very high as is evidenced by lexicostatistical percentages averaging around 9%. However, there are several significant typological and structural similarities between members of the two stocks (Boelaars' 1950) and formal similarities of morphemes. Apart from this stock, a relatively close relationship of the Trans-Fly Stock is possible with the Suki-Gogodala Stock (Voorhoeve 1970, see also 2.4.).

Viewing the languages of the Trans-Fly Stock from the point of view of linguistic prehistory, it seems likely that the Kiwai languages were originally immigrant languages from the Upper Fly River area. Connections between them and the Upper Fly River languages had been pointed out by the present writer two decades ago (Wurm 1951), and the likelihood of the Kiwai speakers coming originally from the Upper Fly River area has recently been strongly substantiated by Voorhoeve (personal communication). It seems that the Kiwai speakers have reached the Fly Delta area as a wave of the expansion of the Trans-New Guinea Phylum speakers from the hub-area of New Guinea (Wurm 1972) which travelled down the Fly. In close and prolonged contact with speakers of Trans-Fly languages, especially those of the present Eastern Trans-Fly Family, features and lexical elements from those languages entered the Kiwai languages making them, from the present-day point of view, members of the Trans-Fly Stock, though with aberrant typological and structural features. The influence appears to have gone the other way as well, and the special case of Wabuda has already been mentioned in 3.31.12. Kiwai influence also seems to have been strong in the case of Bine whose phonology is remarkably simpler, and much more similar to that of the Kiwai languages, than those of the other members of the Eastern Trans-Fly Family to which Bine belongs.

The other languages of the Trans-Fly Stock constitute a rather aberrant block, from the typological and structural point of view, within the languages of the old Central and South New Guinea Phylum, and the Trans-New Guinea Phylum as a whole. Their defective pronoun systems, the rudimentary gender system in many of them, the changes of the verb stems in accordance with the number of the object which is found in a number of them, the changes of the first syllable of the verb forms for tense which is a feature of others, and the forms of their pronouns and person-markers with the verbs, constitute features which put them rather apart from most of the languages of the old Central and South New Guinea Phylum,

and the Trans-New Guinea Phylum as a whole. Also, they lack some of the features which are very widespread amongst the Trans-New Guinea Phylum languages, such as special medial verb forms. All this may make it seem justified to see in them remnants of pre-Trans-New Guinea Phylum languages located at one of the extremities of the spread of the Trans-New Guinea Phylum languages through the New Guinea Mainland (Wurm 1972), but influenced by the Trans-New Guinea Phylum languages to a point where they can be regarded as, even if in many ways aberrant, members of the Trans-New Guinea Phylum.

Within the Trans-Fly Stock, the presence of striking typological, structural and also formal similarities between Moraori at the western and languages of the Eastern Trans-Fly Family at the eastern extremity of the area covered by the stock, constitutes a puzzle for which no immediate answer offers itself. It may well be some connection with the past raids of the Kiwa head-hunters in the east, the Suki and Lake Murray head-hunters in the north, and those of the Marind head-hunters in the west and from the south which gave rise to population movements in the Trans-Fly on a remarkable scale, as seems likely from the knowledge which we have of such events towards the end of the last century (Williams 1936). The fact that the small village of Mbur with its 40 or so Moraori speakers is completely separated from the main body of the speakers of Trans-Fly Stock languages, with the nearest typological and structural relatives of the Moraori language far to the east, may make it possible to look upon the Moraori speakers as refugees from some distant place.

N O T E S

1. To avoid confusion in the minds of the readers, an explanation of the terms "family-level" and "stock-level" may be appropriate seeing that each of these terms refers to two distinct levels of hierarchy according to the context in which they are used. "Family level isolate" denotes a single language which by itself constitutes a family, i.e. is on the level of being a family by itself. Conversely, "stock-level isolate" refers to a language which constitutes a stock by itself. By implication, a "stock-level family" is a group of at least two languages whose relationship to each other is close enough for them to constitute a family, but this family constitutes a stock by itself, without other languages entering into the composition of the stock. In other words, from an external point of view, such a family occupies the level of a separate stock within a phylum.

At the same time, "family-level (inter)relationships" refers to a degree of relationship between two or several languages which is on a level characteristic of the interrelationships between members of a single family. Similarly, "stock-level (inter)relationships" denotes a degree of relationship typical of that between family-level members of one stock. In the same light, "language-level (inter)relationships" are those characteristic of members of one language, i.e. of dialects, and "phylum level (inter)relationships" are those observed when comparing different stock-level members of the same phylum.

2. The exact classificatory position of the Kiwai languages located north of the Fly Delta area is under study, and no extensive details will be given here.

3. In Voorhoeve 1970, the language of a tribe called Ngowugar by Nevermann (1939) and described as the western neighbours of the Suki, is regarded as a member of Voorhoeve's Bensbach-Morehead Family within the frame work of his 1969-70 classification (see 2.4.). However, it has now been found that this language which is spoken by the inhabitants of the present-day village of Kwari, far to the north of the Tonda language area,

and west of the Suki, is a dialect of Yey, with some Kanum affiliations. As such, it belongs to Ec) in the present writer's classification of the Trans-Fly Stock languages, and not to Eb).

4. These figures include speakers of Island Kiwai living in the "village corners" in Daru.
5. These figures include speakers of the Doumori dialect living in the "village corners" in Daru.
6. These figures include speakers of Coastal Kiwai living in the "village corners" in Daru.
7. This figure includes speakers of Wabuda living in the "village corners" on Daru.
8. This figure includes Bamu Kiwai speakers living in the "village corners" in Daru.
9. This figure includes Bine speakers living in the "village corners" in Daru.

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