

DEGREES OF GENETIC RELATIONSHIP BETWEEN RAGA, NGUNA, WAYA AND BAU¹

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1. INTRODUCTION

This paper presents and comments on the quantified results of an investigation of the degrees of genetic relationship present within the notional set formed by two New Hebridean languages, Raga and Nguna, and the two Fijian languages, West Fijian represented by the Waya dialect and East Fijian represented by the Bau dialect.² The investigation has considered both lexicostatistical evidence from within the set and evidence from a wider context of lexical comparison. This particular set was selected for investigation primarily because of the availability of unpublished lexical data for Raga, Nguna and Waya.

2. THE LANGUAGES AND THE DATA SOURCES³

Raga is spoken by upwards of 2,600 people, most of whom live in the northern part of Pentecost Island (North-East New Hebrides). Lexical data for this language were taken from a card file of about 8,000 entries (Walsh and Leona n.d.). Supporting grammatical data were from this file and from Walsh 1966.

Nguna, as defined by Schütz (1969:6), is spoken by around 1,000 people, most of whom live on Nguna Island, just north of Efate (Central New Hebrides).⁴ Lexical data were taken from a card file of about 1,500 entries (Schütz, Shem and Tavimasoe n.d.). Supporting grammatical data were from Schütz 1969.

Waya is spoken on the island of that name in the Yasawa group - a chain of islands which constitutes the most westerly part of Fiji. Lexical data were taken from a vocabulary of about 3,500 entries (Pawley and Sayaba n.d.). Supporting grammatical data were from this source and from Pawley and Sayaba 1971 and Pawley 1972.

Bau is spoken as a first dialect by the people of Mbau Island and of the coastal zone of Viti Levu adjacent to Mbau. Since its adoption as the official indigenous language, Bau has also attained wide currency as a second language/dialect for the majority of Fijians. Lexical data were taken from Capell 1957. Supporting grammatical data were from Milner 1972 and Pawley and Sayaba 1971.

3. SUBGROUPING WITHIN EAST AUSTRONESIAN

There is general agreement that the four languages under consideration are members of the notional Eastern Oceanic subgroup of East Austronesian. The most recent comprehensive subgrouping proposal for the Eastern Oceanic languages (Pawley 1972:98) has two highest order subgroups - South-East Solomonic and North Hebridean-Central Pacific. This latter has as its highest order subgroups North Hebridean and Central Pacific. North Hebridean comprises two subgroups - Northern New Hebrides-Banks (which includes Raga) and Central New Hebridean (which includes Nguna). Central Pacific comprises two subgroups - Polynesian and Fijian, and this latter comprises West Fijian (which includes Waya) and East Fijian (which includes Bau). This subgrouping implies, *inter alia*, that Raga and Nguna are more closely related to each other than either is to any Fijian language/dialect, and that Waya and Bau are much more closely related to each other than either is to any New Hebridean language.

A recent exhaustive internal subgrouping of the languages of the New Hebrides and the Banks and Torres Islands (Tryon 1976:79-93) proposes a New Hebridean Family divided into six highest order subgroups, one of which, North and Central New Hebrides (77 languages), has, among its five highest order subgroups, East New Hebrides (29 languages, including Raga) and Central New Hebrides (three languages, including North Efate - of which Nguna is regarded as a dialect).

4. LEXICOSTATISTICAL EVIDENCE

Previous studies have produced the following relevant cognacy percentages: Raga/Nguna 31.8 (Tryon 1976:113, based on equivalents for 245 semantic categories);⁵ Waya/Bau 61 (Pawley and Sayaba 1971:415).

The investigation that is being considered here has produced cognacy percentages for all six possible pairings of members of the set Raga, Nguna, Waya and Bau, using, in each case, three test-lists of semantic categories - the Swadesh 200-item list, Tryon's 292-item list (1976:172-4) which includes most of the Swadesh list, and a 400-item list

which includes the Tryon list. Cognacy has been assessed on the basis of regular phoneme correspondences which do not differ radically from those proposed by Pawley (1972:27-30) and Tryon (1976:11-50). The cognacy percentages, rounded to the nearest whole number, are as follows (the number of semantic categories that were viable for a given language-pairing is cited after each percentage):

Language Pairing	200-item List	292-item List	400-item List	Average
Raga/Nguna	32 (153)	31 (188)	28 (262)	30.3
Raga/Waya	32 (125)	33 (160)	27 (233)	30.6
Raga/Bau	33 (151)	33 (193)	26 (279)	30.6
Nguna/Waya	30 (125)	28 (153)	21 (214)	26.3
Nguna/Bau	29 (152)	26 (186)	21 (260)	25.3
Waya/Bau	66 (125)	67 (161)	69 (235)	67.3

Because of variation in the extent and specific content of the data sources, and because of the limitations inherent in the lexicostatistical approach, no more than heuristic value can be claimed for these figures. Although their absolute status is thus qualified, their relative status is enhanced both by the level of agreement of the Raga/Nguna and Waya/Bau figures with those of Tryon and of Pawley and Sayaba respectively (*vide supra*) and by the level of consistency of the variation of percentages between lists across the set of language pairings.

These percentages strongly support the proposition that Waya and Bau are more closely related to each other than either of them is to Raga or Nguna. They do not, however, support the proposition that Raga and Nguna are more closely related to each other than either of them is to Waya or Bau.

If the percentage ranges for Raga/Waya (27-33), Raga/Bau (26-33), Nguna/Waya (21-30) and Nguna/Bau (21-29) are compared with those arrived at by Grace (1961:20) and Walsh (1963:34) for pairings of Fijian⁶ with Tongan and Maori, using the Swadesh 200-item list, *viz.* Tongan/Fijian 24-29 and 26-29 respectively, Maori/Fijian 19-22 and 20-22 respectively,⁷ then the proposition that the Fijian languages are more closely related to the Polynesian languages than to any other Eastern Oceanic language is not decisively supported.

5. EVIDENCE FROM A WIDER CONTEXT OF LEXICAL COMPARISON

The incidence, within the total range of semantic categories used in the lexicostatistical investigation, of form-plus-meaning resemblances that, in terms of the set Raga, Nguna, Waya, Bau, were shared uniquely by Raga and Nguna, and by each of these languages and either

or both of Waya and Bau, was assessed in terms of the factors described at the head of columns 2-4 of the following table:

Language subset	Number of form-plus-meaning resemblances shared uniquely (as defined above) by a given subset	Number of such items that, because they are reflexes of reputable reconstructions (ref. Wurm and Wilson 1975) at or above the level of Proto-Eastern Oceanic, must be regarded as shared retentions from a period of development prior to the splitting of Eastern Oceanic	Number of items remaining as being potentially attributable to shared innovation at some time after the splitting of Eastern Oceanic
Raga/Nguna	29	18	11
Raga/Waya	1	1	-
Raga/Bau	11	9	2
Raga/Waya/Bau	22	21	1
Nguna/Waya	1	1	-
Nguna/Bau	7	5	2
Nguna/Waya/Bau	8	7	1

These figures reveal that only one (Raga/Nguna) of the language subsets that were investigated has even a minimally significant incidence, within the limits of the lexicostatistical data, of form-plus-meaning resemblance that is potentially attributable to innovation during a period of development common to the members of that subset but not to other members of the total set. This result supports the proposition that Raga and Nguna are more closely related to each other than either of them is to Waya or Bau - a proposition that is consonant with Pawley's subgrouping of Eastern Oceanic (ref. section 3.).

The discrepancy between the subgrouping implications of these figures and of the cognacy percentages produced by the lexicostatistical investigation (ref. section 4.) indicates that in this kind of lexicostatistical approach differences between language pairings in the extent to which form-plus-meaning resemblances are the result of shared retention, by some but not all of the languages in the set that is being investigated, from a period of development common to all the languages in the set, as opposed to shared innovation during a period of development

common to some but not all the languages in the set, are not necessarily reflected with sufficient precision in differences between the cognacy percentages.

N O T E S

1. The earlier version of this paper was presented at SICAL with the title 'Genetic Relationships Between the Raga, Nguna, Waya and Bau Languages'.
2. The basis for regarding West Fijian and East Fijian as distinct languages is discussed in Pawley and Sayaba 1971:427-34.
3. Thanks are due to Andrew Pawley (University of Auckland and University of Hawaii) and Al Schütz (University of Hawaii) for making available the lexical data on Waya and Nguna respectively.
4. Tryon (1976:92) restricts the term 'Nguna' to a dialect (spoken by around 150 people) of the North Efate language (spoken by a total of around 750 people).
5. This percentage relates to Nguna as one of the dialects of the North Efate language. The range for Tryon's percentages (1976:113) between Raga and each of the five dialects of his North Efate is from 31.3 to 32.2, and the average percentage for this set is 31.7.
6. In Grace 1961 and Walsh 1963 the data labelled Fijian was in fact Bau.
7. The percentages obtained when Grace (1961:20) and Walsh (1963:34) used a modified 93-item version of the Swadesh 100-item list were higher (Tongan/Fijian 34-36 and 35-39 respectively, Maori/Fijian 29-31 and 30-33 respectively) than those that resulted from use of the 200-item list, but this difference was also manifested by the figures for the other 13 language-pairings in these studies.

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