

## 4.2.10. HISTORY OF RESEARCH IN AUSTRONESIAN LANGUAGES: BOUGAINVILLE PROVINCE<sup>1</sup>

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### 4.2.10.1. INTRODUCTION

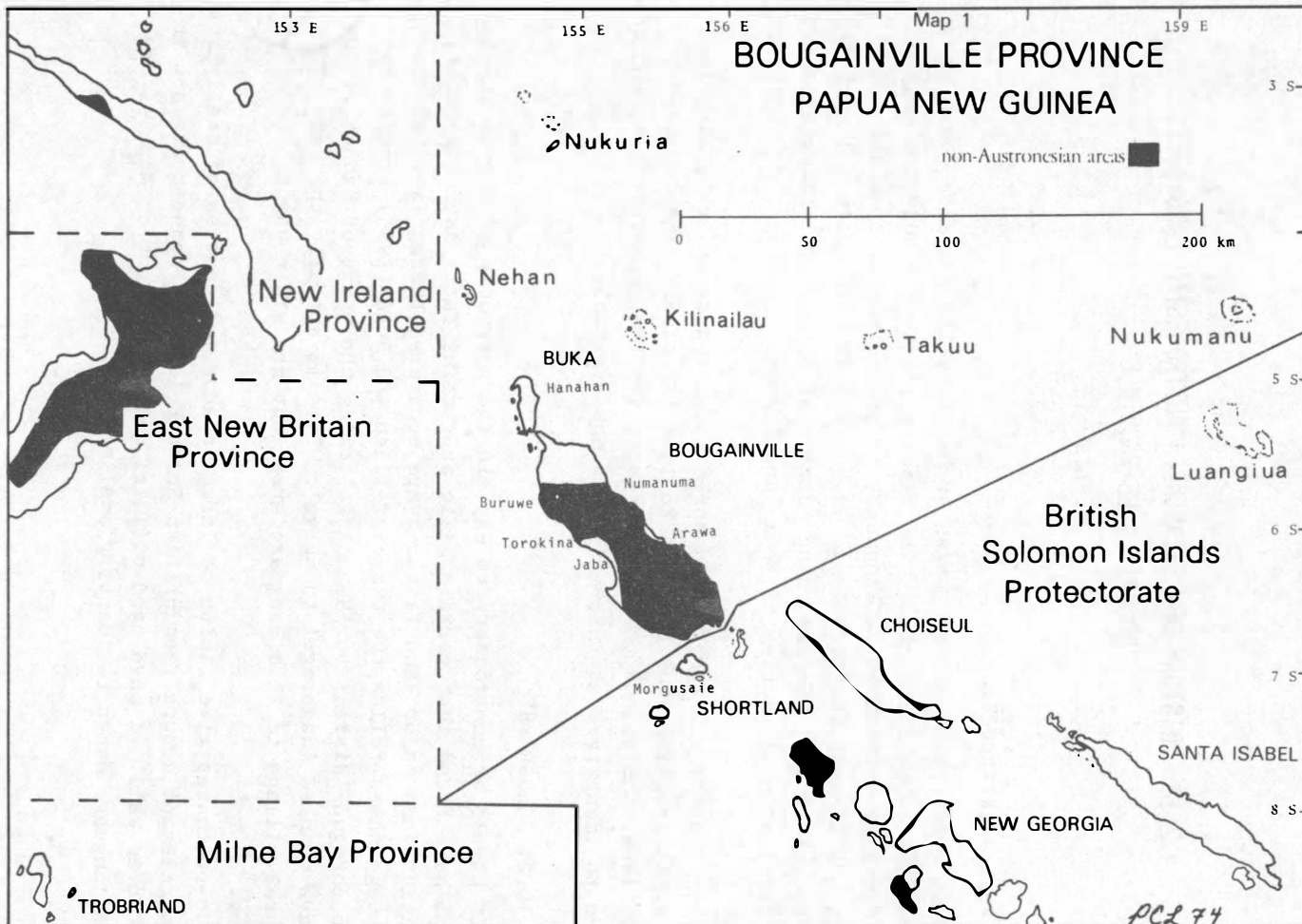
Most research on the languages of Bougainville Province could be characterised as incidental. The researchers themselves were only incidentally interested in language, or their travels took them to Bougainville only incidentally. Only recently have trained linguists started to unravel the absorbing puzzles of Bougainville languages and the fascinating histories of their development, movement, and interaction.

This chapter will proceed in three stages: geographical, biographical, and bibliographic. The first is to identify clearly the languages themselves, the second to sketch briefly who the reporters are, and the third to identify what information is now available.

### 4.2.10.2. GEOGRAPHY

It should be unnecessary to explain the geography of the district, but I have found that certain basic and useful facts about the size, location, and major land features are scattered through several sources.<sup>2</sup> Language names follow the usage of Allen and Hurd (1965) except that I have changed 'Nissan' to 'Nehan' following the usage of Harnet (1970). I have changed 'Nagarege' to 'Piva'. Piva is actually the name of the central village in this language area, but has wider use in the literature.<sup>3</sup>

Co-ordinates give limits of large islands and centres of small groups. Some relevant groups from British Solomon Islands Protectorate are included as well. I have used official names here, but on Map 1 I have used language names to identify smaller islands.



**BOUGAINVILLE** [5°26'-6°52'S, 154°39'-155°59'E]

languages: Austronesian: Saposa, Halia (Selau variety), Hahon, Teop, Papapana, Torau, Uruava, Piva, Banoni, and Non-Austronesian: Konua, Keriaka, Rotokas, Eivo, Nasioi, Nagovisi, Siwai, and Buin.

population: 63,400

land area: 8,400 sq.km.; steep mountainous interior, and swampy coastal areas impede overland travel.

**BUKA** [5°-5°29'S, 154°30'-154°40'E]

languages: Halia, Solos, Petats (off-shore islands), Sapos (off-shore islands): all Austronesian.

population: 15,600

land area: 600 sq.km.; hilly in south but easily traversed.

**CARTERETS** [4°45'S-155°20'E]

language: Halia (Kilinailau variety)

population: 1,200 (six villages)

land area: about 2 sq.km.; few small islands around lagoon 25 km. across.

other names: Kilinailau.

**NISSAN and PINIPEL** [4°30'S-154°10'E]

language: Nehan (Austronesian)

population: 3,000

land area: 20 sq.km.; two major islands, one nearly encloses lagoon about 15 km. across, height up to 30 meters.

other names: Sir Charles Hardy Islands, Green Islands.

**FEADS** [3°15'S-154°45'E]

language: Nukuria (Polynesian)

population: 200 (one village)

land area: 10 sq.km.

other names: Nuguria, Nukuria.

**MORTLOCKS** [4°50'S-157°]

language: Takuu (Polynesian)

population: 200 (one village)

land area: 2 sq.km.; reef encloses lagoon 12 km. across.

other names: Takuu, Taku, Tauu, Marqueen.

**TASMANS** [4°35'S-159°25'E]

language: Nukumanu (Polynesian)

population: 200 (one village)

land area: 3 sq.km.; reef encloses lagoon 15 km. across.  
 other names: Nukumanu.

**ONTONG-JAVA** [5°15'S-159°30'E] (B.S.I.P.)

language: Luangiua (Polynesian)  
 population: 1,100  
 land area: 20 sq.km.; small islands scattered around lagoon 60 km.  
 long.  
 other names: Lord Howe Atoll, Luangiua.

**STEWARTS ISLAND** [8°S-163°E] (B.S.I.P.)

language: Sikaiana (Polynesian)  
 population: about 300  
 land area: 1 sq.km.

**SHORTLAND** [7°5'S-155°45'E] and **TREASURY** [7°40'S-155°35'E] (B.S.I.P.)

language: Mono-Alu (Austronesian)  
 population: 1,700  
 land area: 500 sq.km.; several large islands and many small  
 islands visible from south Bougainville, elevations up  
 to 500 meters.  
 other names of important islands: Mono (Treasury), Alu (Shortland),  
 Morgusaia, Faisi, Fauro.

These data together with map 1 locate the various languages. The details of subgrouping are taken up elsewhere (see 4.4.9. in this volume), but the following groupings are recognised.

Buka group: Halia, Solos, and Petats  
 North group: Hahon, Timputz, and Teop  
 West group: Banoni and Piva  
 East group: Uruava, Torau, and Mono-Alu.

These four subgroups may loosely form a Bougainville Group that also includes Saposia and Papapana. Outside the Bougainville Group, Nehan and the Polynesian Outliers: Nukuria, Takuu, Nukumanu, Luagiua, Sikaiana.

Bougainville languages present few difficulties to unsophisticated spellers. Glottal stops, long nasals, and long vowels cause trouble, but are not too frequent. Banoni [ɣ], Takuu geminate stops (Elbert 1965), and Halia vowels (Allen and Allen 1965) are particular problems. Overdifferentiation can cause some distortion.<sup>4</sup>

## 4.2.10.3. RESEARCH WORKERS

Now with the objects of study identified geographically and linguistically, it is possible to proceed to the history of research.<sup>5</sup>

There were no indigenous writing systems in the area, thus there is no local history of research. Bougainvilleans often have great facility at learning one another's languages and are aware of major affinities among the various speech varieties, but as yet their interests and opportunities have not led to deeper study as linguists rather than polyglots.

The early records of European visitors yield almost no linguistic data or observations. Le Maire and Schouten aboard a Dutch ship in 1616 heard a Polynesian language on Ontong Java or Takuu (Sarfert and Damm 1929-31:483). The French explorer Bougainville recorded the shouts "Bouka! Bouka! Onelle" (Bougainville 1771, as quoted by Ray, 1926:12). But as far as I know, the meaning and origin of these shouts have not been ascertained. The English sailor, Carteret, was also in these waters in 1768, and passed close enough to Kilinailau to see "Bow carrying Bukas" (Friedericl 1912:293). This observation is of interest because it would date the displacement of Polynesian culture by Halia-speakers somewhat prior to the estimate of Parkinson (1899:1).<sup>6</sup>

Apart from these three fragments, the history of research goes back just 100 years. In 1876, the scientific expedition of Freiherr von Schleinitz made a quick visit to Bougainville. The ethnographer Strauch (1877:102) saw no villages during their four days at anchor in Empress Augusta Bay. He saw twenty-one impressive men in a plank canoe but his comment that some knew a few English words does not distinguish local Banoni from Mono-Alu raiders.

The English botanist, Guppy, gave us our first sample of any Bougainville-area language, Mono-Alu (Guppy 1887). During the next decade, Woodford, an English naturalist, Zöllner, a German journalist, Ribbe, a German adventurer, and Parkinson, who ran a plantation in Neu Pommern (German New Britain), had all visited Chief Gorai's territory in the Bougainville Straits and published some samples of Mono-Alu speech.

Halia, Solos, and Torau samples are also found among these sources. The Halia sample was bolstered by Judge Schnee's report, among more valuable data from New Britain and New Ireland (Schnee 1901). After the turn of the century the Marist Mission was established near Kieta. Not long after, Pater Rausch wrote to Europe about the location of Banoni, Torau, and Uruava and their non-Austronesian neighbours (Schmidt 1909). Then he gave the brief, but as yet unreplaced, description of Torau and Uruava (Rausch 1912).

Research on Bougainville reached a peak in 1908. The English ethnographer Wheeler went to Mono-Alu. The German linguist Friederici visited Bougainville but is very vague about his whereabouts especially when his companion, the German geographer Sapper, was making an adventurous crossing from Kieta to Empress Augusta Bay (Sapper 1910). The German anthropologist Thurnwald was settling at Buin, near Pater Grisward's mission station. The results of these visits were of uneven linguistic value. Wheeler collected and published over seventy texts in Mono-Alu with English translation (Wheeler 1926). This is the best material of this kind for any Bougainville language.

Wheeler made the interesting assertion that the people who lived on Alu before 1860 spoke a distinct language 'Old Alu'. Preliminary examination of the fragments that Wheeler identifies as 'Old Alu' suggests two alternative conclusions: first, they are just foreign words that slipped into the corpus from several different language backgrounds or, second, 'Old Alu' was a separate language distinct from all presently known languages. Consider the following:

gloss	<i>pig</i>	<i>bathe</i>	<i>who</i>	<i>not</i>
'Old Alu'	/boko/	/sisiu/	/ei/	/aka/
Torau	/bo/	/sasaoa/	/sea/	/aka/
Uruava	/boro/	/ui/	/taka/	/kana/
Piva	/bonoŋo/	/sisiu/	/asei/	/kaʔana/
Banoni	/boroŋo/	/sisi/	/see/	/ŋinawa/
Mono	/bo/	/sisile/	/ale/	/abu/
Papapana	/boro/	--	/eteena/	/ʔai/

I favour the first conclusion, partly because it avoids the problem of what happened to 'Old Alu' to say that it never existed.

Thurnwald and Frizzi, another German anthropologist, who studied the Nasioi in 1911, appear to have shared a non-linguist and non-Austronesian bias. They refer to Austronesians of south Bougainville as "Alu immigrants" (Frizzi 1914:3) and their languages as "Alu dialects" (Thurnwald 1909:513, 125). The data cited above contradicts their implications that Torau, Uruava, Piva, Banoni, or Papapana should be so closely identified with either 'Old Alu' or Mono.

Friederici does not greatly expand our knowledge of Bougainville languages. First, he identifies his samples (none over 100 words) by village name. Such labelling is natural because Bougainvilleans identify with their village rather than tribe, ethnic group, or language (Blackwood 1935:17). One consequence of this is that the first Banoni data, his Iapa words, were not identified as such for fourteen years (Ray 1926); another is that his Buruwe data are first identified with Piva language in this sentence!

At the close of the German era, the language groups of south Bougainville had been pretty well identified, but not very well sampled. Buka was known to form a linguistic unit with internal variations. However, groups in between remained unknown.

Under Australian administration, the government anthropologist Chinnery visited Bougainville in 1925 and 1930. He surveyed Buin sub-district and Takuu but did not report on unknown areas.

In September 1929, the British ethnographer Blackwood started field-work in Petats. In January 1930, she shifted to north Bougainville. Her reports add Saposá, with distinctive [f] sound, to the inventory of languages. She also identifies Konua as non-Austronesian, but she is a bit vague about the relations and range of the Teop, Timputz, and Hahon languages.

The American anthropologist Oliver spent most of 1938 and 1939 with the Siwai, but visited and sampled other areas enough to complete the language inventory except for Papapana. He is the first to distinguish Piva from Banoni, but he attributes the differences to "Papuanization" (Oliver 1949).<sup>7</sup>

In 1963, a new era of research began. Allen and Hurd of the Summer Institute of Linguistics surveyed the entire district. Theirs was the first work to cover all and only the languages of the Bougainville Province.<sup>8</sup> The Allen S.I.L. team have begun to produce Halia data and analysis. Similar results should be expected for the Hostetler team working on Timputz.

Various people from the University of Hawaii have visited Bougainville Province. Samuel Elbert, now retired, visited Takuu briefly in 1963. The following year Irwin Howard, now with the Linguistics Department, did anthropological research on Takuu. He is planning additional field-work and later publication of a dictionary and grammar. Kirk Schoffner is presently studying Teop culture and language. Rene Siracusa is preparing to study Torau language and culture. I finished my doctoral research on Banoni in 1973. I also collected some Piva and Uruava material.

Conrad Hurd of the S.I.L. has recently gathered some Uruava data also. Thus the prognosis for the study of Austronesian languages in the Bougainville Province is bright indeed.

#### 4.2.10.4. SOURCE MATERIALS

In this section, I have listed the source materials for each language, with Polynesian forming a separate section. Sources which I have not seen are marked by an asterisk. The language identification in the

source is put in special type. Sources with vague identification are marked with question mark.

EBNG refers to *An Ethnographic Bibliography of New Guinea* 1968, which is a most helpful reference.

#### 4.2.10.4.1. GENERAL

Some sources cover several languages. Such sources are discussed here and a later reference only gives the language identification.

Friederici (1912) lists canoe terminology in one chapter. In another, common words are cited in comparison with New Britain materials.

Friederici (1913) lists various Bougainville forms in his lexical evidence for migrations. Forms collected by Friederici are usually marked with diacritics. However, this phonetic detail does not guarantee phonetic accuracy.

Oliver (1949) maps and comments briefly on all language groups except Papapana. This is based in part on 700-item wordlists collected for all south Bougainville languages except Piva.<sup>9</sup>

Dyen (1965) published no supporting data. However, data were collected for this area in 1955. The Tri Institute Pacific Project (TRIPP) lists contain Swadesh 215 list and about 300 more basic and cultural vocabulary. Most of the lists for this area were filled in by students at Methodist Goldie College, Banga Island, British Solomon Islands Protectorate (B.S.I.P.). Copies of these lists are believed to be in Dyen's possession. Results of his classification are given in 4.4.9.

Allen and Hurd (1965) classify all languages of the district, giving village names, alternate language names, population estimates, and locally available religious and language materials. They collected the 190-item Summer Institute of Linguistics lists for all languages except Uruava.<sup>10</sup> In the following catalogue I will mention names they give for the varieties and I will also list the authors of locally available materials.

Schmidt (1909) includes a map, which is repeated in the preface to Rausch (1912) and Grisward (1910). It is not impressively accurate, but it was important at that time.

Capell (1971) gives 25-word examples of each language discussed. He also gives some grammatical data and discusses sound changes, Proto-Oceanic \*s and \*ns.

The following sources are based on secondary data and will not be catalogued further:

Lanyon-Orgill (1942) repeats some data from Rausch (1912) and Friederici (1912, 1913) without significant comment.



Salzner (1960) presents a confused picture of the area because he fails to resolve conflicting reports and his maps show extra language names.

Voegelin and Voegelin (1964) resolve some differences but include mistakes from Capell (1962) and Rausch (1912).

Oliver (1955) summarises the results of Oliver (1949).

Oliver (1973) incorporates Allen and Hurd (1965).

CSIRO (1967) includes a summary of Allen and Hurd (1965).

Müller (1954) includes a sketch map of Bougainville based on his experiences, but more accessible sources give the same information.

#### 4.2.10.4.2. BANONI

Schmidt (1909) maps Banone.

Sapper (1910) mentions Banoni territory, but maps village names without boundary.

Thurnwald (field notes): about 150 Panone words; dates from 1908 or 1909.

Thurnwald (1909, 1910) mentions Alu colonies and dialects on the west coast.

Thurnwald (1912): musical scores without lyrics, villages mapped in contradicting fashion. (Sapper is more accurate.)

Friederici (1912, 1913): Iapa.

Ray (1926:590-1): a total of 36 Bunone words from Friederici's Iapa and Buruwe; also Edge-Partington notes.

Chinnery (1931:84-6): a few proper names and kinship terms. Spelling unreliable, e.g. k, y, g, are all used for [ɣ]. Map.

Oliver (1949): Banoni.

Grace (field notes): Banoni: 500 items of TRIPP list collected in Rabaul in 1955.

Allen and Hurd (1965): Banoni (Tsunari), Fr. Schliecker.

Dyen (1965): Banoni.

Capell (1962): Banoni: population figure should be 1,250 (not 12,500).

Capell (1971): Banoni S.

Lincoln (field notes): grammatical, lexical, and text material, May-December 1973.

#### 4.2.10.4.3. HAHON

Blackwood (1935): Hahon mentioned as group and located on map.

Oliver (1949): Hahon.

Allen and Hurd (1965): Hahon, Mr Busus.

Capell (1971): Hahon.

## 4.2.10.4.4. HALIA

- Woodford (1890) collected 70 Lehona words from his servant.
- Schellong (1890): about 50 words each for Salomon Insel Buka from Frau Parkinson, and for Green Island from the crew of a ship visiting Finschhafen, in the appendix to his Jabim dictionary.
- Ray (1891) corrects Schellong's Green Island designation.
- Ray (1896) collates Woodford, Zöllner, and Schellong lists.
- Parkinson (1899): scattered Buka cultural terms may be Petats or Solos or Halia or some of each.
- Schnee (1901:269-72): about 100 Hanahan words and paradigm for 'go'.
- Friedericci (1912, 1913): Carteret, (?) Soa, Hamatana, Hanahan, Lehona.
- Ray (1926:591-4): Buka, mostly Schnee's material with comparative data and comment.
- Oliver (1949): Sailo.
- Capell (1962:195-7) indicates he has field notes for Halia, Kilinailau, Lontis, and Sailo.
- Dyen (1965): Hanahan, Lontes.
- Allen, Janice (1971): short description of syntactic and discourse strategies.
- Allen, Jerry (1971): short description of tense/aspect and conjunctions.
- Allen and Allen (1965): brief pedagogical grammar with glossary. Not intended for scientific use.
- \*Allen and Allen (in preparation): dictionary.
- \*Allen and Allen (in preparation): New Testament translation.
- Allen and Hurd (1965): Halia (Hanahan, Tulon, Tasi), Haku, Hangan, Selau. Fr. Lamarre, Fr. Montauban, Fr. Müller, Fr. Lepointe.
- Capell (1971): Kilinailau, Lontis, Halia, Sailo.
- Hoolley (1971) includes Halia wordlist and compares it to Morobe area languages.

## 4.2.10.4.5. MONO-ALU

- Guppy (1887:181-4): over 300-item Vocabulary of Bougainville Straits (294-367): vulgar names given with botanical data.
- Woodford (1890:225-34): 70 words of Treasury Island, Fauro Island and Shortland Island.
- Zöllner (1891:444-529): nearly 300 words of 29. Morgusaie, which was Chief Gorai's residence.
- Ribbe (1894:135): numerals compared to Malay.
- Ribbe (1903:184-212): Sprache der Shortlands-Insulaner. Comment on variation, about 70 words compared with other languages.
- Parkinson (1899): some cultural terms from Shortland Islands.

- Parkinson (1907b:479): 10 numerals of Shortlandinseln.
- Thurnwald (1909, 1910, 1912): various mentions of Alu colonies and Alu dialects, also map (1912:end).
- Wheeler (1926): over seventy numbered texts with translations and notes, outline of pronouns and tense marking, glossary. Most items identified as Mono, some as Old Alu.
- Wheeler (1910-11): short text in Mono-Alu, English versions with vocabulary and notes.
- Wheeler (1912a): text No.29 in I.P.A. notation by Daniel Jones from Wheeler's dictation.
- \*Wheeler (1912b): source EBNG.
- Wheeler (1913a): text No.66 with introduction.
- \*Wheeler (1913b): Nine texts.
- \*Wheeler (1914a): source EBNG.
- Wheeler (1914b): clan and totem names for Mono-Alu and Buin.
- Friederici (1912, 1913): Mono, Shortlands, Alu, Awa.
- Boch (n.d.): 20-page typescript grammar of Alu. Adequate coverage of morphology, may date from German era, but probably not seen by Wheeler. Boch has better spelling system.
- Ray (1926:584-9): comparative notes on Mono with short sketch of grammar based on Wheeler's data.
- Chinnery (1931:115): Alu kinship terms.
- Capell (1962): Mono and Alu.
- Dyen (1965): Mono.
- Capell (1968): Mono list approximating Swadesh 100, compared with Choiseul and commented on.
- Terrell and Irwin (1972): no language data, but recently collected information on traditional history.
- Oliver (1955, 1973): brief discussion of contact with Bougainville.
- Hackman (1968): map 1. Shortlands subgrouped by itself, map 2. indicates /b, d, g/ not prenasalised in contrast to Choiseul and New Georgia. Sample of 20 Shortlands words included.

#### 4.2.10.4.6. NEHAN

- Schmiele (1891): about 200 Nissan words.
- Parkinson (1899, 1907b) mentions Nissan as a group, but no language data found.
- Krause (1906): very few words included in ethnographic sketch.
- Thurnwald (1908): mostly proper names from Nissan.
- Friederici (1912, 1913): Nissan.
- Sarfert (1913) describes masks without local words.

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- Mayr (1930-31): Nissan vocabulary near match with Schmiele, comments on historical phonology added by Dempwolff.
- Allen and Hurd (1965): Nissan.
- Capell (1962) mentions Nissan field notes.
- Hannet (1970): Nehan stories in English translation.
- Capell (1971): Nisan with New Ireland groups.
- Beaumont (1972:18): results of lexicostatistics of 70 Nissan words with eight New Ireland languages.

#### 4.2.10.4.7. PAPAPANA

- Allen and Hurd (1965) indicate Papapana is the language of Teperoi village which is near Numanuma plantation. I have found no reference to Papapana.
- (?) Friederici (1912, 1913) gives some words identified as Teperoi. Only word for 'ear-his' overlaps with Allen and Hurd field notes.
- (?) Pfeil (1899:307) identifies Numanuma with Toboroi village, but modern maps show Toboroi south of Kieta, 65 km. by air from Teperoi. I am unable to resolve these conflicts.

#### 4.2.10.4.8. PETATS

- Friederici (1912, 1913): Pororan, Petat, Hitau.
- Chinnery (1925:63-5): 21 cultural terms of people of Hitau, Pororan, Petats Islands.
- Thomas (1931, 1933): cultural information, no real language data.
- Blackwood (1931): little data; summary of language situation.
- Blackwood (1932a): only catalogue of texts.
- \*Blackwood (1932b): probably summaries of texts.
- Blackwood (1935): numerals, kinship terms and other cultural terms in various places in the book.
- \*Blackwood (1936): source EBNG.
- Capell (1962): Petats, Matsungan.
- Allen and Hurd (1965): Petats, Hitau-Pororan, Matsungan; Rev. Cropp, Rev. Sotutu, Rev. Cornwell, Sis. Common.
- Dyen (1965): Petats.
- Capell (1971): Petats.

#### 4.2.10.4.9. PIVA

- Friederici (1912, 1913): Buruwe.
- Ray (1926) includes Friederici's material under Bunone.
- Oliver (1949): Piva, Papuanized Banoni.
- Capell (1962): Piva, Papuanized Banoni.

Allen and Hurd (1965): Nagarege, Amun.

Capell (1971): Banoni N(orth), Amun.

Lincoln (field notes): lexical data, some grammatical data, and three texts with translation collected in November 1973.

Lincoln (1976): Banoni, Piva, and Papuanization.

#### 4.2.10.4.10. SAPOSA

Blackwood (1932a) mentions Saposa as having distinctive [f].

Blackwood (1935): occasional mention of Saposa as group.

Oliver (1949): Saposa.

Capell (1962) mentions his field notes for Saposa and Taiof.

Allen and Hurd (1965): Saposa, Taiof; Rev. and Mrs Cornwell.

Dyen (1965): Saposa.

Capell (1971): Taiof and Saposā.

#### 4.2.10.4.11. SOLOS

Zöllner (1890): 50 words under 24. Buka from a Samoan through Frau Parkinson, and Buka troops in Finschhafen. Some words appear to be Halia, perhaps through mixing of sources.

Zöllner (1891): about 300 Buka words.

Parkinson explored this area but I found no specifically Solos words in his works.

Montauban and O'Reilly (1952, 1955, 1958): 20 myths in French. Two in original also. "O tatete te i'totopiok ai o muniesin pean": le conte du totopiok et les deux frères enfants (1952:57-64). "O tatate te i mat": le conte de la mort (1955:40-59). Collected at Gagan in 1934, 1935.

Capell (1962) mentions his field notes for Sumoun. References for Gagan would probably be Solos as well. His reference "AR 1924-5: 89-90" (195) probably should be McAdam (1926). (Cf. EBNG, Vol.3.)

Allen and Hurd (1965): Solos; Fr. Keady, Fr. Luken.

Dyen (1965): Sumoun.

#### 4.2.10.4.12. TEOP

Friederici (1912, 1913): Tiob.

Blackwood (1935) mentions Tiop as a group.

Oliver (1949): Tiop.

Carter (1952): brief informal grammar of Teop.

Capell (1962) mentions his Tiop field notes.

Allen and Hurd (1965): Teop, Wainanana, Losiara, Taunita, Melilup, Petspets; Rev. Carter, Rigamu, Fr. Lebel, Fr. Rondeau.

Dyen (1965): Teop, Raosiara.

Capell (1971): Teop.

Rev. Bruce and others compiled a card file of Teop-English and English-Teop, the latter was typed in November 1973.

Schoffner continues fieldwork on Teop language and culture, 1973-1974.

#### 4.2.10.4.13. TIMPUTZ

Blackwood (1931) comments on Kurtatchi language and grammar.

Blackwood (1935): Kurtatchi numerals, kinship terms, personal names, proper names and extensive cultural information with cultural terms. Partially collated into glossary.

Blackwood (1932a): only catalogue of text types.

\*Blackwood (1932b) may have texts in Kurtatchi.

Oliver (1949): Timputz.

Capell (1962): Timputs.

Allen and Hurd (1965): Timputz, Pokpapa, Orig, Dios (Tsibatabai), Chundawan; Fr. Rondeau.

Capell (1971): Timputz.

#### 4.2.10.4.14. TORAU

Ribbe (1903): about 75 Gieta words.

Schmidt (1909) maps Torau.

Thurnwald (1909, 1910, 1912): various references to Alu colonies and some specific details of traditional history.

Rausch (1912:983-5): brief sketch of Torau grammar, [ŋ] probable mistake throughout, more likely [g], about 400-word vocabulary (986-94).

(?) Friederici (1912, 1913): Toboroi, Reboine, Popoko.

\*McAdam (1926:83-4): Torua. Source EBNG.

Oliver (1949): Torau.

Burgmann (1954): no data but gives Müller's account of traditional history.

Allen and Hurd (1965): Torau; Fr. Sullivan.

Laracy (1969): an account of traditional history.

Terrell and Irwin (1972): a detailed account of traditional history.

#### 4.2.10.4.15. URUAVA

Schmidt (1909) maps Uruava.

Rausch (1912:924-82): brief sketch of grammar of Uruava. Other sources all agree on [g] where Rausch wrote [ŋ]. This may be editing error for [ŋg] or [g].

(?) Friedericici (1912, 1913): Pōpoko may be Uruava or Torau or Nasioi.

There are so few forms that it hardly matters.

Frizzi (1914:52): lyrics to a song without translation.

Thurnwald (1909, 1910, 1912): allusions to Alu colonies cannot be clearly identified with Uruava.

Chinnery (1931:69-71): Arawa kinship terms, misleadingly associated also with Rorovana village.

Oliver (1949): Uruava.

Allen and Hurd (field notes): only about 50 items collected.

Allen and Hurd (1965): briefest mention of Uruava as a member of the Torau family.

Capell (1962): Uruava.

Capell (1971): Uruava.

Lincoln (field notes): checked Rausch and Oliver materials with semi-active speaker of Uruava at Arawa in 1973.

\*Hurd (recent field notes): may have text material, if so this could be unique.

#### 4.2.10.4.16. POLYNESIAN OUTLIERS

Nukumanu, Nukuria, Takuu. (Since these languages form part of relatively well-developed Polynesian studies, I will refer the reader to the major works and a few others that have come to my attention.)

Pawley (1967): thorough discussion of subgrouping with some supporting data. Misprints in table of sound correspondences.

Biggs (1971): discussion of research on all Polynesian. Major references cited. Misprints in table of sound correspondences.

Elbert (1965): discussion of special phonological developments in all Outliers. Includes some Takuu data from his fieldwork there. Appears to have correct sound correspondences. I quote here:

PPN	*p	*t	*k	*ʔ	*f	*v	*s	*h	*m	*n	*ŋ	*l	*r
Takuu	p	t	k	∅	f	v	s	∅	m	n	n	r/l	r/l
Luanguia	p	k	ʔ	∅	h	v	s	∅	m	ŋ	ŋ	l	l
Sikalana	p	t	k	∅	h	v	s	∅	m	n	n	l	l

\*Ray (1912-21) recommended by Biggs (1971).

Ray (1919) comparative treatment gives Nukuria data.

Bayard (1966) discusses linguistic and cultural relations among Polynesian Outliers and relations to triangle Polynesia.

N O T E S

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2. The Village Directory was the source for most population figures. Some guesses were made to distribute those figures onto geographical units considered here. Land areas were approximated from World Aeronautical Charts, Village Directory, and CSIRO (1967).
3. Nagarege is actually a Banoni word [nayaʔeye] 'plural *human above*', i.e. those who live on higher land. The Piva people themselves call their language [laβunuia] and the Banoni use [laŋunuia]. These names have limited area of recognition and might lead to confusion with Luanguia. As far as I know no speaker of the language objects to the appellation 'Piva'.
4. The extreme case is non-Austronesian Rotokas which has only six consonant phonemes /p, t, k, b, d, g/ (Firchow and Firchow, 1969).
5. This section is modelled after an excellent ethnographic bibliography by Oliver (1949). Much of the information here is from that source.
6. See 4.4.9.
7. For discussion see Lincoln (1976).
8. See review by Grace (1968).



9. Professor Oliver has generously given me access to these materials.
10. This list is described by Bee and Pence (1962) and evaluated by Laycock (1970).

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