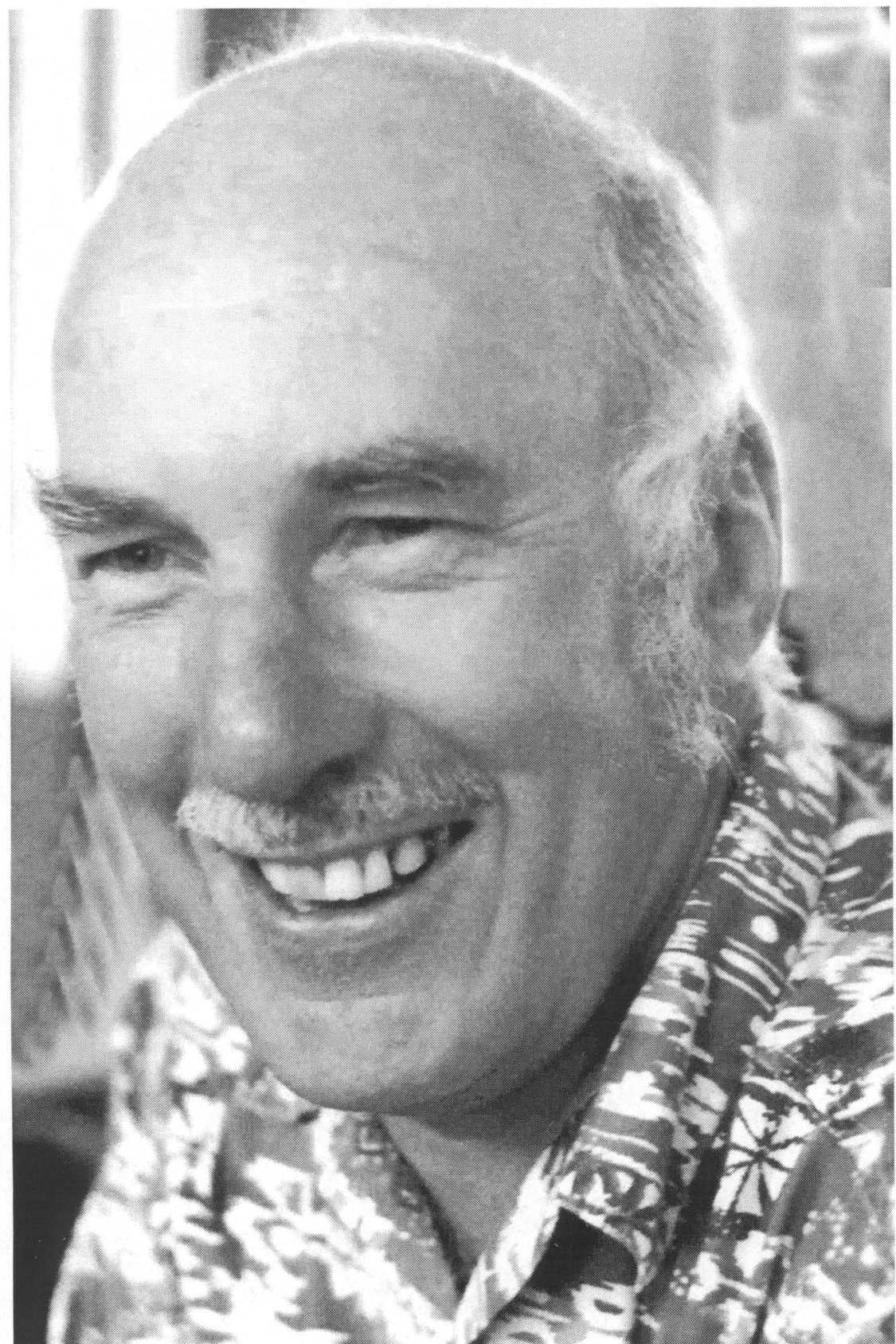


*The boy from Bundaberg*  
*Studies in Melanesian linguistics*  
*in honour of Tom Dutton*







# The boy from Bundaberg

Studies in Melanesian linguistics  
in honour of Tom Dutton

edited by

Andrew Pawley, Malcolm Ross and Darrell Tryon



Pacific Linguistics  
Research School of Pacific and Asian Studies  
The Australian National University

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# 1 *Tom Dutton: linguist*

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ANDREW PAWLEY

If you happen to be driving along a certain country road in the rolling country near Bowning, a few miles from Yass, in New South Wales, you may come across a gate carrying the sign “Meadowlane”.<sup>1</sup> It is the entrance to a farm of just under 200 acres carrying around four hundred Merino sheep. If you drive up the bumpy track through the paddocks to the farmhouse you will probably spot the owner not far away, busy fixing a fence, crutching his sheep, constructing a causeway across the creek, or extending the shearing shed. He looks every inch the typical Aussie farmer – strong and wiry of frame, ruddy of face, direct and colloquial of speech – though his demeanour is perhaps more cheerful than that of most members of a profession prone to dwell on droughts, floods, gluts, diseases, high costs and low prices, at least two of which afflict them every year. Chat with him for a while and you will find he is an expert on breeds of sheep, wool classing, sheepdogs, sheep ticks, and all manner of things to do with livestock and the land. The farmer’s name is Tom Dutton.

If you were roaming around Queensland in the mid 1950s, or Papua New Guinea in the late 1950s and early 1960s, you might have run into a young schoolteacher, also called Tom Dutton. If your domain is Academia you might have heard a certain Dr T.E. Dutton giving a seminar at the Institute of Advanced Studies at The Australian National University, or read some of his books and papers. Moving in still other circles you might have met Tom Dutton the pilot, the cabinet-maker, the house-builder, the mechanic, the archer, the driver of horses in harness, the cricketer and squash player, the wine buff or the fiddle player.

All these Tom Duttons are the same man. There are too many of him to do justice to in a few pages. This short memoir will be mainly about Tom Dutton the linguist; and what has been distinctive about his work as scholar, teacher, and editor. But we will take note from time to time of some of his other personae.

I first met Tom in 1969, in Port Moresby. He was then in fieldwork mode, calling at Port Moresby between trips to various parts of Papua. He had recently completed his PhD thesis

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<sup>1</sup> I would have liked to interview Tom himself about some parts of his life and career in order to check certain facts and interpretations, but considerations of secrecy prevented this. I am grateful to Corinne Dutton, Lois Carrington, Meredith Osmond, Malcolm Ross, Darrell Tryon, Stephen Wurm and Medina Pawley for offering reminiscences and/or comments.

## 2 *Andrew Pawley*

on the Koiari language of Central Papua, and was beginning a linguistic survey of mainland Southeast Papua. I was at the University of Papua New Guinea, on secondment for a year from Auckland, establishing courses in anthropological linguistics. My first impression was of a man revelling in his work, energetic and vigorous in physique, convivial and open in personality. I was beginning a comparative study of some Austronesian languages of Central Papua and Tom immediately offered to give me relevant word lists he had collected. From then on our paths were to cross frequently, although it was not until 20 years later that I became Tom's departmental colleague at the ANU.

But let us begin at the beginning.

### **Early days in Queensland**

Thomas Edward Dutton was born on 10 May 1935 at Dayboro, near Brisbane. His father's parents were English, his mother's parents were German. His father, Lewis (Ted) Dutton, was then Head Teacher of Mayfield State School, but in 1936 he was transferred to a two-teacher school at Gooburrum, near Bundaberg, which he headed for the next 37 years. So Tom grew up around Bundaberg.

He was the eldest of five children (three boys, two girls). His brothers and sisters recall Tom as a bit of a Tom Sawyer, full of practical jokes and mischief. At Gooburrum young Tom led a life of adventure, camping out, duck-shooting on the Wallum and generally enjoying the great outdoors. In 1952 he and his brother Lew rode their pushbikes from Bundaberg to Brisbane. The close bond between Tom and his siblings was evident at a surprise 60th birthday party for Tom in 1995, when they and Tom's mother, Mary, came down to Canberra from Queensland and a memorable night of nostalgia ensued.

He was taught by his father during his primary school years (in those days of stern discipline not always an enjoyable experience, according to Tom's wife, Corinne), and did his secondary schooling at Bundaberg State High from 1949 to 1952. Tom decided to follow in his father's teaching footsteps and in 1953 went to Queensland Teachers' College. The following year he was posted to East Bundaberg State School, and began a BA at the University of Queensland as an extramural student.

In July 1954 he was called up for National Service and was selected for training in an RAAF aircrew. (In fact he had his pilot's licence before he could drive a car.) He excelled as a pilot and was invited to make flying for the RAAF his career, but declined and returned to teaching. During 1955–56 he taught at Gin Gin State School. While there Tom was selected as a runner for the Olympic Torch relay leg from Gin Gin to Bundaberg, which in those days meant running a mile in six minutes carrying a heavy torch aloft.

### **First Odyssey to New Guinea: in which Tom starts to become a linguist**

1956 and 1957 proved to be watershed years. Tom was coming round to the view that there must be more to life than being a teacher in Queensland. He heard that the Australian Administration in Papua New Guinea needed 'Education Officers' and applied. When the Queensland Education Department got wind of his application they transferred him to

Mount Isa Mines State School, where conditions were deplorable for teachers and students. After teaching at Mount Isa for three months Tom resigned, hitch-hiked 2000 km down to Adelaide then on to Sydney to attend a six-week course training teachers for PNG. In June 1957 he took up an appointment at Rigo Intermediate School, east of Port Moresby, in the Central District of Papua, as Officer-in-Charge (i.e. Head Teacher).

His father was disappointed, and concerned that he was giving up a secure career with the Queensland Education Department. But Tom's seniors in Papua must have been impressed with his work because in 1959 he was promoted to Area Education Officer, Port Moresby Sub-district, in charge of Administration and Mission Schools from Manumanu to Gaire. He had continued his extramural studies at the University of Queensland and that year obtained an Associate of Education Certificate.

The diversity of languages spoken by his Papuan students interested him. According to his wife, Tom had been "hopeless at foreign language learning at High School". The sterile environment of the classroom had not brought out the latent linguist in him but the experience of hearing new languages in real life use, and having to find ways to communicate with people, did. He began learning Police Motu, the main lingua franca of Papua, and its source language, Motu, an Austronesian language spoken around Port Moresby, and succeeded very well.

It had become government policy to develop closer rapport between the Administration and the peoples of New Guinea, by encouraging officers to learn indigenous languages. In 1960 he was one of three Education Officers chosen to attend the first, six-week Language Learning Course for Administration Field Officers run by the Summer Institute of Linguistics in Goroka. Tom was then posted to Chimbu Sub-District as the Area Education Officer, and later that year to Okapa in the Eastern Highlands. During that period he studied Gahuku (spoken around Goroka), Kuman (Chimbu) and Fore (at Okapa), and compiled a set of lessons on Fore, and he also began to learn Tok Pisin (alias New Guinea Pidgin English), the lingua franca used by the Australian Administration in the Trust Territory of New Guinea.

## **Studies in Queensland and Canberra**

Tom was now hooked on the study of language and saw that it was time to get some serious academic training. In 1961 he took leave from Papua to study full-time at the University of Queensland. In 1962 he achieved two notable advances: he finished his BA, majoring in English and with minors in maths and philosophy, and he married Corinne Scott, a young schoolteacher who hailed from Nanango, near Kingaroy. Corinne was working for Tom's father as assistant teacher at Gooburrum when Tom came home on a brief family visit from PNG. It happened that Corinne flew light aircraft in her spare time and she needed a partner to accompany her to the annual meeting of the Women Pilots' Association on the Gold Coast. Father Ted volunteered Tom's services. Corinne recalls that she was not enthusiastic about this proposal but could not afford to offend her boss. Thus began a successful partnership that is still flourishing almost 40 years on.

From 1963 to 1965 Tom was employed in the Department of English at the University of Queensland as a Research Fellow at the Queensland Speech Survey, while he studied for a Masters degree in English linguistics. The survey aimed to collect and analyse speech

materials from various parts of Queensland. Tom worked mainly on varieties of English spoken by Aboriginals in Northern Queensland and on the language spoken by Torres Strait Islanders, a creole (known as 'Broken') that had developed out of contact between Aboriginal languages, English and the Bislama brought by indentured Melanesian labourers working in the Queensland canefields. As part of a Summer Institute of Linguistics course in 1963–64, he also did some work on Gugadji, an Aboriginal language of the Bourketown–Normanton area of Northern Queensland, and Gidabal, spoken in the Northern Rivers District of NSW. His Masters thesis was titled 'The informal English speech of Palm Island Aboriginal Children, North Queensland'.

## **Doctoral studies at The Australian National University**

By now Tom had set his sights on a career in linguistics. The next step was to do a PhD. In Australia, at that time, very few universities taught modern linguistics and only in two places were there linguists with an interest in New Guinea languages. At Sydney there was the grand old man of Australian linguistics, Arthur Capell, then nearing retirement. At The Australian National University there was a vigorous new program, headed by Stephen Wurm.

World War II had drawn the Australian Government's attention to the strategic importance to Australia of the Pacific Islands, East Asia and Southeast Asia. After the War the Research School of Pacific Studies (RSPacS) had been established, as one of several Schools forming the Institute of Advanced Studies at the ANU, to train scholars who would become Australia's experts in these regions and their peoples. A Department of Anthropology and Sociology was established in RSPacS in the early 1950s, and in 1957 Wurm was appointed to a Senior Fellowship in Linguistics in this Department. He was a Hungarian, originally a specialist in Turkic languages, who had begun research on a Papuan language, Kiwai, while at the University of London.

Although he (and staff and students who joined him in later years) were also to work in Australia, Island Melanesia, Polynesia, and various parts of Asia, Wurm saw the first priority as surveying and documenting the languages of New Guinea and making sense of their genetic relationships. It was the right decision. Not only does this island contain 1000 languages – a staggering 15 percent of the world's total – but at that time almost none of them were well documented. Papua New Guinea was Australia's principal colonial responsibility. Wurm was especially interested in the non-Austronesian (alias 'Papuan') languages of Melanesia, which formed the majority but were very poorly known. Soon after being appointed Wurm carried out an eight-month linguistic survey of the Central Highlands of Papua New Guinea, collecting data on more than 50 languages. This was to be the start of a program of first-phase fundamental research, aiming to map and gather at least basic lexical and grammatical data on every language in New Guinea and Island Melanesia, that was to continue intensively for the next 20 years.

It was fortunate that the 1960s were a time of expansion for Australian universities. Wurm was able to recruit several young staff who, together with some of their students, were to take responsibility for surveying particular regions of New Guinea and Island Melanesia. Don Laycock (appointed 1963) concentrated on the Sepik Provinces, Bert Voorhoeve (1965) worked mainly in Irian Jaya and the Trans Fly region, and Darrell Tryon

(1967) mainly in the Loyalties, Vanuatu and the Solomons. A full Department of Linguistics was set up in RSPacS in 1968. It was only the second in Australia, following Monash (1965), and it was followed by Departments of Linguistics in the School of General Studies at ANU (1970), Sydney (1975) and Newcastle (1975).

Tom's interests and experience in New Guinea fitted neatly with Wurm's research agenda. Tom was awarded a scholarship to do his PhD at RSPacS, and in December 1965 he and Corinne and their baby son Brett moved to Canberra. The subject of his doctoral research was to be a study of Koiari, a Papuan language spoken in the hinterland of Port Moresby, and of its close relatives. This area was quite well known to Tom from his previous time in Papua. For long parts of 1966 and 1967 he was on fieldwork.

Soon after finishing his PhD thesis early in 1969 Tom was appointed to a Research Fellowship at RSPacS. Among the many large areas of New Guinea not covered by anyone in Wurm's team was the whole of Southeast Papua, if we extend this term to embrace the three Provinces (then 'Districts'): Central, Milne Bay and Oro (formerly 'Northern') Provinces, which make up the south-eastern section or 'tail' of the island of New Guinea. Thus it was that Tom became the ANU team's specialist for Southeast Papua.

## **Research projects at the ANU 1969–1974**

Tom's assignment, to survey, map, document and compare the SE Papuan languages, was a stiff one. For one thing, the region contains about 100 languages. Although missionary scholars had worked in depth on several languages and they and government officers had collected word lists for many others, most were still very poorly documented. It was known that about 50 of the SE Papuan languages belonged to the Austronesian family. These are mainly spoken on the coastal margins and in the D'Entrecasteaux and Louisiade Archipelagos and other islands. The remaining 50 or so languages belonged to an uncertain number of different genetic stocks, and were grouped into the residual category of 'Papuan' or 'non-Austronesian'. Many of these are spoken in the rugged mountainous interior.

Tom's strategy, as far as I can reconstruct it, had three parts: (i) to ferret out all published works and manuscripts, (ii) to discover who was currently working on languages of the area and to enlist their help, and (iii) to survey first hand many parts of mainland SE Papua. Over the next few years he travelled to many isolated parts of this region, by small plane or boat, and walked the mountain and coastal tracks, recording word lists and sentences in scores of languages. Getting to isolated places and finding informants was not easy. One of his 1969 letters from the field to Stephen Wurm reads: "Arrived Tufi... Everything going nicely except one village I missed because couldn't walk for sore foot and leech bites." (I should add that Tom is a stoical chap and it is unusual for him to complain of frailities.)

At the end of 1969 Tom took advantage of an ANU Travelling Fellowship to spend a year studying in the USA, mainly at MIT in Cambridge, Massachusetts. MIT was then the leading centre for transformational-generative linguistics and, as it happened, a hotbed of political opposition to the Vietnam War. Tom's PhD thesis had included a transformational-generative sketch grammar of Koiari and he was anxious to learn about the most recent work in generative syntax, semantics and phonology. Arriving early in winter Tom and Corinne, with five-year-old Brett, found Boston cold, lonely and expensive – their modest Australian stipend proved far too meagre. The tumultuous political scene at MIT disrupted

the academic program but Tom enjoyed the intellectual atmosphere and learnt a lot about the latest trends in generative grammar. And as the weather improved and she made friends, Corinne found the experience both pleasant and mind-broadening.

On return to Australia, Tom picked up where he had left off, making field trips to Papua every year. He published a monograph listing and mapping all languages and villages of SE Papua in 1973. In 1972 he invited other linguists working in this area to contribute to a book about the languages of the region. The resulting 830-page *Studies in languages of Central and Southeast Papua*, which he edited, contains sketch grammars of eight languages as well as comparative studies. Tom also contributed extensively to a three-volume report on New Guinea area languages, totalling some 3000 pages, edited by Wurm and published by Pacific Linguistics in 1975, 1976, and 1977.

In the 1970s it was still possible to find virtually undocumented languages in Papua, even in coastal Papua, which had had 100 years of government contact. During his travels around the eastern end of Central Province in the early 1970s Tom came across four tiny enclave language communities surrounded by larger Papuan languages between Table Bay and Amazon Bay. Tom gathered basic word lists and grammatical information for each of these languages (Magori, in particular, he studied in some detail) and determined that, although they had been deeply affected by contact with neighbouring Papuan languages, these were all Austronesian languages and, in fact, members of the Central Papuan subgroup, to which Motu, Hula, Roro and Mekeo belong.

Around this time Tom also wrote the first of several papers he was to produce on borrowing among languages of Papua. It is not surprising that very early in his career Tom became interested in 'language-contact phenomena' (which in recent years has become a hot topic in historical linguistics). Papua New Guinea, with its multitude of very small language communities, intertwined by trade and intermarriage, and extensive multilingualism, is an excellent laboratory for the study of language-contact processes.

Describing a language in depth is an entirely different matter from doing survey work, and it takes many years of painstaking attention to detail. Tom has worked for over 30 years on Koiari and its sister language, Koita. His first grammatical descriptions of these two languages appeared in the late 1960s and early 1970s. His two dictionaries of Koiari took somewhat longer. The first, a shorter, less technical work, designed to be accessible to Koiari speakers, appeared in 1992. The second, a larger and more scholarly work, is now in press.

Tom also published teaching manuals on both the main lingua francas of Papua New Guinea. His Tok Pisin book (of which more anon) appeared in 1973 and his lessons on Hiri Motu (co-authored with Bert Voorhoeve) in 1974.

## **Professor at the University of Papua New Guinea 1975–1977**

The University of Papua New Guinea had opened in 1967 as part of the move to prepare PNG for independence. In 1974 the Department of Language was formed out of the parts of the old Department of Language and Literature (I had been part of the review committee recommending the reorganisation). Tom accepted an invitation to become the first Professor in the Department of Language, going on secondment for three years from ANU. Already in the Department were the research linguists John Lynch, Frans Liefrink and Adrienne Lang, as well as several people teaching service English courses.



It was not long before he stirred up a national controversy. 1975 was the year PNG became independent. Tom saw his appointment as a chance to bring linguistic issues to the notice of PNG's public, and in particular to influence language and educational policies in the formative years of the new nation. After all, PNG is the most linguistically diverse nation on earth, with around 800 indigenous languages, and one would expect its government to pay serious attention to language issues.

In fact, the Government and Education Department had no official language policy but the de facto policy, under the Australian Administration, had been to promote English as the language of primary and secondary schools, as well as tertiary education. The newly independent government showed no intention of changing this policy, even though Tok Pisin was much more widely spoken than English. To outsiders, who knew little of how things work in PNG, and to many expatriates in PNG, this no doubt seemed entirely natural. After all, is English not the most important world language, a passport to economic advancement as well as the carrier of a sophisticated culture and technology? By comparison, is not Tok Pisin merely a simplified form of English, in which English grammar and pronunciation are corrupted and the vocabulary much reduced?

Tom had other views. He had the advantage of having taught both in PNG schools and at the UPNG, of being a linguist and a fluent speaker of Tok Pisin, and could speak in an informed way about problems of language and instruction in PNG. His inaugural address (in May 1976) was titled *Language and national development – long wanem rot?* It called on the Papua New Guinea Government, after taking due preparatory steps, to make Tok Pisin an official national language, and for teachers to use it as the main language of instruction at all levels of education where it would serve students better.

He pointed out that, among the three or four million people of PNG, and especially those of the former Trust Territory of New Guinea, Tok Pisin was much more widely known than English. It was an important medium in local newspapers and on radio, was the main working language of PNG's House of Assembly, and in most Provinces virtually all children of school age spoke it fluently as a second language. By comparison, few indigenous students and not many primary teachers were comfortable in English. At that time only a tiny proportion of PNG children went on to one of the four high schools in the country. Tom argued that it was wasteful and inefficient for schools to continue to try to use English as the main language of instruction in school contexts where information could be more effectively conveyed and learnt using Tok Pisin. There was an important role for English, but its early use as the main language of instruction doomed most students to poor learning.

At the same time, Tom and his colleagues were working to establish a place in the University curriculum for Tok Pisin and Hiri Motu, the two main lingua francas of PNG. These were introduced as degree subjects, and a Hiri Motu and Tok Pisin Research Unit was established, under his direction.

Tom's inaugural lecture and follow-up articles in the newspapers (e.g. 'What is the cost of English?' *Post-Courier*, 28.5.76) provoked a national debate. The proponents of English counterattacked. They included expatriates who knew little Tok Pisin but were convinced that it was not fit to be a national language and many current teachers and politicians, both expatriates and nationals, who had a vested interest in keeping English as the language of instruction in primary schools. In the short run there was no change to the Education Department's language policy in the schools. But Tom's lecture was prophetic. In the 1980s a still more radical change occurred, with the founding of the Viles Tok Ples (local mother tongue) preschools, starting at the community level in parts of Bougainville and a few years

later being adopted at the national level. By that time PNG had leaders and teachers who were secure in their knowledge of English and who had had time to see that the result of using only English in the primary schools of PNG was generally students with a poor command of English and a poor knowledge of the subjects taught in it.

Around this time Tom also began research on the history of Police Motu, the lingua franca adopted by the Australian Administration in Papua. His findings, published in various papers and books over the next decade, revealed a very different history from the one generally assumed. Police Motu was renamed 'Hiri Motu' by those who believed it was used by the Motu people of Port Moresby as a trade language during their annual long voyages to the Gulf of Papua (the *hiri*) to trade pots for sago. Tom found that this belief was unfounded, but that simplified Motu had been used by the Motu in pre-contact times to talk to their neighbours and foreign visitors in the Moresby area, before being adopted and spread by the colonial administration in Papua as 'Police Motu'. In the course of his work on Police Motu he also uncovered two indigenous (non-English-based) pidgins, used in Papua, reported in a paper called 'Birds of a feather: a pair of rare pidgins from the Gulf of Papua'. A synthesis of his pioneering research on pre-contact lingua francas in Papua appeared in his 1985 book *Police Motu: Iena Sivarai (Its story)*.

Tom and Corinne's daughter, Anna, was born in July 1975. I happened to be in Moresby at the time en route to fieldwork in Madang and called on them at Port Moresby General Hospital in Taurama. It was an old colonial-style wooden building with large rooms with wooden shutters opening onto airy verandahs. I retain a vivid memory of mother holding day-old daughter contentedly in a ward crowded with visiting relatives, in sweltering heat.

Tom was a strong and steady hand at the UPNG. His colleagues, and many of us who visited the UPNG, were sorry when he decided to return to the ANU after three years. Tom continued to put his weight behind the Linguistic Society of Papua New Guinea. Nearly every year during the 1980s he travelled to PNG to attend the annual conference of the PNG Linguistic Society and to do some fieldwork.

## Projects 1978–1987

Tom's return to Canberra almost ended tragically. He went down with malaria. He had previously had attacks of malaria from time to time but on this occasion the doctors failed to detect that two strains were present, one of them cerebral malaria. He lay seriously ill in Canberra Hospital for a time.

After that setback Tom was busy with a variety of enterprises. As one of the editors he played a key role in another of Wurm's major projects, the ambitious *Language atlas of the Pacific area*, which was compiled in the 1970s and published in two volumes (1981, 1983). Nothing quite like it had ever been seen before in the linguistic world, with its 40-odd large, detailed multicoloured maps plus commentaries locating some 2000 individual languages and also defining their family relationships. He pressed on with his work on the origins of Hiri Motu and also went back to the topic of his Master's research. In mid 1982 he did archival work in Brisbane tracking down 19th-century sources on Queensland Aboriginal English. That year he had a nice little coup in the field of Pacific pidgin studies, when he published the transcript of a remarkable interview he had recorded in 1964 with the last two

surviving men from the New Hebrides (by then in their 90s) who had been brought to work in the Queensland canefields in the late 19th century.

From August to October 1982 Tom took a short sabbatical in Germany. He decided to learn the language of his maternal ancestors and began by taking a course in German at the Goethe Institute in Prien. He went on to visit the University of Graz in Austria, to work on Hugo Schuchardt's materials. He returned to Germany for two months in 1986, undertaking a whistlestop tour of a dozen universities, especially those where there were Melanesianists. The other two editors of this book recall that German suddenly became the language of Departmental morning teas in the Coombs tearoom, with our colleague Annegret Schemberg around at that time to strengthen the German-speaking contingent.

In 1983 Tom was appointed a Senior Fellow in Linguistics. In 1987 he was elected a Fellow of the Australian Academy of the Humanities in recognition of his outstanding research record. Tom's writings cover diverse strands of research to do with language, including surveying and mapping, grammatical analysis, dictionary making, comparative-historical reconstruction, language-contact issues, language planning and language teaching, but it is noteworthy that all link back in some way to his early years in Papua New Guinea. This fact is, I think, consistent with Tom's pragmatic mind. His creative energies in linguistics have been stimulated chiefly by observation of languages in context rather than by sitting in an armchair and building theoretical models.

Linguists' technical writings are notoriously opaque to non-specialists. But from the first, Tom wrote some works that were accessible to a wider public. Among the works stemming from this early period that have had considerable interdisciplinary influence were several long papers dealing with diffusion of ideas and terms due to trade in Papua: his 1973 paper "Cultural" items of basic vocabulary in the Gulf and other districts of Papua', a 1977 paper 'Language and trade in central and south-east Papua' and his long 1982 paper 'Borrowing in Austronesian and non-Austronesian languages of coastal southeast-Papua'. These have been much cited by archaeologists and culture historians.

However, Tom's best seller has undoubtedly been his book *Conversational New Guinea Pidgin*, with its 14 tapes and marvellous dialogues. Since its publication in 1973 it has remained the most popular pedagogical work on Tok Pisin and has been revised and reprinted a number of times. One young linguist who took it to New Guinea came back saying "You know, I heard people in real life actually speaking the dialogues in Tom's book!" Tom taught introductory courses in Tok Pisin from time to time for interested students and staff at the ANU, and for government departments. He is a born teacher, patient, encouraging and with infectious enthusiasm for his subject. Many of his students in such courses have told me how much they enjoyed, and learnt from, the Tok Pisin courses.

In 1995 RSPacS was given a new name, Research School of Pacific and Asian Studies (RSPAS), belatedly acknowledging the expansion in the School's regional coverage since the 1950s. From 1995 to 1997 Tom was Associate Director of RSPAS, responsible for student matters. He created a student handbook, setting out the responsibilities of postgraduate students and their supervisors. He also established an induction course for new students and in this way made an important contribution to student pastoral care, not just in RSPAS, but across the whole University.

Although Tom worked in an 'ivory tower' (I do not use this term to disapprove, merely to emphasise that RSPAS is a place designed for doing research), he has never been content to be just a scholar doing his own thing. He has always been someone who contributes to the wider community, whether it be academia or the local community. He has always been

generous with his time. During my travels I often meet scholars who have visited the Department and particularly appreciate the fact that Tom took the trouble to talk to them and show them around. As a supervisor, he has had a hand in many of the more than 50 PhD theses which have been produced in his Department. He served on the Editorial Board of *Aboriginal History* (1983–1990) and as Reviews Editor of *Language and Linguistics in Melanesia* (1987–1991). He was also business manager of the Australian Linguistic Society for several years in the 1990s.

Although we may try hard to disguise it, most scholars tend to be single-minded to the point of obsessiveness. Tom, more than most, generally managed to maintain a healthy balance between academic work and home life. He would arrive at the office by 8 am, work till 5 pm, switch off and drive home to another world. Although a prodigious worker at home as well, he enjoys the company of his friends and colleagues and is a most convivial host and a fine judge of wine.

But in due course Tom and Corinne both found life in the suburbs of Canberra confining and hankered after life in the country, something they had both grown up with. In the mid 1980s they bought a few acres of land at Murrumbateman, about 40 minutes drive north of Canberra, had a house built (which Tom finished himself) and kept a few horses because of their daughter Anna's equestrian interests. Soon they were hooked into the rhythm of farm life and into the community life of Murrumbateman. The rural setting was obviously hugely liberating for Tom, and many of those other talents, which I spoke of at the outset of this piece, blossomed. His colleagues grew used to him warning us: "I won't be in next Monday and Tuesday. Got to help the neighbour with his shearing" or "Doing a course in wool classing". We would ask "Coming to the conference on Saturday, Tom?" "Can't make it, mate. This is the weekend I'm helping to run the Murrumbateman annual fair" or "I've got to take Anna and her horse to an equestrian competition".

## **Managing editor of Pacific Linguistics**

One of Tom's most important services to the profession was his ten-year stint as managing editor of Pacific Linguistics (PL) from 1987 to 1996. PL is the largest publisher in the world of books on languages of the Pacific and Southeast Asia. For Tom, running PL was an unpaid extra responsibility, on top of his research and teaching duties.

Pacific Linguistics is managed by the staff of the Department of Linguistics in RSPAS. Stephen Wurm had begun it (under the rubric of The Linguistic Circle of Canberra) in 1962. The aim was to provide a publication outlet for books on minority languages of the Pacific and Southeast Asia, for which authors and conference organisers could not expect to find commercial publishers. PL's activities began slowly but soon authors were sending manuscripts in large numbers. Wurm assembled quite a large staff of research assistants and typesetters to process the manuscripts. One year as many as 29 books were published and by 1987 PL had published no fewer than 334 books. Although the standards of PL's book design and editing steadily improved over the years, under Wurm's management the emphasis was on getting the books out. The publisher could only serve the profession if it made enough money to stay in business.

Tom took the helm at a time of transition and crisis for PL. Three radical changes were under way. First, the manner of producing books was about to move from electric typewriter

to computer and laser printing. PL management had to make key decisions about computer software and typesetting staff had to learn new production skills. Second, the review of the Linguistics Department carried out that year, although complimentary about the high productivity of PL, had quite sharply criticised the emphasis on maximising output at the expense of quality. More stringent refereeing and copyediting of manuscripts were required. And third, as budget restrictions bit into RSPAS, the Department was steadily losing staff. Whereas PL once had half a dozen typesetters, this number was soon reduced to three, and by the early 1990s it was down to two. And at the same time the Department's academic staff fell from six to four.

Tom's task was challenging, to say the least. He was expected to improve the quality of PL's publications while working with much reduced support staff who were unfamiliar with the new technology. And he was expected to keep the number of books being published and sold at a level where PL would stay in the black, without the luxury of being able to increase prices much. Naturally there were many teething problems with the shift to new technology (PL's authors, out there in the wider academic world, were even less familiar with the computer production of books and were much more difficult to bring into line). PL's production fell drastically – one year as few as six books came out. Often Tom's patience was sorely tested, but he is a man of sufficiently wide and firm personality and resourcefulness to handle a variety of crises. He continued to run PL for 10 years and, amazingly, maintained good relations with his support staff during all the ups and downs.

When in 1997 he handed over the managing editor's job to Malcolm Ross (with Darrell Tryon taking over as financial manager) PL was a much more streamlined and efficient operation than it had been a decade before.

Although running PL was time-consuming, Tom continued to put out a steady stream of papers and books on descriptive and comparative topics during his time as managing editor. Among these were a dictionary of Koiari (1992), a short grammar of Koiari (1996), an important book on language contact, co-edited with Darrell Tryon, and a very thorough study of the history of sago cultivation by Austronesian speaking peoples, as evidenced by the methods of historical linguistics.

## **Retirement**

In 1997, still at the height of his powers, Tom took us all by surprise by deciding to take early retirement. He had in fact been preparing for it for a while. A year or two earlier he and Corinne had found a project that they thought would be a suitable challenge for their retirement years. They bought a run-down farm near Yass in New South Wales, intending to renovate the farmhouse and other buildings, and to stock the farm with sheep. Tom's preparation for becoming a farmer was typically thorough. He had systematically learned shearing, wool classing, pasture improvement techniques, fencing, sheepdog training, farm finance management – in short, all that one would need to know to be a successful sheep farmer. On weekends he generally travelled from Murrumbateman to work on renovating the house, sheds, windmill, etc. He and Corinne finally moved onto the farm in 1999. After a period raising fat lambs and mixed breeds on the "Meadowlane" property, he decided that because of the changing demands of the market and the size of his property he should concentrate on fine wool-producing Saxon Merinos. He likes to get around the paddocks on

a small motorbike and felt frustrated and impatient when a knee replacement job left him unable to walk or ride for a few months. He was back on the bike before his knee had fully recovered. In fact Corinne complains that he regularly tackles farm jobs that are too heavy for his own good but is too stubborn to listen to her warnings. His retort is “At least I’ll die happy”.

There are many things about Tom that I admire. There are also some that I merely envy. Take, for instance, his high energy and tremendous stamina. I give Tom no particular credit for these two capacities because both are surely natural gifts, something that is ‘in the genes’, like hair colour or nose shape.

In the scholarly domain something I both admire and envy (because I have never been able to match it) is Tom’s ability to consistently convert a high proportion of his research into published form. Many of us do a lot of basic research and manage to write up our more spectacular findings soon enough but are negligent when it comes to publishing (or circulating) detailed accounts of the extensive but mundane data that underpin our findings. Tom has managed to do both. His exemplary record in this respect undoubtedly owes something to his high energy but also to his ability to organise. He does not suffer from the two deadly P’s: perfectionism and procrastination. He possesses the two good P’s –the ability to prioritise and to be prompt. In the pre-email era, when swamped with mail and requests, I (and many others I know) often put off answering until “there was some spare time”. Not Tom. He always answered promptly, even if with just a single line. In the 1970s I would send Tom a letter from Auckland or Honolulu containing a request or information and would often receive by return mail an envelope containing my own letter with a dated note scribbled in the top margin: line “OK. Will do/Thanks for that. Tom”.

The range of his accomplishments outside of linguistics is truly astonishing. Again I attribute many of these partly to his having the good luck to inherit the right genes: a mechanical gene, a carpentering gene, a musical gene, etc. But I admire the fact that he has cultivated so many of his inborn talents (isn’t there something in the Bible about this?). Truly he is a man of many parts. Indeed, I have not told half the story here.

Tom did not switch off his linguistic engine entirely when he retired. In the spring of 2000 he delivered to PL a fat manuscript: the completed Koiari–English, English–Koiari dictionary.

We in the Department all owe Tom a great debt for being a wise, forthright and unselfish colleague. But we cannot help nurturing the selfish hope that Tom the farmer will not completely drive out Tom the linguist. Come what may, we wish him and Corinne well in their current and future endeavours.

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LOIS CARRINGTON

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# 3 *Reduplicated colour terms in Oceanic languages*

ROBERT BLUST

## 1 Reduplication in Austronesian languages

The Austronesian (An) language family constitutes one of the great laboratories for the study of reduplicative processes in natural languages. It is a rare An language indeed which does not make use of reduplication in some form as a grammatical device, and the sheer range of formal patterns and functions is dazzling on a family-wide scale. Nouns, verbs, adjectives, adverbs, numerals – even pronouns, question words, prepositions, classifiers and demonstratives – can be reduplicated in many ways for a great variety of purposes.<sup>1</sup>

But productive reduplication is only a part of the full array of reduplicative phenomena in Austronesian. Dempwolff (1934–38) reconstructed a substantial number of reduplicated monosyllables – disyllabic bases, generally of the form CVCCVC, in which the two syllables are identical. Except for onomatopes (*\*tuk* ‘sound of a knock’, *\*tuktuk* ‘knock, pound, beat’) these reduplications were already lexicalised in PAN, since *\*butbut* ‘pluck, pull out’, *\*gemgem* ‘make a fist’ and many other disyllables lack a monosyllabic base.

Although reflexes of reduplicated monosyllables are found throughout the An language family, it is rare for reduplicated disyllables to become lexicalised. To form some idea of how surprising such a development is, it is necessary to appreciate the overwhelmingly disyllabic character of lexical bases in An languages. Chrétien (1965) showed that some 2,051 of the 2,216 lexical bases reconstructed by Dempwolff (1938), or over 92%, are disyllabic. Subsequent changes in the shapes of some reconstructions have transformed a few disyllables to trisyllables, but such cases are rare in relation to the total number of reconstructed bases. Moreover, far more reconstructed vocabulary is available now than was accessible to Dempwolff, and the pattern of dominant disyllabism (at around 90%) has been confirmed repeatedly. Given this prevailing pattern, any force which operated to produce lexicalised disyllables (hence quadrisyllabic words) would have been in opposition to well-established canonical tendencies.

<sup>1</sup> I am indebted to Ken Rehg for critical comments which led to improvements in an earlier version of this paper. The remaining faults are mine alone.

### 1.1 Basic colour terms

In their classic study of cross-linguistic regularities in the lexical encoding of colour categories Berlin and Kay (1969:5ff.) propose a number of constraints on types of morphemes that can properly be regarded as *basic colour* terms. They exclude from this category:

- (1) terms which are not monolexemic (bluish, lemon-coloured);
- (2) terms with a signification included in that of some other colour lexeme (crimson, scarlet, both types of the basic term 'red');
- (3) terms which are restricted to a narrow class of objects ('blond', or, in the Austronesian case, 'grey, of hair'), and
- (4) terms which are not psychologically salient.

In addition, they note a set of ancillary criteria that they find useful for distinguishing basic from non-basic colour terms:

- (5) doubtful terms do not have the same distributional potential as basic terms (reddish, whitish, greenish, but not \*aquaish, \*chartreus(e)ish, etc.);
- (6) 'colour' terms that are also the name of an object characteristically having that colour are suspect' (gold, silver, ash) – this qualification should be used in conjunction with the primary constraints (1)–(4);
- (7) "recent foreign loan words may be suspect", and
- (8) "in cases where lexemic status is difficult to assess...morphological complexity is given some weight as a secondary criterion. The English term *blue-green* might be eliminated by this criterion".

These guidelines will be of some use in examining the colour terminology of languages belonging to the Oceanic (Oc) subgroup of Austronesian. However, one area in which they clearly break down is with regard to the criterion of morphological complexity (evidently including both (1) and (8) above).<sup>2</sup>

In many Oc languages, representing a wide geographical and genetic range, colour terms are normally offered in reduplicated form. This is true of the semantic equivalents submitted for lexicostatistical test-lists, of such longer survey vocabularies as those of Tryon (1976) and Tryon and Hackman (1983), and of many dictionaries. Simplex and reduplicated colour terms often appear as separate dictionary entries, where they are commonly cross-referenced and labelled as semantic equivalents. Occasionally, however, it is stated that the simplex form is less favoured than its reduplicated counterpart, as where Pukui and Elbert (1971) give Hawaiian /'ele'ele/ 'black, dark; the black colour of Hawaiian eyes', but /'ele/ 'black (less used than 'ele'ele)'. In other cases a basic colour term is morphologically derived from a

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<sup>2</sup> A superficial consideration of the data presented in this paper might also give the impression that the evolution of colour terms in some Oceanic languages contradicts the general directionality claimed by Berlin and Kay in the progressive elaboration of colour nomenclatures: (1) black : white, (2) black : white : red, (3a) black : white : red : green/grue, (3b) black : white : red : yellow, (4) black : white : red : green : yellow, (5) black : white : red : green : yellow : blue, (6) black : white : red green : yellow : blue : brown, (7) black : white : red : green : yellow : blue : brown : purple : pink : orange : grey. This may in fact turn out to be the case when fuller information is available, but no serious claim about counterevidence to the Berlin-Kay thesis can be based on the material presented here, as many of the languages from which data is cited are too poorly described to inspire confidence that full colour terminologies have been collected.

non-colour nominal, as with Manam /dara/ 'blood', /daradara/ 'red' (sg.), /dadara/ 'red' (pl.), Kiribati /ro/ 'obscurity, darkness, gloom', /roroo/ 'black', or Kosraean /fasr/ 'coral lime, limestone', /fasrfasr/ 'white'.

That these reduplicated forms are in fact basic colour terms is supported by at least the following observations:

- (1) in cases such as those just cited the corresponding simplex base is a natural substance or condition, not a colour term (Manam, Kosraean), or is an apparently homonymous colour term which is less favoured in natural speech (Hawaiian);
- (2) in some other cases a reduplicated colour term lacks any candidate for a simplex base, as with Manam /botiboti/ 'blue' (no *\*\*boti*), Motu /kakakaka/ 'red' (no *\*\*kaka*), /laboralabora/ 'yellow' (no *\*\*labora*), Kosraean /sroalsroal/ 'black' (no *\*\*sroal*), or Fijian /dromodromoal/ 'yellow, dirty in colour' (no *\*\*dromo*);
- (3) where the semantically unmarked form of a basic colour term is reduplicated causative affixation is added to the reduplicated base rather than the simple base, as in Kosraean /fasrfasr-i/ 'to whiten, bleach' (with causativising transitive suffix; compare /fasr-i/ 'to stuff or coat with lime') or Hawaiian /ho'o-'ele'ele/ (not *\*\*ho'o-'ele*) 'to blacken'.

In effect, what we encounter in this data is a typological contradiction: the morphologically marked forms appear to be semantically unmarked, while the morphologically unmarked forms are at best semantic equivalents, and at worst disfavoured alternatives of their reduplicated counterparts. Moreover, in a number of cases reduplicated colour terms lack a simplex base, and hence must be considered lexical entries, or lexicalised reduplications. Even where a reduplicated colour term derives from a simplex base, as a noun which indexes some natural substance (lime for 'white', blood for 'red', turmeric for 'yellow'), it is often unclear whether the derivation is productive, or even morphologically transparent (e.g. is Ponapean /toantoal/ 'black' constructed from the English loanword /toal/ 'coal'? This appears initially plausible, but the Woleaian cognate /chochoal(o)/ suggests that the resemblance between /toal/ and /toantoal/ is fortuitous). Figure 1 sets out the types of relationships between semantic marking (SM), morphological marking (MM) and morphological productivity (MP) which will be encountered in the data surveyed in §2:

| Stage | SM | MM | MP |
|-------|----|----|----|
| (1)   | +  | +  | +  |
| (2)   | -  | +  | +  |
| (3)   | -  | +  | -  |

**Figure 1:** Stages in the morphological evolution of colour terminology in Oceanic languages

Considerations of general linguistic typology and of comparative evidence within the An family suggest that Stage (1) is the 'natural' or optimal condition: reduplication is a productive process (+ MP) which imparts an identifiable and often predictable semantic increment (+ SM) to the unduplicated base. In this stage a reduplicated colour term is 'semantically marked' – that is, it carries some overlay of meaning, as intensity or attenuation, which is superimposed on the meaning of the base. This can be illustrated from the data survey in §2 by Motu /kuro/ 'white', but /kurokuro/ 'whiter than kuro',

/kurokakuroka/ 'very white, dazzling', or Kiribati /mea/ 'reddish-yellow colour', /meamea/ 'very red'.

In Stage (2) reduplicated forms have become 'bleached' of their overlaid meaning, but continue to be relatable to a simplex base. At this point reduplication with colour terms is semantically unmarked, since it no longer has a function (except, perhaps, to derive colour terms from non-colour nominal bases). The result is large-scale homonymy between simplex and reduplicated bases, as in Hawaiian /'ele'ele/ 'black', /'ele/ 'black' (less used than the preceding), /ke'oke'o/ 'white, clear', /ke'o/ 'white, clear', and many similar examples.

In Stage (3) the reduplicated term is retained but the simplex base is either lost or its relationship to its reduplicated counterpart is obscured by semantic change. Under these circumstances reduplication becomes lexicalised.

Although the lexicalisation of reduplicated colour terms is perhaps the most striking feature of this developmental sequence (since it is furthest removed from the 'natural' pole), our fundamental concern is less with lexicalisation than with whether reduplicated colour terms are semantically unmarked ('black', as opposed to 'very black', 'blackish', etc.). Reduplication is a form of affixation, and as such it should add an extra layer of information to the semantics of the stem, or trigger a change of word class. If affixation adds no additional meaning it is natural to assume that a semantic overlay has been bleached from the longer form, perhaps as a result of more frequent use over time in comparison with the simplex base. For convenience we will refer to reduplicated colour terms which carry no special semantic mark as 'semantically unmarked reduplications', or 'SU reduplications'. Given their almost certain origin in productive reduplication processes, we would expect such forms to show a range of lexicalisation, since the semantic unmarking of morphologically complex words would most likely follow a drift-like course. In such a historical process of semantic bleaching and gradual dissociation between simplex bases and their reduplicated counterparts some languages would be affected while others would not, and within affected languages reduplicative derivations might still apply to some words, but be essentially fossilised in others.

So far we have spoken of reduplication as a monolithic process, but in fact there are many possible reduplicative patterns, and these can be used contrastively for different morphological purposes. Ross (1998) has shown convincingly that POc adjectival bases were reduplicated to mark plurality. As will be seen, there is some evidence that the reduplication pattern reflected in the singular forms of basic colour terms was foot reduplication, while that for plural inflection was syllable reduplication.<sup>3</sup>

Finally, we need to examine the morphology of the colour vocabulary in relation to the larger corpus of adjectivals. In some of the languages of south-east New Guinea reduplicated colour terms merge into a larger pattern of reduplicated adjectivals which are given as labels of semantically unmarked categories ('big', 'small', 'hot', 'cold', etc.). This paper is concerned, then, with answering the following questions:

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<sup>3</sup> The central contribution of Ross (1998) is a typology of adjectival classes in Oceanic languages which uses morphosyntactic criteria to distinguish six types of modifiers (adjective, derived adjective, adjectival noun, derived adjectival noun, adjectival verb and stative verb) and seven types of predicate lexemes (adjective, derived adjective, stative verb, adjectival noun, derived adjectival noun, adjectival verb and stative verb). He suggests that "at least some POc colour modifiers were derived adjectival nouns, themselves derived from nouns". These issues go beyond the concerns of the present paper, and for simplicity I will use the cover term 'adjectivals' for any adjective-like words which may occur in a reduplicated form that appears to be semantically unmarked.

- (1) why morphologically marked (reduplicated) colour terms in Oc languages are so often semantically unmarked – that is, given as the equivalent of simple colour categories rather than of categories which carry some extra semantic mark;
- (2) to what extent reduplicated colour terms are lexicalised;
- (3) what were the pattern and function of reduplication which gave rise to the observed SU reduplications;
- (4) whether colour terms really differ from other adjectivals in exhibiting a high degree of semantic unmarking in reduplicated forms; and
- (5) why SU reduplicated colour terms are widespread in Oc languages, weakly attested in South Halmahera–West New Guinea (SHWNG) and Central Malayo-Polynesian (CMP) languages, and almost completely absent from Western Malayo-Polynesian (WMP) or Formosan languages.<sup>4</sup>

## 2 A survey of colour terminology in Oceanic languages

Proto Malayo-Polynesian (PMP) had at least the following colour terms: *\*ma-qitem* 'black', *\*ma-putiq* 'white', *\*ma-iRaq* 'red', *\*ma-qetaq* 'green', and *\*ma-kunij* 'yellow'. Of these only the first three are free from non-colour associations (cf. *\*ma-qetaq* 'raw, unripe', *\*kunij* 'turmeric'). In Proto Oceanic (POc) the corresponding terms were: *\*ma-qetom*, *\*ma-putiq*, *\*ma-eRaq*, *\*karawa* 'blue/green', and *\*ano* 'yellow.' In their use as basic colour terms none of these bases were reduplicated, although – as will be seen – reduplication undoubtedly played a part in creating morphological derivatives.

This section provides data for colour terms in 24 Oc languages. An effort was made to include all colour terms, whether reduplicated or not, as well as non-colour terms which are related to colour terms by a process of reduplication. In this way it can be seen that morphological processes which were once active in the language, or which continue to be active in other semantic domains or even with other colour terms, have begun to fossilise in particular colour words, or in the colour terminology as a whole.

1. YAPESE. Yapese is spoken in western Micronesia. Material was drawn from Jensen (1977), a dictionary containing somewhat over 4,500 entries.

Nine colour terms are reported for Yapese, as follows:

- (1) /*rungduq*/ 'the colour black; mud; dark colour';
- (2) /*weach*/ 'lime; the colour white', /*weachweach*/ 'the colour white';

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<sup>4</sup> The few known cases are: (1) Popalia (WMP; Tukangbesi Archipelago, south-east Sulawesi) /*kakanda*/ 'green', with possible CV- reduplication, but supported by no other colour term, (2) Selaru (CMP; Tanimbar Archipelago), with /*metmet*/ 'black', /*bokbok*/ 'white', and /*mémér*/ 'red', (3) Elat (CMP; Banda islands) /*metemeten*/ 'black', /*noinoitingo*/ 'white', /*moromoro*/ 'red', /*kairanranoko*/ 'green', but /*kuniliko*/ 'yellow', (4) Bonfia (CMP; eastern Seram), /*meta-meta-n*/ 'black', /*kala-kalat*/ 'red', /*biri-biri*/ 'green' (but /*buti*/ 'white', /*fisi inet*/ 'yellow', (5) Tanimbar-Kei (CMP; south-east of Seram), with apparent CV- reduplication in the colour terms /*ngangiar*/ 'white', /*babul*/ 'red', /*tatom*/ 'yellow', /*babir*/ 'green', and /*ngamétan*/ 'black' (which may have been reshaped due to close association with /*ngangiar*/ 'white'), (6) Sekar (CMP; Bomberai peninsula, Irian Jaya) /*kudkuda*/ 'black', /*irisiris*/ 'white', /*matmatak*/ 'green', but /*kasumba*/ 'red', and /*kuning*/ 'yellow' (the latter from Malay) and (7) Buli (SHWNG; southern Halmahera), with /*go-go*/ 'black', /*bu-bulang*/ 'white', /*ka-kalā*/ 'red', /*bisbis*/ 'green' and /*banban*/ 'yellow'.

- (3) /roow/, /roowroow/ 'the colour red';
- (4) /qeeryäq/ 'the colour dark red';
- (5) /giriin/ 'the colour green';
- (6) /yarraq/ 'the colour blue, blue-green, purple, violet';
- (7) /maegchoel/ 'the colour yellow';
- (8) /buut/ 'dirt, soil, earth', /but'buut/ 'the colour brown';
- (9) /qawaat/ 'ashes', /qawatwaat/ 'the colour grey'.

Only four of these (white, red, brown, grey) are reduplicated, and in general reduplication appears to be rare in the semantically unmarked forms of other adjectivals.

2. KAIRIRU. Kairiru is spoken on Kairiru island and the adjacent north coast of New Guinea, some 100km. west of the mouth of the Sepik river. The material is drawn from Wivell (1981), a provisional dictionary with just under 2,000 entries.

Six colour terms are reported in Kairiru:

- (1) /jirjir/ 'black; dirty; old' (no obvious simplex base, but possibly related to /jir/ 'mangrove swamp');
- (2) /kiet/ 'black paint', /kietkiet/ 'black', /qurqur/ 'black' (no simplex base);
- (3) /punpun/ 'white' (no obvious simplex base, but possibly related to /pun/ 'pigeon');
- (4) /mer/ 'red paint', /meramer/ 'red';
- (5) /yang/ 'European skin; people with white or yellow skin in general; yellow paint', /yangyang/ 'yellow';
- (6) /karep/ 'grass type; blue paint; blue/green';

The forms /kietkiet/, /punpun/ and /meramer/ are all said to be post-contact innovations, but the basis for this statement is unclear.

3. MANAM. Manam is spoken on Manam and Boesa islands, off the north coast of New Guinea, just east of the mouth of the Ramu river. Data are drawn from the substantial grammar by Lichtenberk (1983), and from the earlier vocabulary by Böhm (1975).

Nine colour terms are known, as follows:

- (1) /ziŋ/ 'black ashes', /ziŋziŋ/ 'black' (Böhm gives /jim/ 'rain, cloud; black, dark, deep (sea)', /jimjim/ 'black');
- (2) /wawa/ 'discoloured (light-coloured) patch of skin', /wawawa/ 'white';
- (3) /dara/ 'blood', /daradara/ (sg.), /dadara/ (pl.) 'red';
- (4) /'arai/ 'kind of ginger', /'arairai/ (sg.), /'a'arai/ (pl.) 'green (the colour of 'arai leaves)';
- (5) /aŋota/ 'kind of ginger (yellow paint produced from its root)', /aŋotaŋota/ 'yellow' (Böhm gives /angoango/ 'yellow');
- (6) /botiboti/ 'blue' (no simplex base, but Lichtenberk (1983:611) speculates on a possible connection with /laŋo buti/ 'March fly', despite the problematic discrepancy in vocalism);
- (7) /'ate'a/ 'ground', /'ate'ate'a/ 'brown';
- (8) /malapa/ 'partly smoked copra', /malapalapa/ 'light brown, light green';
- (9) /ta'e/ 'excrement', /ta'eta'e/ "jokingly offered by an informant when asked to identify a shade of brown" (nonce-form?).

Lichtenberk (1983:135) notes that "Manam adjectives are commonly formed by reduplication of, often verbal, sources". With specific reference to colour terms he elaborates further (pp.610-611): "Colour terms are derived by reduplication from nominal sources that refer to objects in nature, the general meaning of colour terms being 'X-like', where X is the source...The first five colour terms: i.e. /wawa-wa/ 'white', /ziŋ-ziŋ/ 'black', /dara-dara/, /da-dara/ 'red', /'arai-rai/, /'a-'arai/ 'green', and /aŋota-ŋota/ 'yellow', are the basic colour terms of Manam (in the sense of Berlin and Kay 1969). These are the ones commonly used, and they are usually thought of first by informants when asked about colour terms".

4. GAPAPAIWA. Gapapaiwa is spoken in Milne Bay, near the tail of New Guinea. The material used here, a windfall while I was conducting fieldwork in the Admiralty islands during the first half of 1975, was collected on a modified Swadesh 200-word list.

Only three colour terms were recorded for Gapapaiwa, but all are reduplicated:

- (1) /dhumadhuma-na/ 'black';
- (2) /poipoi-na/ 'white';
- (3) /yebayebari-na/ 'red'.

Many adjectivals in Gapapaiwa appear to be reduplicated in their semantically unmarked forms, including /muyamuya-na/ 'hot', /nubhanubha-na/ 'cold', /kanakana/ 'dry', /dhoadhoha/ 'dirty', /nenanena-na/ 'thin (materials)', /tupatupa-na/ 'thick', /bwibwi-na/ 'good', /rabharabha/ 'far'. However, an even larger number were given in unreduplicated form. To make matters more complex, many nouns and a few verbs were also given in reduplicated form, such as /kamokamo-/ 'belly', /katekate-/ 'liver', /mothamotha/ 'earthworm', /rugurugu/ 'leaf', /ramram-/ 'root', /gonugonu-/ 'sand', /tupitupi-/ 'ashes', /kanikani/ 'eat', /gibugibu-i/ 'cook', /yabayaba-i/ 'dig', or /rovorovo/ 'to fly'.

5. SUAUI. Suau is spoken around the south-easternmost tail of New Guinea. Material is drawn from Cooper (1975).

Five colour terms were recorded for Suau, as follows:

- (1) /dubaduba/ 'black';
- (2) /posiposi/ 'white';
- (3) /buyabuya/ 'red';
- (4) /yogeyoge/ 'yellow';
- (5) /'ala'alawa/ 'green'.

A number of non-colour adjectivals exhibit a similar reduplication pattern: /la'ila'i/ 'big', /ku'uku'u/ 'short', /lohaloha/ 'long', /yaloyalalo/ 'thin (objects)', /potopoto/ 'thick', /tabataba/ 'wide', /beabea/ 'old (people)', /halihaliu/ 'new', /lolo/ 'good', /hanahanau/ 'near', /lohaloha/ 'far'. The colour terms of Suau thus form only part of a larger pattern of unmarked adjectivals with reduplicated stems.

6. MAGORI. Magori is a moribund language spoken on the south coast of Papua just west of Amazon Bay (Dutton 1976). The data used here were recorded in a modified Swadesh 200-word list completed for me by Tom Dutton in the early 1980s.

Four colour terms appear on this list, as follows:

- (1) /dubaduba/ 'black';
- (2) /goagoa/ 'white';

- (3) /morimori/ 'red';
- (4) /gobugobura/ 'yellow'.

No term for 'green' could be supplied. Some other adjectivals on this list were also given in reduplicated form, as /vodavoda/ 'hot', /memea/ 'cold (of weather)', /vuravura/ 'dry', /obo'obo/ 'short', /baibai/ 'long', and /geragerama/ 'bad, evil'. However, many other adjectivals were given in non-reduplicated form, such as /nuda/ 'wet', /duvabu/ 'heavy', /miti/ 'small', /vere/ 'big', /kerere/ 'sick', /baeau/ 'old (of people)', /gadara/ 'new', /ragi/ 'good', /avanui/ 'correct, true', /tebina/ 'near', and /anadaevara/ 'far'. What is striking about the Magori colour terms, then, is their consistent use of reduplication. It is not known whether simplex bases exist for any of these forms.

7. MOTU. Motu is spoken around the south-eastern end of the Gulf of Papua, in the vicinity of Port Moresby. The material is drawn from Lister-Turner and Clark (1930), a dictionary of roughly 7,000 entries.

Nine colour terms were identified in Motu. All of these occur reduplicated, but four have a semantically related simplex base, while five do not:

- (1) /korema/ 'any dark colour, brown, black; beche-de-mer', /koremakorema/ 'black';
- (2) /kuro/ 'white', /kurokakuroka/ 'very white, dazzling', /kurokuro/ 'whiter than /kuro/';
- (3) /kakakaka/ 'red' (no simplex base);
- (4) /gadokagadoka/ 'light green, as young leaves; also blue' (no simplex base);
- (5) /laboralabora/ 'yellow' (no simplex base);
- (6) /duba/ 'grey colour; dark grey cloud', /dubaduba/ 'very dark colour (colour of Erema natives); very dark cloud';
- (7) /vaiurivaiuri/ 'blue' (introduced; no simplex base);
- (8) /mage/ 'ripe, of fruits; ripe bananas', /magemage/ 'deep orange';
- (9) /uriuri/ 'brown, colour of Motuan's skin' (no simplex base).

Finally, /buruka/ 'grey (of hair)' – the only non-reduplicated term with colour reference in Motu – apparently is not a colour term, since it is not freely applicable to a range of substances.

By contrast, adjectivals in general appear to be reduplicated only in active derivation or inflection:

- (1) /bada/ 'large, great', /ba-bada/ 'large, great (pl.)', /badabada/ 'largest, greatest';
- (2) /maitu/ 'small', /maitumaitu/ 'fine, of string, finely woven, of mat';
- (3) /maragi/ 'small', /maragimaragi/ 'very small';
- (4) /maimu/ 'small, of thread, string, etc.', /maimumaimu/ 'very small, wasted by sickness';
- (5) /misika/ 'small', /misikamisika/ 'very tiny';
- (6) /matama/ 'beginning', /matamata/ 'new, fresh' (apparently reduced by haplology from \*matamamatama);
- (7) /guna/ 'first', /gunaguna/ 'first of all (in time)', /guna-na/ 'the former one, the old one'.

8. MUSSAU. Mussau is spoken in the Saint Matthias Archipelago, north-west of New Ireland. The material was collected while conducting fieldwork in Manus during the first half of 1975 (Blust 1984).



Five colour terms were recorded for Mussau, as follows:

- (1) /beroberoŋ-ana/ 'black';
- (2) /bo/ 'night', /boboŋi-ena/ 'black';
- (3) /usouso-ana/ 'white';
- (4) /rae/ 'blood', /raerae-ana/ 'red';
- (5) /talakia/, /talaki-ena/ 'yellow'.

Of these only the terms for 'black', 'white', and 'red' are reduplicated. It is unknown whether simplex bases for /beroberoŋ-ana/ and /usouso-ana/ are found in the language. A number of other adjectivals were also offered in reduplicated form, as /kulukuluta-na/ 'dirty', /tumtumŋa-na/ 'dull, blunt', /aanasa/ 'hot', /guluguluena/ 'straight', /riuriue-na/ 'thin (of animates)', and /kalakalaŋi-na/ 'near', but the majority were given as unreduplicated bases.

9. TANGA. Tanga is spoken on the island group of the same name off the east coast of south-central New Ireland. Material is drawn from Bell (1977), a small dictionary with about 1,400 entries.

Five colour terms were found in Tanga, as follows:

- (1) /meketket/, /mikitkit/ 'black' (no simplex base);
- (2) /murmur/ 'white' (no simplex base);
- (3) /bulam/, /bulbulam/ 'pink, red; used to describe the skin colour of Polynesians and also of the ethnographer, who is a bronzed Australian of European origin';
- (4) /mukerau/, ('more often in reduplicative form /mukmukerau/') 'green';
- (5) /pil/ 'lightning', /pilpil/ 'yellow (as in gold, copper, brass)'.

A few other adjectivals which appear to be semantically unmarked also appear in reduplicated form, as with /tun/ 'purchase with a view to cooking', /tuntun/ 'warm (weather)', /tungtung/ 'short (in height)', and /soksok/ 'painful' (possibly connected with /sok/ 'to blaze up'). In some cases reduplication clearly is an active morphological process which contributes a sense of intensity to an adjective, as with /pong/ 'short in length', /pongpong/ 'very short in length', or /sak/ 'bad', /saksak/ 'of poor quality, of no account.'

10. VITU. Vitu is spoken in the French islands, off the north coast of New Britain. The material cited here appears on a modified Swadesh 200-word list which was completed for me courtesy of Malcolm Ross in the early 1980s.

Vitu has six known colour terms, as follows:

- (1) /galol/ 'black';
- (2) /kavukavu-a/ 'white';
- (3) /baritunutunu-a/ 'red';
- (4) /ngerengereg-a/ 'red';
- (5) /kobokobo-a/ 'green';
- (6) /gangogango-a/ 'yellow'.

Several other adjectivals also appear reduplicated, as with /molumolua/ 'dirty', and /puripuri-a/, but the great majority of all adjectivals (16 of 24) are unreduplicated bases.

11. MALEU. Maleu is spoken around the western tip of New Britain. The material cited here was recorded on a variant of the Swadesh 200-word list in the early 1980s courtesy of Raymond L. Johnston.

The five most basic colour terms appear on the Maleu list with two semantically undistinguished terms for 'white', as follows:

- (1) /korkorŋe/ 'black';
- (2) /sesenge/ 'white';
- (3) /borboria/ 'white';
- (4) /kilkiluange/ 'red';
- (5) /bilbiliange/ 'green';
- (6) /ngongonge/ 'yellow'.

A few other adjectivals on this list appear to be reduplicated, as /karkar/ 'sick, painful', /mamae/ 'shy, ashamed', and /ounouna/ 'correct, true', but the great majority (16 of 24) are not. As with Magori, then, the striking thing about Maleu is that all colour terms were given in reduplicated form. It is unknown whether simplex bases exist for any of these terms.

12. NEHAN. Nehan (Nissan) is spoken in the islands of the same name, between New Ireland and Buka. It is represented here by a lexicostatistical list made available to me courtesy of Matthew Spriggs in the early 1980s.

Five colour terms are recorded, as follows:

- (1) /kurkurum/ 'black';
- (2) /gawgawil/ 'white';
- (3) /kubkubar/ 'red';
- (4) /bukbukir/ 'green';
- (5) /yawyawel/ 'yellow'.

A few other adjectivals also show CVC- or CV-reduplication, as /welwelsuk/ 'warm (weather)', /papadak/ 'dry', /kit/, /kikitilik/ 'small', /hehelen/ 'narrow', and perhaps /momoh/ 'sick, painful'. However, most recorded adjectivals (17 of 28) are unreduplicated. These observations are in general agreement with the short vocabulary included in Todd (1978).

13. MONO-ALU. Mono-Alu is spoken in the Shortland Islands, off the southern tip of Bougainville in the Solomons chain. Material is drawn from the 324-item list in Tryon and Hackman (1983).

Six colour terms are given for Mono-Alu, as follows:

- (1) /sivisivi/ 'black';
- (2) /'ana'ana'a/ 'white';
- (3) /masimasini/ 'red';
- (4) /malamalae/ 'green';
- (5) /bulubulū/ 'blue' (evidently a loan from English, with added reduplication);
- (6) /temotemoli/ 'yellow'.

A few other adjectivals are also given in reduplicated form, as /moamoa/ 'cold (of weather)', /regerege/ 'dry', /perapera/ 'thin (of objects)', and /vatuvatu/ 'thick (of objects)', but the great majority of adjectivals in the Tryon and Hackman list, including at least 32 other items, are not reduplicated. Again, what is striking about the colour terminology of this language is the

consistent use of reduplication with what are presumably the semantically unmarked values (those offered as basic colour terms).

14. TINPUTZ. Tinputz is spoken in north-eastern Bougainville, near the western end of the Solomons chain. Material is taken from a modified Swadesh 200-word list supplied by Matthew Spriggs in the early 1980s.

Six colour terms are available for Tinputz, as follows (notes are from Spriggs):

- (1) /por/ 'black' (Blackwood 1935:418) gives /bubuits/;
- (2) /kakavo/ 'white';
- (3) /vurvuir/ 'red' (Blackwood gives /wuruir/);
- (4) /pepere/ 'green';
- (5) /totomoen/ 'yellow';
- (6) /kakatsire/ 'yellow'.

If we include the Blackwood term /bubuits/ it appears that every colour term in Tinputz with the possible exception of /vurvuir/ is formed by CV-reduplication. Apart from /tsutsune/ 'small', /kakaot/ 'short', /babanao/ 'wide' and /ririkin/ 'near', all other adjectivals on the Swadesh list (19 items) appear in non-reduplicated form.

15. TO'AMBAITA. To'ambaita is spoken in northern Malaita, in the south-east Solomon islands. The material is drawn from a modified 200-word Swadesh list supplied courtesy of Frank Lichtenberk in the early 1980s.

Five colour terms are given for To'ambaita, as follows:

- (1) /mboombora'a/ 'black';
- (2) /kwaakwao'a/ 'white';
- (3) /meemena'a/ 'red';
- (4) /marakwa/ 'green';
- (5) /kookoa'a/ 'yellow'.

Phonological patterning suggests that *-/a/* is an attributive suffix, and that /marakwa/ began as something other than an abstract colour term. Four of the five colour terms recorded for To'ambaita are formed by partial reduplication in which the vowel of the reduplicant is automatically lengthened. A similar pattern of reduplication is seen in a few non-colour adjectivals, as /'aa'ako/ 'warm (weather)', /raaraje'a/ 'dry', /kuukuru/ 'short', /gaangaro'a/ 'thin (materials)', and /reeremba'a/ 'wide', but the great majority of adjectivals (18 items) appear in non-reduplicated form.

16. MOTA. Mota is spoken in the Banks islands, at the north-eastern extremity of the Vanuatu chain. Material was drawn from the classic dictionary of Codrington (1896), which contains over 7,000 entries.

Ten colour terms are given for Mota, as follows:

- (1) /siliga/ 'dark, black';
- (2) /wowoga/ 'white, whitish' (no simplex base);
- (3) /aqaga/ 'white';
- (4) /mea/ 'red earth, used as pigment; a red pig', /memea/ 'red', /meamea/ 'kind of red fish';
- (5) /soroga/ 'red, colour of *pes nai* when ripe', /sorsoroga/ 'dark red';

- (6) /ango/ 'turmeric; yellow', /angoango/ 'yellow';
- (7) /pepe/ 'a yellow butterfly; a fish, *Chaetodon*', /pepega/ 'yellow; name of a cocoa-nut as its husk gets yellow';
- (8) /gesagesaga/ 'bright blue or bright green' (no simplex base);
- (9) /turturuaga/ 'blue or green', /turturuga/, /tuturuaga/ 'blue or green, if clear and bright, with regard to brightness rather than colour';
- (10) /teretere/ 'grey' (no simplex base).

The Mota material in Tryon (1976) differs from this in several respects, as follows:

- (1) /silsiliya/ 'black';
- (3) /akwpwaya/ 'white';
- (9) /turuturuya/ 'green'.

Apart from /mwataketake/ 'light (weight)' /mamarir/ 'cold', /kokota/ 'narrow', /matoltol/ 'thick', /maniβniβ/ 'thin', and possibly /ninin/ 'smooth', no other adjective in the Tryon list appears in reduplicated form.

17. KIRIBATI. Kiribati (Gilbertese) is spoken in Kiribati (the former Gilbert Islands), south-eastern Micronesia. The material is drawn from Sabatier (1971), a dictionary with somewhat over 10,000 entries, but with additional information on phonology supplied by Sheldon P. Harrison (pers. comm.).

The colour terms of Kiribati include:

- (1) /ro/ 'obscurity, darkness, gloom', /roroo/ (written /roro/ in Sabatier) 'black, dark colour', /taka-roro/ 'very black, altogether black', /wanganoro/ 'blackish';
- (2) /mai/ 'pale, greyish, whitish', /mainaina/ 'white' (morphological relationship between base and derivative unclear), /ka-mainaina/ 'to whiten, put a white mark on a tree or on reserved land';
- (3) /ura/ 'red colour of tainted fruit', /uraura/ 'red, redness, vermilion', /ka-uraura/ 'to redden, paint or dye red';
- (4) /mea/ 'reddish yellow colour, rust, grey', /meamea/ 'very red, reddest', /ka-meamea/ 'to make red, to dye, red';
- (5) /maawaawa/ 'green/blue', /ka-maawaawa/ 'to paint or colour with green or blue'.

Although all of these correspond to simple bases, the reduplicated form is given as the basic colour term in elicitation, and only the reduplicated base is used in causatives. Since the one available dictionary lacks a reverse index it is likely that some terms have been omitted from the discussion.

18. KOSRAEAN. Kosraean (Kusaian) is spoken on the island of Kosrae in the eastern Carolines of Micronesia. The material is drawn from Lee (1976), a dictionary with about 7,000 entries.

Kosraean has eight colour terms, as follows:

- (1) /sroalsroal/ 'black', /sroalsroal-i/ 'blacken, dye or paint black' (no simplex base);
- (2) /fasr/ 'coral lime, limestone', /fasr-i/ 'stuff or paint with *fasr*', /fasrfasr/ 'white', /fasrfasr-i/ 'whiten, bleach';
- (3) /srah/ 'blood', /sruhsrah/ 'red'; /sruhsrah fohkfohk/ 'brown' ('dirty red'), /sruhsrah nwacsnwacs/ 'pink; orange colour' ('clean red');

- (4) /folfol/ 'blue, indigo, dark blue', /folfol-i/ 'make blue', /folfol sra/ 'green, greenish' (no simplex base);
- (5) /rangrang/ 'yellow', /rangrang-i/ 'make or dye yellow' (no simplex base).

19. **PONAPEAN.** Ponapean is spoken in the eastern Caroline Islands of Micronesia. Material is drawn from Rehg and Sohl (1979), a dictionary of over 7,500 entries.

Ponapean has the following colour terms:

- (1) /toantoal/ 'black' (no simplex base, despite the similarity of the English loanword /toahl/ 'coal');
- (2) /pweht/ 'lime, made from coral', /pwetepwet/ 'white; grey hair';
- (3) /nta/ 'blood', /weitahta/ 'red' (rightward reduplication);
- (4) /pohndipw/ 'green' ('colour of grass');
- (5) /oahng/ 'turmeric', /oangoahng/ 'yellow';
- (6) /pohn pwel/ 'brown' ('colour of earth');
- (7) /pehs/ 'ashes', /pehsehs/ 'grey, greyish; dust-covered';
- (8) /mpwul/ 'flame', /mpwulapwul/ 'pink';
- (9) /pohn ntahn mwell/ 'purple'.

A number of other adjectivals are also reduplicated in Ponapean, as /karakar/ 'hot', /wisekesek/ 'wet', /toutou/ 'heavy', /mwotomwot/ 'short', and /reirei/ 'long'. According to Rehg (pers.comm.) these are residues of a once-active process of derivational reduplication which is no longer functional in the language (by contrast, inflectional reduplication for durative aspect is fully productive).

20. **WOLEAIAN.** Woleaian is spoken in the central Caroline islands of Micronesia. The material is drawn from Sohn and Tawerilmang (1976), a dictionary of somewhat over 7,000 entries.

Nine colour terms are given for Woleaian, as follows:

- (1) /chochoal(o)/, /shoal(o)/ 'dark, black';
- (2) /rosh(o)/ 'night, darkness; dark, black, obscure';
- (3) /besh(e)/ 'lime; white, snow white', /bbesh/ 'white', /beshebesh(e) 'white';
- (4) /rowaas(i)/ 'red';
- (5) /rowarow(a)/ 'red, pink, pinkish';
- (6) /maiur(iu)/ 'fresh, green, alive', /maiuriur(iu)/ 'very green, fresh';
- (7) /gaaraweraw(a)/ 'green, blue';
- (8) /rang(a)/ 'turmeric', /rangerang/ 'yellow, yellowish';
- (9) /yang/ 'ginger', /yangoyang/ 'yellow, yellowish, of ginger colour'.

A few of these words appear to be derived by a productive process of reduplication, while others do not. A number of other adjectivals are also reduplicated in semantically neutral or unmarked forms, as /gigigiit(i)/ 'small, little', /metagiteg(i)/ 'painful, sick', or /maaw(a)/, /maamaaw(a)/ 'strong, powerful'.

21. **FIJIAN.** Fijian is spoken in the Fiji archipelago. Material is drawn from Capell (1968), a dictionary with about 6,000 entries.

All Fijian colour terms are reduplicated, but generally appear to be derived from simplex nouns:

- (1) /loa/ 'soot, used as black paint for the face', /loaloa/ 'black; black cloud, sudden storm; kind of beche-de-mer';
- (2) /vula/ 'white, in compounds; a partial albino', /vulavula/ 'white, in compounds';
- (3) /damu/ 'red, brown, dun; two varieties of red fish', /damudamu/ 'red colour';
- (4) /karakarawa/ 'a blue-green fish', /karakarawa/ 'blue/green' (no simplex base);
- (5) /dromodromoa/ 'yellow, dirty in colour' (no simplex base).

Fijian colour terms are embedded in a vast matrix of reduplicated bases, both nominal and adjectival:

|                              |                                |
|------------------------------|--------------------------------|
| /wasa/, /wasawasa/ 'sea'     | /kalokalo/ 'star or planet'    |
| /kabu/ 'fog, mist, haze'     | /kabukabua/ 'misty, foggy'     |
| /kuru/, /kurukuru/ 'thunder' | /liva/, /livaliva/ 'lightning' |
| /katakata/ 'hot'             | /batabata/ 'cold'              |
| /sua/ 'to wet'               | /suasua/ 'wet, damp, humidity' |

Their reduplicated form thus does not immediately stand out as a distinguishing mark.

22. TONGAN. Tongan is spoken in western Polynesia. The material is drawn from Churchward (1959), a dictionary with nearly 18,000 entries.

Ten colour terms are reported in Tongan:

- (1) /'uli/ 'dirty, black', /'uli'uli/ 'black', /faka-'uli'uli/ 'blacken';
- (2) /hinehina/ 'white' (surely related to /hinā/ 'grey or white, of the hair', /hinehina/ 'of the hair, going grey, grey in patches', despite the discrepancy in vowel length), /faka-hina/, /faka-hinehina/ 'make white, whiten');
- (3) /kula/ 'to blush', /kulokula/ 'red', /faka-kula/, /faka-kulokula/ 'make red, redden';
- (4) /lanu mata/ 'green' (lit. 'colour of unripe fruit');
- (5) /lanu moana/ ('colour of deep sea'), /lanu pulu/ (from English), /lanu langi/ ('colour of sky') 'blue';
- (6) /enga/ 'turmeric', /engeenga/ 'yellow';
- (7) /efu/ 'dust', /efuefu/ 'ashes', /lanu efuefu/ 'grey' ('ash colour');
- (8) /lavilavi/ 'grey or greyish' (no simplex base);
- (9) /panefu/, /panefunefu/ 'greyish brown';
- (10) /mea/ 'light red or light brown, reddish, brownish: esp. in names of plants, fish, etc.', /mēmea/ 'light brown'.

A few other Tongan adjectivals given as semantically unmarked forms are also reduplicated, such as /nounou/ 'short', and perhaps /lelei/ 'good', but this is not at all common.

23. SAMOAN. Samoan is spoken in western Polynesia. The material is drawn from Milner (1966), a dictionary with somewhat over 9,000 entries.

Eight colour terms are reported in Samoan. Most of these occur reduplicated:

- (1) /uliuli/ 'black; dark (of skin, hair, etc.); be tanned, bronzed by the sun', /fa'a-uliuli/ 'black cloud', /fa'a-uli/, /fā'-uli/ 'black clouds' (Milner gives a hypothetical base (uli), which apparently never occurs alone);
- (2) /pa'e/ 'to bleach', /pa'epa'e/ 'pale, light-coloured; white', /fa'a-pa'epa'e/ 'to whitewash (with lime);

- (3) /sina/ 'be white; white (grey) hairs', /sinā/ '(of head hair, etc.) be grey or white', /sinasina/ 'be white', /fa'a-sinasina/ 'make white, whiten';
- (4) /tetea/ 'albino; fair, as the colour of hair';
- (5) /'ula/ 'be deep red, crimson; red feathers used as decoration for fine mats', /'ula'ula/ 'be red, crimson';
- (6) -/mea/ "this base seems to occur mainly in compound words after names of plants, fish, etc., when it denotes a brown or red variety", /memea/ 'be yellowish-brown (with age)';
- (7) /'efu/ 'grey';
- (8) /'ena/ 'light brown, fair', /'ena'ena/ 'brown';
- (9) /pīniki/ 'pink';
- (10) /violē/ 'violet'.

24. HAWAIIAN. Hawaiian is spoken in the Hawaiian island chain. The material is drawn from Pukui and Elbert (1971), a dictionary with over 14,500 entries.

Twelve colour terms are reported in Hawaiian. Some of these occur reduplicated; others occur simple, but with reduplicated forms that have non-colour referents:

- (1) /'ele/ 'black' (less used than the following), /'ele'ele/ 'black, /hō-'ele'ele/ 'to blacken, darken';
- (2) /ke'o/ 'white, clear', /ho'o-ke'o/ 'to whiten, bleach', /ke'oke'o/ 'white, clear';
- (3) /kea/ 'white, clear; fair-complexioned person, often favourites at court; shiny; white mother-of-pearl shell; breast milk', /keakea/ 'semen'; /keakea/, /kekea/, /po'o kea/ 'grey-haired person';
- (4) /'ula/ 'red, scarlet; brown, as skin of Hawaiians; blood; agate', /hō-'ula/ 'to redden, make red', /'ula'ula/ 'bay, as a horse; various red snappers; variety of taro with red or purple petioles; Kentucky cardinal; blood; red tapa';
- (5) /'ōma'o/ 'green, as plants; a greenish tapa', /'ōma'o'oma'o/ 'an emerald', /ho'o-'ōma'o'oma'o/ 'to make green, paint green';
- (6) /hina/ 'grey- or white-haired; grey', /hinahina/ 'the silversword; grey, greyish';
- (7) /uli/ 'any dark colour, including the deep blue of the sea, the ordinary green of vegetation, and the dark of black clouds', /ho'o-uli/ 'to darken, make blue, green, etc.', /uliuli/ 'any dark colour', /ho'ouliuli/ 'to darken';
- (8) /mea/ 'reddish-brown, as water with red earth in it; yellowish-white, of feathers' (no reduplication);
- (9) /mele/ 'yellow', /melemele/ 'yellow', /ho'o-melemele/ 'yellow';
- (10) /'olena/ 'turmeric', /'olenalena/ 'yellow; dye made of 'olena plant';
- (11) /'akala/ 'pink; two endemic raspberries, and the thimbleberry from south-eastern Asia', /'akalakala/ 'pink; pinkish (rare)';
- (12) /'ōhelo/ 'a small native shrub *Vaccinium reticulatum*, in the cranberry family', /'ōhelohelo/ 'pink, rosy, of the colour of 'ōhelo berries', /ho-'ōhelohelo/ 'to colour pink';
- (13) /hā-'ula/ 'reddish', /hā-'ula'ula/ 'reddish, pink';
- (14) /poni/ 'purple; any purple-like colour; a variety of taro, used as medicine'.

### 3 Analysis

Although it includes data on only slightly over 5% of all Oc languages and is necessarily somewhat selective, the preceding survey gives a representative picture of the extent to which reduplication is found in the basic colour terms of Oc languages. By using it as a preliminary data base we can begin to address the questions which were raised at the end of §1.

#### 3.1 What was the pattern and function of reduplication which gave rise to SU reduplications in Oc languages?

Without attempting to be more specific we can say that at least three general patterns of reduplication are observable on the surface in the basic, or SU colour terms of Oc languages: 1. full reduplication, 2. rightward reduplication, and 3. leftward reduplication

**Table 1:** Patterns of SU reduplication in Oceanic colour terms

|            |  |
|------------|--|
| Yapese     | 1. full (white, red, brown)<br>2. rightward (grey)   |
| Kairiru    | 1. full (black, white, red, yellow)  |
| Manam      | 1. full (black, red, blue, yellow, brown)<br>2. rightward (white?, green, light brown/light green) |
| Gapapaiwa  | 1. full (black, white, red)  |
| Suau       | 1. full (black, white, red, yellow)<br>2. leftward (green)   |
| Magori     | 1. full (black, white, red)<br>2. leftward (yellow)  |
| Motu       | 1. full (black, red, green, yellow, grey, blue, orange, brown)                                     |
| Mussau     | 1. full (black, white, red, yellow)  |
| Tanga      | 1. rightward (black)<br>2. full? (white, yellow)<br>3. leftward (pink/red, green)                  |
| Vitu       | 1. full (white, red, green, yellow)<br>2. rightward (red)  |
| Maleu      | 1. leftward (black, white(x2), red, green, yellow)   |
| Nehan      | 1. leftward (black, white, red, green, yellow)   |
| Mono-Alu   | 1. full (black, white, blue)<br>2. leftward (red, green, yellow)                                   |
| Tinputz    | 1. leftward (black, white, red(?), green, yellow(x2))  |
| To'ambaita | 1. leftward (black, white, red, yellow)  |
| Mota       | 1. leftward (white, red(x2), blue/green (x2))<br>2. full (yellow, grey)                            |
| Gilbertese | 1. full (black, red(x2))<br>2. rightward (white?)  |



|          |  |
|----------|--|
| Kosraean | 1. full (black, white, red, blue/green, yellow)  |
| Ponapean | 1. full (black, white, yellow, grey(?), pink)<br>2. rightward (red)  |
| Woleaian | 1. leftward (black?)<br>2. full (white, red/pink, yellow(x2))<br>3. rightward (green, blue/green)          |
| Fijian   | 1. full (black, white, red)<br>2. leftward (blue/green, yellow)  |
| Tongan   | 1. full (black, white, red, yellow, grey(x2))<br>2. rightward (greyish-brown)<br>3. leftward (light brown) |
| Samoaan  | 1. full (black, white(x2), red, brown)<br>2. leftward (brown/red)  |
| Hawaiian | 1. full (black, white, red, green, yellow, grey, dark colour)<br>2. rightward (yellow, pink(x2))           |

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The above patterns show an asymmetrical distribution. In all languages, except a more-or-less continuous band running from New Ireland and New Britain through the Banks islands of northern Vanuatu, what appears superficially to be full reduplication is the dominant pattern, affecting the greatest number of individual terms. Moreover, lateral (leftward or rightward) reduplication can be seen as a variant of this pattern which is predictable from canonical shape.

General theoretical considerations, however, may require us to abandon the view that a pattern of CVCV-CVCV copying is 'full' reduplication. The most widely accepted view in current phonological theory holds that the domain of reduplicative processes is prosodically defined, and for this reason the apparent pattern of full reduplication in the above examples can be seen to be an artefact of more general processes which operate on the trochaic foot. Since most An languages have penultimate stress the prosodic domain for reduplication in trisyllabic (or trimoraic) bases would exclude prepenultimate syllables, thereby producing a pattern of 'rightward' copying, as in Yapese /qawatwaat/ 'grey', Manam /'arairai/ 'green', /aŋotaŋota/ 'yellow', /malapalapa/ 'light brown/light green', or Ponapean /weitahta/ 'red'. In the apt terminology of Spaelti (1997), these prosodically complementary patterns are alloduples of the same dupleme, accentually determined variants of the same basic instruction to copy a trochaic foot. Leftward reduplication as in Suau /'ala'alawa/ 'green', or Magori /gobugobura/ 'yellow' may imply a pattern of word-initial stress which similarly circumscribes the domain of copying, but no relevant information is available on the stress pattern of these languages. Likewise, an apparently universal constraint against words of four consecutive identical syllables blocks the complete reduplication of Manam /wawa/ 'discoloured (light-coloured) patch of skin', producing the trisyllabic /wawawa/ 'white', which may show either a lateral pattern, or a reduction by haplogy of a fully copied base.<sup>5</sup>

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<sup>5</sup> Spaelti (1997:38) attributes the claim for such a universal constraint to Yip (1993). In rare cases it is violated, as with Motu /kakakaka/ 'red; any bright colour'.

Tentatively, then, we can conclude that the SU reduplications of Oc colour terms derive from an earlier productive pattern of foot reduplication. Ross (1998) has shown that reduplication must be attributed to POc as a marker of plurality in adjectives or other adjective-like words, and notes in passing (1998:105) that ‘where the root is CVCV in form, reduplication for intensity is a doubling of the whole root, whereas reduplication for the plural is a doubling of only one of the two syllables’. We will return shortly to the matter of reduplication as a marker of intensity. For now it is sufficient to remark that a contrast between the singular form of SU colour terms which use foot reduplication, and the plural of colour terms, which uses CV- (syllable) reduplication can be reconstructed for POc. The singular:plural pattern in these forms is especially striking, since – counterintuitively – the marking for plural involves a more restricted copy of the base than the marking for singular, as with Manam /dara-dara/ (sg.) but /da-dara/ (pl.) ‘red’, /’arai-rai/ (sg.) but /’a-’arai/ (pl.) ‘green’ (Lichtenberk 1983:610), or Samoan /pa’e-pa’e/ ‘pale, light-coloured’ (sg.), but /pa-pa’e/ ‘pale, light-coloured (pl.)’. A similar pattern is also seen with other adjectives or adjective-like words in some languages, as with Fijian /leka-leka/ (sg.) : /le-leka/ (pl.) ‘short’ (cf. the more ‘natural’ correlation of semantic and morphological relationships in /levu/ (sg.) but /le-levu/ (pl.) ‘large’; Schütz 1985:229).

Given its distribution over at least two primary branches of Oceanic, it appears likely that CV- reduplication marked the plural of POc adjectives, while foot reduplication had other functions. What function can most reasonably be attributed to foot reduplication in adjectival bases? Ross (1998:99ff.) suggests that reduplication marked intensity in a morphosyntactically defined subset of POc adjectivals (called ‘the small class’) which included only a handful of meanings such as ‘big’, ‘small’, ‘long’, ‘short’, ‘good’, ‘bad’, ‘new’ and ‘old’. This claim certainly appears reasonable, but the evidence for a correlation between reduplication and intensity in Oc languages is quite fragmentary, involving only a few known languages (Marshallese, ’Ala’ala, Tigak, Hoava, Longgu), and in some cases only one or two forms. Moreover, there is additional evidence that reduplication – and more particularly foot reduplication – signalled intensity not just in Ross’s ‘small class’ of adjectivals, but also in POc colour terms.

To obtain a fuller perspective on the correlation between full reduplication and intensity in Oc adjectivals we must step outside Oceanic and consider the functions of reduplication in other An languages. Here reduplication in adjectivals, including colour terms, commonly has one of two morphological functions: (1) intensive (‘really X’), or (2) attenuative (‘X-ish’):<sup>6</sup>

(1) Intensive

Thao (central Taiwan; Blust n.d.)

|                   |                             |
|-------------------|-----------------------------|
| /ma-puzi/ ‘white’ | /ma-puzi-puzi/ ‘very white’ |
| /ma-qulha/ ‘red’  | /ma-qulha-qulha/ ‘very red’ |
| /ma-ra’in/ ‘big’  | /ma-ra’i-ra’in/ ‘very big’  |

<sup>6</sup> CV- reduplication as a marker of plurality in adjectivals may also have a pre-POc pedigree, since a very similar pattern is found in some non-Oceanic languages, as with Tagalog /malilit/ ‘small (sg.)’, /maliliit/ ‘small (pl.)’, or /maásim/ ‘sour (sg.)’, /maaásim/ ‘sour (pl.)’ (Ramos 1981:35), or Timugon Murut /malumpus/ ‘sad (sg.)’, /malulumpus/ ‘sad (pl.)’ (Prentice 1971:122).

Pangasinan (northern Philippines; Benton 1971:117ff.)

|                      |                              |                                |
|----------------------|------------------------------|--------------------------------|
| /andekét/ 'black',   | /andek-déket/ 'blacker'      | /andekét-dekét/ 'very black'   |
| /amputí/ 'beautiful' | /amput-púti/ more beautiful' | /amputí-putí/ 'very beautiful' |

Iban (southwest Borneo; Asmah 1981:82ff.)

|                     |                                |
|---------------------|--------------------------------|
| /manah/ 'beautiful' | /manah-manah/ 'very beautiful' |
| /básay/ 'big'       | /básay-básay/ 'very big'       |

Acehnese (northern Sumatra; Durie 1985:41)

"With stative verbs and operators whose semantics allow of various degrees, reduplication has the effect of emphasising a greater degree – greater than one might think" (/ka-tuha-tuha/ 'really old')

Karo Batak (northern Sumatra; Woollams 1996:98)

"Reduplicated adjectives occurring as manner adjuncts...are generally accompanied by overtones of intensity" (/mbages-mbages/ 'really deep', /pedas-pedas/ 'really quickly')

Lampung (southern Sumatra; Walker 1976:27)

"Complete reduplication of an adjective denotes intensification of the root meaning" (/balakbalak/ 'very large', /jaohjaoh/ 'very far')

Chamorro (western Micronesia; Topping 1975:183)

One type of reduplication in Chamorro "is used to intensify the quality of something; it can therefore be called *Intensifier Reduplication*. The rule for forming the intensifier reduplication is to repeat the final CV of the stem" (/dánkolo/ 'big', /dankololo/ 'very big', /bunita/ 'pretty', /bunitata/ 'very pretty', etc.).

(2) Attenuative

Thao (central Taiwan; Blust n.d.)

/shi-puzi-puzi-n/ 'whitish, somewhat white'

Rukai (south-central Taiwan; Li 1973:268)

|                         |   |
|-------------------------|---|
| /ma-Daw/ 'big'          | /ma-Da-Daw/ 'rather big',                       |
| /mu-aDiñay/ 'delicious' | /mu-aDi-aDiñay/ 'rather delicious' <sup>7</sup> |

Tagalog (central Luzon; Schachter and Otnes 1972:345)

|                                   |  |
|-----------------------------------|--|
| /mahiya <sup>?</sup> / 'ashamed', | /imahiya <sup>?</sup> hiya <sup>?</sup> / 'be a bit ashamed' |
|-----------------------------------|--|

Malay/Bahasa Indonesia

|               |                               |
|---------------|-------------------------------|
| /biru/ 'blue' | /ke-biru-biru-an/ 'bluish'    |
| /mérah/ 'red' | /ke-mérah-mérah-an/ 'reddish' |

<sup>7</sup> Li calls this 'Intensifying derivation', but the glosses of his examples suggest contrarily that the semantic overlay is one of attenuation.

Karo Batak (northern Sumatra; Woollams 1996:95)

|                   |                               |
|-------------------|-------------------------------|
| /megara/ 'red',   | /megara-megara/ 'reddish'     |
| /mbiring/ 'black' | /mbiring-mibiring/ 'blackish' |

Palauan (western Micronesia; Josephs 1975:231ff.)

|                      |                                      |
|----------------------|--------------------------------------|
| /beot/ 'easy, cheap' | /bebeot/ 'fairly easy, fairly cheap' |
| /dekimes/ 'wet'      | /dedekimes/ 'kind of wet'            |
| /mesulaul/ 'sleepy'  | /mesesulaul/ 'kind of sleepy'        |

While this enlargement of the scope of comparison provides additional evidence that foot reduplication probably functioned as a morphological device to mark intensity in PMP adjectives, it also sheds light on why the correlation is so fragmentary in Oc languages (and perhaps in CMP and SHWNG languages as well). This leads to our second question.

### 3.2 Why are reduplicated colour terms in Oc languages so often semantically unmarked?

Bloomfield (1933:425ff.) developed an elementary typology of semantic changes which has often been cited in the subsequent literature. One of his types, labelled 'hyperbole', involves a change 'from stronger to weaker meaning', as in pre-French *\*ex-tonāre* 'to strike with thunder' > French *étonner* 'to astonish'. The motivation behind such changes appears reasonably clear: speakers of all languages strive for ways to make their speech more vivid, more convincing, more rhetorically powerful. In making a point older speakers of American English may be satisfied to state that there are 'lots' of examples, while younger speakers insist there are 'tons'. The frequent, generally temporary preference for more powerful substitutes for 'good' or 'bad' are well-known in many languages. But all such attempts to create the ultimate attention-capturing form of an expression are doomed to failure, since overuse inevitably leads to neutralisation between semantically marked and unmarked forms. A person, an experience, an event can only be 'fabulous', 'fantastic', or 'terrific' so many times before these words become, for all practical purposes, equivalent to 'good'.

As shown previously, there is some reason to believe that the reduplication of a trochaic foot signalled intensity in PMP adjectivals, hence a semantic contrast between:

|         |              |
|---------|--------------|
| Simplex | Reduplicated |
| 'X'     | 'really X'   |

In the Oc branch of An, overuse of intensive reduplication in neutral contexts led to semantic bleaching so that 'really X' approached nearer and nearer to the neutral (semantically unmarked) meaning 'X'. For this reason the correlation between foot reduplication and intensity is attested only in fragmentary form in Oc languages. Alternatively, if it is assumed that foot reduplication signalled attenuative, a similar loss of semantic marking could have occurred through a somewhat different mechanism. Semantic categories rarely are exemplified by prototypical members, and this is perhaps truer of colour terms than of most adjectivals. The real world is a continuum, and the exigencies of practical use often require that a category be applied to referential tokens which are not its optimal representatives. Few substances in nature are 'red' as the colour of blood, but many are

'reddish', and the overuse of such attenuative or approximative forms would in time lead them to become semantically unmarked.

What apparently happened to the originally intensive forms of Oc colour terms is essentially a process of semantic bleaching: the reduplicated terms have usurped the semantic values of the simplex terms. The same type of process can be observed in other domains of language. It is well-known that pronouns which carry a special mark of politeness through countless reiteration become deferentially neutral (e.g. English 'you' for the second person singular). In short, expressions which begin as highly marked for purposes of semantic salience in time become jejune, and a new cycle of innovation begins.

### 3.3 To what extent are reduplicated colour terms lexicalised in Oc languages?

This varies from language to language and form to form, but there are a number of very clear cases, as seen in Table 2:

**Table 2:** Examples of lexicalisation in reduplicated colour terms

| Language | Simplex base        | Reduplicated form                |
|----------|---------------------|----------------------------------|
| Kairiru  | (none)              | <i>qurqur</i> 'black'            |
|          | (none)              | <i>punpun</i> 'white'            |
| Manam    | (none)              | <i>botiboti</i> 'blue'           |
| Motu     | (none)              | <i>kakakaka</i> 'red'            |
|          | (none)              | <i>gadokagadoka</i> 'green/blue' |
|          | (none)              | <i>laboralabora</i> 'yellow'     |
|          | (none)              | <i>vaiurivaiuri</i> 'blue'       |
|          | (none)              | <i>uriuri</i> 'brown'            |
| Tanga    | (none)              | <i>meketket</i> 'black'          |
|          | (none)              | <i>murmur</i> 'white'            |
| Mota     | (none)              | <i>wowoga</i> 'white'            |
|          | (none)              | <i>gesagesaga</i> 'green/blue'   |
|          | (none)              | <i>teretere</i> 'grey'           |
| Kosraean | (none)              | <i>sroalsroal</i> 'black'        |
|          | (none)              | <i>folfol</i> 'green/blue'       |
|          | (none)              | <i>rangrang</i> 'yellow'         |
| Ponapean | (none) <sup>8</sup> | <i>toantoal</i> 'black'          |
| Fijian   | (none)              | <i>dromodromoa</i> 'yellow'      |
| Tongan   | (none)              | <i>lavilavi</i> 'grey'           |

<sup>8</sup> Ken Rehg (pers. comm.) notes that Ponapean /toahl/ 'coal' may be a back-formation from /toantoal/ 'black' rather than an idiosyncratically altered form of the English original.

These examples do not exhaust the possibilities in the data at hand, since for a number of the languages dictionary resources are not available, and it is unknown whether a reduplicated colour term – although offered as a semantically unmarked form – is a lexical entry or a product of morphological derivation.

### 3.4 Are colour terms really different from other adjectivals?

As noted already, SU reduplication appears to be particularly salient in colour terms, but also appears in other adjectival forms. To move this discussion beyond the realm of subjective impressions it is necessary to select a representative sample of adjectivals in a number of languages and calculate the percentage of SU reduplications in both colour terms and non-colour terms. A convenient way to begin this is through use of the comparative vocabularies in Tryon (1976) or Tryon and Hackman (1983), since these are readily accessible to observation and independent testing.

Tryon (1976) contains a vocabulary of 292 words for 179 languages and dialects of Vanuatu (the former Condominium of the New Hebrides). His list includes 33 adjective-like words listed in a solid block as items 154–186 (black, white, red, yellow, green, blind, deaf, big, small, good, bad, cooked, dead, dry, wet, lazy, heavy, light (weight), sick, cold, dirty, long, narrow, new, old, right (correct), rotten, sharp, short, smooth, straight, thick, thin). Tryon and Hackman (1983) contains a vocabulary of 324 words for 111 languages and dialects of the Solomon Islands. Their list includes 46 adjective-like words listed in a solid block as items 209–254 (black, blue, green, red, white, yellow, bad, good, big, small, cold, warm, dry, wet, blunt, sharp, empty, full, far, near, fast, slow, long, short, new, old (thing), old (person), strong, weak, thick, thin, hungry, thirsty, bald, dirty, heavy, lazy, alive, correct, rotten, sick, smooth, sore (adj.), straight, tired, wild).

We will assume that all lexical items which appear in these lists are SU categories. If then, for the sake of non-biased sampling, we choose languages 1, 11, 21, 31, 41, 51, 61, 71, 81, 91, 101, 111, 121, 131, 141, 151, 161 and 171 to represent the entire collection from Vanuatu, and languages 1, 11, 21, 31, 41, 51, 61, 71, 81, 91, 101 and 111 to represent the entire collection from the Solomons, the following results are obtained:<sup>9</sup>

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<sup>9</sup> Monosyllabic reduplications which appear to be inherited forms were not counted as reduplications, either for colour or for non-colour adjectivals. Stems which begin with the sequence /mama/- were also excluded, on the grounds that the first CV- sequence could reflect the PAn stative/ attributive prefix \**ma-*. A further breakdown which might reveal even more significant differences between colour and non-colour adjectivals would be one which distinguishes full from partial reduplication. Impressionistically, it appears likely that colour terms would retain much higher percentage values than non-colour adjectivals if only full reduplications were counted.

Table 3

Percentage of colour versus non-colour adjectivals which occur as SU reduplications in 30 languages of Vanuatu (1–18) and the Solomon Islands (19–30)

|     | Language      | Colour adjectives | Non-colour adjectives |
|-----|---------------|-------------------|-----------------------|
| 1.  | Hiw           | 1/5 = 20%         | 2/27 = 07%            |
| 2.  | Bek           | 5/5 = 100%        | 1/8 = 13%             |
| 3.  | Nevenevene    | 2/4 = 50%         | 6/27 = 22%            |
| 4.  | Apma          | 3/5 = 60%         | 8/27 = 30%            |
| 5.  | Kerepua       | 0/4 = 00%         | 2/14 = 14%            |
| 6.  | Matae         | 0/5 = 00%         | 5/24 = 21%            |
| 7.  | Butmas        | 0/4 = 00%         | 0/14 = 00%            |
| 8.  | Aore          | 2/5 = 40%         | 4/22 = 18%            |
| 9.  | Port Sandwich | 4/5 = 80%         | 6/28 = 21%            |
| 10. | Katbol        | 3/5 = 60%         | 9/28 = 32%            |
| 11. | Atchin        | 3/5 = 60%         | 6/28 = 21%            |
| 12. | Vinmavis      | 2/5 = 40%         | 5/25 = 20%            |
| 13. | Fali          | 4/4 = 100%        | 6/24 = 25%            |
| 14. | Visina        | 1/4 = 25%         | 4/25 = 16%            |
| 15. | Yevali        | 3/5 = 60%         | 5/28 = 18%            |
| 16. | Sesake        | 1/5 = 20%         | 6/28 = 21%            |
| 17. | Sie           | 0/5 = 00%         | 0/28 = 00%            |
| 18. | Lonas         | 1/5 = 20%         | 3/28 = 11%            |
| 19. | Fauro         | 4/5 = 80%         | 10/40 = 25%           |
| 20. | Sengga        | 0/5 = 00%         | 4/40 = 10%            |
| 21. | Lokuru        | 0/6 = 00%         | 4/40 = 10%            |
| 22. | Savosavo      | 1/6 = 17%         | 8/40 = 20%            |
| 23. | Dhadhaje      | 1/6 = 17%         | 6/40 = 15%            |
| 24. | Koo           | 1/5 = 20%         | 3/26 = 12%            |
| 25. | Longgu        | 4/6 = 67%         | 11/39 = 28%           |
| 26. | Langalanga    | 2/6 = 33%         | 11/40 = 28%           |
| 27. | Arosi         | 5/6 = 83%         | 14/40 = 35%           |
| 28. | Tawaroga      | 4/6 = 67%         | 11/40 = 28%           |
| 29. | Tanimbili     | 0/4 = 00%         | 8/39 = 21%            |
| 30. | Anuta         | 1/6 = 17%         | 19/39 = 49%           |
|     | TOTALS        | 58/152 = 38%      | 187/866 = 22%         |

For any given language the number of colour terms is sufficiently small to compromise the statistical significance of percentage differences between colour and non-colour adjectivals. But for 30 languages selected to avoid sample bias this cannot be true, and we have little choice but to conclude that semantically unmarked colour terms have a significantly greater probability of being reduplicated in Oc languages than do adjectivals in general. The essential correctness of this conclusion is supported by random checks of Oc languages outside the Solomons and Vanuatu which are represented in my data base

primarily by modified forms of the Swadesh 200-item lexicostatistical test list. Choosing only terms that appear on the modified Swadesh list, the following five languages serve to illustrate:

- (1) MANAM: colour 5/5 = 100%, non-colour 10/23 = 43%
  - (2) GAPAPAIWA: colour 3/3 = 100%, non-colour 9/21 = 43%
  - (3) MUSSAU: colour 4/5 = 80%, non-colour 4/21 = 19%
  - (4) VITU: colour 5/6 = 83%, non-colour 3/18 = 17%
  - (5) FIJIAN: colour 5/5 = 100%, non-colour 9/23 = 39%
- TOTALS: colour 22/24 = 92%, non-colour 35/106 = 33%

In these five cases the percentages for SU reduplication in colour terms clearly are elevated through selection, since these languages are among those chosen as best illustrating the phenomenon. But this in itself does not explain the *difference* in reduplicative tendencies between semantically unmarked colour terms and other adjectivals.

Why were colour terms more prone to become lexically stranded reduplications than non-colour adjectivals? Perhaps colour terms encode an adjectival category which is inherently more vivid than most. As such they would have been more subject to morphology which served to mark intensive degrees, and to the inevitable historical cycles which bleach and replenish such marking.

### 3.5 Why are SU reduplications so much more common in Oc languages than in other An languages?

One of the great puzzles in historical linguistics is why changes which may be natural, and hence motivated by universal considerations, appear to be rampant in one subgroup or geographical area, but are scarcely apparent in another. The loss of final consonants is a case in point. The great majority of Oc languages have lost final consonants, but it is quite clear that this loss happened after the break-up of POc, and as the result of numerous independent changes. A comparable situation, different in detail, but broadly similar in general outline, is true of the WMP languages of Sulawesi (Sneddon 1993).

The material of Table 3 shows clearly that the rise of SU reduplication in the colour terminology of Oc languages was a drift-like development. A few languages still retain the hypothesised POc distinction between simplex basic colour terms and fully reduplicated intensive forms. Other languages have retained reduplication in one or more colour terms, and in some non-colour adjectivals, but these have become semantically bleached. In still other languages reduplication is not attested in any known colour term.<sup>10</sup>

The use of foot reduplication to mark intensity of adjectivals, including colour terms, appears to have been in use long before the formation of POc. For whatever reason, the overuse of intensive forms became much more common in Oc (and perhaps CMP and SHWNG) languages than in the WMP or Formosan languages. As a result, reduplicated forms in language after language were eventually drained of their non-basic semantic content. Why this tendency became manifest as a drift in one group of An languages but not another is as puzzling as the chequered history of final-consonant loss.

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<sup>10</sup> Savosavo is non-Austronesian. It has been included in Table 3 for comparative purposes, but cannot be usefully used as evidence for any statement about historical changes in the Oc languages.



## DEDICATION

It is a pleasure for me to dedicate this paper to Tom Dutton. When I went to the ANU to join the Department of Linguistics at the Research School of Pacific Studies for a two-year postdoctoral research fellowship in 1974–76, still wet behind the ears with a PhD just in hand, Tom was one of the warmest, friendliest, most sincere people I encountered in my new environment. On my way back from fieldwork in Manus in May 1975, he and his wife Corrie put me up in Port Moresby, and although I was there barely 48 hours Tom went out of his way to arrange meetings for me with speakers of Takia, Wogeo and Manam, and to help me in other ways. I was carrying with me a beautiful large conch shell which friends in Manus had given me on my departure, and as a small token of my thanks for their hospitality I offered this to Tom and Corrie's son, Brett, then ten or eleven years old. In 1990 I learned that Brett had kept that shell for many years. It was a small thing for me, but apparently a big thing for him. The hospitality that Tom and Corrie offered me was a small thing for them, but a big thing for me. That triton shell is calling me back now to remember a kindness which – like all things Tom did – was given with no expectation of return.

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# 4 *Iwal grammar essentials, with comparative notes*

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JOEL BRADSHAW

## 1 Introduction

Iwal is an Austronesian language spoken by about 1,900 people who live in nine villages in Morobe Province, Papua New Guinea. Four of the villages lie on the south coast of the Huon Gulf between Salamaua and Lababia Island and five are up in the mountains (Cobb & Wroge 1990). Speakers of Bukawa and Kela, who came across the Gulf to settle the south coast in comparatively recent times, classify the Iwal as inlanders (Bukawa *Gai*, Jabêm *Kai*), not sea people like themselves. When Jabêm-speaking missionaries first established a mission on the south coast in 1907, they thus referred to the Iwal as *Kai Iwac* ‘the Iwal inlanders’ to distinguish them from other groups of inlanders. Ross (1988) groups ‘Kaiwa’ with Hote and the Buang languages in a South Huon Gulf (SHG) chain of languages stretching far inland. The Iwal are called Yuwala by the Numbami, who apparently had close contact with them before the Kela came south and settled between the two groups (cf. Numbami *yuwayuwala* ‘enemy’). (See Bradshaw 1997.)

This sketch of Iwal grammar rests on four sometimes shaky foundations: (1) a rough draft of ‘Iwal phonemics’ dated 1975 (Davidson & Davidson 1975) based on research done in 1974 by Ian and Doris Davidson of the Summer Institute of Linguistics and their predecessors, Robin and Susan Forman; (2) a very rough first-draft outline of ‘Essentials for translation’ compiled by Ian and Doris Davidson early in 1976 (Davidson & Davidson 1976) after no more than two years of work on the language; (3) a copy of the Iwal New Testament (*Mateu Avo Iwal* 1984), and (4) my own knowledge of very similar patterns in neighbouring languages, principally Jabêm and Numbami (see Dempwolff 1939; Streicher 1982; Bradshaw 1982, 1983, 1993). Malcolm Ross was also kind enough to comment on an early draft and to share some of his fieldnotes.

I met Ian and Doris during my own fieldwork on Numbami in 1976, and we had a brief chance to trade notes on our respective languages. They worked with speakers from Buansing and Salus villages on the coast. However, since they were never able to complete their work on what appears to be the most morphologically conservative Austronesian language in the Huon Gulf group, I thought it advisable to reorganise, reanalyse, and publish the available

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data to make it useful to others. The actual forms cited are either from the original work of the Davidsons, from the New Testament, or from Ross's fieldnotes. In the first case, I have taken the liberty of correcting a few obvious typographical errors and shifting a few morpheme boundaries. In the latter two cases, I have taken the liberty of adding or amending morpheme glosses on the basis of translation equivalents in an English version of the New Testament, in Jabêm, or in Numbami. Uncertainties and discrepancies are noted.

## 2 Phonology

Iwal distinguishes five vowels and 16 consonants. One of its more unusual features compared to the other coastal languages is a distinction between a lateral /l/ and a trill /r/ (the latter from \*s).<sup>1</sup> The liquid reflex of Proto Oceanic \*s (Iwal *aru* 'smoke' < POc \**qasu*; *ruru*- 'breast' < POc \**susu*; *ur* 'rain' < POc \**qusan*) follows the pattern of the SHG languages, but Iwal differs from the SHG languages in several other respects. It has merged POc \*r and \*R, as non-SHG neighbours have done. Also like its neighbours, it has retained POc \*t as t (not l or y) and POc \*mw as mw (not my or ny), and retained a distinction between the first person plural inclusive (IIP) and exclusive (IXP) subject prefixes. It also preserves more inherited morphology than either its neighbours or its closest relatives. (See Ross 1988:154-160.)

The five vowels are /i, e, a, o, u/. The fricative *v* is a voiced bilabial, while the fricative spelled *h* is a voiceless uvular that occurs only in word-medial position. Another unusual feature of Iwal phonology is the presence of consonant clusters. The range of syllable-initial clusters is illustrated by *bwelk* 'pig', *mwat* 'snake', *-vwes* 'to paddle', *twelk* 'post', *-sweng* 'to bark', *-kwai* 'to finish', *gwel* 'mussel', and *-ble* 'to break', while the range of syllable-final clusters is illustrated by *namk* 'mosquito', *wenk* 'fish', *-(y)engk* 'to sleep', *-mungg* 'to precede', and 'our (incl.)', *luelk* 'ant', and *twerk* 'blood'.

### IWAL ORTHOGRAPHIC CONSONANTS

|                 | Bilabial | Alveolar | Velar      |
|-----------------|----------|----------|------------|
| Voiceless stops | <i>p</i> | <i>t</i> | <i>k</i>   |
| Voiced stops    | <i>b</i> | <i>d</i> | <i>g</i>   |
| Nasals          | <i>m</i> | <i>n</i> | <i>ng</i>  |
| Lateral         |          | <i>l</i> |            |
| Trill           |          | <i>r</i> |            |
| Fricatives      | <i>v</i> | <i>s</i> | <i>-h-</i> |
| Glides          | <i>w</i> | <i>y</i> |            |

## 3 Word classes

Before discussing and exemplifying the major word classes of Iwal, it might be useful to list the functional class of question words, which crosscut the major formal classes. One of the most puzzling omissions from the question words listed by the Davidsons is any

<sup>1</sup> The Davidsons mentioned to me that some Iwal speakers regard this as a defect, since Jabêm, the church lingua franca for much of the 20th century, does not distinguish /r/ and /l/.

equivalent for 'what'. However, the New Testament contains many instances of a question word *ret* that can be translated 'what' as well as 'who', depending on the context.<sup>2</sup>

#### QUESTION WORDS

|                  |  |
|------------------|--|
| <i>ret</i>       | 'who, what' ( <i>amol ret</i> 'who, what person', <i>gen ret</i> 'what thing') |
| <i>asav</i>      | 'who plural'   |
| <i>wali</i>      | 'where'  |
| <i>inend</i>     | 'where'  |
| <i>asger</i>     | 'when (past)'; <i>asgerkob</i> 'when (future)'                                 |
| <i>namnambed</i> | 'how, why'   |
| <i>aivir</i>     | 'how many/much'  |
| <i>-mdom</i>     | 'to do what'   |

### 3.1 Nouns and pronouns

Iwal nouns are distinguished primarily by their distributional properties, not by distinctive morphology or by other markers such as articles. Nouns and free pronouns can occur as the heads of subject NPs, and as the heads of object NPs within VPs or PPs. Nouns (but not free pronouns) can also occur as the heads of possessive constructions.

The most common subcategory of nominals appears to be free pronouns, which distinguish dual and trial as well as singular and plural number.<sup>3</sup>

#### FREE PRONOUNS

| Person | Singular       | Plural       | Dual         | Trial         |
|--------|----------------|--------------|--------------|---------------|
| 1I     |                | <i>eitit</i> | <i>tutlu</i> | <i>totol</i>  |
| 1X     | <i>ayeu~au</i> | <i>amei</i>  | <i>eilu</i>  | <i>eitol</i>  |
| 2      | <i>mie</i>     | <i>yem</i>   | <i>yemlu</i> | <i>yemtol</i> |
| 3      | <i>ei</i>      | <i>eisir</i> | <i>sulu</i>  | <i>sotol</i>  |

Possessive constructions vary depending on the nature of the possession. Inalienable possession (e.g. of body parts and kinfolk) is indicated by possessive suffixes on the head noun, while alienable possession is marked by a preposed possessive pronoun. In either case, the possessor may also be indicated by a preposed noun or free pronoun. There is only one set of alienable possessive pronouns, whose base formant is *a-*. The third person singular possessive suffix is zero, but with raising of stem-final *-a* to *-e*. The same vowel raising can

<sup>2</sup> Jabêm *asa* 'who, which one, what' is similarly polysemous, although the two senses are differentiated in compounds such as *asa-âc* 'who-plural', *â-geng*, *asa-âgeng* 'what, why'. Compare also Numbami *sai* 'who', *sawa* 'what', but *sawai* 'who (plural)'.

<sup>3</sup> Pronoun glosses indicate person with digits (1, 2, 3), number with letters (S, DU, TR, P), and the inclusive/exclusive distinction with an intervening letter (I, X). Genitive pronouns are indicated by an appended G. Thus, 1S.G = genitive first person singular; 3P.G = genitive third person plural. Future tense subject prefixes (containing *n*) are indicated by an appended F. Thus, F.3S (*ni-*) = third person singular future tense; and 3P.F (*in-*) = third person plural future tense. Otherwise: ADV = adverb marker; COLL = collective suffix; DEM = demonstrative; NEG.IMP = negative imperative ('don't V'); RELCL = relative clause; SAY = conditional subordinator ('if') derived from 'say'; NP = noun phrase; PP prepositional phrase, VP = verb phrase, and SHG = South Huon Gulf.

be seen before the second person singular suffix, as in *tama-ngg* ‘my father’, *tame-m* ‘your (sg.) father’, *tame* ‘his/her father’. Several body-part terms exhibit a pattern of compounding typical of neighbouring languages.<sup>4</sup> There are many body-part idioms, often centered on *ta-* ‘belly’ or *aplo-* ‘insides’ as the seat of emotions. (See §3.3.)

## INALIENABLE POSSESSION

|                       |   |
|-----------------------|---|
| <i>(ayeu) bai-ngg</i> | ‘my hand/arm’   |
| <i>(ayeu) va-ngg</i>  | ‘my leg’  |
| <i>matano-nggaim</i>  | ‘your (pl.) eyes’ (< <i>mata</i> ‘eye’ + <i>ano</i> ‘true’)               |
| <i>talnga-s-avo</i>   | ‘their (inner) ears’ (< <i>talnga</i> ‘ear’ + <i>avo</i> ‘mouth, cavity’) |
| <i>tina-ngg</i>       | ‘my mother’   |
| <i>Yakob tame</i>     | ‘Jacob’s father’  |
| <i>nam bage</i>       | ‘the house’s arm = beside the house’                                      |

## ALIENABLE POSSESSION

|                         |   |
|-------------------------|---|
| <i>(eitit) and nam</i>  | ‘our (incl.) house’                       |
| <i>(ei) ane vak</i>     | ‘her netbag’                              |
| <i>(au) angg eivovo</i> | ‘my canoe’                                |
| <i>am bang</i>          | ‘your (sg.) bait’                         |
| <i>am male-nggen</i>    | ‘all your (sg.) brothers’                 |
| <i>am nam</i>           | ‘your (sg.) house’                        |
| <i>as nam</i>           | ‘their (home) village’                    |
| <i>nam ane lir</i>      | ‘the house’s underside = under the house’ |

## POSSESSIVE PRONOUNS

| Pers./Num. | Free pronoun   | Poss. pronoun   | Poss. suffix             | Suffixed noun               |
|------------|----------------|-----------------|--------------------------|-----------------------------|
| 1S         | <i>ayeu~au</i> | <i>a-ngg</i>    | <i>-(a)ngg</i>           | <i>natu-ngg</i> ‘offspring’ |
| 2S         | <i>mie</i>     | <i>a-m</i>      | <i>-m (-am &gt; -em)</i> | <i>bage-m</i> ‘hand/arm’    |
| 3S         | <i>ei</i>      | <i>a-ne</i>     | <i>-Ø (-a &gt; -e)</i>   | <i>tine</i> ‘mother’        |
| 1XP        | <i>amei</i>    | <i>a-meimei</i> | <i>-(a)nggamei</i>       | <i>va-nggamei</i> ‘legs’    |
| 1IP        | <i>eitit</i>   | <i>a-nd</i>     | <i>-(a)nd</i>            | <i>va-nd</i> ‘legs’         |
| 2P         | <i>yem</i>     | <i>a-im</i>     | <i>-(a)nggaim</i>        | <i>avo-anggaim</i> ‘mouths’ |
| 3P         | <i>eisir</i>   | <i>a-s</i>      | <i>-s</i>                | <i>aplo-s</i> ‘insides’     |

<sup>4</sup> In Numbami, every body part with a hole ends in a frozen *-awa* ‘mouth, cavity, inside’, as in *nisinowa* ‘nose’ (< *nisi-n-awa* ‘nose-3S-hole’) and *tanganowa* ‘ear’ (< *tanga-n-awa* ‘ear-3S-hole’). The medial *-n-* is a remnant of the possessive suffixes that are no longer productive in Numbami. Like its Iwal counterpart, however, Numbami *matano* ‘(true) eye’ (< *mata-ano* ‘eye-true’) has no trace of a medial suffix. The Iwal suffix comes at the end of the compound. Compare Jabêm *mato-c-anô* ‘my eye’ (‘eye-1S-true’), *mata-m-anô* ‘your (sg.) eye’ (‘eye-2S-true’), *mata-anô* ‘his/her/its eye’ (‘eye-Ø-true’), and *tango-c(-sung/laung)* ‘my (inner/outer) ear’ (‘ear-1S-hole/leaf’), *tanga(-sung/laung)* ‘his/her/its (inner/outer) ear’ (‘ear-Ø-hole/leaf’).



Kin terms can take a collective suffix *-(ng)gen* 'COLL', as in *bambamo-nggen* 'ancestors', *male-nggen* '(his) brothers' (same-sex siblings?), *luvu-avie-nggen* '(his) sisters' (female cross-siblings), *tina-ngg-gen* 'my mother and her family'.<sup>5</sup>

There is also an attributive genitive construction in which the head noun is followed by a genitive modifier whose head cannot be referential. It can only be generic. This construction is very productive in forming neologisms and instrumental noun phrases. (See Bradshaw 1982 for discussion of an analogous construction in Numbami.)

## ATTRIBUTIVE GENITIVES

|                             |  |
|-----------------------------|--|
| <i>yaun eivovo ane</i>      | 'talk of canoes'                               |
| <i>kabut luev ane</i>       | 'stick for road = walking stick'               |
| <i>amolmol valir ane</i>    | 'people for fighting = warriors'               |
| <i>amol/avie kulkul ane</i> | 'man/woman for work = male/female servant'     |
| <i>amol vaina ane</i>       | 'man for theft = thief, bandit'                |
| <i>buyag valir ane</i>      | 'knife for fighting = sword'                   |
| <i>gen valir ane</i>        | 'thing(s) for fighting = weapon(s)'            |
| <i>gen eivovo aplo ane</i>  | 'thing(s) [tool(s) used] for inside the canoe' |
| <i>mone twerk ane</i>       | 'money for blood = blood money'                |
| <i>ngalau kulkul ane</i>    | 'spirit(s) for work = angel(s)'                |

Impersonal locational noun compounds resemble inalienable possessive constructions except for the absence of suffixes on the head noun (denoting the location), as in *nam aplo* 'house inside = inside the house', *eivovo aplo* 'canoe inside = inside the canoe', or *au dumangg mul* 'my back behind = behind my back'. Similar whole-part compounds may have given rise to a pattern of prefixes that classify certain flora and fauna into four broad categories: trees, fish, birds, and (edible) greens.

## BIOCLASSIFYING PREFIXES

*ei-* 'trees, wood'

|                    |                           |
|--------------------|---------------------------|
| <i>eigivsangin</i> | 'cross [for crucifixion]' |
| <i>eimidam</i>     | 'midam tree'              |
| <i>einambwel</i>   | 'fig tree'                |
| <i>eivovo</i>      | 'canoe, canoe tree'       |
| <i>eiveiwei</i>    | 'mango tree'              |

*ih-* 'fishes' (but *wenk* 'fish')

|                      |                          |
|----------------------|--------------------------|
| <i>ihmangkalangk</i> | 'type of deepwater fish' |
| <i>ihtangir</i>      | 'Spanish mackerel'       |

*man(k)-* 'birds'

|                  |              |
|------------------|--------------|
| <i>mankbubu</i>  | 'pigeon'     |
| <i>mankapap</i>  | 'cockatoo'   |
| <i>mankaruel</i> | 'cassowary'  |
| <i>mankwes</i>   | 'kingfisher' |

<sup>5</sup> The functionally similar Jabêm and Numbami collective suffixes clearly derive from numerals: Jabêm *-àc* 'COLL', *àclê* '4'; Numbami *-to* 'COLL', *tolì* '3'.

*wer-* ‘plants, greens’

*weru* ‘two-leaf’ (cf. TP *tulip* ‘a tree with paired edible leaves, *Gnetum gnemon*’)

*weryambum* ‘cabbage’

*wersivsiev* ‘mustard plant’

### 3.2 Adjectives and adverbs

Iwal adjectives are distinguished by their ability to occur as postnominal modifiers without any additional morphology, although many show a characteristic pattern of reduplication. As the example of *bambamo* illustrates, several of these are likely to have homophonous nouns.

#### ADJECTIVES

|                |               |                  |                                     |
|----------------|---------------|------------------|-------------------------------------|
| <i>bamo</i>    | ‘big’         | <i>bambamo</i>   | ‘very big’ (or ‘ancestors, elders’) |
| <i>kapul</i>   | ‘rounded’     | <i>kapkapul</i>  | ‘rounded’                           |
| <i>kasop</i>   | ‘false’       | <i>kaskasop</i>  | ‘false’ (distributive)              |
| <i>tumi</i>    | ‘dark, quiet’ | <i>tumtumi</i>   | ‘black’                             |
| <i>vaku</i>    | ‘new’         | <i>vakuvaku</i>  | ‘new’ (distributive)                |
| <i>bunam</i>   | ‘heavy’       | <i>bogbogo</i>   | ‘white’                             |
| <i>maingo</i>  | ‘yellow’      | <i>bagbagi</i>   | ‘old, decrepit’                     |
| <i>matas</i>   | ‘unripe’      | <i>bwalbwali</i> | ‘pied, multicoloured’               |
| <i>mate</i>    | ‘sharp’       | <i>dulduli</i>   | ‘lumpy’                             |
| <i>mweli</i>   | ‘red’         | <i>kavkavse</i>  | ‘sweet’                             |
| <i>natu</i>    | ‘small’       | <i>mwaimwai</i>  | ‘soft’                              |
| <i>sangas</i>  | ‘green’       | <i>numnumbu</i>  | ‘round’ (‘spherical’?)              |
| <i>seukie</i>  | ‘quick’       | <i>taptape</i>   | ‘flat’                              |
| <i>tiate</i>   | ‘bad’         | <i>tomtom</i>    | ‘dirty’                             |
| <i>undip</i>   | ‘long, tall’  | <i>umkumk</i>    | ‘smoky’                             |
| <i>vavavne</i> | ‘warm’        |                  |                                     |
| <i>vavis</i>   | ‘bitter’      |                  |                                     |
| <i>vie</i>     | ‘good’        |                  |                                     |

Some of these adjectives can function as adverbs, in which case they are usually followed by *-(ng)ge* ‘just, only’, which also serves as an enclitic marking certain kinds of adverbial phrases. (Jabêm *geng* and Numbami *ma* function similarly.) Some adverbs ending in *-ge*, such as *painge* ‘much’ and *molge* ‘much, very’, may have no adjectival equivalents.

#### ADVERBS FROM ADJECTIVES

|                     |                   |
|---------------------|-------------------|
| <i>ano(ng)ge</i>    | ‘truly’           |
| <i>seukie(ng)ge</i> | ‘quickly’         |
| <i>siti(ng)ge</i>   | ‘a few at a time’ |
| <i>tumi(ng)ge</i>   | ‘silently’        |
| <i>vie(ng)ge</i>    | ‘nicely’          |

Numerals and quantifiers can also function as adjectives. The short form (*ti*) of the numeral ‘one’ functions as a kind of indefinite article, like Jabêm *teng* (versus *tageng* ‘one’) and Numbami *te* (versus *sesemi* ‘one’). Quantifiers include *tepwe* ‘all’, *gabu* ‘both’, *siti* ‘a

few', *subu* 'some', and *walang* 'many'. The first often occurs in the shape *tepwe-ngge*, with the adverbial ending. In the New Testament, all numbers above *aivat* '4' except *bage tavlu* '5' and *bage isgabu* '10' appear to be written with arabic numerals and would probably be read with their Tok Pisin pronunciations. The form *gabu* can also be used as a pronoun and as a conjunction between NPs (like Tok Pisin *tupela*), as in *gabu unpelk bwaya* 'You two, fear not' and in *Jems gabu Josep* 'James and Joseph'.

## NUMERALS

|     |                                |                              |
|-----|--------------------------------|------------------------------|
| ?   | <i>aivir</i>                   | 'how many'                   |
| 1   | <i>dongke/ti</i>               |                              |
| 2   | <i>ailu</i>                    |                              |
| 3   | <i>aitol</i>                   |                              |
| 4   | <i>aivat</i>                   |                              |
| 5   | <i>bage tavlu</i>              | 'hand half/part'             |
| 6   | <i>bage tavlu ano dongke</i>   | 'hand half right one'        |
| 7   | <i>bage tavlu ano ailu</i>     | 'hand half right two'        |
| 8   | <i>bage tavlu ano aitol</i>    | 'hand half right three'      |
| 9   | <i>bage tavlu ano aivat</i>    | 'hand half right four'       |
| 10  | <i>bage isgabu</i>             | 'hand both/pair'             |
| 15  | <i>bage isgabu be va tavlu</i> | 'hand both and leg half (?)' |
| 20  | <i>buni amol ti</i>            | 'man-one'                    |
| 100 | <i>buni amol bage tavlu</i>    | 'man hand half (?)'          |

Deictics form another class of adjectivals. Iwal deictics correlate with first, second, and third person, each of which has a long and a short form. The short forms appear to be anaphoric in usage.

## DEICTICS

|                             |                |   |
|-----------------------------|----------------|---|
| <i>ete(n)ik, nik</i>        | 'near speaker' | (cf. Nu. <i>etate, tatena</i> , Ja. <i>tonec, nec</i> )   |
| <i>ete(n)ok, nok</i>        | 'near hearer'  | (cf. Nu. <i>etato, tatona</i> , Ja. <i>tonang, nang</i> ) |
| <i>ete(e)ok/eb(e)ok, ok</i> | 'over there'   | (cf. Nu. <i>etokoe, koena</i> , Ja. <i>tonê, nê</i> )     |

The separate parts of these deictics serve as relative-clause brackets: NP [*ete/ebe* REL.CL *ok/nok/nik*]. By far the most common brackets are *ebe...ok*. But if the information is associated with the speaker or hearer, the brackets are likely to be *ete...nik* or *ete...nok*, respectively.

## RELATIVE-CLAUSE BRACKETING DEICTICS

*In-di gen ete ayeu ga-lgum nik.*  
 3P.F-see thing DEM 1S 1S-do DEM  
 'They'll see the things I have done.'

*Ayeu ta-ngg gi-sgil yaun ete yem u-nei nok.*  
 1S belly-1S 3S-? talk DEM 2P 2P-say DEM  
 'I don't know what you're talking about.'

*Eitit tepwe ta-ute yaun ebe ei gi-nei ok.*  
 IIP all IIP-hear talk DEM 3S 3S-say DEM  
 'We all heard what he said.'

Another very common use of deictics in the New Testament is to link discourse, such as *dang-etok* 'then, therefore, thereupon' or *dang-eteik* 'thus', as in *Pomate ginei dang-eteik*,... 'the Lord spoke thus,...'. Deictics can also be used as nouns, as in the statement that typically concludes narratives: *etok ge* 'that's all' ('that only', Tok Pisin *em tasol*).

Time words act as clause modifiers, usually in clause-initial position. Several time words appear to end in the proximal deictic formant *-ik*. Others contain the formant *as* 'sun, day', while those denoting future times end in *-kob* 'after'.

#### TIME WORDS

|                |  |                   |                                     |
|----------------|--|-------------------|-------------------------------------|
| <i>asger</i>   | 'when?' (past)   | <i>asgerkob</i>   | 'when?' (future)                    |
| <i>asmate</i>  | 'day-sharp = midday'   | <i>asongkob</i>   | 'tomorrow'                          |
| <i>asonge</i>  | 'from now on'  | <i>bwayagekob</i> | 'after a while'                     |
| <i>nolik</i>   | 'yesterday' (< * <i>nōR</i> [ap] + <i>ik</i> )                       | <i>noge</i>       | 'semi remote past'                  |
| <i>tambok</i>  | 'in the night'   | <i>tistumi</i>    | 'in the morning' (lit. 'with dark') |
| <i>galkik</i>  | 'earlier today'  | <i>vasov</i>      | 'just now'                          |
| <i>walik</i>   | 'remote past'  | <i>atob</i>       | 'later'                             |
| <i>walirik</i> | 'past' (< * <i>waRis</i> [a]<br>'day before yesterday' + <i>ik</i> ) |                   |                                     |

### 3.3 Verbs and resultatives

As a formal class, verbs are distinguished by the presence of a prefix that marks the tense (non-future versus future) and the person and number of the subject. Each such prefix is distinct from the others, except for neutralisation of 2S and 2P in the imperative, as in *u-le* '2S/2P-go'.

#### SUBJECT PREFIXES

| Pers./num. | Non-future      | Future             |
|------------|-----------------|--------------------|
| 1S         | <i>ga-</i>      | <i>na-</i>         |
| 2S         | <i>gu-, go-</i> | <i>nu-, no-</i>    |
| 3S         | <i>gi-, ge-</i> | <i>ni-, ne-</i>    |
| 1XP        | <i>a-</i>       | <i>an-</i>         |
| 1IP        | <i>ta-</i>      | <i>tan-, tane-</i> |
| 2P         | <i>u-, o-</i>   | <i>un-, une-</i>   |
| 3P         | <i>i-, e-</i>   | <i>in-, ine-</i>   |

The alternative forms with final mid vowels instead of high vowels for second and third person show up on a handful of verb stems that have the underlying shape *-aC*, such as *-an* 'to eat', *-as* 'to hit', and *-ab* 'to hold'. The final high vowel of the prefix blends with the initial low vowel of the stem to yield the mid vowel, as in (*u-as* >) *os* '2P-hit', (*i-an* >) *en* '3P-eat', and (*gi-ab* >) *geb* '3S-hold'. Iwal has no geminate vowels, so the final vowels of the other prefixes combine with any identical vowels in stem-initial position to yield single vowels, as

in (*a-as* >) *as* '1XP-hit' or (*gu-ute* >) *gute* '2S-hear'.<sup>6</sup> A sampling of inflected regular verbs follows.

## INFLECTED VERBS

|                  |                                     |                 |                                       |
|------------------|-------------------------------------|-----------------|---------------------------------------|
| <i>gi-vang</i>   | '3S-go'                             | <i>ga-nme</i>   | '1S-come'                             |
| <i>tan-dumul</i> | '1IP.F-return'                      | <i>un-dumul</i> | '2P.F-return'                         |
| <i>ni-bweg</i>   | 'F.3S-sit'                          | <i>ga-yengk</i> | '1S-sleep'                            |
| <i>gi-reu</i>    | '3S-ascend'                         | <i>gi-sov</i>   | '3S-descend'                          |
| <i>gi-ra</i>     | '3S-go.upstream' (< * <i>sake</i> ) | <i>gi-riv</i>   | '3S-go.downstream' (< * <i>sipo</i> ) |

A few verbs show alternations between stem-initial *-l-* when the prefix ends in a vowel and *-d-* when the prefix ends in a nasal, as in *ni-le* 'F.3S-go' versus *in-de* '3P.F-go', and *i-li* '3P-see' versus *in-di* '3P.F-see'. The likelihood of further morphophonemic complexity is indicated by the vowel-final alternates for the future plural prefixes, and by the presence of verb stems that begin with consonant clusters that can occur only across syllable boundaries, such as *-dgin* 'to tie', *-hlang* 'to appear', *-hlu* 'to send', *-lgum* 'to do, cause, disturb', *-mdom* 'to do what', *-mdil* 'to arise', *-tle* 'to cut', *-tlek* 'to surpass', *-vgo* 'to buy', *-vkiri* 'to revolve', and *-vkwen* 'to feed' (< \**pa-kani* 'cause-eat'). There are not enough forms in the available data to show a clear pattern, but there appear to be some resemblances to the complex morphophonemics of the Buang languages (see Hooley 1995).

Sporadic indications of object suffixes occur in the Davidsons' data: *ni-lat-i-m* (F.3S-bite-?-2S) 'it will bite you' and *i-as-i-s ate* (3P-hit-?-3P self) 'they hit each other'.<sup>7</sup> Inasmuch as the object suffixes otherwise overlap somewhat with the possessive suffixes, it is possible that the intermediate *-i-* is the last remnant of a transitive suffix \**-i*. In no other case is there any morphological distinction between transitive and intransitive verbs. And there is ample evidence that free pronouns can occur in object position without object suffixes, as in *amei a-as ei* '1XP 1XP-hit 3S' = 'we (excl.) hit him/her'. The object suffixes are extremely rare in actual text, except in combination with reflexive/reciprocal *ate* 'self', where at least the following forms are attested: *au ate* '1S', *-im ate* '2S', *ei ate* '3S' ['1S' and '3S' apparently have no suffixal form, only the free pronouns], *-aim ate* '2P', *-is ate* '3P'.

## OBJECT SUFFIXES AND PRONOUNS

*Dawit tis ane amolmol gen ben ma be marav gi-as-is.*

David with 3S.G people COLL food none and hunger 3S-hit-3P  
'David and his people had no food, and hunger afflicted them.'

*ve ayeu marav gi-as au be bui gi-as au*

for 1S hunger 3S-hit 1S and water 3S-hit 1S

'for I was hungry and I was thirsty'

<sup>6</sup> Numbami low-vowel-initial verb stems behave almost identically: (*ta-ani* >) *tani* '1IP-eat', (*ti-ani* >) *teni* '3P-eat', (*mu-ani* >) *moni* '2P-eat'.

<sup>7</sup> The Davidsons originally segmented the former into *ni-lati-m* (before changing it to *ni-lat-im*) and the latter into *es isate*. The New Testament also treats object suffixes as separate words, or as prefixes on *ate*. (The shape of the Numbami reflexive/reciprocal counterpart is *ata*, which replaces the object [free] pronoun.)

*Amolmol tepwengge i-an ben love gi-bon-is vie-ngge.*  
 people all 3P-eat food until 3S-fill?-3P good-ADV  
 'All the people ate food until it filled them well.'

There are two small classes of predicational words that do not take subject prefixes: (1) mental-state words that show the person and number of the experiencer subject by means of the possessive suffixes, such as *vepie-m* 'jump-2S' (prob. 'you were startled') and *bua-Ø* 'dislike-3S' ('he/she dislikes'), *bwa-nggaim* 'dislike-2P' ('you [pl.] dislike'); and (2) uninflected onomatopoeic words like *aivi* 'to shine', *beleinge* 'to drop', *ringenk* 'to glisten', *kamoke* 'to be silent', and *yaiyai* 'to scream'.

A few verbs seem to take a prefix *me-* that may be related to *-nme* 'to come' (prob. < \**la/na* 'go' + \**ma* 'come'; cf. Gitua *-lam* 'to come'): *me-i-dbul* 'come?-3P-surround', *me-i-vin* 'come?-3P-accompany', *meng-ga-hlang* 'come?-1S-appear' (like Tok Pisin *kam kamap?*).<sup>8</sup>

Like Jabêm and Numbami, Iwal also seems to have a productive class of uninflected resultatives that follow verbs (and usually the object NP of transitive verbs) to form the equivalent of English phrasal verbs. (Jabêm and Numbami resultatives must occur with verbs; they cannot be used alone.)

#### VERB + RESULTATIVE PAIRS

|                           |   |
|---------------------------|---|
| <i>-amb ei nalili</i>     | 'to hold him <i>nalili</i> = to turn him around'                    |
| <i>-amb eitit ru</i>      | 'to hold us (incl.) <i>ru</i> = to help/save us (all)'              |
| <i>-as bui gili</i>       | 'to hit water <i>gili</i> = to cross the water'                     |
| <i>-as bwelk vunuu</i>    | 'to hit pig <i>vunuu</i> = to kill the pig'                         |
| <i>-nei gen vusa</i>      | 'to tell something <i>vusa</i> = to reveal something'               |
| <i>-nei yaun vukuri</i>   | 'to say talk <i>vukuri</i> = to reply, answer back'                 |
| <i>-ro-is ate sut</i>     | 'to stab/punch themselves <i>sut</i> = to get together, congregate' |
| <i>-tle ei butu</i>       | 'to chop tree <i>butu</i> = to chop the tree down'                  |
| <i>-tpweng (NP) are</i>   | 'to learn NP <i>are</i> ['name?'] = to realise, understand NP'      |
| <i>-varkei luev avwut</i> | 'to stand road <i>avwut</i> = to block the road'                    |

Finally, there are many subject+verb idioms where the verbal subject refers to an inalienably possessed body part of the sentential (experiencer) subject, the most common body part being the seat of emotions, *ta-* 'belly' or *aplo-* 'insides'. The sentential subject in such cases usually occurs in the nominative (not the genitive) case, as in *ayeu aplo-ngg bunam molge* [1S insides-1S heavy much] 'I am very sad'.

#### SUBJECT+VERB IDIOMS

|                                 |   |
|---------------------------------|---|
| <i>aplo- bunam</i> <sup>9</sup> | 'insides heavy = to be sad, to worry'       |
| <i>aplo- gi/ni-vin</i> (NP)     | 'insides 3S/F.3S-join = to believe in (NP)' |
| <i>ta- gisgil/nisgil</i> (NP)   | 'belly 3S/F.3S-? = to not know (NP)'        |

<sup>8</sup> Jabêm allows the prefixation onto inflected verbs of the directional verb stems *meng-* 'come' and *ja/na-* 'go'.

<sup>9</sup> The hyphens here indicate that *aplo-* and *ta-* must take possessive suffixes (not given here). See INALIENABLE POSSESSION in §3.1.

|            |                          |  |
|------------|--------------------------|--|
| <i>ta-</i> | <i>gi/ni-tung</i>        | 'belly 3S/F.3S-? = to want'                |
| <i>ta-</i> | <i>gi/ni-vin (ve...)</i> | 'belly 3S/F.3S-join = to wish (for/to...)' |
| <i>ta-</i> | <i>vavis</i>             | 'belly bitter = to be angry'               |

### 3.4 Prepositions and 'prepositional' verbs

Iwal has a variety of prepositions, but several types of 'prepositional' functions are performed by serialised VPs rather than by PPs, so it will be convenient to list both together. (See Bradshaw 1983, 1993 for similar patterns in Jabêm and Numbami.)

NP + COMITATIVE *tis* 'with'

|                               |   |
|-------------------------------|---|
| <i>bat tis niuk</i>           | 'sweet potato with coconut'                       |
| <i>ben siti tis wenk ailu</i> | 'little food [Eng. 'five loaves'] and two fishes' |
| <i>ei tis wakas</i>           | 'tree with roots'                                 |
| <i>eivovo tis laik</i>        | 'canoe with sail'                                 |
| <i>Gwaelau tis arue</i>       | 'Gwaelau and his wife'                            |

VP + COMITATIVE *-vin* 'to join, accompany'

|                                   |
|-----------------------------------|
| <i>Yakob gi-vang gi-vin ayeu.</i> |
| Jacob 3S-go 3S-join 1S            |
| 'Jacob went with me.'             |

VP + DATIVE *ve/-tangi* 'to/to reach, approach'

|                                   |
|-----------------------------------|
| <i>Ei gi-ab ve/gi-tangi ayeu.</i> |
| 3S 3S-giveto/3S-reach 1S          |
| 'He gave it to me.'               |

VP + INSTRUMENTAL *ve* 'with'

|                                   |
|-----------------------------------|
| <i>Mie gu-re bage-m ve buyag.</i> |
| 2S 2S-cut hand-2S with knife      |
| 'You cut your hand with a knife.' |

VP + BENEFACTIVE/PURPOSIVE *ve...ane* 'for'

|                                |
|--------------------------------|
| <i>Ei gi-lgum ve ayeu ane.</i> |
| 3S 3S-do for 1S 3S.G           |
| 'He did it for me.'            |

VP + SOURCE *nangge* 'from'

|                                 |
|---------------------------------|
| <i>Ei gi-nme nangge nusawa.</i> |
| 3S 3S-come from island          |
| 'He came from the island.'      |

VP + LOCATIVE *nangge* 'at'

|                                       |
|---------------------------------------|
| <i>Sulu i-an ben nangge angg nam.</i> |
| 3DU 3P-eat food at 1S.G house         |
| 'Those two ate at my house.'          |

NP + SIMILATIVE *weik* 'like'

*Ravel dume tulkwe weik kilkiel.*  
 turtle back shell like wooden.dish  
 'Turtle shell is like a wooden dish.'

VP + SIMILATIVE *weik* 'like'

*Ei gi-tuvki weik uvun.*  
 3S 3S-run like dog  
 'He ran like a dog.'

ADJ. + COMPARATIVE *-tlek* 'surpass'

*Ei undip gi-tlek ayeu.*  
 3S tall 3S-surpass 1S  
 'He's taller than me.'

Since Jabêm and Numbami comparatives are structurally similar (see Bradshaw 1993: 149), it is likely that comparative *-tlek* 'to surpass' can also be appended to VPs. The same two languages also mark benefactive/purposive NPs with an enclitic genitive, as Iwal does, although their equivalent of Iwal *ve* 'for' translates as 'to become' (Jabêm *-tu*, Numbami *-u*).

Serialised locative and directional VPs appear to be quite common, often adding locative or goal NPs. Directional verbs can take locative direct objects.

VP + DIRECTIONAL WITH *-nme* 'to come'

*Tan-dumul tan-nme.*  
 1IP.F-return 1IP.F-come  
 'We'll come back.'

VP + DIRECTIONAL WITH *-vang* 'to go' + NP

*Eisir i-nggas uvun i-vang sangas.*  
 3P 3P-take dog 3P-go bush  
 'They took the dogs (and went) into the bush.'

VP + DIRECTIONAL WITH *-reu* 'to ascend' + NP

*Tani-as ei ni-reu eigivsangin.*  
 1IP.F-hit 3S F.3S-ascend cross  
 'Let's crucify him.'

VP + DIRECTIONAL WITH *-sov* 'to descend' + NP

*Ei gi-reu matendubi gi-sov tavlu.*  
 3S 3S-ascend mountaintop 3S-descend half  
 'He went up the mountain and down the other side.'

VP + LOCATIVE WITH *-wei* '(to be) on' + NP

*Yisu gi-vang gi-wei bui dobo.*  
 Jesus 3S-go 3S-on water top  
 'Jesus walks on water.'



VP + GOAL WITH *-pil* 'to go' upon' + NP

*Ei gi-ruwel gi-pil gi-nme alus.*  
 3S 3S-pull 3S-upon 3S-come sand  
 'He pulled it up here onto the sand.'

VP + CONTENT WITH *-sov* 'to descend) onto, about' + NP

*Ei gi-go avie gi-sov amol.*  
 3S 3S-scold woman 3S-on man  
 'He scolded her about a man.'

VP + MULTIPLE DIRECTIONALS

*U-tak am buyag in-umul i-sov i-le i-yengk lavo.*  
 2S-put 2S.G knife 3S-return 3S-down 3S-go 3S-lie sheath(?)  
 'Put your sword back into its place.'

The directional *-le* 'to go' is also used to indicate a motion prelude to another verbal action, or perhaps just to indicate discontinuity in time or space between the last and the next action described. However, when *-le* is followed by another frequently serialised directional verb, it is hard to know which to treat as the main verb, as in the first example below. In the second and third examples, *-lgum* 'to disturb' and *-ruwel* 'to pull' seem clearly to be the main verbs.

MOTION VERB + SERIALISED VP

*Ei gi-le gi-sov nam aplo.*  
 3S 3S-go 3S-descend house inside  
 'He went into the house.' (or: 'He went and entered the house.')

*Uvun gi-le gi-lgum bwelk ti.*  
 dog 3S-go 3S-disturb pig one  
 'The dog chased a pig.' (or: 'The dog went and chased a pig.')

*In-de ina-ruwel.*  
 3P.F-go 3P.F-pull  
 'They will go (and) pull (it).'

Finally, Iwal has one typologically unexpected directional postposition, *ane*, that is homophonous with the third person singular possessive pronoun. The directional (or purposive) sense seems related to its use in the postposed attributive genitive (*gen valir ane* 'things fighting of/for = weapons') and/or benefactive/purposive construction *ve...ane* 'for (NP) of/for'. It is certainly no coincidence that the Jabêm and Numbami equivalents of the same three constructions also end in what seem to be essentially genitive postpositions (Jabêm *nga*, Numbami *na*).

DIRECTIONAL POSTPOSITION *ane* 'of, for'

*Tan-vangum ane bekob tan-vang gielk ane.*  
 1IP.F-go garden for and.then 1IP.F-go sea for  
 'We will go to the garden and then go to the sea.'

### 3.5 Conjunctions

Most of the Iwal conjunctions are formed around four basic roots: two basic coordinators, *me* 'or' and *be* 'and', and two basic subordinators, *ve* 'for...to, in order to, because', and *ginei* 'if, say' (*gi-nei* '3S-say'). There is also one postposed conjunctive enclitic *kob* 'after' that occurs after time clauses. The simplest one to start with is *me* 'or'.

#### NP/ADJ. COORDINATION WITH *me* 'or'

|                          |                   |
|--------------------------|-------------------|
| <i>amol me avie</i>      | 'man or woman'    |
| <i>lambi me ani</i>      | 'sago or taro'    |
| <i>vat me nalk</i>       | 'stone or earth'  |
| <i>bamo me natu</i>      | 'large or small'  |
| <i>maingo me tumtumi</i> | 'yellow or black' |

#### PP COORDINATION WITH *me* 'or'

*Atob ei ni-an ben nangge etenik me nanggeam nam.*  
 later 3S F.3S-eat food at here or at 2S.G house  
 'Later he will eat here or at your house.'

#### VP COORDINATION WITH *me* 'or'

*Ei ve ni-an ben me ve ni-yengk.*  
 3S want F.3S-eat food or want F.3S-sleep  
 'He wants to eat or wants to sleep.'

The multifunctional coordinator *be* 'and' also appears as a formant in the clause coordinators *bemem* 'but', *bekob* 'and then', and *beti* 'so, therefore'.

#### NP/ADJ. COORDINATION WITH *be* 'and'

|                                     |                                       |
|-------------------------------------|---------------------------------------|
| <i>bamo be undip be bunam</i>       | 'big and long and heavy'              |
| <i>natu be tumtumi</i>              | 'small and black'                     |
| <i>bage isgabu be va tavlu</i>      | 'hand both and leg half = 15'         |
| <i>bat be ani be tov</i>            | 'sweet potato and taro and sugarcane' |
| <i>Alung be Yamuel be Yalambing</i> | 'Alung and Yamuel and Yalambing'      |

#### CLAUSE COORDINATION WITH *be* 'and'

*I-pasang ul ve nalk be i-amb ve amolmol ina-vgo.*  
 3P-make pot with earth and 3P-hold for people 3P.F-buy  
 'They make clay pots and take them for people to buy.'

#### CLAUSE COORDINATION WITH *bemem* 'but'

*Ayeu ve na-vang Aiyura bemem ur gi-sov.*  
 1S want F.1S-go Aiyura but rain 3S-fall  
 'I wanted to go to Aiyura, but it rained.'

#### CLAUSE COORDINATION WITH *bekob* 'and then'

*Un-de bekob un-dumul.*  
 2S.F-go and.then 2S.F-return  
 'Go and come back.'

CLAUSE COORDINATION WITH *beti* 'so, therefore'

*Ur gi-sov beti ayeu ga-bweg.*  
 rain 3S-fall so 1S 1S-stay  
 'It rained, so I stayed.'

The all-purpose clause subordinator *ve* 'for...to, in order to, because' is no doubt related to the multifunctional preposition *ve* 'for, to, with' and the verbal auxiliary *ve* 'want to'. Except when it introduces a reason clause, *ve* always takes a complement clause in the future tense. The formant on the end of *veik* 'so that' might be the proximal deictic *-ik* (in which case a more literal gloss might be 'for-this').

CLAUSE SUBORDINATION WITH *ve* 'for, because'

*Ayeu ga-bweg nam aplo [ve ur gi-sov].*  
 1S 1S-stay house inside for rain 3S-fall  
 'I stayed inside because it rained.'

CLAUSE SUBORDINATION WITH *ve* 'for, in order to'

*Nunus tepwe i-tuvki [ve in-di eivovo vaku].*  
 child all 3P-run to 3P.F-see boat new  
 'All the children ran to see the new boat.'

CLAUSE SUBORDINATION WITH *veik* 'so that'

*U-nme [veik u-vwat bui].*  
 2S-come to 2S-get water  
 'Come and get the water.'

CLAUSE SUBORDINATION WITH *velob* 'lest, in case'

*U-tau [velob ni-lat-im].*  
 2S-leave lest F.3S-bit-2S  
 'Leave it in case it bites you.'

CLAUSE SUBORDINATION WITH *love* 'until'

*Ayeu ve na-yengk [love as ni-reu].*  
 1S want F.1S-sleep until sun F.3S-ascend  
 'I want to sleep until the sun comes up.'

As in Numbami, conditionals are introduced by a form of the verb 'to say' with a frozen third person non-future prefix, which I gloss 'SAY'. (In Jabêm, *embe* 'if' also derives from 'to say', but with a frozen inflection for future [= irrealis].) The same verb with a still-viable subject-agreement prefix is used to introduce direct and indirect quotatives.

DIRECT QUOTATIVE WITH *-nei* 'to say'

*Ei gi-nei [ayeu bwa-ingg].*  
 3S 3S-say 1S dislike-1S  
 'He said, I don't want to.'

INDIRECT QUOTATIVE WITH *-nei* 'to say'

*Eisir i-nei [ande i-vgo bwelk gi-kwai].*  
 3P 3P-say already 3P-buy pig 3S-finish  
 'They said they already bought the pig.'

FUTURE CONDITIONAL SUBORDINATION WITH *ginei* 'SAY'

*Ginei [ur ni-sov] atob tani-as bal bwaya.*  
 SAY rain F.3S-fall later 1IP.F-hit ball NEG.IMP  
 'If it rains, then let's not play ball.'

CONTRARY-TO-FACT CONDITIONAL SUBORDINATION WITH *ginei* 'SAY'

*Ginei [nolik wavin bam] atob eitit tan-nme ite.*  
 SAY yesterday wind big later 1P 1IP.F-come not  
 'If there had been a big wind yesterday, then we wouldn't have come.'

The only instance in the Davidsons' data of the postposed conjunction *-kob* 'after' occurs after a time word glossed 'day after tomorrow' whose parts translate as 'after we (incl.) get up': *tana-mdil-kob* '1IP.F-arise-after'. The New Testament contains more instances, along with a few cases of *kob* used as a clause-initial linker to the preceding clause, as in *kob ande gu-ute yaun* [then already 2S-hear talk] 'and then you have already heard'.<sup>10</sup>

## 4 Clauses

### 4.1 Clause-level operators

Among the most common of clause-level operators are time adverbials. In Iwal, these usually come in clause-initial position, although two time words, *ande* 'already' and *atob* 'later', can occur in auxiliary position between the subject NP and the first verb in a clause.<sup>11</sup>

## TIME ADVERBS

*Galkik tambok ayeu ga-yengk mev ti.*  
 recent night 1S 1S-sleep dream one  
 'Last night I dreamt a dream.'

*Warik asmate ti ayeu ga-vang Lae.*  
 before day one 1S 1S-go Lae  
 'One day I went to Lae.'

*Ei gi-pelk tis tambok.*  
 3S 3S-fear with night  
 'He fled in the night.'

<sup>10</sup> The Numbami clausal and time-word enclitic *-go* 'after' seems almost exactly parallel in usage, while Ja. *go* 'then, thereupon' and Nu. *go ta* 'after that, thereupon' serve similar functions as clause-initial time deictics pointing back to the previous clause.

<sup>11</sup> The auxiliaries *ata* 'later' in Numbami and *oc* 'later' in Jabêm might be cognate with Iwal *atob*.

TIME ADVERB *ande* 'already'

*Ande ei gi-sov ebok.*  
 already 3S 3S-descend DEM  
 'He has already gone down there.'

TIME ADVERB *atob* 'later'

*Atob ei ni-mbweg ni-wei vat.*  
 later 3S F.3S-stay F.3S-on stone  
 'Later he'll sit on a stone.'

AUXILIARY *ande* 'already'

*Kabut etenik ande gi-ble.*  
 stick DEM already 3S-break  
 'This stick is already broken.'

AUXILIARY *atob* 'later/future'

*Ei atob ni-mbweg ni-wei vat.*  
 3S later F.3S-stay F.3S-on stone  
 'Later he'll sit on a stone.'

The only other uninflected word to occur in auxiliary position is desiderative *ve* 'want to', which takes a future-tense verb as its complement. (Compare the prepositions and conjunctions of the same shape above.)

DESIDERATIVE AUXILIARY *ve* 'want to'

*Ei ve ni-an ben me ve ni-yengk.*  
 3S want F3S-eat food or want F.3S-sleep  
 'He wants to eat or wants to sleep.'

The verb *-tangi* 'to reach, suffice' also serves as a functional, if not formal, abilitative auxiliary when it takes a clausal complement. (The future tense in the subordinate clause is likely to be obligatory, as it is in its Numbami counterpart.)

ABILITATIVE *-tangi* 'to suffice, be able to'

*Eivovo natu etok gi-tangi [amolmol aivat in-vwes] ite.*  
 canoe small DEM 3S-suffice people four 3P.F-paddle not  
 'That small canoe is not enough for four people to paddle.'

Several other clause-level operators occur in clause-final position. Negatives constitute one case. No examples occur of negatives between serialised verbs in the same clause; they occur only after the last one. Negatives include *ma* 'no, none', *ite* 'not', and the negative imperative *bwaya*.

NEGATIVE EXISTENTIAL *ma*

*ei na ma*  
 3S face none  
 'he disappeared = he died'

NEGATIVE IMPERATIVE *bwaya*

*Atob tani-as bal bwaya.*  
 later 1P.F-hit ball NEG.IMP  
 ‘Then let’s not play ball.’

NEGATIVE *ite*

*Atob ei ni-mbweg ni-wei nalk ite.*  
 later 3S F.3S-stay F.3S-on earth not  
 ‘Then he won’t sit on the ground.’

Perfective marking also occurs in clause-final position in the shape of the serialised verb *-kwai* ‘to finish’.

PERFECTIVE *-kwai* ‘to finish’

*Nu-amb lam ni-kwai.*  
 F.2S-take lamp F.3S-finish  
 ‘Take the lamp away.’

Finally, tense is another clause-level operator that must have the same value—future or non-future—for every verb in the clause.

SERIALISED VPs ALL MARKED FOR FUTURE TENSE

*Ei ni-tle butu ni-le ni-tak ni-kwai.*  
 3S F.3S-chop down F.3S-go F.3S-stay F.3S-finish  
 ‘He’ll chop it down and it’ll go and lie there.’

SERIALISED VPs ALL MARKED FOR NON-FUTURE TENSE

*Gi-dugdug gi-sov gi-le gi-tak.*  
 3S-roll 3S-descend 3S-go 3S-stay  
 ‘It rolled on down until it stopped.’

## 4.2 Non-verbal clauses

Non-verbal clauses consist of an NP subject and an NP or Adjective Phrase predicate, sometimes with a demonstrative in between. There is no copula.

NON-VERBAL CLAUSES

*Wenk etok bamo.*  
 fish DEM big  
 ‘That fish is big.’

*Gen eivovo aplo ane ete il kapkapul.*  
 thing canoe inside 3S.G DEM adze rounded  
 ‘That thing for inside the canoe is a rounded adze.’

### 4.3 Existentials

There is only one example in the Davidson's data of an existential clause. The verb *-engk* 'to exist, lie inert' (or 'to sleep' when predicated of animate subjects) predicates the existence of inanimate subjects. The existential negator *ma* 'none' replaces the verb in negative existentials.

#### EXISTENTIAL CLAUSE

*Eitit tulkwa-nd gi-engk.*

1IP bone-1IP 3S-exist

'We are strong.'

*Nalk etok sisi ma.*

earth DEM fat none

'That soil has no nutrients.'

### 4.4 Questions

Yes/no questions are indicated either by intonation or by a final particle that otherwise serves as the alternative conjunction, *me* 'or'—apparently short for *me ma* 'or not', which appears just as frequently in the same function. (*Jabêm mè* 'or' and *Numbami mo* 'or' perform the same function.) Content questions display the same word order as normal clauses, with the question word in the same position as its answer would be. The only exception is *namnambed* 'how/why', which is usually fronted and separated from its clause by the conjunction *be* 'and' (like English *How/why is it that...?*).

#### YES/NO QUESTION ENDING IN *me* 'or'

*Mie gu-mat me (ma)?*

2S 2S-sick or (not)

'Are you sick (or not)?'

#### THING

*Atob eitit ta-nei ret?*

later 1IP 1IP-say what

'What shall we say?'

#### PERSON

*Ret ane gen?*

who 3SG thing

'Whose thing (is this)?'

#### QUANTITY

*Wenk aivir?*

fish how.many

'How many fish?'

## ACTIVITY

*Ei gi-mdom?*  
 3S 3S-do.what  
 'What did he do?'

## TIME

*Asger-kob eisir in-vang?*  
 when-FUT 3P 3P.F-go  
 'When will they go?'

## PLACE

*Gi-nme nangge inend?*  
 3S-come from where  
 'Where did he come from?'

## MANNER

*Yem u-as bui gili namnambed?*  
 2P 2P-hit water crossed how/why  
 'How did you cross the river?'

## REASON

*Namnambed be mie gu-tani ayeu?*  
 how/why and 2S 2S-ask 1S  
 'Why do you ask me?'

**4.5 Relative clauses**

Relative clauses follow their head nouns and are marked at both ends with deictic formants, which I gloss 'DEM' in the examples. (This is a typical feature of Austronesian languages in the area.) Resumptive subject pronouns appear to be common after relative clauses in subject position.

## RELATIVE-CLAUSE MARKING

*Ei gi-as uvun [ebe gi-sweg tambok ok].*  
 3S 3S-hit dog DEM 3S-bark night DEM  
 'He hit the dog that barked in the night.'

*Amol [ete ayeu ga-li ok] ei gi-ro mank.*  
 man DEM 1S 1S-see DEM 3S 3S-stab bird  
 'This man I saw speared a bird.'

*Au ga-li avie [etok amol etok gi-as ane uvun ok].*  
 1S 1S-see woman DEM man DEM 3S-hit 3S.G dog DEM  
 'I saw the woman whose dog the man hit.'

*Amol [ebe ayeu ga-ab kulkul ve ane ok] Yakob.*  
 man DEM 1S 1S-give work for 3S.G DEM Jacob  
 'The man I worked for is Jacob.'



*Amolmol [ebe i-pasan ul ok] eisir i-mbweg Kui.*  
 people DEM 3P-make pot DEM 3P 3P-stay Kui  
 'The people who make pots are from Kui.'

## 5 Conclusion

Brief as it is, this sketch reveals that Iwal shares most of its major grammatical patterns with Numbami, Jabêm, and other neighbouring languages. Limitations of space have prevented me from elaborating further on these similarities here, but I hope to do so in the future. The languages of the Huon Gulf area would well repay the kind of careful sorting out of the effects of contact and inheritance that Tom Dutton has undertaken in a long list of publications on the languages of South-east Papua. His intensive investigation and documentation of the complex linguistic history of an understudied area of the globe, coupled with attention to broader issues of language contact and contact languages, has been an enduring inspiration to me.

## Texts

- A. *Yisu gi-ab bing-ai gi-pil amol ti ebe gi-dawi ben uve ok*  
 Jesus 3S-give parable 3S-upon man one DEM 3S-plant food seed DEM  
 Jesus tells the parable of the sower (Matthew 13:3–9)
1. *Amol ti gi-le be gi-dawi ben uve nangge ane um.*  
 man one 3S-go and 3S-plant food seed LOC 3S.G garden  
 'A man went and planted seedlings in his garden.'
  2. *Ei gi-dawi gi-vang be ben uve subu beleinge gi-le gi-tak luev,*  
 3S 3S-plant 3S-go and food seed some fall 3S-go 3S-stay road  
 'He was planting and some seedlings fell on the road.'
  3. *be gi-sov nalk aplo gi-le ite, beti mank i-le be en gi-kwai.*  
 and 3S-descend earth inside 3S-go not so bird 3P-go and 3P-eat 3S-finish  
 'and they didn't go into the ground, so birds went and ate them up.'
  4. *Be ben uve subu beleinge gi-le gi-tak nalk ebe tis vat ok,*  
 And food seed some fall 3S-go 3S-stay earth DEM with stone DEM  
 'And some seedlings fell on rocky ground,
  5. *be nal etok sisi ma, be ben nok gi-reu*  
 and earth DEM fat none and food DEM 3S-rise  
 'and that earth had no nutrients, and the crops grew
  6. *bemem wakas gi-sov nalk aplo gi-le ite.*  
 but root 3S-descend earth inside 3S-go not  
 'but the roots did not go deep into the ground.'
  7. *Be as gi-reu be gi-as ben etok love ainggwen be gi-mat.*  
 and sun 3S-rise and 3S-hit food DEM until scorched and 3S-die  
 'And the sun rose and struck those plants until they scorched and died.'

8. *Be subu beleinge gi-sov euk dabe dabe,*  
and some fall 3S-descend thorn base base  
'And some fell among thorns.'
9. *be euk gi-reu love gi-as vunu be ben etok gi-as ano ite.*  
and thorn 3S-rise until 3S-hit dead and food DEM 3S-hit fruit not  
'and the thorns grew until they killed them and those plants bore no fruit.'
10. *Be ben uve subu gi-sov nalk ebe vie ok*  
and food seed some 3S-descend earth DEM good DEM  
'And some seedlings went into good soil'
11. *be gi-reu love gi-as ano vevies ge.*  
and 3S-rise until 3S-hit fruit good ADV  
'and they grew until they bore fruit well.'
12. *Subu gi-as ano gi-tangi 100, be subu gi-as gi-tangi 60,*  
some 3S-hit fruit 3S-reach 100 and some 3S-hit 3S-reach 60  
'Some bore fruit a hundredfold, and some bore sixtyfold'
13. *be subu gi-as ano gi-tangi 30.*  
and some 3S-hit fruit 3S-reach 30  
'and some bore fruit thirtyfold.'
14. *Be Yis gi-nei gi-tangi eisir,*  
And Jesus 3S-say 3S-reach 3P  
'And Jesus said to them,'
15. *"Ginei yem talnga-nggaim-avo gi-enk okob una-ute yaun etok vevie."*  
SAY 2P ear-2P-mouth 3S-lie then 3P.F-hear talk DEM good  
'If you have ears [ear canals], then listen to this good word.'

B. Isaiah's prophecy fulfilled (Matthew 13:14-17)

1. *"Yem ok atob lolo-nggaim ve una-ute yaun*  
2P DEM later insides?-2P for 2P.F-hear talk  
'You will strive to listen to the word'
2. *bemem atob ta-nggaim ni-sgil yaun ane dabe.*  
but later belly-2P F.3S-? talk 3S.G base  
'but will not understand its meaning.'
3. *Be matano-nggaim ok atob un-di gen*  
And eye-2P DEM later 2P.F-see thing  
'And your eyes will see things'
4. *bemem atob un-di gen ti ano ite.*  
but later 2P.F-see thing one true not  
'but will not see anything true.'
5. *Eisir etenik aplo-s dadani gi-kwai,*  
3P DEM insides-3P thick 3S-finish  
'These people's hearts have become dull'

6. *be talnga-s-avo bua ve ret ni-ute yaun.*  
and ear-3P-hole dislike for what F.3S-hear talk.  
'and their ears [ear canals] do not like to hear.'
7. *be i-mbiti matano-s avwut be bwai-s ve ret in-di gen.*  
and 3P.F-shut eye-3P closed and dislike-3P for what 3P.F-see thing  
and they shut their eyes and do not like to see.'
8. *Eisir i-ute yaun bemem ta-s gi-sgil yaun ane dabe*  
3P 3S-hear talk but belly-3P 3S-? talk 3S.G base  
'They hear talk but they do not understand its meaning.'
9. *Be ginei eisir aplo-s dadani ite be talnga-s-avo ina-ute yaun*  
and SAY 3P inside-3P thick not and ear-3P-hole 3p.F-hear talk  
'And if their insides were not thick and their ears could hear.'
10. *be matano-s in-di gen...*  
and eye-3P 3P.F-see thing  
'and their eyes could see things...'
11. *atob eisir in-vang in-tangi ayeu in-nme*  
then 3P 3P.F-go 3P.F-reach 1S 3P.F-come  
'then they would come to me'
12. *be ayeu na-lgum eisir be via-s."*  
and 1S F.1S-make 3P and good-3P  
'and I would make them well.'
13. *Bemem yem, yem un-vang tis ta-nggaim vevie-ngge*  
but 2P 2P 2P.F-go with belly-2P good-ADV  
'But you, you will go with good hearts [= be blessed],'
14. *ve yem matano-nggaim gi-li gen be talnga-nggaim-avo gi-ute yaun.*  
for 2P eyes-2P 3S-see thing and ear-2P-hole 3S-hear talk.  
'for your eyes see and your ears hear.'
15. *Ayeu na-nei bingano-ngge ni-tangi yem.*  
1S F.1S-say truth-ADV F.3S-reach 2P  
'I will tell you truly.'
16. *Warik Pomate ane amolmol kukul ane ebe i-nei ei avo ok*  
before Lord 3S.G people work of DEM 3P.F-say 3S mouth DEM  
'Long ago, the Lord's workers who spoke for him [= prophets]'
17. *be tis amolmol vevie-s ane subu,*  
and with people good-3P 3S.G some  
'and some of his righteous people.'
18. *i-lgum ve in-di gen ete ayeu ga-lgum nik, bemem i-li ite.*  
3P.F-do for 3P.F-see thing DEM 1S 1S-do DEM but 3P-see not  
'they tried to see what I have done, but did not see.'

19. *Be eisir i-igum ve ina-ute yaun ete ayeu ga-nei nik, bemem i-ute ite.*  
 and 3P 3P.F-do for 3P.F-hear talk DEM 1S 1S-say DEM but 3P-hear not  
 'and they tried to hear what I have said, but did not hear.'

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# 5 *Proto Melanesian plant names reconsidered*

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ANN CHOWNING

## 1 Introduction

In 1961 I was invited to contribute a paper on Melanesian plant names to a symposium, entitled ‘Plants and the migrations of Pacific peoples’, to be held at the Tenth Pacific Science Congress. Two years later, under the editorship of the convenor, Jacques Barrau, that paper was published, together with the others given at the symposium, as Chowning (1963). At the time I wrote, I had done fieldwork in two Austronesian-speaking societies in what is now Papua New Guinea: Lakalai (West Nakanai) in New Britain and Molima on Fergusson Island in the D’Entrecasteaux. In Lakalai I was a member of a team led by Ward Goodenough, who not only taught me to recognise many of the common cultivated plants but also had invited an ethnobotanist from the Department of Forests to join us. The ethnobotanist’s report (Floyd 1954) was produced after I left the field, but was the source of the botanical identifications I used in my paper. For the comparative data, I relied on word lists from Lakalai and Molima together with the published vocabularies of Melanesian languages that I owned or could find in the library of Columbia University. Because French-Wright (1983:163) was under the impression that my research was “based on New Britain”, I should note that Lakalai was the only New Britain language that I used. I have misplaced my original notes, and so I cannot list all the languages of my original sources. They include at least one that I have not been able to find here, judging from the fact that I cannot locate the required third witness (apart from Lakalai and Bauan) that led me to reconstruct \**lautolu*<sup>1</sup> ‘(“three-leaf”) *Evodia* sp.’.

Because my present procedure differs somewhat from that used in 1961, the latter is worth repeating. First, I required three witnesses for each reconstruction, from languages that were widely separated in space and that did not seem to show other signs of close ties. I excluded data from Polynesia and Micronesia, as well as from Indonesia, although I consulted Indonesian material in considering my conclusions. Because all my material came from within Melanesia, it is misleading to say as Tryon (1994:481) does that my Proto

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<sup>1</sup> Despite a misleading statement by Blust (1983–84:123), who says that I cited reflexes for a protoform he is discussing, in fact I did not list in the 1963 article any of the data on which I based my reconstructions.

Melanesian “was presumably intended to cover the same languages as the Oceanic subgroup”. In retrospect, I think that my only error was to assume a particularly close relationship between Molima and certain languages in the south-east Solomons; I cannot now imagine why I thought that they could not be treated as separate witnesses.

My use of ‘Melanesian’ to designate a presumed linguistic grouping of Austronesian languages spoken within Melanesia now looks very odd, but it was common at the time. See particularly Capell (1962), on which I relied for deciding which languages were Austronesian.

It is probably safe to say that although the article has been cited frequently, particularly as regards general points that I made, the actual linguistic reconstructions have been almost totally ignored. Milke (1968) mentioned several of my protoforms that fitted in with his reconstructions. Otherwise, as far as I know, the only linguists who have actually made use of my protoforms are French-Wright (1983) in his unpublished MA thesis, and Tom Dutton (1977), but both were concerned only with food plants. (Presumably the situation would have been different if I had been able to locate my data when George Grace asked me for them, in which case they might have gone into his various collections of Proto Oceanic (POc) reconstructions.) A noteworthy example of neglect of my reconstructions applies to the word for putty-nut, *Parinarium*, which I then reconstructed as *\*iita*. In 1971 Pawley and K. Green actually quoted what I said about the stability of the term for this tree. But in Pawley and Pawley (1994:343), the discussion of a possible term for ‘caulk’ and putty-nut mentions only a term with a much more limited distribution.<sup>2</sup>

In the years that followed, I have carried out additional fieldwork in two other societies in New Britain, Sengseng and Kove, as well as making return trips to Lakalai and Molima. In Lakalai I spent considerable time checking Floyd’s data, including his more unlikely spellings. I have also, in the course of these trips, gained much more experience about the use of plants that I had in 1961. At the same time I must emphasise that I have no special knowledge of botany. Partly because of my extreme sensitivity to contact with poisonous plants, which abound in Melanesia, I have never collected specimens myself. For identification I have had to rely on a variety of published sources, such as Massal and Barrau (1956).

I envy those colleagues who collect local terms for plants that I would not recognise if I bumped into them. This said, I have kept up an interest in the question of Proto Oceanic plant names, and welcomed an opportunity to re-examine the material, especially now that so many more data are available. I should add, however, that I have not been able to consult the Peekel volume recommended by Ross (1996:163). Of course I also lack access to the vast files held at The Australian National University and by Blust. In my favour, perhaps, is both ethnographic experience – which has made me wary about certain generalisations, such as about medical uses of particular plants, and a speaking knowledge of Lakalai and Molima – which enables me sometimes to correct mistakes and oversights made by others who have

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<sup>2</sup> Using the evidence available to me later, including *atita* in Kove and all the coastal languages extending west to Kilege (Goulden 1996) and Banoni *darsita* (Grace-Lincoln 1979), I would have suggested the addition of an optional first syllable even before Blust (1984:199) published POc *\*kantita* and derived Mussau *arita* from it, but I note that *tita* alone is recorded for Lakalai, Tolai, Mono, and Gela. For his south-east Solomon languages, Lichtenberk (1988:59) reconstructed a protoform with medial *q*, but tells me that he did not do so only to account for a glottal stop that Ivens wrote inconsistently in Sa’a. It is probably safe to assume that Kwara’ae *saia* also reflects *\*tita*. (I cannot, however, account for the first part of Bauan *makita* – Capell 1957:155 – if it is cognate.)

consulted typed vocabularies. Examples of errors that I detected only because I speak the language are to be found in two of the terms cited for Nakanai by Ross (1996). One of these, *galagala*, is used to support the reconstruction of a term for 'taro leaves'. But this is a general word for leaves; by itself, it has no specific reference to taro. Taro greens are called *ilili* or, more rarely, *pehe*.

Another mistake seems to represent someone's copying error. All the plant names in Johnston's Nakanai dictionary, Ross's source, seem to come from a typescript of Lakalai I gave Johnston. The term *oio*, used by Ross as one of only two witnesses to reconstruct a term for *Gnetum gnemon*, was typed just above the actual plant name, *ola* (which does not support the reconstruction).

I had assumed that an oversight accounted for the failure of Geraghty and Ross, both of whom have used my Lakalai data, to cite Lakalai *ka-liva* '*Alocasia macrorrhiza*' in support of the protoforms they list. The oversight could easily be explained by the presence of the *ka*-prefix (see Ross 1996:170) and metathesis in the following syllables. Ross, however, tells me (pers. comm.) that he and his team simply considered the Lakalai term "too questionable". I disagree, and still think I was right to use it for reconstructing \**vila* (now \**piRaq*) as the name for the plant.

## 2 Wild plants

When I wrote my earlier paper, I paid as much attention to wild plants as to cultivated ones, insofar as my data allowed. In recent years it seems that those dealing with the reconstruction of plant names in western Oceania have concentrated on cultivated plants to the neglect of wild ones. Wild plants abound among the reconstructions proposed for Indonesia, as by Blust, and for eastern Oceania, as by Clark, Geraghty, and Biggs, so the neglect is not general, not is it total (see, for example, a number of the plants mentioned in Ross 1996). But for reconstruction of POc or Lapita *culture*, the probable importance of wild plants seems to me to have been neglected.

Ross tells me (pers. comm.) that further work on names of wild plants has only been delayed, and will be carried out.

An emphasis on cultivated plants appeared as early as Pawley and R. Green's (1973:29) list of "lexical reconstructions connected with agriculture". The reader is not told why all the trees on this list, which include *Terminalia*, casuarina, and *Barringtonia*, are thought to be cultivated. The assumption that they were, however, has continued, particularly in the recent work of Kirch. He states flatly that fruit and nut trees would have been cultivated by Lapita people in "permanent 'orchard gardens', very likely in close proximity to settlements", and adds that: "Throughout island Melanesia today, this kind of village aborigiculture is highly typical, and has probably been practiced since Lapita times" (Kirch 1997:208). His assumption reflects his experience of seeing such arboriculture in two places with acute land shortages, Tikopia and islets off Mussau, but I would dispute the assumption that they are typical. Indeed, I have never seen an orchard garden, though reportedly one once existed on a Kove island before it was cut down so that coconuts could be planted for copra.

There are three points to be considered: typical use of wild foods, whether in daily life or in periods of crop failure, the definition of 'famine foods'; and the use made of the bush for purposes other than foods. To deal with the third one first, it strikes me as wholly unlikely that Lapita people would have resorted to the bush only for such materials as "lianas and

rattan, bamboo, and other materials essential for manufacturing fishing nets, baskets, and other artifacts” (Kirch 1997:203). I would argue that the forest was equally necessary for the materials needed for houses, canoes, weapons, perhaps clothing, and a wide range of other artifacts. See such surveys as Powell’s (1976, 1982).

As regards foods, anyone who has observed them in a Melanesian society has been struck by the importance of wild foods in the diet. Powell (1982:210) points out how many fruit and nut trees grow wild in lowland areas. It is true that after European contact the importance of some of these diminished, for three reasons. First, starch staples were introduced that were more often resistant to drought, disease, and other hazards than traditional staples; second, many new fruits, such as papayas and pineapple, were also introduced (and cultivated); and third, the government inspired or compelled planting of coconuts for the production of copra. But earlier observers agree that very few trees were to be found in settlements or even gardens (see, for example, Guppy 1887; Hees 1915–16; Panoff 1972). At most, people cleared around the trunks of trees that grew wild – a very mild form of ‘arboriculture’. Furthermore, they often sought out a wide variety of wild foods to supplement those they raised. The Molima do so to this day as regards greens, and the Sengseng, by my reckoning, got about half their calories from wild foods. What some people regard as famine foods (e.g. wild yams or sago), others regard as valued parts of their daily diet.

I could expand on this point, but what interests me here is asserting that the early speakers of Oceanic languages, like their ancestors to the west (see Zorc 1994), had every reason to enter and explore the forests and to become familiar with what it held. Not only should we grant that many of the trees and other plants on which they relied were growing wild, but we should be alert to the probability that, within the limits afforded by local conditions, they continued to seek out and recognise a variety of old friends as they travelled east. In view of all that has been done in recent years, especially by Ross, in reconstructing names for food plants, it was hardly likely that I could have added to their number, but I think it is significant that the few new reconstructions I propose below all refer to other kinds of wild plants. Since I more or less stumbled on them, I suggest that more thorough investigation – including simply looking for cognates in conservative languages of plants well-identified for others – might be very valuable in increasing our knowledge of the lives and interests of speakers of POc. Without denying their interest in “utilitarian” plants (Tryon 1994:507), I suspect that a variety of other interests could also be reconstructed if we search farther. See, for example, Blust (1983–84:87) on a variety of ficus as the haunt of ghosts, or the terms reconstructed in the west for certain flowering plants. As the example of *\*nunuk*, *\*laji*/*\*lasi* (see below), and *\*salato* show, we can also acknowledge that some plants were named so people would know to avoid them. (I am ignoring the fact that the Lakalai actually used the bark of *Laportea gigas* for building houses.)

### 3 Present approach

First, since no one now disputes that Austronesian languages entered Melanesia from the west, I do not have to exclude Indonesian material from my data base. In fact, I have specifically searched for cognates in Melanesia of terms previously reconstructed only for Indonesia. (See discussion of the term for nipa palm). I have also used data from Polynesian languages, and am grateful to Ross Clark for supplying me with data from POLLEX on Proto Polynesian, as well as with his reconstructions for Proto North Central Vanuatu (PNCV). (I



have neglected Micronesia simply because I find it more difficult to recognise cognates in Micronesian languages.) In general, I have followed the same guidelines as Pawley (1996:134) in which a term can be assigned to POc if it is found outside Oceania as well as within it, or if it is found in “two or more of...five subgroups or collections of languages”, which are so widely dispersed that borrowing is presumably ruled out. Except where I have corrections to make, I have made no attempt to duplicate the many reconstructions proposed by others in the past few decades. Neither, apart from *\*tita*, have I bothered to correct or defend my own original list of reconstructions. That I was basically on the right path can be seen by the close resemblances between the protoforms that I postulated and those postulated by others who were usually working from a much better collection of material, as well as having a more sophisticated knowledge of the presumed phonology of POc. (See the forms from Chowning 1963 cited in Tryon 1994, while noting that he omitted two of mine – for kapok and *Laportea gigas* – both of which are similar to the forms he does cite.) Instead, I have confined my attention to postulating a few new terms, extending or modifying others, disputing a few, and trying to understand the implications of the information we now have.

One point needs to be stressed. It seems that I am more conservative than some of my colleagues, particularly Ross, in deciding first that two terms are related, and second that a particular identification can be assigned to them. Four examples will suffice – three from Ross, one from my own earlier musings.

In 1973 I cited a Kove counting classifier *saku*, used for pairs of mats, bundles of thatch, and sections of sago (Chowning 1973:217). This struck me at the time as being interestingly similar to sago terms reconstructed by Dempwolff, and it now seems much more persuasive, as possibly indicating cognacy, than the terms he and Dutton cite, including Muyuw *sag* ‘pandanus used for sleeping on’ (Ross 1996:188) and Jabem *saku* ‘spoon for stirring sago or taro puree’ (Dutton 1994:112). But I would still not cite these as supporting evidence for the word for ‘sago’, any more than I would use Lakalai *talo* ‘to mash cooked taro’ as evidence for a reflex of POc *\*talo(s)*.

A second example is Ross’s reconstruction of POc *\*m<sup>w</sup>amo* as ‘famine foods; wild taro’. I confess that it never struck me that Kove *momo* ‘sago’ (one of Ross’s witnesses) and Sengseng *e-mom* ‘*Dioscorea alata*’ were related; I expect such accidental resemblances to crop up in languages with limited numbers of phonemes. But what bothers me about his reconstruction is that in no case does the supposed cognate form refer to taro, wild or not, and wherever yams are involved they are, as in Sengseng, cultivated varieties. See also Maenge *momo* ‘*Dioscorea alata*’. Note that both the Maenge and the Sengseng eat wild yams, the latter very often, but do not call them by *momo*-like terms. Furthermore, at least in Kove, sago is not a famine food but a major part of everyday diet, prized as highly as taro; they were most indignant at my dislike for it. The reflexes cited do not seem to me to support the way in which the protoform is defined.

The third case concerns me more because it has been so widely accepted, as in Kirch’s (1997:207) list of POc food plants: *\*(wv)ele* ‘cut nut, *Barringtonia* sp.’. Two of the witnesses are from adjacent languages in West New Britain, Lakalai (Ross’s Nakanai) and Mangseng. In the former the term (*uele*) refers to *Canarium*; in the latter *vere* is simply defined as ‘a tree’. Yet in Lakalai there exists a term *uele te vere* for a different species of *Canarium*. In addition, I pointed out in (Chowning 1996:46) that the Sengseng term for *Canarium*, *e-vel*, is cognate with the Lakalai term. In short, the evidence suggests that the New Britain terms all referred to a tree that was not *Barringtonia*, in contrast to the Solomon terms, and for those the data in Tryon and Hackman (1983:207-210) indicate that a number of languages have a

rather than *e* in both syllables. If the Solomons and New Britain terms are related, the original definition is unclear; if they are not, the shape and distribution of the protoform should be reconsidered.

The example from my own investigations was unpublished because, as noted above, I thought Molima was closely related to some Solomons languages and excluded material from Polynesia. For this reason I did not reconstruct a second term for *Inocarpus edulis* to include Sa'a *mapwe*, Tahitian *mape*, which actually designates a *Terminalia* sp. I have now changed my mind. Because the Eastern Oceanic (EOc) witnesses are so consistent as regards both the botanical identification and the final vowel, I would now exclude from the cognate list both the Molima term and Proto Polynesian (PPn) *mapa*, which designates a *Diospyros* sp., and reconstruct Proto Eastern Oceanic (PEOc) *\*m(w)ap(w)e*, or something similar, for *Inocarpus*. The witnesses include, along with those cited by Ivens (1918), PNCV *\*mwabwe* (Clark 1994). If the Molima term either ended in *-e* or designated a Tahitian chestnut, I would admit it and assign the term, perhaps in amended form, to POc. (See also Bwaidoga *mafa* 'a species of tree with nuts like almonds' – Jenness and Ballantyne 1928–29). As it is, I prefer to be cautious.

#### 4 Identifications

In 1963 I reconstructed only terms to which I could, I thought, assign a secure botanical identification. This requirement excluded much of the material available both in published sources and in my own Molima data. I should note at once that except for Lakalai, my own vocabularies are full of the unsatisfactory 'definitions' that frustrate me when reading other ones: 'a tree with edible yellow fruit', for example. Sometimes I do have additional data in field notes that enable me to make an identification (as with Molima and Kove *natu* for *Burckella*) once I can consult other materials, but what I have avoided is reconstructing a protoform if I can only define it vaguely. For example, I am not sure that Kove and Tolai *bama* 'vine with edible root' are the same because the remainder of the descriptions differ so much. The Kove state that the vine contains a potable liquid, whereas the Tolai say that the bark is used in making fishnets. This latter description suggests *Pueraria* (see Tryon 1994:508), but I have no good reason to think that the Kove plant is the same, and so I have not added it to my collection.

On the other hand, in recent years, and purely because of work done by others, I have become persuaded of the usefulness of defining some terms so vaguely that no botanical identification can be given, or stressing that alternatives exist. In the former category I would put Blust's definition of *\*laji* (Ross's POc *\*lasi*) as 'tree with poisonous sap', followed by a query as whether it is *Antiaris toxicaria*, more satisfactory than the clear botanical assignment in Tryon. My reason is that the label applies to different trees with poisonous sap, notably *Semecarpus* in several cases. Despite its first syllable for which I cannot account (but see PNCV *\*walasi* '*Semecarpus*' – Clark 1994) I would add Molima *wenasi* '*Semecarpus*' to the examples cited by Tryon. Another cognate, Lakalai *vorasi/vorarasi*, was identified by Floyd as possibly *Exoecaria*. I suspect that the Lakalai form was affected by confusion with the verb *rasi* 'to damage' and *vovo* 'skin' (often reduced to a monosyllable in compounds).

A more interesting case of apparent false precision is that of POc *\*ntoRa*, defined by Blust as 'hardwood' (and see Wolff 1994:540) but in Tryon, following Geraghty and Clark, simply as *Intsia bijuga*. The distribution of meanings attributed to the term within Oceanic

makes it clear that this is indeed the correct definition for the west, but not in Polynesia. Geraghty reconstructs Proto Central Polynesian (PCPn) *\*ya(R)u*, which extends as far as Eastern Fijian (compare POc *\*yaRu*), for ‘casuarina’, but reflexes of *\*ntoRa* designate casuarina in Rotuman and Polynesia (Biggs 1965:408), and a new word, PCPn *\*vesi*, is reflected in the Fijian and PPn terms for *Intsia*. Note that in English both trees are called ‘ironwood’; the hardness continues to be a salient characteristic. However surprising this shift may be, a full definition should include the fact that two different trees are called by the same term (see *\*viRu* below).

Another case in which I am dubious about the full identification is that of POc *\*pijo* as an edible *Saccharum* sp. (Ross 1996:218). Too many of the witnesses are not identified as *Saccharum*. Those listed in Tryon do seem to support such an identification, and undoubtedly I am influenced by the fact that the Lakalai cognate *viro* refers to *Phragmites*, but I would still prefer to see the *Saccharum* identification listed with a query, though Ross (pers. comm.) disagrees.

Another identification that made me wonder is Ross’s of POc *\*m<sup>w</sup>wa(r,R)e* as ‘croton, *Codiaeum variegatum*’. (I concur, by the way, with the new formal reconstruction, which is required by Kove *mohe* and is better than my original *\*male*.) Of course I agree with Ross that “cognate sets span both” croton and cordyline varieties; that was why in 1963 I assigned names for these, along with cycads, to a “croton group” (Chowning 1963:41). But when reflexes of the protoform designate cordyline from Lakalai through Kove to Bariai (Kabana), I cannot be happy about the apparent certainty of Ross’s present definition. In Ross’s list, ‘Nakanai’ *male* is incorrectly said to mean *Codiaeum*.

For some of us, the possibilities of identification have been limited because (as far as I know) few comprehensive collections have been made in places where Oceanic languages are spoken. Within Melanesia, those who have collected, like Panoff, have typically published only a fraction of their material. I wholeheartedly agree with Tryon (1994:481) about the need for “collaborative research by botanists and linguists”, though I would like to add ethnographers to the mix. But it is perhaps also worth noting that the most useful data would come from languages that are relatively conservative (like, for example, Kove rather than Sengsen). I was disappointed to find, for example, that the Roviana dictionary, which contains many botanical identifications I have no reason to distrust, also displays very few that have cognates in other Oceanic languages. Without many more very thorough studies, we have to rely far too often on guessing that two plants that look or sound similar are really the same thing. With luck, we may obtain names in some other languages, but my experiences with Tok Pisin in West New Britain have made me wary about how helpful these may be.

## 5 Problems with Tok Pisin

These are of three kinds. The first, and sometimes most difficult to detect, is that one may easily record a Tok Pisin (TP) term mistaking it for one in the local vernacular. To cite a possible example of my own, the Sengsen told me that a word of theirs, *meles*, was *malas* in TP. This was not in either of my dictionaries, and it took me a long search to find its meaning, noted in an article on forestry in the *Encyclopaedia of Papua and New Guinea* (Angus 1972:457). The tree is *Homalium foetidum*. Only later did I discover the term in our Lakalai vocabulary, with that meaning (written *malasi*, but pronounced *malas*). Usually

Floyd noted that particular terms he recorded came from TP, but not in this case. The only evidence suggesting that the term is indeed Lakalai is the existence of a binomial *malasi-ilitili*, designating a different variety.

I feel equally uncertain about Lakalai *taliga* 'k.o. fungus'. When I commented on French-Wright's thesis, I had forgotten that this might well derive from TP *taliŋa* and suggested that the comparative evidence, including that from Sa'a, justified attributing *\*taliŋa* 'k.o. fungus' to POC. I was aware that in many languages the word for 'ear' is the same as the word for 'fungus' even when the former is not derived from *\*taliŋa*, as is true with Lakalai *gavusa* (designating a different fungus from the one called *taliga*, and see also PNCV *\*bwero*). As regards the POC reconstruction, I was relieved to see that it was recently proposed by Blust (1983–84:130–131), but I still feel uneasy about the attributing the *taliga* form to Lakalai rather than to TP.

As these examples suggest, a consistent problem for fieldworkers is that informants, especially the younger ones, are so likely to volunteer TP terms. I suspect that this explains Ross's (1996:188) attribution of *saksak* for 'sago' to Bola-Harua. Not only is it phonologically unlikely, but it is contradicted by the terms given in the 1980 Summer Institute of Linguistics' list (Johnston 1980:144).

A different problem that, as far as I know, has not been generally recognised is that of misleading or frankly incorrect definitions in the dictionaries, those of Murphy (1954) and Mihalic (1957) in particular. Mihalic defines TP *galip* as 'Tahitian chestnut', which is actually the English term for TP *aila* '*Inocarpus edulis*'. *Galip* is the term for *Canarium* almond. A considerable number of linguists and anthropologists have repeated this error. Both dictionaries also state that *pitpit* (or *pit*) refers to wild species of *Saccharum*, whereas *Saccharum edule*, called by this term, is always cultivated. Even those who have seen it in the gardens keep repeating that it is "wild" (and see Ross 1996:217).

Mihalic gives *limbum* as the term for 'areca palm', *wail limbum* for *Caryota*, and *wail saksak* for nipa palm. In West New Britain, I have never heard the first of these (the tree is called by the same name as the fruit), *limbum* is used particularly for *Archontophoenix*, *morota* (otherwise the word for 'thatch') is used for nipa, and the Sengseng at least call *Caryota* '*wail saksak*'. I could multiply examples of the problems caused by relying too heavily on the identifications in the dictionaries, particularly if only one is consulted. (In my experience, Murphy is better for New Britain TP, but by no means free of error.) Suffice it to say that some forms elicited by asking for the vernacular equivalent of a TP term such as *limbum* may not mean what the linguist expects.

For me, a more serious problem has been the existence of many TP terms that are not in my dictionaries. I mentioned *malas* earlier. In Sengseng it took me a long time to discover that *solomon* was the TP term for *Pangium edule*; both dictionaries define it only as 'ceremonial rattles', Womersley (1972:231), writing about the plant without giving its TP name, first describes how the poison is removed and then adds that the "seed coats...are extensively used for dance rattles". I am confident that I identified the plant correctly, but not with the aid of dictionaries. Other terms that I have eventually tracked down or figured out are *bitum* (*Vitex cofassus*), *botol* (*Endospermum foetidum*), *piduk* (*Melanolepis moluccana*), *valagur* (*Polyscias* sp.?) and *lapuat* (*Parartocarpus*). This last resembles Ross's recent reconstruction of Proto Western Oceanic (PWOC) *\*lapuka* for the same tree. The vernacular names in Lakalai, Sengseng and Kove do not resemble *lapuat* or *lapuka* (see Chowning 1996:46–47). (I owe some of these identifications to Floyd.) There are others that

I have not been able to identify, such as *gulai* (for Kove *asi*) and *mala, baira* for a tree with red wood (Kove *mahara*).

The Kove told me that the tree they use for commercial carving is called both *karasin* (as it is in the Solomons) and *kanau*. I traced its identification through the Solomons term, but noted with interest that *kanau*, for *Cordia subcordata*, is also the Tolai term. Clearly *kanua* should be attributed to POc (see Wolff 1994:524).

## 6 New and expanded protoforms

POc *\*(q)asa* ‘*Lygodium* sp., climbing fern’

|          |             |  |
|----------|-------------|--|
| Lakalai  | <i>hara</i> | ‘ <i>Lygodium circinnatum</i> , plant used for wrapping of coiled baskets’ |
| Kwara’ae | <i>sata</i> | ‘ <i>Lygodium microphyllum</i> ’   |
| Tolo     | <i>asa</i>  | ‘a type of vine used to bind canoes and weave baskets’                     |

Lichtenberk (1988:58) records a number of cognates in Solomons languages, and in Lau the reference is specifically to a climbing fern. Both Lakalai and Cristobal-Malaitan languages have developed a prothetic consonant before POc *\*a-*, and in both the medial consonant reflects more than one POc consonant, so that my reconstruction may need modification once more cognates are discovered.

POc *\*iguRa* ‘*Ficus* sp., k.o. sandpaper fig’, leaves used for polishing wood

|         |                |   |
|---------|----------------|---|
| Lakalai | <i>igura</i>   | ‘ <i>Ficus</i> sp. with sandpapery leaves’  |
| Motu    | <i>igulara</i> | ‘ <i>ficus</i> sp.’ (Lister-Turner & Clark 1954. The final syllable is unexplained; Ross (pers. comm.) suggests that it is a loan from a Collingwood Bay language.) |
| Kwaio   | <i>igula</i>   | ‘a tree, leaves of which are used to polish wood’   |
| Gela    | <i>ngula</i>   | ‘tree with rough leaves’; <i>ingula</i> ‘its leaves for smoothing’  |

Paul Geraghty first pointed to the resemblance between the Lakalai and Gela terms when he was reconstructing a PCPn word *\*quRa* ‘rub, scrub’, which he thought was reflected in both languages. But in Lakalai *\*q* is always reflected as *h*; if a verb reflects *\*quRa*, it would be *hura* ‘to clean a coconut shell for use as a water bottle’. Not surprisingly, Geraghty was misled by the Gela forms. See also Bwaidoga *aikula* ‘banyan’ (Jenness & Ballentyne 1928–29) and perhaps Molima *aigula* ‘k.o. tree’, though it should be noted that the Bwaidoga use the leaves of a different tree, called *fanavivi*, as sandpaper (Jenness & Ballentyne 1920:184).

POc *\*kara* ‘irritating plant, perhaps variety of *Laportea*’

|       |              |   |
|-------|--------------|---|
| Kove  | <i>gala</i>  | ‘a stinging plant related to <i>lato</i> ? ( <i>Laportea gigas</i> )’ |
| Tolai | <i>kara</i>  | ‘sp. of small stinging nettle, <i>Urtica enderalis</i> ’              |
| PNCV  | <i>*kara</i> | ‘stinging plant’  |

I had been struck by the resemblance between the Kove and PNCV terms, and in looking for further cognates found the Tolai example. Because I would expect *\*k* to be reflected in Kove as *k*, I suspect that *gala*, though still cognate, is a loan from another West New Britain language.

POc \**nipa* 'Nipa frutescans'

|          |                |   |
|----------|----------------|---|
| PAn      | * <i>nipaq</i> | (Wolff 1994:532-533)                              |
| Kwara'ae | <i>niva</i>    | 'Nipa frutescans'                                 |
| Gela     | <i>niva</i>    | 'a species of sago palm smaller than <i>sao</i> ' |

As I noted earlier, I found this correspondence by deliberately looking for cognates of terms that are widespread in languages spoken to the west of Melanesia.

POc \**piRu* 'umbrella/fan plam, *Licuala* in the west, *Pritchardia* in the east'

|           |                            |                                  |
|-----------|----------------------------|----------------------------------|
| Kove      | <i>pilu</i>                | ' <i>Licuala</i> '               |
| Lakalai   | <i>viluvilu</i>            | ' <i>Licuala</i> sp.'            |
| Gela      | <i>vilu</i>                | 'palm with umbrella-like leaves' |
| Kwara'ae  | ( <i>fai</i> ) <i>filu</i> | ' <i>Licuala</i> '               |
| PEOc/PCPn | * <i>viRu</i>              | ' <i>Pritchardia pacifica</i> '  |

Geraghty reconstructed this term in 1990, and Tryon (1994) repeats the identification for PEOc, giving the cognates in various eastern languages, including PPN \**piu*. Although Geraghty lists the other Lakalai *viluvilu* term, the word for 'sawfish' (which like the Lakalai themselves he ascribes to the resemblance of the sawtoothed leaves to the fin of the fish), he overlooked the plant name. Earlier French-Wright (1983:208-209), in his discussion of his PCPn \*(*m*)*piu*, pointed out that *Pritchardia pacifica* is confined to parts of Polynesia and Fiji. Noting possible cognates in Arosi and Canala, he suggests that the PCPn form "might well be an example of the reapplication of an established plant name to a newly found species". I am sure that he was right, and we should accept that the protoform designated different, thought similar-looking, plants in different parts of the Pacific. Assigning a single Latin binomial can only cause confusion. It would be tedious to describe my own quest for extensions of the *Licuala* term, which began with my recognising that the Kove and Lakalai plants were the same and with re-reading French-Wright.

POc \**sabaka* 'Alstonia sp., including *Alstonia scholaris*'

|         |                |                               |
|---------|----------------|-------------------------------|
| Lakalai | <i>sabaka</i>  | ' <i>Alstonia</i> sp.'        |
| Maenge  | <i>samvaga</i> | ' <i>Alstonia scholaris</i> ' |
| Kwaio   | <i>taba'a</i>  | ' <i>Alstonia scholaris</i> ' |

Cognates are widespread in the Solomons, including Guadalcanal *sambaya*, etc. (Tryon and Hackman 1983:215-217). Despite the similarity in form, these terms are presumably not related to PWMP \**sabaqan* (Blust 1983-84:108), which seems consistently to refer to cordyline or something similar.

PEOc \**m(w)ap(w)e* '*Inocarpus edulis*', discussed above. The definition seems clear, even though terms for *Inocarpus edulis* derived from PAN \**ipil* are attested from Gitua to Tonga. Clark attributed \**mwampwe* to PNCV (see data in Tryon 1994:498).

## 7 Conclusions

I realise that this paper may sound unduly critical of the editors of the volume, but the reason is only that they have done so much work on the topic – more than I could ever hope to do – that inevitably the possibility of carping about certain points arises. I would have liked

to give more attention to particular topics that have intrigued me and others, including Tom Dutton, such as: why terms change for no discernible reason, as with names for casuarina; the discontinuous distribution of certain terms and why a term is applied to one plant in one place and to another elsewhere (see Biggs 1991 on this point); and the existence of multiple terms for the same plant (see Tryon 1994:509). Because north-west New Britain is so widely thought to be something of a homeland for speakers of POc, I would have hoped to be able to contribute something useful on this last point, but can only point to some intriguing distributions. For example, a word for nipa palm, reflected in Lakalai *barema* and Kove *valevalema*, extends from East Nakanai across the Vitiaz Straits to Gitua, uniting languages which, though contiguous, share little in their vocabulary related to plants except for terms that can easily be derived from POc. They have different words for 'sago' and 'yams' (see Johnston 1980 for some of these), and I can find no external cognates for the nipa palm term. This is just a tiny example of the kind of problem that has so interested Tom as he has wrestled with the implications of the distribution of 'cultural vocabulary' in Papua (Dutton 1977). In the same article, along with complimentary comments about my 1963 paper, he also remarked, to my surprise, that "it deals only marginally with Papua New Guinea" (1977:71). I do not consider that on cultural or linguistic grounds Papua New Guinea can be separated from the rest of Melanesia, but I can only hope that my struggles to reconstruct plant names will be of some interest to those who, like Tom and everyone associated with linguistics at RSPAS, are as interested in culture history as in linguistics.

The sources of most of the lexical data should be obvious. Tolai material is taken from Lanyon-Orgill (1960), and Kwara'ae from Whitmore (1966).

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# 6 *Haruai kin terms*

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BERNARD COMRIE

## 1 Introduction

The Haruai language is spoken by about 100 people in the Schrader Ranges, in the south-west corner of Madang Province, Papua New Guinea. Haruai is genetically related to two neighbouring languages, Hagahai and Pinai; broader genetic relations are unclear (Comrie 1988).<sup>1</sup> My aim in this paper is to provide a linguistic account of kin terms in Haruai. There is already a study of the Haruai kinship system (Flanagan 1983, especially 331-346), so I should set out the ways in which my account differs from his. First, there are some additions to the empirical material, some of which apparently concern variation in the use of terms that has arisen as the Haruai have become more integrated into the life of their neighbours, especially the Kobon. Second, my approach is primarily linguistic instead of ethnographic; one outward sign of this is my use of a phonemic transcription instead of Flanagan's impressionistic transcription.

One might wonder initially whether the notion 'kin term', specifically with respect to the Haruai language, is indeed a valid linguistic, rather than an ethnographic, category. Certainly, the usual way to identify kin terms is by their social meaning. However, in Haruai there is at least one criterion that serves to identify some, but not all, kin terms, namely the use of possessed forms that are not found with other nouns. As will be seen in the detailed presentation below (§4), not all kin terms (in an intuitive or ethnographic sense) share this formal linguistic peculiarity, but the implication does work perfectly in the one direction: if a lexical item has such unusual possessed forms, then it is a kin term. Some kin terms, incidentally, occur only with possessive suffixes, but they are a small minority; in the body of the text, they are marked by a final = sign, indicating that the form given must be followed by a possessive suffix to give a well-formed word.

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<sup>1</sup> This material is based upon work supported by the National Science Foundation under Grant BNS-8504293. I am grateful to the Madang Provincial Research Committee for permission to conduct this research and to the Summer Institute of Linguistics (Papua New Guinea Branch) for invaluable material aid. I am especially grateful to the Haruai people for their hospitality and enthusiastic support of my work on their language. My fieldwork on Haruai was carried out in 1985-86.

The detailed presentation below, perhaps surprisingly given the linguistic bias, starts from content rather than from form. No theoretical significance should be attached to this. I have simply found this the most useful way in which to present information on Haruai kin terms to linguists; an audience of ethnographers might well react differently. One result of this is that different interpretations of one and the same lexical item will appear in different places; however, I have given relevant cross-references.

Two important general characteristics of Haruai kin terms can be identified at the outset. First, the treatment of siblings/cousins follows the Iroquoian system, with one set of terms for siblings and parallel cousins (father's brother's children and mother's sister's children), and another term for cross-cousins (father's sister's children and mother's brother's children). Second, there is widespread use of reciprocal terms, i.e. terms such that if X uses that term to refer to Y, then Y uses the same term to refer to X.

## 2 Kinship by blood

This section treats those terms that are called, for convenience, kinship by blood, though it should be noted that Haruai does not distinguish terms for kin related by blood, by half-blood, or by adoption; thus a half-brother is treated linguistically as a brother; a step-father is treated linguistically as a father; an adopted daughter is treated linguistically as a daughter.

### 2.1 Parents and children

The terms for one's parents are *acö* (or *böp*) 'father', *mam* 'mother'. The term *acö* is more common, though some speakers prefer *böp* for an adult speaking to or of his or her father; *böp* is probably a loan from Kobon *bap*.<sup>2</sup> For extended use of these terms (classificatory parents), see §3.2 and §3.5.

There are no special kin terms for children, the general terms *ha* 'child, boy', *halöw* 'girl' being used for 'son' and 'daughter' respectively, with possessive clitics where appropriate – but these are the possessive clitics used with nouns in general, not the special forms found with some kin terms (§4). *Ha* is in principle unspecified for sex, but its use is considered inappropriate in reference to an individual known to be female. For extended use of these terms as kinship terms (classificatory children), see §2.5, §3.2 and §3.5.

To specify that a 'parent' or 'child' is non-classificatory, one can use the adjective *yöb*, e.g. *acö yöb* 'true father', *halöw yöb* 'true daughter'.

### 2.2 Siblings and parallel cousins

Siblings (i.e. brothers and sisters) and parallel cousins (i.e. children of ego's father's brother or mother's sister) are treated alike, i.e. parallel cousins are classificatory siblings. The relevant parameters are the sex of the referent, the sex of ego, and the seniority of the referent relative to ego. For true siblings, seniority is determined by relative age; for parallel cousins, however, seniority is determined by the relative age of the parents that are siblings,

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<sup>2</sup> Kobon terms are cited from Davies (1981, 1985). Note that it is not uncommon for Kobon *a* to appear as *ö* in loans into Haruai.

i.e. ego's father's older brother's son is a classificatory older brother, even if this parallel cousin is younger than ego.<sup>3</sup>

There are special terms for siblings/parallel cousins of the opposite sex from ego, and these do not distinguish seniority: *nölöw* = 'sister of male ego', requiring a following possessive suffix; *nmam* 'brother of female ego'. A group consisting of brother and sister is referred to as *nmmañ*; the second part of this seems to be from the Kobon word *añ* 'sister, parallel cousin'.<sup>4</sup>

The more general terms for siblings/parallel cousins are distinguished for seniority, but not necessarily for sex of the referent and never for sex of ego: *höd* 'older sibling; senior parallel cousin'; *pg* 'younger sibling; junior parallel cousin'. Both terms are used at least primarily for siblings/parallel cousins of the same sex as ego.<sup>5</sup> Sex can be specified by adding sex-specific terms as follows: *nöböhöd* 'older brother' (etymologically *nöbö* + *höd*), *möhöd* 'older sister' (etymologically *mö* + *höd*), *ha pg* 'younger brother', *halöw pg* 'younger sister' (cf. *nöbö* 'man', *mö* 'woman', *ha* 'boy', *halöw* 'girl'). A group consisting of an older and a younger sibling, or a senior and a junior parallel cousin, can be referred to as *hödpg* (etymologically clearly a compound of *höd* and *pg*).<sup>6</sup>

In speaking of the siblings in a family, *höd* and *pg* can also be used more specifically to indicate the oldest and youngest of the group respectively. The intervening siblings are *möybl-yöbö* (lit. 'middle-ADJECTIVE'), and the second oldest can also be referred to specifically as *röbñañ-yöbö*.

### 2.3 Cross-cousins

Cross-cousins, i.e. children of ego's father's sister or of ego's mother's brother, are all referred to by the term *nölpö*, irrespective of sex or seniority; this term is reciprocal by definition.

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<sup>3</sup> While this concept of seniority at first surprised me, it is of course no different from traditional primogeniture in European societies. Thus if King John has an older son Henry and a younger son Alfred, then Henry's oldest son William will inherit ahead of Alfred's oldest son Richard, even if William happens to be younger than Richard.

<sup>4</sup> Kobon is a major source of loans into Haruai. Some speakers, especially those living in closer contact with speakers of Kobon, make greater use of Kobon words, including for some kin terms; I have observed some Haruai speakers using Kobon *añ* as a general word for 'sister, female parallel cousin'. Note that Kobon *añ*, unlike the indigenous Haruai terms, does not distinguish the sex of ego.

<sup>5</sup> Flanagan (1983:332) treats such terms as restricted in reference to siblings and parallel cousins of the same sex. This is certainly their usual use. I did get speakers of Haruai to agree that these terms could be used for opposite-sex siblings and parallel cousins, but this may have been under pressure and in violation of good ethnographic method. However, Haruai speakers would not agree that *nölöw* = and *nmam* could be used of same-sex siblings or parallel cousins, so there is perhaps some element of markedness involved in the opposition.

<sup>6</sup> Although *nöböhöd* and *hödpg* are transparent etymological compounds, there is phonological evidence that they are no longer treated on a par with productive compounds. In *höd* and *pg*, the final consonant is prenasalised. In *nöböhöd* and *hödpg* they are not, as is usual for consonants so far from the beginning of a word. Note that in *ha pg* and *halöw pg*, the final *g* is prenasalised, suggesting that these are productive compounds. In *möhöd* the final *d* is prenasalised, but this is attributable to the fact that the preceding true consonant is the nasal *m*, and has nothing to do with structure as a productive compound.

## 2.4 Grandparents and grandchildren

For grandparents and grandchildren there are two terms, *nōso* (var. *nōsōwō*) and *apso* (var. *apsōwō*), both of which define a reciprocal relation between grandparent and grandchild. The choice of term depends solely on the sex of the grandparent. Thus grandchildren of either sex call their grandfather *nōso* and are referred to by him as *nōso*; they call their grandmother *apso* and are referred to by her as *apso*.

For extended uses of the terms for grandparents and grandchildren as kin terms, see §3.2 and §3.5. The linguistic grandparent–grandchild relation is also used as a form of address across generations by people who are not related to one another and who do not have any more appropriate form of address; it is quite striking in traditional stories, when younger and older strangers meet.

## 2.5 Uncles, aunts, nephews and nieces

First, it may be noted that the relation between an older brother and a younger brother's children is assimilated to that between grandfather and grandchildren. Thus, an older brother calls his younger brother's children *nōso*, and is referred to by them as *nōso*.

Otherwise, Haruai has distinct terms for each of the sex combinations of parent and parent's sibling, in this respect departing from the canonical Iroquoian system (which would classificatorily identify father's brother with father, mother's sister with mother). For 'mother's brother' there is a special term *papwō*, the reciprocal of which is *ymhalw* 'male ego's sister's child', irrespective of the sex of the referent. For other uncles and aunts there are also specific terms: *wōwyō* 'father's younger brother', *nobyō* 'father's sister', *naymō* 'mother's sister'. For other nephews and nieces there are no special terms and they are treated as classificatory children, i.e. *ha* or *halōw*.

The relation between a child and its parent's (parallel and cross-) cousins is assimilated to that between a child and its parent's siblings, e.g. a girl calls her mother's female cousins *naymō* and is called *halōw* by them.

For extended uses of the terms for uncles and aunts, see §3.5.

# 3 Kinship by marriage

Haruai marriage is heterosexual and monoandrous (i.e. a woman can have at most one husband). Traditionally, polygyny was permitted (i.e. a man could have more than one wife), and in the mid-1980s there was at least one polygynous household.

## 3.1 Husband and wife

There are no special kin terms for 'husband' and 'wife', the words *nōbō* 'man, person' and *mō* 'woman' being used, with the appropriate possessive clitic. Interestingly, in the third person the appropriate possessive suffix comes from the set restricted to kin terms (see §4), i.e. *nōbō=ny* 'her husband' (not \*'my husband'), *mō=ny* 'his wife' (not \*'my wife'). (Although *nōbō* as a non-kin term is in principle unspecified for sex, it is considered inappropriate to use it in reference to an individual known to be female. As a kin term, it can only mean

'husband', not \*'spouse' irrespective of sex.) In a polygynous household, the wives refer to one another as *adōw*, literally 'friend' (Tok Pisin *pren*); this same term is, incidentally, used by men who underwent initiation together.

### 3.2 Spouse's parents and child's spouse

The relation between a woman and her husband's parents is assimilated either to that between parents and daughter or to that between grandparents and granddaughter. Thus a father-in-law calls his daughter-in-law either *nōso* or *halōw* and is called by her either *nōso* or *acō* (or *bōp*); she calls her mother-in-law *apso* or *mam* and is called either *apso* or *halōw* in return.

A man calls his wife's mother *mōkj* (or *gamōy*), which, unlike the other in-law terms introduced below, is not reciprocal; she calls him *bōnōy* (var. *banōy*), the most general in-law term.<sup>7</sup> For the relation between a man and his wife's father, there is a specific reciprocal term *ymōk*; while speakers acknowledge that this is the most appropriate term to be used for this relationship, it is also possible to use *bōnōy*.

### 3.3 Siblings-in-law (including parallel cousins-in-law)

For siblings-in-law (including parallel cousins-in-law), there is a set of reciprocal terms. The relation between a man and his wife's siblings (irrespective of sex) is covered by *bōnōy* (var. *banōy*), a term with a wide range of referents, as noted in §3.2. The relation between a woman and her husband's brother is covered by *nobl*; the relation between a woman and her husband's sister is covered by *mōnwōs*.

### 3.4 Cross-cousins-in-law

There is a special term, *yōdω=*, which occurs only with possessive suffixes, defining the reciprocal relation between ego and ego's cross-cousin's spouse.

### 3.5 Spouse's uncles, aunts, nephews and nieces

Different speakers have given me two different systems for referring to spouses of uncles and aunts. The one is to treat them as classificatory uncles/aunts, i.e. *nōso*'s wife is *apso*, *wōwyō*'s wife is *nobyō*, *papwō*'s wife is *naymō*, *nobyō*'s husband is *wōwyō*, *naymō*'s husband is *papwō*. The other is to treat them as classificatory parents (*acō*, *mam*), though *nōso*'s wife remains *apso*.

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<sup>7</sup> *Bōnōy/banōy* seems to be a loan from Kobon *bane*, which Davies (1985:39) translates as 'wife's brother, sister's husband, husband's sister, brother's wife'. It is possible that *bōnōy* entered the Haruai system from Kobon and has been in the process of ousting indigenous in-law terms, in a way that goes well beyond the range of reference of the word in Kobon itself. The quite anomalous non-first person possessed form of *bōnōy*, namely *malō*- (§4) may be an indication of the Haruai form before Kobon *bane* was borrowed.

Where an uncle is referred to as *nöso* and his wife therefore as *apso*, she refers to her husband's nephews and nieces likewise as *apso*. In all other cases, spouse's nephews and nieces are treated as classificatory children (*ha*, *halöw*).

#### 4 Possessed forms

In general, pronominal possession in Haruai is expressed by means of suffixed variants of the personal pronouns attached to the citation form of the noun phrase:<sup>8</sup> *=n*, *=nŋ* 'my', *=naŋ* 'your (singular)', *=nwŋw* 'his, her', *=an*, *=anŋ* 'our', *=nŋ* 'your (plural), their'. However, some kin terms depart from this pattern in one of several ways.

First, some kin terms take the suffix *=nŋ* in the third person singular, which excludes the possibility of this variant being used for a first person possessor, i.e. the fact that *mö=nŋ* means 'his wife' has the effect that only *mö=n* can be used to mean 'my wife'. Kin terms to which this applies are: *nöbö* 'husband', *mö* 'wife', and all kin terms that obligatorily require a possessive suffix (indicated by final = in Table 1). Note that *nöbö-nŋ*, literally 'her husband', is also used for 'male' of an animal; for 'female', see below.

Second, some kin terms obligatorily require a possessive suffix. This applies to *yödw=* in all grammatical persons, e.g. *yödw-naŋ* 'your cross-cousin's spouse, etc.', *yödw-nŋ* 'his/her cross-cousin's spouse, etc.'; the form with a third person singular possessive suffix, *yödw=nŋ*, is also used as citation form. It also applies to the specifically non-first person kin terms listed in Table 1. Note that these items will require a possessive suffix even when the possessor is expressed as a noun, e.g. *nöbö dyb yödw-nŋ* 'the big man's cross-cousin's spouse, wife's cross-cousin'.

Third, and perhaps most strikingly, some kin terms have distinct stem forms according to the person of the possessor (ego). These forms are given in Table 1. Several comments on these forms are in order.

**Table 1:** Kin terms with irregular possessed forms

| Ego:            | first person  | second person | third person  |
|-----------------|---------------|---------------|---------------|
| Citation form:  |               |               |               |
| <i>acö</i>      | <i>acö</i>    | <i>nawö</i>   | <i>nwö</i>    |
| <i>mam</i>      | <i>mam</i>    | <i>nam</i>    | <i>nwöm</i>   |
| <i>nölöw=nŋ</i> | <i>mölöw</i>  |               | <i>nölöw=</i> |
| <i>nöso</i>     | <i>nöso</i>   |               | <i>nhö=</i>   |
| <i>apso</i>     | <i>apso</i>   |               | <i>apk=</i>   |
| <i>papwö</i>    | <i>papwö</i>  |               | <i>npap</i>   |
| <i>ymhalw</i>   | <i>ymhalw</i> |               | <i>ymhal=</i> |
| <i>wöwyö</i>    | <i>wöwyö</i>  |               | <i>wöw=</i>   |
| <i>nobyö</i>    | <i>nobyö</i>  |               | <i>nob̃=</i>  |
| <i>bönöy</i>    | <i>bönöy</i>  |               | <i>mälö=</i>  |

<sup>8</sup> These pronominal forms should perhaps be treated as clitics rather than as suffixes, but I have not been able to come up with decisive evidence one way or the other.



For the terms for 'mother' and 'father' in the third person, the special third person possessed forms are obligatory, and do not allow addition of a possessive suffix. Indeed, they are also required when the possessor is a noun, e.g. *swg<sup>w</sup>b nwö* 'Sungub's father'.<sup>9</sup> However, the special second person possessed forms *nawö* and *nam* are not obligatory, and indeed were even rejected by some speakers, the use of the citation form *acö* or *mam* with possessive suffixes being used instead.

Nearly all of the other kin terms that vary according to possessor have a distinct form for non-first person possessor which requires a possessive suffix; only *npap* does not have this last requirement. In the case of 'sister of male ego', the distinction is obligatory: *mölöw*, which does not require a possessive suffix, can only imply a first person possessor, while *nölöw=* implies a second or third person possessor; the form with third person singular possessive suffix is used as citation form. Note that the form *nölöw=ny*, literally 'his sister' also means 'female' of an animal (cf. *nöbö-ny* 'male' above). For nearly all the other items (including *npap*), the special non-first person possessed forms are optional, the citation form being used not only with a first person possessor but also with a second or third person possessor. Judgements were not always unequivocal, but it seems that *wöw=* is obligatory with a non-first person possessor, while all the others are optional, and not always accepted by all speakers.

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<sup>9</sup> Adult Haruai are normally referred to as 'X's father/mother' after the birth of X, their first child (male or female), so such combinations are very frequent in daily usage. *nwö* and *nwöm* are also frequently used in naming kinds of animals and plants, e.g. *köp nwö* 'kind of bat' (cf. *köp* 'leaf'), *göy nwöm* 'kind of frog'.



# 7 *Animacy, class and gender in Burmeso*

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MARK DONOHUE

## 1 Tom Dutton and the northern Mamberamo?

As far as I have been able to determine, Tom Dutton has never, in his long and distinguished career as a linguist in the New Guinea region, been to, contemplated going to, or even in any particular way thought about, the northern Mamberamo area. It wasn't his area; Bert Voorhoeve summarised and speculated on what (little) was known about the area of the former Dutch colony in the west in the survey volumes of the 1970s, based on Dutch surveys of twenty years before, and no-one troubled the river for the next twenty years. The only direct connection, tenuous at that, that I can dredge up between Tom and the northern Mamberamo is that when Bill Foley suggested that I go and look at the area for him, Tom was one of the first to hear about the plan, and was enthusiastic about the idea; and that he retired while I was actually doing just that. It's a tenuous connection, but it'll have to do.

Between Tom and myself, I can claim that when I was merely contemplating a higher degree in linguistics it was Tom Dutton who made time to chat with me, explain how things worked a bit, and put my mind at ease on several issues. In that respect, I might never have trudged and paddled over the Mamberamo were it not for his helpfulness. So I guess there's a more substantial connection between Tom Dutton and the northern Mamberamo after all. Certainly there's one between Tom Dutton and the northern Mamberamo fieldworker.

## 2 Burmeso

Burmeso is an isolate spoken along the eastern banks of the middle and lower Mamberamo river area of northern Irian Jaya. It is spoken by about 300 people in the village of Burmeso, and in surrounding hunting and sago grounds as far as five days' walk away. It has also been referred to as Taurap (e.g. Voorhoeve 1975a), a name most probably derived from the word for language, *tauraf*. The name *Burmeso* (used in Silzer & Heikkinen 1991) is a name by which they call themselves that is both in current use by the government and other ethnic groups in the region, and acceptable to native speakers, and so is used here. The only

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earlier material on the language is found in Voorhoeve (1975b), a summary and startlingly accurate (given the paucity of materials available to him) analysis of earlier lexical materials. Voorhoeve classified Burmeso as a language isolate in northern Irian Jaya, not having any discernible relatives on the basis of the lexical materials. This classification cannot be challenged today, even given the improved understanding of the linguistic situation in northern Irian Jaya that has emerged in recent years, and a knowledge of some aspects of the structure of Burmeso and other languages in Northern Irian.

## 2.1 Verbal agreement

A transitive verb in Burmeso agrees with its object, as seen in (1)a and (2). Some (but not all) intransitive verbs use these same agreement prefixes for their intransitive subject, and that use is exemplified in (1)b (the shape of the agreement marker in (1)b is *n-*, not the perhaps expected *g-*, because *owori* belongs to the class of verbs that take the second set of prefixes; see Table 3 for the correspondences, and compare with (10)a and (12)a); because of this distribution, we may state that the prefixes are absolutive agreement prefixes; there is no ergative agreement position on the verb. The word order in the clause is SOV, with some case marking that is not relevant to the discussion here. The prefixes that carry this agreement will be glossed simply as 'AGR' in this section,<sup>1</sup> until the full range and variation in the occurrence of their use have been demonstrated.<sup>2</sup> Notice the variation in the verbal prefix in (1) and (2) as we vary the number of the object noun (number is always marked on nouns in Burmeso).

- (1)a. *Da tamo j-ih-i-maru.*  
 1SG man.SG AGR-see-TPAST  
 'I saw a man.'
- b. *Da ifor-ni n-owori-ko.*  
 1SG canoe-LOC AGR-paddle-YPAST  
 'I paddled in the canoe.'
- (2) *Da dit s-ih-i-maru.*  
 1SG men.PL AGR-see-TPAST  
 'I saw some men.'

Furthermore, this agreement contains information about the type of object seen, in terms of its nominal classification:

- <sup>1</sup> The following abbreviations are used in this paper:  
 AGR = agreement; ANIM = animate; DU = dual; F = feminine; INAM = inanimate; LOC = locative; M = masculine; N = neuter; OBJ = object; PL = plural; POSS = possessive; PRO = pronoun; RC = relative clause; RPAST = remote past; SG = singular; TPAST = today's past; SiC = sibling's child (niece or nephew); YPAST = yesterday's past.
- <sup>2</sup> The Burmeso examples are presented in an orthography halfway between the practical orthography and the underlying phonemic system. Most notably /j/ has been written before [i], in which position it is not pronounced (and so not represented orthographically; (1) is written *Da tamo ihimaru*). Underlyingly voiced stops are frequently pronounced without voicing in word-final position, and a final *b* alternates with [m] in this position. The division between the root and the plural morpheme in nouns has not been indicated, nor has word-final lowering of high vowels (/i/ → [e], /u/ → [o]).

- (3) *Da nawak g-ih-maru.*  
 1SG woman.SG AGR-see-TPAST  
 'I saw a woman.'

Despite distinguishing (so far) a male, female, and (male) plural category, we may note that there are points at which the system collapses potential distinctions; 'I saw some women' uses the same verbal agreement form as does (2), *Da nudo sihimaru*, revealing the *s-* to be a prefix that neutralises the distinction between the male and female classes. For the animate world, we have a system as follows:

**Table 1:** Animate agreement prefixes in Burmeso

|        | Singular  | Plural    |
|--------|-----------|-----------|
| male   | <i>j-</i> | <i>s-</i> |
| female | <i>g-</i> | <i>s-</i> |

Examining non-humans, we find that while many animate nouns (mammals, most birds) are treated as male for the purposes of agreement, very few are treated as female. Furthermore, there are nouns with agreement patterns that are not characterisable as belonging to either of the patterns described above. Examine the following representative examples:

- (4)a. *Da sibo j-ih-maru.*  
 1SG pig.SG AGR-see-TPAST  
 'I saw a pig.'
- b. *Da sirudo s-ih-maru.*  
 1SG pig.PL AGR-see-TPAST  
 'I saw some pigs.'
- (5)a. *Da timar g-ih-maru.*  
 1SG bat.SG AGR-see-TPAST  
 'I saw a bat.'
- b. *Da timnarid s-ih-maru.*  
 1SG bat.PL AGR-see-TPAST  
 'I saw some bats.'
- (6)a. *Da kwehia g-ih-maru.*  
 1SG frog.SG AGR-see-TPAST  
 'I saw a frog.'
- b. *Da kwehorudo j-ih-maru.*  
 1SG frog.PL AGR-see-TPAST  
 'I saw some frogs.'
- (7)a. *Da suabo j-ih-maru.*  
 1SG rain.SG AGR-see-TPAST  
 'I saw some rain.'
- b. *Da suado j-ih-maru.*  
 1SG rain.PL AGR-see-TPAST  
 'I saw some rains.'

- (8)a. *Da mibo j-ih-i-maru.*  
1SG banana.SG AGR-see-TPAST  
'I saw a banana.'
- b. *Da mirar g-ih-i-maru.*  
1SG banana.PL AGR-see-TPAST  
'I saw some bananas.'
- (9)a. *Da wif g-ih-i-maru.*  
1SG coconut.SG AGR-see-TPAST  
'I saw a coconut.'
- b. *Da wifemow g-ih-i-maru.*  
1SG coconut.PL AGR-see-TPAST  
'I saw some coconuts.'

The full system of agreement between verb and class of noun occurring as object as demonstrated in the examples above can be summarised in Table 2. This is the system of verbal prefixing found in a large number of verbs, and there are (counting the singular/plural alternations) six different prefixal sets, even though there are only three actual prefixal forms.

**Table 2:** Noun class agreement prefixes: set I

| Informal description |             | Class | Singular  | Plural    |
|----------------------|-------------|-------|-----------|-----------|
| Male                 |             | I     | <i>j-</i> | <i>s-</i> |
| Female               | Animate     | II    | <i>g-</i> | <i>s-</i> |
| Miscellaneous        | Non-animate | III   | <i>g-</i> | <i>j-</i> |
| Mass nouns           |             | IV    | <i>j-</i> | <i>j-</i> |
| banana, sago tree    |             | V     | <i>j-</i> | <i>g-</i> |
| arrows, coconuts     |             | VI    | <i>g-</i> | <i>g-</i> |

With these classes, we would call *tamo* in (1) and *sibo* in (4) class I, *nawak* in (3) and *imar* in (5) class II, and *kwehia*, *suabo*, *mibo* and *wif* in (6)–(9) as classes III–VI respectively. It is interesting to note that the pronouns do not all appear in one class; the plural pronouns *day* 1DU, *boro* 1PL and *bito* 2PL (illustrated in example (10)c below) are animate and plural, but cannot be characterised as belonging to class I or class II since the agreement prefixes for the plural of both these classes is *s-*. The singular pronouns are also animate, with *da(wo)* 1SG being class II, and *ba(wo)* 2SG being class I, as seen in (10)a and (10)b, in which the pronominal recipient of the giving is indexed as the object of the verb with *g-* or *j-*, depending on whether it is first person or second person.

- (10)a. *Tamo da wif g-i-ru.*  
man.SG 1SG coconut.SG II.SG-give-TPAST  
'The man gave me a coconut.'
- b. *Tamo ba wif j-o-ru.*  
man.SG 2SG coconut.SG I.SG-give-TPAST  
'The man gave you a coconut.'

- c. *Tamo day / boro / bito wif s-i-ru.*  
 man.SG 1DU / 1PL / 2PL coconut.SG ANIM.PL-give-TPAST  
 'The man gave us / you lot a coconut.'

Equally interesting is the fact that six classes are distinguished, in the singular and plural, with only three prefixes; it is hard to give glosses for these prefixes that reflect their distribution. The animate plural prefix *t-* is the only constrained prefix, but we can see from Table 2 that the glosses for *j-* are all of I.SG, V.SG, III.PL and IV (SG or PL); the remaining prefix *g-* has a similar range of meaning. In this respect it is notable that the class agreement prefixes are not pronominal; the example given in (10)a is not a pedantic repetition of the object both on the verb and with an NP: the sentence \**Tamo wif giru* without the free pronoun is not an acceptable sentence, even given a context for the first person singular as a discourse topic.

In addition to this set of agreement prefixes, other verbs follow the same pattern, but use a different set of prefixes; there are no obvious semantic correlations for verbs which take the different sets of prefixes, and both sets of verbs are of approximately equal size. This will be only partly exemplified here:

- (11)a. *Jamo tamo b-akwa-ru.*  
 dog.SG man.SG I.SG-bite-TPAST  
 'The dog bit a man.'
- b. *Jamo dit t-akwa-ru*  
 dog.SG man.PL ANIM.PL-bite-TPAST  
 'The dog bit some men.'
- (12)a. *Jamo nawak n-akwa-ru.*  
 dog.SG woman.SG II.SG-bite-TPAST  
 'The dog bit a woman.'
- b. *Jamo nudo t-akwa-ru.*  
 dog.SG woman.PL ANIM.PL-bite-TPAST  
 'The dog bit some women.'

Each of this set of prefixes matches a prefix from the first set, with *b-* (or zero) corresponding to *j-*, *n-* corresponding to *g-*, and *t-* matching *s-*; there does not seem to be any recognisable semantic factor that decides whether a verb takes the *j-/g-/s-* prefixes or the *b-/n-/t-* set. The system can be seen in Table 3:<sup>3</sup>

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3 This set is slightly more complicated. There is also a 1SG prefix *d-*, yielding forms such as *Jamo da dakwaru* 'The dog bit me' (though still not \**Jamo dakwaru*, without a free pronoun), and the class marker *b-*, especially when used to agree with a singular nominal, is absent for some verbs (in which case the absence of an overt agreement marker is the only indication of the class). Historically it appears likely that *s-* and *t-* share a common origin (there is allophony between these consonants elsewhere in Burmeso), and that *n-* and *g-* are derived from a \**ŋ* (there is no *ŋ* in the contemporary language, though there is some scanty areal evidence to suggest that an earlier *ŋ* and *ŋw* have become *h* and *hw*). These complications are not relevant to the exposition following.

**Table 3:** Class agreement prefixes: set II

| Class | Singular  | Plural    |
|-------|-----------|-----------|
| I     | <i>b-</i> | <i>t-</i> |
| II    | <i>n-</i> | <i>t-</i> |
| III   | <i>n-</i> | <i>b-</i> |
| IV    | <i>b-</i> | <i>b-</i> |
| V     | <i>b-</i> | <i>n-</i> |
| VI    | <i>n-</i> | <i>n-</i> |

We have now seen the possibilities for agreement with verbs. Some indications of the kinds of nouns that are found in the various classes will now be given, split into the categories of body parts, living creatures, tools, plants, and nature. These nominal categories are not reflected in the language itself, but are useful for making a comparison of the kinds of nominals of different broad semantic types that are found in each of the classes. Classes I, II and III account for nearly 90% of all nominals, almost half of those belonging to class I, and class III making up most of the remainder. Of the remaining three classes, class IV is by far the largest.

**Table 4:** The distribution of lexical items into noun classes

| Class | Body parts                                 | Humans                      | Non-human                           | Tools  | Plants                                     | Nature   |
|-------|--|-----------------------------|-------------------------------------|--|--|--|
| I     | wound<br>neck                              | male humans<br>2SG PRO      | (most birds,<br>animals, etc.)      | machete<br>eating<br>equipment                       | tree,<br>bamboo<br>pandanus<br>betel, lime | sea<br>rock  |
| II    | nose<br>ear<br>eye                         | female<br>humans<br>1SG PRO | black cockatoo<br>small bat         | knife<br>house<br>string<br>sago canoe               | –  | –  |
| III   | (most body<br>parts)                       | female child                | (insects)<br>(lizards)<br>cassowary | canoe<br>bow<br>axe<br>bench<br>upper sago<br>trough | papaya<br>rattan<br>(all tubers)           | wind<br>mountain, lake<br>rainbow<br>lightning<br>fire<br>star |
| IV    | head<br>flesh<br>faeces<br>finger<br>elbow | –                           | –                                   | –  | –  | sun<br>cloud (= sky)<br>rain<br>sand<br>mud                    |
| V     | –  | –                           | –                                   | –  | banana<br>sago tree                        | –  |
| VI    | –  | –                           | –                                   | (all arrows)   | coconut<br>rice                            | –  |

It is clear that class I is the general animate class, class II is the female class, and class III the general residual class; classes IV–VI are smaller classes, with very few members, in a narrow semantic range (class IV consists of just some body parts and mass nouns; class V contains (two) plants only, and class VI consists of only coconuts, rice (a recent and rare newcomer to the region), and the various arrow types).



The inanimate members of class I clearly reflect the male orientation of this class; the only 'body part' in this class is a wound, the result (typically) of war, a male domain; the sea, a male trading domain, is also class I, as are machetes and the implements (bowls, plates, forks, sago chopsticks) associated with eating.

In addition to human females, class II contains the tools associated with them, and two flying creatures that are associated with evil intentions, the black cockatoo (*kakatua raja* in Indonesian) and a small bat that flies at dusk. Interestingly, the sensory organs of perception, *amtik* 'nose' *ara* 'ear' and *janar* 'eye', are included in this class as well.

Class IV is the 'mass noun' class; the typical exponents are the mass concepts of flesh and faeces, removable parts of the body which are then not countable, as well as sand and the element of the daytime sky. Head seems out of place here, unless it is considered uncountable by virtue of the treatment of heads taken in warfare, which are massed in a skull house in such a manner as to be not readily countable. The sun, too, might strike an Indo-European reader as an odd member of this 'mass' class, but amongst the Burmeso the sun is not thought to be one entity, and since these different suns cannot be distinguished, they are effectively a mass noun-set; the word also means 'day', a more countable concept. Classes V and VI have been recorded only with the members listed; and class III is in effect the sum of those things that have not been classified into one of the other classes, the 'other', underspecified, category. Interestingly, human female children are counted in this class, not in the class that contains other female kin terms (in contrast to male children, who are in class I along with all other male kin terms).

In addition to these agreement paradigms there are some verbs that do not take these prefixes, but which appear with suppletive forms showing the number of the absolutive argument. Furthermore, in many verbs the tense suffixes are inflected for the number of the absolutive argument. Although the use of the class agreement prefixes does not extend to these verbs, the class prefixes are found on a few nominals, showing agreement with an obligatory possessor.

## 2.2 Nominal agreement

Although it is not a regular feature of the language, a couple of nominals (denoting body parts) must appear with prefixes indicating the class of the possessor. Normal possession is always optional, and is indicated with possessive forms of the free pronouns (which in turn show correspondences with the second set of verbal prefixes). The forms of the possessive prefixes are shown in Table 5.

**Table 5:** Possessive marking

|     | Free pronoun | Possessive pronoun | Possessive prefix |
|-----|--------------|--------------------|-------------------|
| 1SG | <i>da</i>    | <i>de, d-</i>      | <i>g-</i>         |
| 2SG | <i>ba</i>    | <i>be, b-</i>      | <i>j-</i>         |
| 3SG | –            | <i>e</i>           | <i>j-</i>         |
| 1DU | <i>day</i>   | <i>de, d-</i>      | <i>s-</i>         |
| 1PL | <i>boro</i>  | <i>te, t-</i>      | <i>s-</i>         |
| 2PL | <i>bito</i>  | <i>te, t-</i>      | <i>s-</i>         |
| 3PL | –            | <i>te, t-</i>      | <i>s-</i>         |

The prefixal forms of the possessive pronouns are found on vowel-initial roots (perhaps significantly, the majority of body-part terms are vowel-initial; conversely, the overwhelming majority of non body-part terms are consonant-initial).

Examples of regular possession are given in (13)a and (13)b, showing that while the possessive pronoun alone is sufficient to indicate possession, it is more common to have a free pronoun as well, especially when the possessive pronoun is merely a prefix.

- (13)a. *(ba) be dayto*  
 2SG 2SG.POSS father  
 'your father'
- b. *\*(day) d-anajamgado*  
 1DU 1SG/DU.POSS-SiC.PL  
 'our nieces and nephews'

Regardless of this, it is acceptable to talk of a *dayto* or an *anajam* (or most body parts, such as *agum* 'head', *ara* 'ear', or *awarur* 'mouth') without indicating possession, as in:

- (14) *Da aguro j-akasu-d j-ihwa.*  
 1SG head.PL IV.SG/PL-many-M/F.PL IV.SG/PL-see.R.PAST  
 'I saw many heads.'

In contrast, the body parts *-anar/-anuro* 'eye(s)' and *-ago/-agoro* 'leg(s)' must appear with a possessive prefix, in addition to a free pronominal, the free one in the case of *-anar*, or the possessive pronouns in the case of *-ago*:

- (15)a. *da g-anar*  
 1SG II.SG-eye.SG  
 'my eye'
- b. *ba j-anar*  
 2SG I.SG-eye.SG  
 'your eye'
- (16)a. *de g-ago*  
 1SG.POSS II.SG-leg.SG  
 'my leg'
- b. *be j-ago*  
 2SG.POSS I.SG-leg.SG  
 'your leg'

Perhaps the most interesting thing about this relic agreement pattern is that the agreement prefixes so clearly represent the class features of the possessor, not the body part itself; *-anar* 'eye' is class II, and *-ago* 'leg' is class III, so we would expect a *g-* on a singular noun if the prefixes were simply class prefixes for the nominal class of the lexical item, marked on that noun itself. As it is, there is no evidence that noun class was ever indexed on the nouns themselves. No other nominals have been noted that share this pattern of obligatory class agreement.

### 2.3 Adjectival agreement with noun

There is a separate class of adjectives in Burmese, distinguished by the lack of obligatory tense marking when predicative; when an adjective is marked for tense, it assumes an inchoative reading, not a stative one. Different adjectives show degrees of agreement with the head noun, with three broad classes distinguishable (there are not any semantic correlates between the different types of adjectives):

1. No agreement at all
2. Agreement for number only (by suffix or modification)
3. Agreement for number and gender (by suffix)

Examples of the first of these categories can be seen in (17) and (18), with the adjectives *isana* 'near' and *gasara* 'new'.

- (17)a. *Konor isana.*  
house.SG near  
'(The) house is near.'
- b. *Konodo isana.*  
house.PL near  
'(The) houses are near.'
- (18)a. *Konor gasara.*  
house.SG new.SG  
'(The) house is new.'
- b. *Konodo gosur.*  
house.PL new.PL  
'(The) houses are new.'

The third group of adjectives agree with the noun in both number and gender. Noun genders are distinct from the noun class described in the previous section, though the affixes are formally similar. The verbal agreement is with noun class, but the adjectival agreement is with another, cross-cutting, category–noun gender. Examine examples (19)–(21):

- (19) *Da de koya bek-abo.*  
1SG 1SG.POSS grandfather.SG good-M.SG  
'My grandfather is well.'
- (20) *Da d-asia bek-an.*  
1SG 1SG.POSS-grandmother.SG good-F.SG  
'My grandmother is well.'
- (21) *Da de koysorad bek-odo.*  
1SG 1SG.POSS grandson.PL good-ANIM.PL  
'My grandsons are well.'

The different morphological patterns that we have seen exemplified above can be summarised in Table 6. Again there is a strong break between the animate masculine and feminine genders on the one hand, and the neuter and inanimate genders on the other. It is equally worth noting that there are strong resemblances between the forms of the gender suffixes and the set II verbal class agreement prefixes; both sets use the consonants *b-*, *n-*

and an alveolar (*d* or *t*). Furthermore, the use of the *b* for the male animate singular and *n* for the female animate singular, the genders that most closely correlate with class I and class II, respectively, which use *b* and *n*, means that the same formal agreement affix is found as both prefix and suffix for many nouns; it most likely reflects a historical situation in which there was only a single set of nominal classifiers, which has since diverged into the noun class and noun gender systems that are found today.

The summary of gender suffixes is given in Table 6; in addition to these forms, there are some minority patterns, with various nouns not having distinct singular/plural forms, and some masculine inanimate nouns with *-ob* in the singular. These are limited in number, and furthermore show inter-speaker variation, and so have not been noted below (another form of variation in gender suffixes, one that is consistent across speakers, is discussed in §4). Note that, as with the marking of noun class, there is a neutralisation of the animate categories in the plural, the agreement suffix appearing as *-od(o)* regardless of the form of the singular agreement suffix for the noun in question. This is also the case for the inanimate genders, unlike the situation with noun class marking.

**Table 6:** Gender agreement suffixes

| Gender              | Singular    | Plural        |
|---------------------|-------------|---------------|
| masculine           | <i>-ab</i>  | <i>-od(o)</i> |
| feminine            | <i>-an</i>  | <i>-od(o)</i> |
| neuter              | <i>-ora</i> | <i>-or(o)</i> |
| masculine inanimate | <i>-ab</i>  | <i>-or</i>    |
| feminine inanimate  | <i>-an</i>  | <i>-or</i>    |
| neuter animate      | <i>-ora</i> | <i>-od</i>    |

As can be seen, there is a basic system with a three-way masculine–feminine–neuter distinction; by far the majority of nouns belong to these three genders (85%, of which masculine is the most prevalent, followed by neuter), but in addition we find three subsets of these genders. The masculine inanimate set consists of nouns that take masculine endings when singular, but the neuter endings when plural. Similarly, there is a feminine inanimate gender set that consists of just two lizard species. Finally there is the neuter animate gender, a group with a mixture of life-like properties (associated with animacy), but clearly not sentient: wounds, the sea, string shapes (which are a powerful source of magic in the region, and obviously associated with humans), and the lower part of a sago trough, where the sago accumulates (sago is associated with human origins in Burmeso myths). These take neuter endings when singular, but the animate ending when plural.

As mentioned earlier, the nominal gender system is not congruent with the noun class system; an indication of the categories distinguished by the gender system, arranged in the same format as Table 4 illustrating the memberships of the various noun classes, is given in Table 7.

**Table 7:** The distribution of lexical items into genders

| Gender            | Body parts                                  | Humans                              | Non-human   | Tools                                 | Plants  | Nature  |
|-------------------|---|-------------------------------------|---|---------------------------------------|---|---|
| M                 | head<br>flesh<br>faeces<br>finger<br>elbow  | male humans<br>1 SG PRO<br>2 SG PRO | (most birds,<br>animals,<br>some<br>lizards, etc.)                | machete<br>eating<br>equipment<br>axe | papaya  | sun<br>star<br>cloud (= sky)<br>rain<br>sand<br>mud |
| F                 | –   | female<br>humans                    | all birds of<br>paradise  | knife<br>string<br>house              | –   | –   |
| N                 | nose<br>ear<br>eye<br>(other body<br>parts) | female child                        | black<br>cockatoo<br>(some insects)<br>small lizards<br>cassowary | canoe<br>bow<br>rope<br>string        | vegetables<br>rattan  | water<br>wind<br>fire<br>rainbow<br>lightning       |
| M <sub>inan</sub> | neck  | –                                   | –   | bench<br>upper sago<br>trough         | (all tubers)<br>banana<br><i>papeda</i> *<br>coconut<br>sago tree | mountain<br>lake                                    |
| F <sub>inan</sub> | –   | –                                   | (some small<br>lizards)   | –                                     | –   | –   |
| N <sub>anim</sub> | wound                                       | –                                   | –   | lower sago<br>trough<br>string shapes | –   | sea   |

\* *papeda* is the soup made from processed sago starch.

As with the distribution of nouns into noun classes in Table 4, there are some interesting observations that we can make. The M and F genders are basically the animate genders, with most nouns classed as M, and only the female kin terms, and some material culture items associated with women, classified into the F gender (along with the various species of birds of paradise). The corresponding M and F inanimate genders include essentially food items associated with the different sexes – the cultivated food crops are M inanimate, and small lizards caught by women are F inanimate. Mountains and lakes are classified as M inanimate as well; this makes cultural sense in that they are at one level the domain of the Bauzi to the west, a powerful local group with which the Burmeso have highly antagonistic relations involving (masculine) warfare; and at another level they are the mountain ranges to the south of the Lakes Plains, a source of important origin myths involving warfare and male totem animals.

Perhaps more interesting still is a comparison of the distribution of lexical items across both noun class and nominal gender; this can be seen in Table 8 (the conflation of Tables 4 and 7):

**Table 8:** Class and gender compared

| Class | M   | F   | N                                | M <sub>inan</sub>  | F <sub>inan</sub> | N <sub>anim</sub>                          |
|-------|---|---|----------------------------------|--|-------------------|--|
| I     | male humans<br>(most birds,<br>animals etc.)<br>2SG PRO                     | (birds of<br>paradise)<br>pigeons<br><i>sago garden</i> | sea                              | neck   | –                 | sea<br>wound                               |
| II    | 1SG PRO   | female<br>humans  | nose<br>ear<br>eye               | –  | small<br>goanna   | string<br>shapes<br>sago rinser<br>(lower) |
| III   | axe<br>papaya<br>ground bird  | –   | (some small<br>animals)<br>bench | papaya<br>rattan<br>mountain<br>lake<br>(all tubers)<br>upper sago<br>trough<br>female child | goanna            | –  |
| IV    | head, flesh,<br>faeces, finger,<br>elbow, sun,<br>cloud, rain,<br>sand, mud | –   | –                                | –  | –                 | –  |
| V     | –   | –   | (arrows)                         | banana   | –                 | –  |
| VI    | –   | –   | –                                | coconut  | –                 | –  |

It is clear that there are strong tendencies in the assignment of class and gender categories; the masculine nouns, for instance, tend to cluster in class I, and the feminine nouns in class II. Given the formal similarities between the affixes used to mark these categories (*-ab* and *b-*, *-an* and *n-* respectively, as well as the animate plural affixes *-od* and *t-*), this probably indicates that in the not-too-distant past the categories of class and gender were a single category, with recent divergence for reasons unknown. In the contemporary language, however, we can see not only that the original system has now split into two classificatory systems, but that furthermore the masculine and feminine genders have started to split into animate and inanimate versions, giving in effect four neuter (roughly, not higher animate) classes in addition to the two animate classes that contain human beings. A sample list of nouns and their class/gender affiliations is given at the end of this article.

### 3 Complications: multiple marking

So far we have seen examples of verbs that show absolutive prefixes that agree with the noun class of the argument that they index, and adjectives that display suffixes indicating the gender of the argument which they index. In addition to these, we find a very small set of predicates (so far only three have been identified) that take both prefixes and suffixes, for noun class and gender, respectively. Additionally, we find a construction in which verbs take gender suffixes in addition to their own class prefixes, namely relative clause constructions. These two cases are described separately, though it is interesting to note that the morphosyntax in both cases is identical, the predicates displaying class prefixes and gender suffixes.

### 3.1 Mixed categories: one, all, white

There are three lexical items that mark both the noun class by prefix, and the gender by suffix. These are *-aysa-* 'one', *-akasu-* 'all, many' and *-asna-* 'white'. Since, obviously, 'one' cannot occur with plural subjects, and 'all, many' cannot occur with singular ones, the widest paradigm can be illustrated with 'white'. Examples with *-asna-* are given in example (22), showing the way in which the class prefixes and gender suffixes may co-vary, not being dependant on each other. The first three sets are all masculine gender, but vary across noun classes I, II and III; the last two examples are both class II, but illustrate feminine and neuter genders. Note that (22)a and f show no prefixes for noun class; see footnote 2 for a discussion of this.

- (22)a. *Ayab -asna-b.*  
 cockatoo.SG (I.SG)-white-M.SG  
 '(The) cockatoo is white.'
- b. *Ayod t-asna-rur.*  
 cockatoo.PL ANIM.PL-white-ANIM.PL  
 '(The) cockatoos are white.'
- c. *Da n-asna-b.*  
 1SG II.SG-white-M.SG  
 'I am white.'
- d. *Boro t-asna-rud.*  
 1PL ANIM.PL-white-ANIM.PL  
 'We are white.'
- e. *Sunam n-asna-b.*  
 axe.SG III.SG-white-M.SG  
 '(The) axe is white.'
- f. *Sunur -asna-rud.*  
 axe.PL (III.PL)-white-ANIM.PL  
 '(The) axes are white.'
- g. *Samtunar n-asna-n.*  
 knife.SG II.SG-white-F.SG  
 '(The) knife is white.'
- h. *Samtunarido t-asna-rud.*  
 knife.PL ANIM.PL-white-ANIM.PL  
 '(The) knives are white.'
- i. *Akeaway n-asna-o.*  
 cockatoo.sp.SG II.SG-white-N.SG  
 '(The) cockatoo is white.'<sup>4</sup>

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4 An *akeaway* is not the typical sulphur-crested cockatoo, but the *kakatua raja*, which is normally black, so this is a very unlikely situation. Nevertheless, informants accept these as the correct way to describe a bizarrely albino *akeaway*.

- j. *Akeawaysamir t-asna-rur.*  
 cockatoo.sp.PL ANIM.PL-white-N.PL  
 '(The) cockatoos are white.'

These lexical items show the same morphosyntax whether used attributively or predicatively; it is of course hard (and possibly futile) to attempt to classify them as either adjectives or verbs, since they share the morphosyntax of both these classes.

### 3.2 Relative clauses: mixing functions, mixing marking

We have seen that predicative verbs agree with the absolutive noun for noun class and number, and that adjectives (both predicative and attributive) show gender agreement. When verbs are used attributively (that is, in a relative clause, which may modify the intransitive subject or the object of a clause), then the construction also requires gender agreement with the head noun in the NP. This agreement is found at the end of the verb, final in the relative clause (in the position where tense marking is located on a main-clause verb). Some examples of this can be seen in examples (23) and (24); note that in (23) the identity of the pigeon as the object of *jihī* is unambiguously indicated by the class III prefix, which could not refer to the class I noun *jamo*; but in (24) only the restriction on absolutive heads of relative clauses rules out the ungrammatical interpretation of (24) as 'I held the pig that had seen the dog.')

- (23) *Da* [OBJ *kiwraf* [RC *jamo j-ihī-b* *jik*] *j-ena*.  
 1SG ground.pigeon.SG dog.SG III.SG-see-M.SG that I.SG-hold  
 'I held the pigeon that the dog had seen.'
- (24) *Da* [OBJ *sibo* [RC *jamo j-ihī-b* *jik*]<sup>5</sup> *j-ena*.  
 1SG pig.SG dog.SG I.SG-see-M.SG that I.SG-hold  
 'I held the pig that the dog had seen.'

In these examples the verb in the relative clause shows a class agreement prefix for its object, as is normal for verbs, but additionally agrees with that argument for gender through the gender suffixes that follow the verb, by virtue of its appearing in a relative clause (the presence of a demonstrative is obligatory in the relative clause construction).

## 4 More complications: adjectival options and animacy

For many nouns there is only one choice for the adjectival gender agreement suffix, once the number of the noun is known. However, for certain other, inanimate, nouns, there is some alternation (unfortunately the pragmatic reason(s) behind this variation are not yet known). Consider the sentences in (25)a--(25)c, with *samo* 'machete', a noun with masculine gender. In (25)a the adjective shows the agreement for masculine gender that we would

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5 I am getting sidetracked here, I know, but it is interesting to consider the phonetic shape of this word. Given /jik/, we have competing phonetic realisations; either the final vowel lowers, and so the high-vowel environment in which /j/ disappears is not present, or the vowel does not lower, and the /j/ isn't realised before a high vowel. In fact both pronunciations are heard: [dʒek] and [ɪk] are both acceptable, and frequent.



expect; in (25)b, however, the agreement suffix is for *neuter* gender; and in (25)c we see the adjective appears with a neuter *plural* suffix.

- (25)a. *samo*        *bek-abo*  
 machete.SG    good-M.SG  
 'good machete'
- b. *samo*        *bek-ora*  
 machete.SG    good-N.SG  
 'good machete'
- c. *samo*        *bek-or*  
 machete.SG    good-N.PL?  
 'good machete'

This same variation is **not** found with a masculine noun that is human as well as being in one of the grammatically animate categories, such as *bwargo* 'brother in law'. Notice in example (26) that *bwargo*, and other nouns with real-world human reference, may not appear with adjectives displaying neuter-gender agreement.

- (26)a. *bwargo*        *bek-abo*  
 brother.in.law.SG    good-M.SG  
 'good brother in law'
- b. \**bwargo*        *bek-ora*  
 brother.in.law.SG    good-N.SG
- c. \**bwargo*        *bek-or*  
 brother.in.law.SG    good-N.PL?

We can account for this by assuming that in addition to the marking of gender, which has clear morphosyntactic correlations with animacy in that only the (animate) masculine and feminine genders take the plural with *-od(o)*, there is also a degree to which the real-life animacy, as well as the gender, of the lexical item is taken into account. The data in example (25) show that a noun which is specified for masculine gender may show alternations with neuter gender suffixes, but the additional data in (26) show that only a non-human item may display this variation. This information can be accounted for by assuming that the *-or* neuter suffixes, in addition to gender, also mark the referent as being specifically non-human. A masculine or feminine noun may thus appear with the neuter suffixes if and only if it is not a human one. On the other hand the *-ab* and *-an* suffixes do not specify their antecedent as being human; the very existence of such nouns as *samo* 'machete', which are classified as masculine by the gender system, shows this to be an unsustainable assumption. Rather, they are unspecified as to the human or non-human reference of their antecedent, showing that in addition to the neutralisations concerning the category animate/inanimate in the plural marking of both class and gender, there is also a more subtle reference to a category of human and non-human (nouns which are grammatically animate, real-world animate, but not human, may show this variation in adjectival agreement; a yabby, *suteraynabo* and masculine gender, may be modified by either *bekabo* or *bekor*).

Similarly we assume that the *-or* suffix does not explicitly mark the referent as being plural, but rather merely does not indicate a feature of singularity. This explains that, despite

the alternations in (25), a smaller set of alternations is possible with a plural noun, as seen in (27):

- (27)a. *tuguraruro bek-od*  
 machete.PL good-ANIM.PL  
 'good machetes'
- b. \**tuguraruro bek-ora*  
 machete.PL good-N.SG
- c. *tuguraruro bek-or*  
 machete.PL good-N.PL  
 'good machetes'

The ungrammaticality of example (27)b shows that, while *-or* does not specify plurality and so may occur with either singular or plural reference, the *-ora* suffix is compatible only with a singular referent. This all indicates the set of features encoded by the gender suffixes shown in Table 9.

**Table 9:** Features specified by the gender suffixes

|             | Singular | Feminine | Human |
|-------------|----------|----------|-------|
| <i>-ora</i> | +        |          | -     |
| <i>-oro</i> | -        |          | -     |
| <i>-or</i>  |          |          | -     |
| <i>-ab</i>  | +        | -        |       |
| <i>-od</i>  | -        |          |       |
| <i>-an</i>  | +        | +        |       |

Unfortunately the respective sets of conditions are not yet known under which the more fully specified, and the less specified, agreement suffixes are used..

## 5 Conclusions

Languages with both noun classes and noun genders, as separate systems, are few and far between, reported, for instance, in Paumarí (Arawá family) of South America (Chapman and Derbyshire 1991), and not many other places. Burmeso is one such language, and it even has some lexical items that must mark both class and gender at the same time.

Interestingly, in attributive constructions we find that verbs, which are class markers, also acquire gender marking in the relative clause. This indicates a possible scenario for the evolution of separate gender and class systems in the language: we might posit an earlier single system of agreement, which was differentially realised as prefixal or suffixal depending on the *function* of the lexical item, not its word class. When predicative, the verb or adjective was prefixed, and when attributive, it was suffixed to indicate the end of the modifying phrase. With the discourse-driven appearance of the adjectives more often in attributive positions, and the more action-like verbs in predicative positions, the originally syntactic division between prefixal and suffixal positions became one that marked word classes.

We have also seen that the system of gender marking on adjectives behaves rather non-canonically. Generally the Morphological Blocking Principle (Andrews 1990) operates to ensure that, given morphological choices in a paradigm, the form with the most complete information is selected to represent a particular feature bundle. The alternations of gender agreement in Burmeso show that there is also room in linguistics for random behaviour, with less specified forms capable of being used in the place of more highly specified ones.

## 6 Appendix: list of nouns

The following is a representative list of Burmeso nominals, arranged alphabetically by English translation. Each entry comes with information about the noun class (I, II, III, IV, IV or VI) and gender (m(asculine), f(eminine), n(euter), m i(nanimate), f i(nanimate) and n a(nimate)). The two Burmeso words listed, separated by a slash, are the singular and plural respectively. As an example, we can see that the Burmeso word for arrow (generic) is *kasarar* (singular), or *kasam* (plural). The noun is class VI, thus taking *g-* as its verbal prefix for both singular and plural agreement, and is neuter gender, thus taking the suffixes *-ora* (singular) or *-or* (plural) on adjectives.

|   |   |
|---|---|
| ant, IIIIn, <i>katemar / katemido</i>                   | canoe, IIIIn, <i>ifor / ifemir</i>                |
| arm, IIIIn, <i>amu / amgararuro</i>                     | cassava, IIIIn, <i>tumanin / tumanisamir</i>      |
| arrow, VIIn, <i>kasarar / kasam</i>                     | cassowary, IIIIn, <i>ifarur / iferemiro</i>       |
| axe, IIIIn, <i>sunam / sunur</i>                        | chair, IIIIn, <i>tesraw / tesraru</i>             |
| bamboo, Im, <i>wiyaham / wiyahamgado</i>                | chicken, Im, <i>kuker / kukergado</i>             |
| banana, Vmi, <i>mibo / mirar</i>                        | child, female, IIIIn, <i>fas / fassamir</i>       |
| bat, large, Im, <i>sak / sakarit</i>                    | child, male, Im, <i>fati / kehmet</i>             |
| bat, small, IIf, <i>timar / timnarit</i>                | chopsticks, Im, <i>sanuk / sanukat</i>            |
| bat, very small, Im, <i>enedo / enedkarit</i>           | cloud, IVm, <i>mowik / mowiksamir</i>             |
| betel, Im, <i>haf / hafurut</i>                         | cockatoo, Im, <i>ayab / ayot</i>                  |
| betel stalks, Im, <i>pakarino / pakarino</i>            | cockatoo, black, IIf, <i>haway / hawaysamir</i>   |
| bird, Im, <i>tahabo / tohwodo</i>                       | cockatoo sp., Im, <i>arahukap / arahukop</i>      |
| bird of paradise sp., If, <i>tohnan / tohnod</i>        | cockatoo sp., IIIn, <i>akeaway / akeawaysamir</i> |
| bird of paradise sp., If, <i>kehnama / kehnamasamir</i> | coconut, VIImm, <i>wif / wifemow</i>              |
| bird of paradise sp., If, <i>huak / huaksamir</i>       | crab, Im, <i>suteram / suteramsamir</i>           |
| bird sp., Im, <i>kukay / kukaygado</i>                  | crested pigeon, If, <i>marik / markarit</i>       |
| blood, IIIIn, <i>sar / sarido</i>                       | cuscus, Im, <i>bahay / bahaygado</i>              |
| bone, IIIIn, <i>hiwraf / himaruro</i>                   | cuscus, ground, Im, <i>kwasio / kwasirido</i>     |
| bow, IIIIn, <i>sonoraf / sanaruro</i>                   | dog, Im, <i>jamo / juwdo</i>                      |
| bowl, Im, <i>kami / kamit</i>                           | eagle, Im, <i>manar / manarkarit</i>              |
| breast, Im, <i>mom / momut</i>                          | egg, IIIIn, <i>kahup / kohuro</i>                 |
| bush turkey, Im, <i>ehwaro / ehodo</i>                  | elbow, IVm, <i>serab / serot</i>                  |
| butterfly, IIIIn, <i>kibero / kiberosamir</i>           | eye, IIIn, <i>janar / januro</i>                  |

faeces, IVm, *jar / tafuro*  
 finger, IVm, *heko / henudo*  
 fingernail, IIIIn, *homna / hememir*  
 fire, IIIIn, *hor / horemir*  
 firefly, Im, *hikito / hikido*  
 flesh, IVm, *ato / aforo*  
 fly, Im, *fapre / fapuru*  
 frog, IIIIn, *kwehia / kwehorudo*  
 gecko, IIIIn, *biakuno / biakunosamir*  
 goanna, IIIIfi, *fif / fifsamir*  
 goanna, green / yellow, Im, *fonabo / fonot*  
 goanna, small, IIIfi, *har / hararir*  
 ground pigeon, IIIIm, *kiwraf / kiwrafsamir*  
 hair, IIIIn, *ihna / ihiro*  
 head, IVm, *agum / agurur*  
 heron, Im, *biweris / biwerisgado*  
 hornbill, Im, *sanab / sonot*  
 house, IIIf, *konor / konodo*  
 knee, IIIIn, *urab / uraruro*  
 knife, IIIf, *samtunar / samtunarido*  
 lake, IIIImi, *gorat / goratsamir*  
 leg, IIIIn, *jago / jagoro*  
 lightning, IIIIn, *nurorhakasur /  
 nurorhakagur*  
 lime, Im, *numarinab / numarinor*  
 machete, Im, *samo / tuguraruro*  
 mat, IIIIn, *wira / wirasamir*  
 me, IIIm, *da(wo)*  
 medicine tree, Im, *jaseri / jaserigado*  
 millipede, Im, *afsawar / afsawarsamir*  
 mosquito, Im, *inaf / inuf*  
 mountain, IIIImi, *hurab / himatasuraru*  
 neck, Imi, *ariko / arido*  
 nose, IIIn, *amtik / amtiritsamir*  
 pandanus, Im, *joro / jorkarit*  
 papaya, IIIIm, *jarekanam / jarekarit*  
 papaya tree, Im, *jareko / jarekarit*  
 person, man, Im, *tamo / dit (did?)* (all  
 male kin terms follow this pattern)  
 pig, Im, *sibo / sirudo*  
 pigeon, Im, *hwano / hwaremo*

porch, Im, *kononuko / kononukido*  
 possum glider, Im, *kurakari /  
 kurakarigado*  
 pot, Im, *hawiro / hawirido*  
 rain, IVm, *suabo / suodo*  
 rainbow, IIIIn, *hurab / hurabsamir*  
 rattan, IIIIn, *neyor / nejaruro*  
 sago garden, If, *mowraf / mowr*  
 sago porridge, IIIImi, *mow / mowro*  
 sago rinser (lower), IIIna, *isohu / isodo*  
 sago rinser (top), IIIImi, *gow / gawaruro*  
 sago tree, Vmm, *timo / fihir*  
 sand, IVm, *hisiyo / hisirido*  
 sea, Ina, *makati / makatigado*  
 sister, elder, IIIf, *awa / awaysamir*  
 snake, Im, *mim / mihorut*  
 spider, IIIIn, *harif / harifsamir*  
 spoon, sago, Im, *fam / famot*  
 stomach, IIIIn, *amjamo / amjamiro*  
 stone, Im, *ako / hiruro*  
 string, IIIf, *suhnay / suhnarido*  
 string shapes, IIIna, *suhnay / suhnayrido*  
 sun, IVm, *misiabo / misiado*  
 sweet potato, IIIImi, *abito / abitor*  
 taro, IIIImi, *tisafirab / tisafiror*  
 taro sp., IIIImi, *firab / firor*  
 termite, IIIIn, *faukno / fauknor*  
 tongue, IIIn, *ara / arit(samir), arasamir*  
 tooth, IIIIn, *arawar / araruro*  
 tree, Im, *haman / hememido*  
 vegetable sp., IIIIn, *feohu / feoro*  
 vegetables, IIIImi, *feo / feoro*  
 water, IIIIn, *baw / bagaruro*  
 we, I/IIIm/f, *boro*  
 wind, IIIIn, *bin / birit*  
 woman, IIIf, *nawak / nudo* (all female  
 kinterms follow this pattern)  
 worm, Im, *komonio / komonido*  
 wound, Ina, *hurin / hwarit*  
 yabby, Im, *suteraynabo / suteraynyot*  
 you, Im, *ba(wo)*

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# 8 *Idioms: the darndest things that people say*

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CYNTHIA J.M. FARR

*Aiyakoe beká resena* [Thank you truly I am saying], Tom! Our first contact with Dr T.E. Dutton was a letter in 1972. My husband and I had just gone to live with the Korafe people at Baga Village near Tufi in Papua New Guinea. Tom asked us to write a paper about Korafe morphology for a volume he was preparing. It was a challenge that I thought was beyond us, but we did write that paper. He patiently edited it and taught us more about linguistic writing. And that early description has proved to be surprisingly (at least to us!) accurate. Tom forced us to wade right into linguistic analysis in those early days of language learning, a salutary plunge for novice field workers. Encouraging interaction of that sort has characterised Tom's relationship with me throughout the years. It continued up through the years we sweated out my thesis. Week in and week out, I hammered sections together, then we met, and he performed minor to major surgery on them, picking up the pieces when more than the written offering fell apart. That too had a happy ending! Now, even in his retirement, Tom is still inspiring me to write – here's the present offering.

## 1 Introduction

- (1) *There's more than one way to skin a cat.*  
'There are many ways to handle a problem.' (English)
- (2) *Ghamo 'jo b-esi!* [*'jo* receives heavy stress in this sentence's intonational contour.]  
lungs not get.I-TP.2S.AQ<sup>1,2</sup> [lit. 'You didn't get the lungs.']  
'I hope you've learned your lesson!' (Korafe, Oro Province, PNG)

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<sup>1</sup> The abbreviations used in this paper include: ACC accompaniment; AQ indicative assertion/information question; BEN beneficiary (see PUR); C2 class 2; C3 class 3; CEFF effector of change/control marker; CEXP contrary to expectations; CHD change of direction marker; CL noun class marker; COM comitative; CONT continuous; CT contrastive focus marker; D dual; DEM demonstrative; DEICT deictic; DP distant past tense; DS different subject;

What do the two sentences above have in common? They are not understood by cultural outsiders. The meaning of the whole sentence is not the sum of the meanings of its parts. In short, these are all idioms in their respective languages. Idioms pose a challenge for language learners, linguists and lexicographers.

Korafe speakers have not quite mastered all the idioms of English with their transformational deficiencies. We were quite surprised to read in the minutes of a preschool planning session (always written in English) that “the students will be knocked off every day at 11:00.” On the other hand, I was mystified by the Korafe sentence given in example (2) above. I had only seen the negation morpheme *jo* used with negative deverbals, not positive verbs (i.e. *besi* ‘you got’), so I thought the final word was *jobesi*, but I didn’t know what that word meant either.

Linguists disagree on what constitutes an idiom,<sup>3</sup> where idioms fit into a language description (in the grammar or in the lexicon/dictionary) and whether competence in a language is grammatical, idiomatic or both. Lexicographers tend to define *idiom* more broadly than linguists would. Only the second sense of this entry from *The Webster’s New Collegiate dictionary* (Woolf 1974:568) is in the range of linguists’ definitions.

- 1a: the language peculiar to a people or to a district, community or class: DIALECT
- b: the syntactical, grammatical, or structural form peculiar to a language
- 2: an expression in the usage of a language that is peculiar to itself either grammatically (as *no, it wasn’t me*) or in having a meaning that cannot be derived from the conjoined meanings of its elements (as *Monday week* for “the Monday a week after next Monday”)
- 3: a style or form of artistic expression that is characteristic of an individual, a period or movement, or a medium or instrument <the modern jazz~>

My working definition of *idiom* also corresponds to sense 2 above. An idiom is: (1) a construction containing two or more free morphemes as constituents, for which (2) the meaning of the aggregate whole is not predictable just from the literal meaning of its constituents or their sum; (3) but the literal meaning may very well be linked to the meaning

DUR durative; DVB deverbal; DI distal-1 demonstrative (near addressee); EMPH emphatic; EXC exclusive reference; F future tense; FEM feminine; FN finite non-asserted; FOC focus marker; GEN general pronoun; GP general past; IA indicative-assertive; IMP imperative; INC inclusive reference; INT intensifier/diminutive; IPF imperfective; IR irrealis; KIN referential kinship term; lit. literally; LOC locative; M masculine; MIX mixed genders (M and FEM together); N noun; NDUR non-durative; NEG negative; NP noun phrase; NPT near past tense; OBJ object; P past tense; pers. comm. personal communication; PERM permissive; PF perfective verb form; PL plural; POSS possessor; PRES present tense; PRO pronoun; PROG progressive; PRT particle; PUR purpose marker (see BEN); Q question mood (information question); R realis; S singular; SEQ sequencing/anterior medial verb; SIM simultaneous medial verb encoding overlap; SPRO specific pronoun; SRC switch reference construction; SS same subject; SUBJ subject; SVC serial verb construction; T/F topic/focus marker; TOP topic; TP today’s past tense; 1, 2, 3 first, second, third person; I stem I; II stem II; - signals morpheme break; = signals juncture of a word and accompanying clitic (phonologically one word); and + signals word juncture in word complexes treated as a unit.

<sup>2</sup> Many of these examples are taken from the unpublished Korafe–English dictionary (Farr et al., n.d.).

<sup>3</sup> Hockett (1958:172) said that any morpheme is an idiom. Healey (1968), Pike (1967:427), and Weinreich (1966) all consider idioms to have two or more *morphemes* as their basic constituents. Healey (1968:104) lists Sweet (1899:139); Bar-Hillel (1955); Cowan (1965:83); Fries (1958:743); Katz and Postal (1963); Nida (1951, 1958); Pei (1966:119), and Treble and Vallins (1936:94-95, 145-147) as linguists that consider *words* to be the basic constituents of idioms.



of the aggregate whole ('metaphorical' meaning) by a coherent conceptual system recognised by the particular speech or cultural community using it.

It is possible to describe idioms in terms of the syntactic categories that express them.<sup>4</sup> However, linguists find idioms problematic precisely because of their **meaning** shifts or mismatches. The meaning of the whole idiom is NOT the sum of its parts. Therefore, I will outline some semantic categories that define sets of idioms. I have collected a number of idioms from languages in Papua New Guinea,<sup>5</sup> particularly the Korafe<sup>6</sup> and Baruga<sup>7</sup> languages. I will compare and contrast some semantic categories realised by these idioms, particularly the body-part idioms, with those of English and other European languages.

## 2 The idiomatisation process is semantically motivated

Speech communities reinvest their limited inventory of morphemes in many expressions. The more a speaker uses a lexeme, the more possibilities it has for extended use (i.e. use in

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<sup>4</sup> Makkai (1972:59, 117-340) sets up several categories of idioms based on syntactic criteria: (1) phrasal compounds and/or irreversible binomials, (2) pseudo idioms, (3) verb sequences that parallel phrasal verbs, and (4) sentential idioms.

<sup>5</sup> The material from other PNG languages is from my colleagues in the Summer Institute of Linguistics and in the Bible Translation Association of Papua New Guinea: Mike and Thera Anderson, Karen Adams (Wilson), Bill and Sandra Callister, Alan and Faye Canavan, Phil and Chris Carr, Robert and Joanne Conrad, Russ and Mary Cooper, Jeff and Sissie D'Jernes, Jim Farr, Jan and Debbie Gossner, James and Lois Hafford, Alan and Phyllis Healey, Michael Johnstone, Linda Lauck (Vissering), Larry and Connie Lovell, Ken and Noreen McElhanon, John and Elizabeth Murane, Clif and Roxanne Olson, Bill and Rochelle Staley, Aira Suormala, Gerhard and Hiltrud Tauberschmidt, Aindei Wainzo, Thomas and Christiane Weber, Ross and Lyndal Webb, and Harry and Natalia Weimer. I have identified them with their cited examples. The usual disclaimers apply.

<sup>6</sup> The Korafe-Mokorua language is spoken by 3,000-4,000 people living on the headlands of Cape Nelson in the Oro (Northern) Province from Siu Village to Tumina Village near Ako. The work in this paper is based on the Korafe dialect, with speakers located near the Tufi district headquarters in villages from Jebo to Kasiawa and also in Ilamaroro, Kaparoro and Tumina villages.

The assistance of many Korafe language teachers and national translators throughout the years since 1972 is gratefully acknowledged. Korafe data is based on a concordance of spontaneous spoken texts and written texts consisting of 61,053 morphemes compiled at the SIL computer laboratory at Ukarumpa in 1981, as well as the Korafe New Testament, prayer book, primers, reading books and other text and elicited materials collected since 1981. A dictionary with more than 5,000 entries is in progress.

<sup>7</sup> About 1,500 people in the lower Musa and Bareji River valleys of the Oro (Northern) Province speak three dialects of Baruga: Bareji, Mado, and Tafota. Bareji Baruga is spoken by about 500 people living in Songada, Karaisa, Sariri, mostly along the Songa and Bareji Rivers. The Mado dialect is spoken by about 400 people living in Embessa and three villages almost 100 miles up the Musa River just below the Musa Falls. This study is based on the Tafota dialect, spoken by approximately 600 people living in Dove, Guruguru, Erika, Sananade along the Musa River, Kare Sovu, just east of Tapota Point, a delta formed by the convergence of the Musa River into Dyke Ackland Bay, and Foru #1 and Foru #2 along the Foru River. For the rest of this paper, the term Baruga will refer to the Tapota Baruga dialect.

Baruga data is based on spontaneous spoken and written texts, consisting of 11,311 words, elicited materials, and the Baruga translation of the Gospel of Mark. A dictionary with 1,800 entries is in progress. The author's fieldwork analysis time is limited to six months, of which a little less than one month was spent in Baruga villages. The assistance of 12 Baruga national translators since 1989 is gratefully acknowledged.

idioms). Pike (1967:600-602) observes that morphemes with multiple meanings often have one central one. The other more marginal meanings are derived from it.<sup>8</sup> The central meaning will be the one learned early in life, often in a physical concrete context, the one form used to explain the meaning of the other homonymous forms.

For example, the Korafe word *mendo* means 'nose'. Closely aligned to the central meaning of 'a projection from the face, used in breathing', is 'point (of a peninsula or of any projectile, e.g. spear, writing instrument, needle, rope)', which are also concrete objects). More marginal is its meaning: 'point(s) (of a speech)' [*geka da mendo mendo*].<sup>9</sup> The expression *mendo isagha e* 'lit. point visible do' can refer either to **the point of a peninsula** meaning 'point to appear in the open or to become free of mist or fog so it is seen' or to **the point of a speech** meaning 'a point is clearly understood'.

Although the conventionalised variations on the central case cannot be predicted by general rules, the relationship between the idiom and its literal counterpart is not totally arbitrary (Lakoff 1987:84, 448-450). Rather there are independently existing elements of the conceptual system that link the idiom to its meaning: conceptual images that a cultural community holds, the knowledge that it applies in interpreting the image, and the metaphors that the society lives by. To test this hypothesis, Lakoff asked English speakers to list what they see as the components of the idiom, *spill the beans*. He found that they shared a remarkably similar conceptual image of *spill the beans*. The container holding the beans varied between a pot, a crock, a bag, or a jar about the size of the human head. For most speakers, the beans are uncooked. The spilling appears to be accidental and is messy. It is difficult to retrieve the beans. *Spill the beans* utilises what Lakoff calls the CONDUIT METAPHOR, namely *The mind is a container* and *Ideas are entities*. The image speakers have, plus their knowledge of the image (discussed above), together with the CONDUIT METAPHOR link the idiom with its meaning. He (1987:449-450) observes that if the meanings of idioms were arbitrary, there would be "no reason for any speaker to have any image at all, much less for most speakers to have images that are so much alike. But on the hypothesis that idioms are motivated, and that motivation may consist of a link of the form *conventional image+knowledge+metaphors*, we can explain not only why there are such images, but also what forms they may and may not take... We are not claiming that the meaning of idioms, or their form, is predictable. We are only claiming that the relation between them is not arbitrary. Instead, it is motivated, and the motivation makes the idiom 'make sense'".

Speaking of one thing in terms of another is common in language because "the human conceptual system is metaphorically structured and defined" (Lakoff and Johnson 1980:6)." According to Lakoff (1987:446-453), every culture has a large inventory of conventional images which it associates with idioms and draws on to formulate new idioms. For instance, the related metaphors: HIGH STATUS/IMPORTANCE is UP/ON TOP, LOW STATUS is DOWN/UNDER (e.g. servanthood and humbling one's self), are used in idiom formation by a number of speech communities including the Korafe in Papua New Guinea. In the following Korafe examples, note that if one gains an important role by one's own efforts, then the Korafe use

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<sup>8</sup> Makkai (1978:430 from Kronasser 1952 and Kovács 1961) also observes that the usual direction of changes in meaning is from the concrete to the abstract. The genesis of many idioms is through this process of neutralisation (Makkai 1972:407-414), where one lexeme or expression comes to realise multiple meanings.

<sup>9</sup> The genesis of many idioms is through this process of neutralisation (Makkai 1972:407-414), where one lexeme or expression comes to realise multiple meanings.

the verb *viti* 'ascend' (example (3)). However, if someone else honours or exalts him, then the verb *ere* 'arise' is used (example (5)). Likewise, leaving office is described as a descending action (example (4)) and Jesus' self-effacing activity is encoded in the expression 'Christ put self and it went down' (example (5)).

- (3) *Somare viti baj-ari b-ira.*  
 Somare ascend grow.I-DVB get.I-TP.3S.FN  
 'Somare ascended and got the leader position.'
- (4) *Somare baj-ari do vose-tira.*  
 Somare grow.I-DVB leave.I descend.I-TP.3S.FN  
 'Somare left his leadership role and stepped down.'
- (5) *Keriso tofo fit-iri vovosu-sira ava+se-do,*  
 Christ self put.I-SEQ.R.3S.DS descend.II-DP.3S.FN that.CT+say.I-SEQ.SS  
*God nunda javo jigh-iri eroru-sira.*  
 God 3S.GEN name hold.I-SEQ.R.3S.DS arise.II-DP.3S.FN  
 'Christ humbled himself, therefore God exalted him.' (lit. 'Christ put self and it went down, saying that, God held his name and it arose.')

### 3 Categorising idioms semantically

For the purposes of this paper, I asked my colleagues to give me some idioms from languages they know. The resultant corpus of idioms are described in this paper according to their membership in semantic domains defined by the cognitive field they centre around: euphemisms, borrowed items, animals, concrete items, places, natural phenomena and body-part idioms. The largest number of 'idioms' distinguished semantically in the PNG languages I examined are the body-image expressions. Therefore, I will briefly present the other idioms and then focus on body-part idioms, describing and comparing their syntactic and semantic features.

#### 3.1 Euphemisms

Coining euphemisms for unpleasant things or cultural taboos often creates a variety of new idioms.<sup>10</sup> Many idioms are used to discuss the demise of an individual. The expressions *(he) kicked the bucket*, *(he) graduated*, *(she) passed on*, *(she) went the way of all flesh*, *(he) crossed the river*, *(she's) gone home*, *(he) cashed in his chips*, *(he) bit the dust*, *(he) went to his reward*, *(she's) singing with the angels*, *(our friend) has departed* are among those used in English. In Korafe (Oro Province, PNG), *(komana) isira* '(friend) went away', *(nu) faradaisida isira* 'he/she went to paradise', *(nu) amingusira* 'he/she did thus' indicate a person's death. Selepet (Morobe Province, PNG) speakers avoid the mention of death in front of children by describing it as *teŋe pârâŋe yap* [lit. belly.his burst did] '(his) belly burst' (McElhanon 1975:114). Hungarians state that a person 'bit the grass', 'went to earth-

<sup>10</sup> Diversification, the process of one meaning being encoded by several lexemes or expressions, is also a common source of idioms.

castle to sell planks', 'smells the violets from underneath' or 'declared, "I am bored"' (Makkai 1978:427). The Sinaugoro (Milne Bay Province, PNG) describe death as 'closing one's eyes': *Mata-na be-çunu-a* [lit. eyes-his 3SUBJ.PAST-close-3OBJ] 'he died' (Tauberschmidt pers. comm.).

The place where one excretes is another semantic domain many language groups refer to with euphemisms. In English it is variously called: the *men's or ladies' room*, *powder room*, *latrine*, *outhouse*, '*John*', *dunny*, *loo*, *head*, *toilet*, *bathroom*, *lavatory*. Among the terms the Germans use is a phrasal idiom, *wo auch der Kaiser zu Fuss (hin) geht* 'where even the emperor goes on foot'. Many language groups in PNG call this place 'the small house': *liklik haus* (Tok Pisin), *kambo kitako* 'house little' (Korafe).

As one idiom pejorates through extensive use, another less negatively perceived one takes its place. For instance, female English speakers prefer to retire to *the ladies' room* or *powder room* rather than *the toilet* or *the bathroom* when they are in a formal setting.

### 3.2 Borrowed words

Sometimes<sup>11</sup> Papua New Guineans import a foreign object into their culture by assigning such items an idiomatic name likening them to an entity in the culture. For instance, the Baruga (Oro Province, PNG) call rice *sasovi munju* 'ant egg(s)'. The Korafe (Oro Province, PNG) term for hard biscuits is *faragho anoso* 'log bark'. For coffee, they say *ika vuji* 'tree fruit'. The Motu (Central Province, PNG) called white men *tau bada* 'man big', referring less to size than to importance.

### 3.3 Idioms centred around animals

Indo-European languages have many idioms that centre around animals. Some English ones are: *to have bats in one's belfry* (to be crazy) and *a bull in a china shop* (clumsy). French has corresponding idioms given in example (6) and (7). Although the French use different animals from the English, both convey the same meaning.

- (6) *avoir une araignée dans le plafond*  
 have.DVB a.FEM spider on the.M ceiling  
 lit. 'to have a spider on the ceiling'  
 'to be crazy' (Blum & Salas 1989)

<sup>11</sup> At other times people transliterate the foreign names for borrowed items, filtering them through their phonemic grid in the process. For example, 'matches' in Korafe (Oro Province, PNG) has become *masisi*, 'methylated spirits' has become *sifiriti*. 'Radio' in Daga (Milne Bay Province, PNG) is *waialesi* 'wireless' (Murane 1974:408). The English word *bighead* meaning 'arrogant, conceited person' has transferred into Tok Pisin (PNG) *bikhet* with a whole cluster of meanings in the domain of 'disobedience, arrogance or stubbornness'.

- (7) *un éléphant dans un magasin de porcelaine*  
 a.M elephant in a.M store of china.glass  
 lit. 'an elephant in a china store'  
 'clumsy' (Blum & Salas 1989)

The dog figures prominently in the proverbial idioms in these German (8) and Hungarian (9) examples.

- (8) *Da liegt der Hund begraben.*  
 there lie.PRES.3S the.S.M.NOM dog buried.DVB.PASSIVE  
 lit. 'There lies the dog buried.' (the stench is coming out of the ground)  
 'That's where the (scandalous, attempt at suppression) crux of this  
 (affair, problem) is.' (J. Farr pers. comm.)
- (9) *Jön me'g kutyá-ra dér!*  
 comes still/yet dog-onto hoarfrost  
 lit. 'Hoarfrost still comes on the dog.'  
 'This isn't the end of the matter!' (M. Johnstone pers. comm.)

The Papua New Guinea languages I checked have a much smaller inventory of idioms with animals. Lauck (1981:81) lists two Patep (Morobe Province, PNG) irreversible binomials with animal constituents, as follows:

- (10) *higin-huu*  
 bush.animal-ripe  
 'a type of mushroom which is tasty like the *higin* bush animal  
 and soft like a ripe fruit'
- (11) *vilub-koo*  
 python-string.up  
 'rainbow, which has many colors like a python snake reflecting  
 the sun, strung up across the sky'

The pig is an important commodity in the cultures of Papua New Guinea, so it is not surprising that the Tuma-Iruma (Morobe Province, PNG) have an idiom centring around the pig.

- (12) *ätok äri-ta-k*  
 pig scratch-PR-3S  
 'to entice' (R. and L. Webb pers. comm.)

The Wuvulu (Manus Province, PNG) use the image of a quail to describe a person who is afraid:

- (13) *I-na-pa'i ha'e+pada*  
 3S-R-have heart+quail  
 lit. 'He has the heart of a quail.'  
 'He is afraid.' (J. & L. Hafford pers. comm.)

Although the colour encoding 'white' in Korafe *foya=go* (lit. Southern.Bare-eyed. Cockatoo=like) centres around a bird, it is not an idiom, because it does not have two free

constituent morphemes.<sup>12</sup> The postposition *go* ‘like’ is bound to the preceding nominal. Two Korafe expressions that centre around animals are:

- (14) *jingabu+voru*  
snake+womb/high.tide  
‘excessively high tide’
- (15) *sino+fuka=da geka*  
dog+pig=GEN talk  
‘nonsense’

The binomial expression *sino fuka* represents the taxonomic category, ‘animal’ in Korafe. In its extended usage, it is also an idiom referring to ‘women and children’ (the insignificant and foolish people in the culture). Since they are so foolish, what they say also is just nonsense!

### 3.4 Idioms centring around objects, places, natural phenomena

Like the English proverbial idiom, ‘*Don’t hang out your dirty laundry!*’, the following idiom reminds Misima speakers (Misima Island, Milne Bay, PNG) to ‘keep the internal affairs of the household within the family context’.

- (16) *Limi kaso-na.*  
house smoke-3S.INALIENABLE.POSSSESSION  
lit. ‘(it is) the smoke from the house’  
‘(These are) the internal affairs of the household (which should be kept within the family, not gossiped outside).’ (B. & S. Callister pers. comm.)

The German proverbial idiom in example (17) utilises an inanimate object, a fuse, for its conceptual image. The corresponding English proverbial idiom centres around an animal, a rat.

- (17) *Er riecht schon die Lunte.*  
3S.M smell.PRES.3S already the.S.F.N/A fuse/slow.match  
lit. ‘He is already smelling the fuse (burning)’  
English formulaic equivalent: ‘He smells a rat.’  
‘There’s trouble ahead. (You know you’re walking into an ambush when you smell the enemy lighting their weapon.).’ (J. Farr pers. comm.)

The Swiss (Zürich and/or Glarus dialect) mock an overambitious undertaking with the following proverbial idiom centring around a building and a place:

- (18) *Haesch ja aen Kiosk adae Eiger Nordwand!*  
have.2SG.IND EMPH a kiosk at.the Eiger north.face  
lit. Yeah, and you have a snack shop on the north face of the Eiger!!  
‘You are crazy!’ or ‘It’s not very likely!’ (T. Weber pers. comm.)

The following Urim/Wrim (Sandaun Province, PNG) idiom centres around an instrument, the Jew’s harp. *Masalai* are bush spirits.

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<sup>12</sup> The morphemes constituting *foyago* ‘white’ also are fairly transparent. The colour *katiki tamo* [lit. Green.Tree.Python body] ‘lime green’ also centres around an animal. It too is fairly transparent.

- (19) *Miring a-ngkli mitark.*  
 masalai R-throw Jew's.harp  
 lit. 'The bush spirit throws the Jew's harp.'  
 'The Jew's harps are in (in fashion).' (R. Suormala pers. comm.)

In English, we describe a child who resembles his father in appearance and actions as 'a chip off the old block'. The Korafe refer to the housebound elderly men and women as wooden blocks (*ika gotu* [lit. tree short.segment]) and to young strapping men as large logs, *faragho*.

The Bukiyip from the East Sepik Province also have an expression with logs.

- (20) *Ch-a-bulo lowa-s.*  
 3MIX.PL.SUBJ-R-cut log/tree/wood-CL.3.PL  
 lit. 'They (men and women) cut logs.'  
 'They (men and women) didn't understand at all.' (R. Conrad pers. comm.)

The logs the Korafe use as rollers for beaching canoes are called *gharogho*. An extended use of this word is illustrated in example (21).

- (21) *geka=da gharogho*  
 talk=GEN roller.log  
 lit. 'the rollers of a talk/speech/language'  
 'the grammar rules of a language' OR 'a well-reasoned speech with a solid basis in fact'

The Korafe morpheme *geka* 'talk, speech, language' is associated with a large number of formulaic expressions, with several of them being idioms. A few are listed in (22).

- |        |                            |  |   |
|--------|----------------------------|--|---|
| (22)a. | <i>geka gambarira</i>      | [lit. 'talk it.will.bite']             | 'speech really will hit home to the addressee(s)'                     |
| b.     | <i>geka gafuge</i>         | [lit. 'talk cut.in.two. horizontally'] | 'cut someone off by interrupting his/her speech'                      |
| c.     | <i>geka tafusege</i>       | [lit. 'talk snap.in.two']              | 'speaker breaks off, because his or her trend of thought gets broken' |
| d.     | <i>geka kisighe</i>        | [lit. 'talk tighten.up.noose']         | 'summarise speech'  |
| e.     | <i>geka nunda etu=ghae</i> | [lit. 'talk its bones=with']           | 'speech with well-ordered points'                                     |

An example of metonymy is found in Arop-Lokep (23) spoken on Long Island in the Madang Province, where the pot is used for the object squeezed into it.

- (23) *Ti-pisi bor.*  
 3PL.SUBJ-squeeze pot  
 lit. 'They squeeze (the) pot.'  
 'They squeeze (coconut cream into the food in the) pot.' (J. & S. D'Jernes, pers. comm.)

Another Arop-Lokep idiom refers to a weather phenomenon.

- (24) *eng te-ne*  
 wind faeces-3S.POSR.IN  
 lit. 'wind faeces'  
 'clouds' (J. & S. D'Jernes pers. comm.)

The Bimin (Western Province, PNG) have a binomial expression for dew.

- (25) *fial ok*  
 star water  
 'dew' (T. & C. Weber pers. comm.)

### 3.5 Body-image expressions

Among the metaphorical imageable idioms (that Lakoff 1987 refers to; see §2 above) are *body-image expressions*. These expressions correlate body parts with discrete semantic fields representing cognition and centres for various physiological and emotional activities.

Found in languages throughout the world, these expressions are language- and culture-specific. For example, English speakers, feeling nervous, may say they "have butterflies in their stomachs". The Spanish expression for nervousness is *tener nervios* 'have nerves'. Korafe (Oro Province, PNG) speakers describe anything sharp or powerful as *dika-ghae* [teeth-with] 'with teeth'. Patep (Morobe Province, PNG) speakers say *ma-yin* 'eye-needle' for anything sharp or thorny (Lauck 1982:79). But English speakers commonly utilise the adjective that literally means 'sharp'.

Even within a small country like Papua New Guinea, groups use distinct images.<sup>13</sup> For instance, the centre of emotions is the *liver* for the Edolo (Etoro) in the Western Province (J. & D. Gossner pers. comm.), the Irumu in the Morobe Province (R. & L. Webb pers. comm.) and the Tagule from Sudest in the Milne Bay Province (M. & T. Anderson pers. comm.). In Selepet<sup>14</sup> (McElhanon 1977a:9) and Patep (Lauck 1981:78) in the Morobe Province, the *insides* function as the seat of emotions in various contexts. For the Bamu in the Gulf Province (P. & C. Carr pers. comm.), the Angaataha in the Morobe Province (A. Wainzo pers. comm.), Yareba (Weimer and Weimer 1974) and the Wuvulu in the Manus

<sup>13</sup> A cautionary word is in order here. I have taken the contributor's translation at face value here. However, many languages utilise more than one body part to catalogue the emotions. For instance, McElhanon (1975:118) gives both *biwi* 'insides' and *tep* 'belly' as the recurrent body parts representing one's emotions. See examples (30a,b), (31a,b), and (32a,b). Lauck (1981:72,84,86) catalogues a number of expressions for emotions in Patep. The word *n̄lō* 'insides' is used extensively for a wide range of emotions (at peace, angry, sorrowful, confused, excited, covetous), but *x̄yaa* 'stomach' (happiness, anger), *ni* 'skin, essence' (shame, disgust) and *v̄ixa* 'foot, leg' (be pleased) are also used to indicate emotions. The Bamu use 'heart' for love, but *punungo* 'nose' in expressions that indicate anger (P. & C. Carr pers. comm.). Weimer and Weimer (1974:205-206) gloss *nenō* as 'chest; heart; seat of affections; emotions'. From the entry *nenō sanasu* 'breathing', it is possible to assign the meaning 'lungs' to *nenō* as well. The Baruga, who are near neighbours to the Yareba, also use *nenō* for the centre of emotions, but in this instance *nenō* means 'neck and the upper chest area', as does *dubo* 'neck, upper chest, seat of emotions' in Korafe. I have listed here the body part used most often to encode emotions in each respective language.

<sup>14</sup> The Selepet language group lives in the Finisterre Range of the Morobe Province and is part of the Finisterre-Huon family belonging to the putative Trans New Guinea phylum of Papuan languages. McElhanon conducted research in that language from 1964 to 1978.



Province (J. & L. Hafford pers. comm.), the *heart* is the centre of emotions. The Gumawana of Milne Bay Province (C. & R. Olson pers. comm.) and the Korafe and Baruga (in fact the Binandere family in general) in the Oro Province consider the *neck* to be the seat of emotions.

Body-image expressions can designate both physiological and emotional responses. The body part used represents a semantic field which has a *radial structure*.<sup>15</sup> A radial structure has a central meaning and one or more associated meanings. In this case, the central meaning corresponds to the physical body part; the psycho-spiritual correlate (e.g. emotion) is viewed as being derived from the central meaning. The central meaning operates within predications indicating physiological responses. The correlate meaning operates within predications indicating psycho-spiritual responses.<sup>16</sup> A number of the Korafe expressions using the body part *dubo* 'neck', are listed in examples (26) and (27). Those in (26) express physiological responses, those in (27) are emotional or psycho-spiritual body-image expressions.

|      |                         |                      |  |
|------|-------------------------|----------------------|--|
| (26) | <i>dubo sikighetira</i> | [neck became hoarse] | 'became hoarse'  |
|      | <i>dubo saghetira</i>   | [neck dried up]      | 'became thirsty'   |
|      | <i>dubo safe</i>        | [neck clutch]        | 'strangle'   |
| (27) | <i>dubo bari/bu</i>     | [neck getting/get]   | 'love'   |
|      | <i>dubo eko (e)</i>     | [neck bad (do)]      | 'sullenly angry, churlish,<br>nursing a grudge'  |
|      | <i>dubo eveva (e)</i>   | [neck good (do)]     | 'feeling of contentment, having a<br>sound mind'   |
|      | <i>dubo vevera (e)</i>  | [neck heat (do)]     | 'big problem, great worry, very<br>upset, unhappy'                                       |
|      | <i>dubo jama (e)</i>    | [neck cool (do)]     | 'have a feeling of well-being,<br>happy, content, at peace and<br>harmony with everyone' |

As the examples above show, body-image expressions have two obligatory constituents: the body part itself and the predicate. Structurally, a nominal realises the body part; a verb or a nominal functioning as a predicate complement realises the predicate. The semantic fields represented by the body part and by the predicate are consistent throughout the language. Noting the internal consistency of semantic domains within a language, McElhanon (1975:133) proposed a heuristic tool for discovering the set of body-image expressions a language has.

<sup>15</sup> Lakoff (1987:84) defines *radial structure* as "one where there is a central case and conventionalized variations on it which cannot be predicted by general rules". Lakoff's discussion of radial structures mirrors Pike's (1967:600-602) presentation on central and marginal meanings; see §2 above.

<sup>16</sup> McElhanon (1977a:7) argues that body-image expressions are not necessarily idioms. The mother-tongue speakers view some literally and some metaphorically. For example, the Selepet expression [his shadow went] 'he was afraid' is "not an idiom, but a statement of conceptual reality" (McElhanon 1977a:7). On the other hand, Sylvester J. Dadae assures me that the Baruga expression *neho bari* [neck getting] 'love' doesn't mean that someone has grabbed the neck. It has become an idiom for 'love' in Baruga. The same is true for *diti fuge-DS, i* [eye throw-DS, it goes/went] 'cast a glance'. Dadae says of it, "We all know that you don't really throw your eye".

1. List the body parts and the common predications on separate axes (one on the horizontal and one on the vertical axis) of a grid.
2. Ask mother-tongue speakers to identify the well-formed combinations and define them.

Accordingly I placed 29 Korafe nouns<sup>17</sup> on the vertical axis of a table and 46 predicates on its horizontal axis. Zacharias Yariyari (Kofure village, Tufi, Oro Province) identified the combinations extant in Korafe. Some, like *ogobe* 'stomach' and *umbuba* 'heart', were unproductive, only appearing in constructions that indicated their physiological activity. Others like *dubo* 'throat' and *diti* 'eye/group' are widely used. The most productive body-part constituents in Korafe are listed in (28) with their central and extended meanings:

|      |                              |                                  |  |
|------|------------------------------|----------------------------------|--|
| (28) | <i>jiro</i> ( <i>munju</i> ) | [head (brain=egg)] <sup>18</sup> | 'intelligence'   |
|      | <i>diti</i>                  | [eye]                            | 'ability to see/ability to understand, learn; group/portion' |
|      | <i>dengoro</i>               | [ear]                            | 'ability to hear/obedience quotient'                         |
|      | <i>mendo</i>                 | [nose]                           | 'point of contact socially, spiritually'                     |
|      | <i>beka</i>                  | [mouth]                          | 'facility in speaking'                                       |
|      | <i>dika</i>                  | [teeth]                          | 'sharpness, power'   |
|      | <i>dubo</i>                  | [neck]                           | 'centre of emotions; voice quality; thoughts'                |
|      | <i>janje</i>                 | [oesophagus/trachea]             | 'personality-inward emotions; taste/flavour'                 |
|      | <i>ghamo</i>                 | [lungs]                          | 'reactive emotions'  |
|      | <i>tamo</i>                  | [body]                           | 'physical response of total person'                          |
|      | <i>ungo</i>                  | [hand]                           | 'manual ability'   |
|      | <i>ata</i>                   | [foot]                           | 'agility, nimbleness (with legs)'                            |

Although they differ in their central meaning, *jiro* and *munju* share much the same semantic components in terms of their extended usage and can be compounded to indicate the brain: *jiro munju* (lit. 'head-egg').

Some of the most productive predicates from the Korafe list<sup>19</sup> are listed in (29):

<sup>17</sup> The nouns included: *jiro* (*munju*) 'head (egg=brain)', *dombu* 'face', *diti* 'eye', *mendo* 'nose', *dengoro* 'ear', *beka* 'mouth', *dika* 'teeth', *aviva* 'tongue', *eghovo* 'chin', *dubo* 'neck', *tumo* 'nape of neck', *janje* 'oesophagus/trachea', *ghamo* 'lungs', *etu* 'bone', *reima* 'rib(s)', *umbuba* 'heart', *ororo* 'blood', *ogobe* 'stomach', *tini* 'belly, abdomen', *goaya* 'liver', *jetini* 'intestines', *foká* 'excrement', *soso* 'urine', *saga* 'shoulder', *tamo* 'body', *guka* 'back', *ungo* 'arm/hand', *ata* 'leg/foot', *avo* 'buttocks'.

<sup>18</sup> In this section, the literal translation is bracketed and the free translation is in 'single quotes'.

<sup>19</sup> The predicates included were: *eveva* (*e*) 'good (do/become)', *eko* (*e*) 'bad (do/become)', *vevera* (*e*) 'hot/heat (do/become)', *jama* (*e*) 'cool (do/become)', *yaura* (*e*)/(*yaughe*) 'cold/wind (do/become) (become cold)', *raugo* (*e*) 'soft, easy (do/become)', *fakara* (*e*) 'hard (do/become)', *fegha(ko)* (*e*) 'light (do/become)', *bouvu* (*e*) 'heavy (do/become)', *takegha* (*e*) 'stuck (do/become)', *dabako* (*e*) 'one (do/become)', *etoto* (*e*) 'two (do/become)', *tefo* (*e*) 'nothing/none do/become', *gae* 'spear/poke/pierce', *base* 'bore', *buvu* 'emerge', *i* 'go', *fu* 'come', *iri* 'remain', *irae* 'not remain', *sembu* 'cross', *ere* 'arise', *de* 'hit', *dere* 'touch, trick', *gi* 'see', *afige* 'open', *birurughe* 'twist, turn round (and round)', *jovereghe* 'turn over, turn around 180°', *averege* 'pour, spill', *darige* 'bypass', *do* 'leave, release', *vose* 'descend', *viti* 'ascend', *kote* 'think', *se* 'speak', *bu* 'get', *bambu* 'get with effort', *fumbu* 'carry on shoulder, bear

|      |                  |                     |   |
|------|------------------|---------------------|---|
| (29) | <i>raugo</i>     | [soft]              | 'apt, quick, gentle'  |
|      | <i>fakara</i>    | [hard]              | 'resolve, slow to learn, insensitive'                             |
|      | <i>eveva</i>     | [good]              | 'positive quality of the semantic field represented by body part' |
|      | <i>eko</i>       | [bad]               | 'negative quality of the semantic field represented by body part' |
|      | <i>fegha(ko)</i> | [light]             | 'apt, quick, high, not forceful'                                  |
|      | <i>bouvuvu</i>   | [heavy]             | 'clumsy, low, forceful'   |
|      | <i>vevera</i>    | [hot, heat]         | 'incorrect state of affairs'                                      |
|      | <i>jama</i>      | [cool]              | 'corrected state of affairs, homeostasis'                         |
|      | <i>bu</i>        | [get]               | 'strongly emote'  |
|      | <i>birurughe</i> | [turn, twist]       | 'deceitful'   |
|      | <i>jovereghe</i> | [turn 180°]         | 'reversal of situation'   |
|      | <i>gae</i>       | [spear/poke/pierce] | 'strongly affects'  |
|      | <i>ere</i>       | [arise]             | 'excited, stirred up'   |
|      | <i>dere</i>      | [touch]             | 'arouse, incite'  |
|      | <i>tefo</i>      | [none]              | 'absence of'  |

Each body part used in these expressions designates a discrete semantic field; no two expressions are absolutely synonymous. In his early analysis of Selepet (Morobe Province, PNG), McElhanon (1977a:10) could not differentiate *tep* 'belly' from *biwi* 'insides' in their extended usage as 'the seat of the emotions'. However, further analysis revealed that *tep* 'belly' represented emotions in a sociological context – used for generosity, approval, desire, lust, jealousy, loneliness, pity, selfishness, and reconciliation. The set with *biwi* 'insides' designates the speaker's personal attitude or frame of mind, e.g. diligence, faithfulness, tenacity, eagerness, anxiety, despair.

- (30)a. *biwine yâkât kinsap*  
[my inside stands for her] 'I am devoted to her'
- b. *tepne yâkât kinsap*  
[my belly stands for her] 'I approve of her behaviour'
- (31)a. *biwiŋe kaok oap*  
[his inside is white] 'he is calm, peaceful'
- b. *tepne kaok oak*  
[his belly is white] 'he is calm as a result of being reconciled with his enemy'
- (32)a. *biwine yâkât hindaksap*  
[my inside pulls itself out for that] 'I am afraid for myself'
- b. *tepne yâkât hindaksap*  
[my belly pulls itself out for that] 'I am afraid for another's safety'

---

baby', *gambu* 'bite', *fuge* 'throw', *fiti* 'put', *sandi* 'grab', *avi* 'sleep/burn', *mindî* 'eat', *dighi* 'tie', *vujeje* 'loosen, untie', *sarige* 'split'.

In addition to denoting the actual body parts, the Korafe words *dubo* (*joká*) ‘neck (inside)’, *janje* (*joká*) ‘oesophagus/trachea (inside)’ and *ghamo* (*joká*) ‘lungs (inside)’ each seem to designate the ‘seat of emotions’. However, *dubo* occurs more frequently than any other term. It indicates proactive behaviours, emotions a person feels when considering others in social relationships, e.g. love, churlishness, harmony. It is also used to express wisdom and related thinking processes. In addition to those listed above in example (32), several of the most common expressions are:

|      |                            |                               |                                      |
|------|----------------------------|-------------------------------|--------------------------------------|
| (33) | <i>dubo mema</i>           | [neck pain]                   | ‘worry, problem, sadness’            |
|      | <i>dubo raugo</i>          | [neck soft]                   | ‘tender-hearted, caring, changeable’ |
|      | <i>dubo fakara</i>         | [neck hard]                   | ‘obstinate, truculent, unyielding’   |
|      | <i>dubo kotari/kote</i>    | [neck thinking/think]         | ‘wisdom, think clearly/rationally’   |
|      | <i>dubo bune</i>           | [neck not know]               | ‘muddle through a speech’            |
|      | <i>dubo dabako (e)</i>     | [neck one (do)] <sup>20</sup> | ‘(be) of one mind, in harmony’       |
|      | <i>dubo etoto</i>          | [neck two] <sup>21</sup>      | ‘double-minded’                      |
|      | <i>dubo irae/tefo</i>      | [neck not remaining/nothing]  | ‘unthinking, off one’s head’         |
|      | <i>dubo joká jovereghe</i> | [neck inside turn around]     | ‘repent, change one’s mind’          |

The word *janje* expresses personality, emotions a person feels when he or she is inwardly focused, disregarding others.

|      |                      |                      |   |
|------|----------------------|----------------------|---|
| (34) | <i>janje eko</i>     | [oesophagus bad]     | ‘rage, exploding anger, angry (most common expression for anger)’ |
|      | <i>janje eveva</i>   | [oesophagus good]    | ‘feeling of well-being, sweet-tempered’                           |
|      | <i>janje fakara</i>  | [oesophagus hard]    | ‘resolve’   |
|      | <i>janje erari</i>   | [oesophagus arising] | ‘feelings are stirred up (no external actor)’                     |
|      | <i>janje ferighe</i> | [trachea gasps]      | ‘be startled, frightened’   |

<sup>20</sup> The Tok Pisin word *wanbel* [one belly] ‘in one accord’ parallels this Korafe expression. McElhanon (1975:126) documents two similar body-image expressions in Selepet: *biwiyeye konok olop* [their insides became one] ‘they came to an agreement’ and *biwi konok otbi* [they did one inside] ‘they lived in harmony’.

<sup>21</sup> Mike and Thera Anderson (pers. comm.) found this parallel idiom in Tagule (Milne Bay Province, PNG).

*nuwa-e*                      *i-gheghe-iwo*  
 thinking-3S.GEN    3S-leg-two  
 [his thinking is two-legged]  
 ‘he is wondering, vacillating’

|                             |                                 |   |
|-----------------------------|---------------------------------|---|
| <i>janje takegha e</i>      | [trachea stuck do]              | 'be frightened and immobilised, scared stiff' |
| <i>janje joká jovereghe</i> | [oesophagus inside turn around] | 'repent, change one's self'                   |

Although *ghamo* appears to cover much the same semantic domain as *janje*, it focuses more on reactive behaviours, coveting and obsessions. Some speakers substitute *ghamo* for *dubo* in *dubo bari/ghamo bari* 'love' and other expressions, because of name-taboo restrictions. In fact, name-taboos, by their very nature, occasion many exceptions to the 'no synonymy' assumption in Korafe. The following are common body-image expressions with *ghamo*.

|                           |                              |  |
|---------------------------|------------------------------|--|
| (35) <i>ghamo bari/bu</i> | [lungs getting/get]          | 'covet, be obsessed with', 'take heed, learn a lesson' or 'love (name avoidance expression)' |
| <i>ghamo vevera gae</i>   | [lungs heat thrust]          | 'feel upset, hurt, sad'  |
| <i>ghamo dere, erari</i>  | [lungs touch, (lungs) arise] | 'arouse, X stirs up Y's feelings'  |
| <i>ghamo ferighe</i>      | [lungs gasp]                 | 'be startled, frightened'  |
| <i>ghamo beunghe</i>      | [lungs pound]                | 'be extremely frightened, overwhelmed by emotion'  |
| <i>ghamo mindi</i>        | [lungs eat]                  | 'catch one's breath'   |

The difference between two closely related expressions may be one of degree of intensity. McElhanon (1975:115) notes this phenomenon in Selepet.

|                             |                                |  |
|-----------------------------|--------------------------------|--|
| (36) <i>kuk oap</i>         | [he is angry]                  | represents an intense emotion which is expressed by moderate to strong behaviour                           |
| <i>hâmeŋe bâleap</i>        | [his nose is bad]              | 'he is visibly upset about it, i.e. he is disgruntled'   |
| <i>biwine bâleap</i>        | [my inside is bad]             | 'I am displeased (denotes a more general feeling of dissatisfaction and so one may say it of others also)' |
| <i>biwine hârean</i>        | [I cut my inside]              | 'I am so angry that I could scream (i.e. I am angry to the point of expressing it)'                        |
| <i>biwine hâuneksap</i>     | [it pierces my inside]         | 'I am so angry that I want vengeance'  |
| <i>biwine kâlâp oap</i>     | [my inside is hot]             | 'I am quite upset about it'  |
| <i>biwine kok kâlâp oap</i> | [my inside burns and blisters] | 'I am very angry over it; it burns me up'  |

The Korafe generally differentiate intensity of emotions by adding an intensifying word or a hyperbolic word to the original body-image expression, such as *ambarako*<sup>22</sup> in example (37)b.

- (37)a. *Na dubo+mema er-ira.*  
 1S neck+pain IPF-do.PRES.3S.FN  
 'I am feeling sad.'
- b. *Na dubo+mema ambara=ko er-ira.*  
 1S neck+pain die.DVB=INT IPF-do.PRES.3S.FN  
 'I am feeling very sad.'

However, a few Korafe expressions do distinguish the intensity and length of the emotion. For instance *ghamo beunghe* 'lungs thump (=be so frightened the lungs pound)' is more intense and enduring than *ghamo ferighe* 'lungs gasp (=be startled, respond with fear)'.

Although body-image expressions are culture-specific, a number of predicates representing the same or related (antonymic) semantic domains recur in many languages. Common ones in PNG languages are *light/heavy*, *soft/hard*, *hot/cool*, and *good/bad*. For example, *light* has three basic subsenses in Korafe, depending on the body part or object used.

- |      |                     |                  |   |
|------|---------------------|------------------|---|
| (38) | <i>ungo feghako</i> | [hand/arm light] | 'be dexterous, manually skilled, adept'               |
|      | <i>ata feghako</i>  | [foot/leg light] | 'be skilled, agile with legs/feet'                    |
|      | <i>dubo feghako</i> | [throat light]   | 'high-pitched or soprano voice'                       |
|      | <i>geka feghako</i> | [talk light]     | 'speech that does not address the significant issues' |

McElhanon (1977b:10) suggests that the common semantic component of *light* in English is "not confined or restricted". He adds that *light-tongued* can either mean "quick to speak" or "making frivolous statements". These semantic components are part of the meanings of the Korafe examples in (38). Among the semantic components of the Selepet expression in (39) is also the absence of restrictions.

- (39) *biwiyeye hewewey oap*  
 [their insides are light]  
 'they are willing' (McElhanon 1975:127)

The semantic components of the opposing quality, *heavy*, in English are generally "restricted movement of activity", "slowness in activity" (McElhanon 1977b:10). This parallels the first four Korafe subsenses given in example (40).

- |      |                       |                    |   |
|------|-----------------------|--------------------|---|
| (40) | <i>ungo/ata bouvu</i> | [hands/feet heavy] | 'clumsy'  |
|      | <i>tamo bouvu</i>     | [body heavy]       | 'pregnant' or 'tired'                                   |
|      | <i>beka bouvu</i>     | [mouth heavy]      | 'not articulate, unable to speak another language well' |

<sup>22</sup> The Korafe often use a form of *ambu* 'die' hyperbolically to describe some activity carried on to an extreme extent. For instance, *Namane gegha ji ambu-duduru-seri*. [we.EXC laughing hold.I die.I-fall.II-DP.IP.AQ] means 'we died laughing'.

|                      |                    |  |
|----------------------|--------------------|--|
| <i>dubo bouvu</i>    | [throat heavy]     | 'deep or bass voice'                       |
| <i>geka bouvu se</i> | [speech heavy say] | 'address the weighty concerns of an issue' |

McElhanon (1977a:3) states that a *heavy head* in Kâte (Morobe Province, PNG) indicates 'feel draggy'. Lauck (1981:86) also finds the following combinations in Patep (Morobe Province, PNG):

|      |                        |                           |  |
|------|------------------------|---------------------------|--|
| (41) | <i>ninivi/ni vïyin</i> | [skin/body/essence heavy] | 'tiredness, weakness from sickness'          |
|      | <i>vigê vïyin</i>      | [hand/arm heavy]          | 'can't do things skilfully with one's hands' |
|      | <i>vixa vïyin</i>      | [foot/leg heavy]          | 'not able to do things well with one's legs' |
|      | <i>mya vïyin</i>       | [mouth heavy]             | 'unable to speak another language well'      |

Adams (1984:76) documents another Patep idiom with 'heavy' as a constituent.

|      |                   |                 |                                 |
|------|-------------------|-----------------|---------------------------------|
| (42) | <i>nilö vïyin</i> | [insides heavy] | 'sorrow, sadness, deep concern' |
|------|-------------------|-----------------|---------------------------------|

Several other languages utilise *heavy* to signal discouragement or concern that's weighing someone down. English has the expression 'X has a heavy heart'. R. Cooper (pers. comm.) gives the following example for Buhutu (Milne Bay Province, PNG).

|      |                                      |  |
|------|--------------------------------------|--|
| (43) | <i>Yau nuwa-gu ya dubu.</i>          |  |
|      | I mind-my 3SR be.heavy               |  |
|      | 'I feel downhearted or discouraged.' |  |

Selepet (Morobe Province, PNG) manifests a parallel subsense.

|      |   |  |
|------|---|--|
| (44) | <i>biwine umatje+oap</i>  |  |
|      | inside.my heavy.is  |  |
|      | [My inside is heavy.]   |  |
|      | 'I think it is useless to carry on any further.' (McElhanon 1975:116) |  |

The antonym pair *soft/hard* is also widely used. The semantic domain of *soft* includes the following traits: impressionability, teachability, gentleness and weakness, depending on the body part in the expression. In English, 'X is a soft touch' means that X is persuadable. 'X has a soft spot in X's heart for Y' means that X feels kindly disposed toward Y.

|      |  |   |
|------|--|---|
| (45) | Korafe (Oro Province, PNG)                           |   |
|      | <i>jiro raugo</i>                                    | [head soft] 'apt, bright, quick to learn'                       |
|      | <i>dubo raugo</i>                                    | [neck soft] 'tender-hearted/emotional/undecided'                |
|      | <i>janje raugo</i>                                   | [oesophagus soft] 'weak'  |
| (46) | Patep (Morobe Province, PNG – from Lauck 1981:86-88) |   |
|      | <i>vigê xêlehe</i>                                   | [hand/arm soft/weak] 'generous, readily gives things to people' |
|      | <i>vixa xêlehe</i>                                   | [foot/leg soft/weak] 'do good things, follow good ways'         |
|      | <i>ninya xêlehe</i>                                  | [ears soft/weak] 'ready to listen and obey'                     |
|      | <i>mya xêlehe</i>                                    | [mouth soft/weak] 'speak friendly, good talk'                   |

- (47) Telefol (Western Province, PNG – from Healey 1977:31, 38, 57)  
*bet bubul dugam-in* [soft heart interact.with] ‘be kind to, have a good attitude toward others’

The range of meanings connected with *hard* includes unchangeability, hard-heartedness and steadfastness or courage.

- (48) Yareba (Oro Province, PNG – from Weimer and Weimer 1974:516)  
*nen kimu* [heart/chest hard] ‘unsympathetic, hard-hearted/disobedient’
- (49) Korafe (Oro Province, PNG)  
*dubo fakara* [neck hard] ‘obstinate, insensitive, unemotional’  
*janje fakara (e)* [trachea hard (do)] ‘be resolved, determined’  
*tamo fakara (e)* [body hard (do)] ‘toughen up, take courage’  
*eghovo fakara (e)* [chin hard (do)] ‘steel oneself, pluck up heart, pull oneself together’  
*diti fakara* [eyes hard] ‘wide awake’  
*jiro fakara* [head hard] ‘thick-headed, blockheaded, slow-learning’
- (50) Baruga (Oro Province, PNG)  
*beforo fakara* [forehead hard] ‘numbskull, slow-learning’
- (51) Patep (Morobe Province, PNG – from Lauck 1981:85)  
*piyôp ???* [hard brains] ‘thick-brained, slow-learning, obtuse/resolute, firmly decided about something’

In a number of languages, *hot/heat* is associated with a body part to express ‘anger’. Lakoff (1987:383) hypothesises that the most general metaphor for anger (in English) is ANGER IS HEAT. The English expressions, *hot-tempered* and *hot-headed*, utilise that metaphor.<sup>23</sup>

- (52) Selepet (Morobe Province, PNG – from McElhanon 1977b:18)  
*tepne kâlâp oap* [my belly is hot] ‘I am angry (caused by strained filial relationship)’  
*biwine kâlâp oap* [my inside is hot] ‘I am angry (for personal reasons)’
- (53) Yareba (Oro Province, PNG – from Weimer and Weimer 1974:205-206, 284, 317)  
*nen wakiki* [heart/chest hot] ‘very angry’

<sup>23</sup> McElhanon (1977a:12) suggests a more general semantic domain for *hot*: “hot signifies an active state for the concepts associated with the body parts”. The English expressions *hot-foot*, *hot-lips* and *hot-blooded* suggest increased activity, with the feet—a rapid pace, with the lips—given to kissing, with the blood—strongly sexed. In German, *ich bin heiss* [I am hot] ‘I am sexually aroused’ contrasts with the impersonal construction *es ist mir heiss* [it is to me hot] ‘I am feeling hot’.



- (54) Patep (Morobe Province, PNG – from Adams 1984:74, 76, 120)  
*ni nyag* [body/skin is getting hot] ‘upset, disturbed, angry’  
*niłō vuac* [inside is boiling] ‘angry’

- (55) Tok Pisin (PNG)  
*em i belhat* [he/she is belly-hot] ‘he/she is angry’

The reversal of *hot* is *cool* rather than *cold* in expressions with *dubo* ‘neck’ in Korafe.

- (56) Korafe (Oro Province, PNG)  
*dubo vevera e* [neck hot do] ‘be very unhappy, worry over, have difficulty in (a relationship)’  
*dubo jama e* [neck cool do] ‘have a feeling of well-being, be happy, content, at peace and harmony with everyone’

McElhanon (1977a:4-5) notes the following incomplete reversals in English: *cold-hearted* vs *warm-hearted*, not *hot-hearted*; but *hot-headed* vs *cool-headed*, not *cold-headed*. He suggests that the abnormal or disfavoured behaviour is expressed by the extreme states, *hot* and *cold*. A return to the normal behaviour is expressed using words that indicate a process, *warm* and *cool*. In Korafe, the expressions *tamo vevera* ‘fever (lit. body hot/heat)’ and *tamo yaura (e)* ‘feeling cold (lit. body cold (do))’ both indicate abnormal states, but the expression *jama etira* ‘cooled to normal’ indicates a return to normalcy. So does the Selepet expression *biwiyene sânduk yap* [lit. their insides cooled off] ‘they calmed down’ (McElhanon 1975:127).

The most common antonymic reversal set of body-image expressions that I found in PNG data is that set predicated by *good–bad*, because *good* and *bad* have basically evaluative meanings. Although Kalam, Yareba and Patep are from different families than Baruga and Korafe, the correlating expressions represent semantic fields with similar semantic components.

- (57)a. Kalam (Madang Province, PNG – from Pawley, Gi, Majnep, and Kias forthcoming)

*Yp tep yb g-a-k.*  
 me good true do-3S-PAST  
 ‘I felt truly happy/pleased.’

- b. *Sb-wt yp tmey g-p.*  
 guts-cluster my bad do-PF.3S  
 ‘I feel angry/upset.’ OR: ‘My guts feel bad.’

- (58) Yareba (Oro Province, PNG – from Weimer and Weimer 1974:516)

*nenō rau* [heart/chest good] ‘happy’  
*nenō siosa* [heart/chest bad] ‘angry’

- (59) Patep (Morobe Province, PNG – from Lauck 1981:84)

*niłō nivaha* [insides good] ‘in a good state of mind, at peace with others’  
*niłō nipaën* [insides bad] ‘in a bad state of mind, angry, upset’  
*xêyaa nivaha* [stomach good] ‘happiness, good relationships with others’  
*xêyaa nipaën* [stomach bad] ‘angry with others, upset or having a disagreement with someone’

- (60) Baruga (Oro Province, PNG)  
*nenō taubana* [neck/chest good] 'content, satisfied with status quo'  
*nenō akuago* [neck/chest bad] 'angry'
- (61) Korafe (Oro Province, PNG)  
*dubo eveva (e)* [neck good (do)] 'having a feeling of contentment, a sound mind'  
*dubo eko (e)* [neck bad (do)] 'sullenly angry, churlish, ill-tempered, or aggrieved, nursing a grudge'  
*janje eveva (e)* [oesophagus good (do)] 'feeling of well-being, sweet-tempered'  
*janje eko (e)* [oesophagus bad (do)] 'rage, exploding anger, angry (most common expression for anger)'

As can be seen from the Patep, Yareba, Baruga and Korafe examples, quite a number of PNG languages encode the emotion of *anger* with the predicate *bad* in conjunction with a body part. The Gumawana and Bamu equivalents are illustrated in (62) and (63).

- (62) Gumawana (Milne Bay Province, PNG – from C. & R. Olson pers. comm.)  
*gamo-gu i-goyo*  
 abdomen-my it-is.bad  
 [lit. my abdomen is bad]  
 'I am angry'
- (63) Bamu (Gulf Province, PNG – from P. & C. Carr pers. comm.)  
*punugo ubauba ta-g-oi*  
 nose bad COMPLETIVE-2/3.PUNC.PAST-come/happen  
 [lit. the nose has come to be bad]  
 'he is angry'

Most of the rest of Korafe and Patep expressions that are predicated by *good* or *bad* indicate physiological responses. Patep, however, has a couple more in the psycho-spiritual domain.

- (64) Patep (Lauck 1981:85)  
*kinu nivaha* [spirit good] 'attributed to a person has success (in hunting, etc.) because his spirit sees a dream and makes it come true'  
*kinu nipaën* [spirit bad] 'attributed to a person who is unsuccessful because his spirit does not give him the help he needs'
- (65) Patep (Lauck 1981:88-89)  
*hi nivaha* [blood good] 'attributed to someone who doesn't get into fights easily' or 'good blood'  
*hi nipaën* [blood bad] 'attributed to someone who is quick to fight' or 'dark-coloured blood'

The distinctions in Kâte between *belly* and *inside* when predicated by *bad* are illustrated in example (66).

- (66) Kâte (Morobe Province, PNG – from McElhanon 1975:135-136)
- |                              |                     |                             |
|------------------------------|---------------------|-----------------------------|
| <i>man̄ticne sâkporekac</i>  | [her inside is bad] | ‘she is sad’                |
| <i>buticne sâkporekac</i>    | [her belly is bad]  | ‘she is jealous’            |
| <i>upeticne sâkporekac</i>   | [her neck is bad]   | ‘she distorted the message’ |
| <i>kpizeticne sâkporekac</i> | [her head is bad]   | ‘she has a headache’        |

Is it just by chance when two totally unrelated languages have body-image expressions with the same predicate and similar semantic components? Or is there something related to the semantic components of the expression that is more generally applicable to languages? For instance, Hungarian and Korafe each have expressions with the verb *bore* (a hole) in some part of the head, referring to the experiencer’s enlightenment.

- (67) Hungarian (Europe – from M. Johnstone pers. comm.)
- |  |              |
|--|--------------|
| <i>agy-a-fúr-t</i>   | <i>ember</i> |
| brain-3S.POSS-bore-PAST  | person       |
| ‘a cunning, ingenious person’  |              |
| (Apparently it comes from the idea that the shaman had a hole in his head through which spirits could enter and ‘enthuse’ or possess him.) |              |
- (68) Korafe
- |  |
|--|
| <i>Mandi diti base-tira.</i>                         |
| boy eye(s) bore.I-TP.3S.FN                           |
| ‘The boy is educated/has learned to read and write.’ |
- (69) Korafe
- |  |
|--|
| <i>Mandi dengoro base-tira.</i>                              |
| boy ear(s) bore.I-TP.3S.FN                                   |
| ‘The boy has grasped it to the point of understanding (it).’ |

Conrad (pers. comm.) reports that Bukiyip (East Sepik Province, PNG) has a similar figure with ‘head’, but the verb is *wala* ‘split’, not ‘bore’.

- (70) *N-a-wala bala-gas.*
- |  |              |
|--|--------------|
| 3M.S.SUBJ-R-split                                    | head-CL.3.PL |
| lit. ‘He split (their) heads.’                       |              |
| ‘He opened their understanding/gave them knowledge.’ |              |

The Daga (Murane 1974:141) expression for ‘love’ in example (71) parallels the expression used by the Korafe in (72).

- (71) *Imu-a pose-wa ina-nu-p war-iwan.*
- |  |            |           |                  |
|--|------------|-----------|------------------|
| insides-3S                                   | insides-3S | to-us-LOC | get-3S/PRES/CONT |
| [His insides are getting to us continually.] |            |           |                  |
| ‘He loves us.’                               |            |           |                  |
- (72) *Namonde dubo+ruru-se+ir-ira.*
- |   |                                       |
|---|---------------------------------------|
| 1PL.INC                                       | neck+get.II-SS.SIM+remains-PRES.3S.FN |
| [He is getting the neck (to) us continually.] |                                       |
| ‘He loves us.’                                |                                       |

Similarly, the nominal expression of love in Korafe (73) parallels the Tagule (74) (Milne Bay Province, PNG).

- (73) *nun-da dubo+b-ari*  
 3S-GEN neck+get.I-DVB  
 [his neck-getting]  
 'his love'
- (74) *Solomon le ghare-ϕ-thovuvu*  
 Solomon 3S.POSS.C2 liver-3S.POSS.C3-hold.tight  
 [Solomon his liver-holding-tight]  
 'Solomon's love' (M. & T. Anderson pers. comm.)

The English expression *pull X's leg* translates directly into the Korafe *ata jumbari* [leg to.pull] both meaning 'to tease X, pretending a falsehood is truth'.

A number of PNG languages have body-image expressions with the predicate *arise, come up*. The general semantic range covered is to have one's feelings or passions stirred up to the point of acting on them.

- (75) Tok Pisin  
*bel i kirap*  
 [belly gets up]  
 'get excited'
- (76) Selepet (McElhanon 1975:123)  
*biwiŋe yahasap*  
 [my.inside got.up]  
 'I am excited (to the point of action)'
- (77) Amele (Roberts 1987:176)  
*Uqa gema-q be-i-a.*  
 3S liver-3S.GEN come.up-3S-TP  
 'He became angry.'

A similar idiom exists in Indonesian (Echols and Shadily 1974).

- (78) *lekas naik darah*  
 swift rise blood  
 'short-tempered'

Two Korafe body-image expressions occur with the predicate *ere* 'arise, get up'. The first expression (79)a occurs with *janje* 'oesophagus/trachea→personality' indicating a stirring-up which is totally internal to the person involved. The second (79)b with *ghamo* 'lungs→emotional reaction' is a verbal sequence. The verb *dere* 'touch' is in a causative relation with *ere*. Note the deletion of the nominal *ghamo* in the second clause. The object of the initial clause marked for different subject following is assumed to be the subject of the subsequent clause in unmarked instances.

- (79)a. *Namane janje ere-tira.*  
 1PL.EXC oesophagus/trachea arise.I-TP.3S.FN  
 lit. 'Regarding us, the oesophagus arose.'  
 'We got very stirred up (excited, upset to the point of action).'

- b. *Na ghamo dere-tiri ere-tira.*  
 IS lungs touch.I-SEQ.R.3S.DS arise.I-TP.3S.FN  
 lit. 'Regarding me, he touched lungs and (it) arose.'  
 'He got me all stirred up (excited, upset to the point of action).'

On the other hand, however, the Sinaugoro expression signifies 'fright (to the point of immobilisation)'.  
 (80) Sinaugoro (from G. Tauberschmidt pers. comm.)

- Nuga-na e rage-ni.*  
 inside-his 3S rise-IPF  
 'He is frightened (just sitting and not moving).'

Although one can find many instances of semantic parallels in the predicates used in body-image expressions around the world, especially between related languages in one family, McElhanon cautions researchers not to assume one-to-one correlations. In Selepet, *hep̄e kâlâp oap* [his blood is hot] refers to his hunting prowess, but in English, a *hot-blooded man* is a super-sexed man. McElhanon (1977a:18) cites a number of misunderstandings generated by literal translations of English idioms with *heart* into idioms with *bel* in Tok Pisin. Although both do represent the 'centre of emotions' in their extended usage, *givim bel* does not mean to express love in many PNG cultures, but 'impregnate outside of the marriage context'. And the same is true for *tanim bel*, which means 'to be nauseated' to some groups, not 'to repent'. One is inviting miscommunication when one assumes that the semantic components of the body-image expressions are equivalent, even though equivalent morphemes at least in their central, literal sense occur. Even though some of the semantic components for a term in two languages may parallel each other, idioms are identified and defined culture-specifically. Therefore, the researching expatriate must ascertain each of the semantic components the insider assigns to each body part and each expression – in short, the metaphors that culture lives by.

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# 9 *Kutubuan (Foe and Fasu) and Proto Engan*

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KARL J. FRANKLIN

## 1 Introduction<sup>1</sup>

Kutubuan (Franklin & Voorhoeve 1973) refers to two separate language families (or linguistic groups)<sup>2</sup> near Lake Kutubu in the Gulf Province, the East (Foe and its dialects) and the West (Fasu and its dialects/closely related languages). There are approximately 750 people who speak the main dialect of Fasu (Loeweke & May 1966) and 3,200 that speak Foe (Rule 1977). Engan refers to the large family of languages in the Enga and Southern Highland Provinces, represented by the Enga (Lang 1973), Huli, Lembena, Ipili, Mendi, Kewa, Sau, and Wiru languages (Franklin 1975, 1997).

Several decades ago, the then New Guinea government anthropologist F.E. Williams (1941–42) published a series of articles on the “Natives of Lake Kutubu”. In the *Oceania* monograph containing the articles, Williams outlined the general cultural features of the Foe people, including the vernacular names for a number of objects. Sometime later (Franklin 1968), I suggested the name Kutubuan for the languages and dialects represented by Foe and Fasu. Closer inspection of his Foe vocabulary makes it clear that the Foe shared a number of artifacts and vocabulary with their Kewa neighbours well to the east of Lake Kutubu.

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<sup>1</sup> This paper is offered to acknowledge the contributions that Tom Dutton has made over several decades to the study of Papuan and New Guinea linguistics. I have benefited from his advice and friendship since he first studied at a government linguistics course in Goroka in 1959. Later we were colleagues and fellow students at ANU. I would also like to thank George MacDonald for his helpful comments, as well as for the Dadibi data in this article. It was drafted at the SIL Semantics Workshop, held at Kangaroo Ground, Victoria, Australia in November–December 1997, with support from the SIL Fund for Scholarly Advancement.

<sup>2</sup> By ‘family’ I mean that there is demonstrated lexical, grammatical and phonological evidence that suggests a genetic relationship between all the languages of the group. Such languages are assumed to be derived from a common ancestor, or ‘parent’ language, in the sense that they all share common characteristics. The Trans New Guinea phylum is a much broader classification and has only limited evidence to suggest such relationships between its constituent languages.

Following this lead, Bert Voorhoeve and I (Franklin & Voorhoeve 1973:155) published several cognate sets and suggested correspondences between Kewa, Foe, and Fasu (as well as Beami). In our comparison of their phonemic inventories (p.155), and following Rule (1977), we included the Foe glottal stop as an allophonic variation of the velar fricative (written in that article as /x/).

In this article I wish to examine in particular the historical relationship of Foe and Fasu, including the phonological problem of how the glottal arose in Foe. I will also review some of the general Kutubuan and Engan materials in the article by Voorhoeve and myself, as well as outline a number of additional comparisons.

I still feel certain that Foe and Fasu have only a very distant genetic relationship, despite recent attempts by Ross (1995) to link Kutubuan (Foe and Fasu, referred to often as KU in this article) into one family, along with the Engan languages. However, there are more than mere accidental similarities between Foe, Fasu and (in fewer cases) Engan, as evidenced from the following:

- (a) The large number of common kinship terms
- (b) The regular sound correspondences and similar range of phonological contrasts
- (c) The large number of corresponding fossilised suffixes on various word classes
- (d) The existence of certain corresponding grammatical markers
- (e) The similar methods of counting

Such resemblances point to historical connections, but the question remains as to whether some or all of the resemblances are due to borrowing, rather than shared heritage from a common ancestor.

## 2 The common kinship terms

There are a number of kinship terms that have survived as resemblant forms between the two Kutubuan groups and Engan (as well as some other languages that I will mention). This is the case even though in other word classes cognates are fairly uncommon, so it must demonstrate either an ancient common language or a great deal of cultural contact and trade (or perhaps some of both). Notice that although the referents may vary from the general gloss, there are a number of cognate forms.<sup>3</sup>

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<sup>3</sup> In order to compare the Engan and Kutubuan data with a language outside of both groups, I include some data from Dadibi. It is a member of the Teberan Family (MacDonald 1973) and its speakers are located in the Karimui District, in the south-western corner of the Simbu Province. Population now is probably over 10,000.

The following abbreviations are used in this paper: B – brother; BinL – brother-in-law; E – ego; FB – father's brother; FinL – father-in-law; GM – grandmother; MB – mother's brother; MinL – mother-in-law; MZ – mother's sister; SinL – son-in-law; Z – sister

| Gloss        | Foe          | Huli              | Kewa               | Fasu               | Dadibi                     |
|--------------|--------------|-------------------|--------------------|--------------------|----------------------------|
| 'father'     | <i>aba</i>   | <i>apa</i>        | <i>apa</i>         | <i>apa</i>         | <i>abu</i>                 |
| 'mother'     | <i>hua</i>   | <i>ama</i> (MZ)   | <i>ama</i>         | <i>ama</i>         | <i>ida</i>                 |
| 'GM; MinL'   | <i>aya</i>   | <i>iaya</i>       | <i>aya</i>         | <i>aiya</i> (WDD)  | <i>auwa/au</i> (GM/MinL)   |
| 'B (male E)' | <i>wame</i>  | <i>hame-</i>      | <i>ame</i>         | <i>sama</i> (FB)   | <i>ama</i> (same-sex sib.) |
| 'Z (male E)' | <i>ana</i>   | <i>ainya</i> (MZ) | <i>ainya</i>       | <i>ainu</i> (MBW)  | <i>na</i> (FZ)             |
| 'MZ'         | <i>babo</i>  | –                 | <i>papa</i>        | <i>papa</i>        | <i>ida</i>                 |
| 'MB'         | –            | <i>aia-ne</i>     | <i>awa</i>         | <i>aua</i>         | <i>awa</i>                 |
| 'FB'         | <i>mai</i>   | <i>mae</i>        | <i>mae</i>         | <i>mae</i> (MB)    | <i>aya</i>                 |
| 'BinL'       | <i>pasi</i>  | –                 | <i>pase</i>        | <i>pase</i> (MWMF) | <i>pese</i>                |
| 'FinL, SinL' | <i>kauwa</i> | <i>ima-ne</i>     | <i>kasua/kakua</i> | <i>kaua</i> (MNS)  | <i>wāi</i>                 |
| 'X-cousin'   | –            | <i>hami-</i>      | <i>kai</i>         | –                  | <i>hāi</i>                 |
| 'daughter'   | –            | <i>wane</i>       | <i>wane</i>        | –                  | <i>wegi</i>                |
| 'son'        | –            | <i>igi-</i>       | <i>si</i>          | –                  | <i>ogwa</i>                |

### 3 KU-Engan consonant sound correspondences

Although both Foe and Fasu have languages that are closely related to them (Franklin & Voorhoeve 1973:153), I do not have sufficient materials to reconstruct their individual sub-groups. However, Voorhoeve (1973:162) and I have given evidence for the following consonant phonemes in Proto Kutubuan: \*/p, t, k, g, f, s, m, n, r, w, y/ and possibly /h/. At the same time we suggested protoconsonants for KU-Kewa as follows: \*/p, k, b, g, f, s, g, m, n/ and /y/. The protoconsonants for the Enga Family at present documented are: \*/p, t, k, mb, nd, ŋg, m, n, l, y, s/ and /w/ (Franklin 1975).<sup>4</sup>

The following table gives additional languages in that Engan (Huli, Pole or South Kewa, and Enga) have consonants that correspond with those in Foe and Fasu.

<sup>4</sup> Earlier (Franklin 1975:269) I suggested that /s/ and /y/ may have arisen from a palatalised /s/ [sy]. While I feel that both palatalisation and labialisation are important in the reconstruction of the Proto Engan phonemes, I will not deal with them more in this article. The protovowels for Engan to date are \*/i, u, e, o, a/ and /aa/, where the latter symbol and digraph represent a mid-central vowel (schwa) and a low-central vowel respectively. The glide \*/ai/ has also been reconstructed.

## 3.1 Consonant phonemes in Kutubuan and some Engan languages

| Foe      | Fasu     | Huli      | Pole      | Enga      | Comments   |
|----------|----------|-----------|-----------|-----------|--|
| –        | <i>p</i> | <i>p</i>  | <i>p</i>  | <i>p</i>  | Generally an affricate initially in Engan              |
| <i>f</i> | <i>f</i> | –         | –         | –         | /f/ only in Kutubuan                                   |
| <i>v</i> | –        | –         | –         | –         | Very infrequent and only initially in Foe              |
| <i>b</i> | –        | <i>b</i>  | –         | –         | Usually a fricative and only medially in Huli          |
| –        | –        | <i>mb</i> | <i>mb</i> | <i>mb</i> | No prenasalisation in Kutubuan                         |
| <i>t</i> | <i>t</i> | <i>t</i>  | <i>t</i>  | <i>t</i>  | Allophonic variation of [t], [d] and [r] is common     |
| <i>d</i> | –        | <i>nd</i> | <i>nd</i> | <i>nd</i> | No prenasalisation in Kutubuan                         |
| <i>r</i> | <i>r</i> | <i>r</i>  | <i>r</i>  | <i>r</i>  | See comments under /t/                                 |
| –        | –        | <i>l</i>  | <i>l</i>  | <i>l</i>  | No laterals in Kutubuan                                |
| <i>s</i> | <i>s</i> | <i>s</i>  | <i>s</i>  | <i>s</i>  | Generally alveopalatal; [ɭ] variant in Fasu            |
| <i>k</i> | <i>k</i> | <i>k</i>  | <i>k</i>  | <i>k</i>  | Affricate initially in Foe and Kewa; Aspirated in Huli |
| <i>g</i> | –        | <i>ŋg</i> | <i>ŋg</i> | <i>ŋg</i> | Prenasalised only in the South Kewa (Pole) dialect     |
| <i>h</i> | <i>h</i> | <i>h</i>  | –         | –         |  |
| ʻ        | –        | –         | –         | –         | Only medially and only in Foe                          |
| <i>m</i> | <i>m</i> | <i>m</i>  | <i>m</i>  | <i>m</i>  |  |
| <i>n</i> | <i>n</i> | <i>n</i>  | <i>n</i>  | <i>n</i>  |  |
| <i>ñ</i> | –        | –         | <i>ñ</i>  | –         | In many areas of Kewa                                  |
| <i>w</i> | <i>w</i> | <i>w</i>  | <i>w</i>  | <i>w</i>  |  |
| <i>y</i> | <i>y</i> | <i>y</i>  | <i>y</i>  | <i>y</i>  |  |

We stated (Franklin & Voorhoeve 1973:157) that the relationship of Foe /v/ to Fasu /p/ and /f/ was not clear. However, it now seems plausible to claim that Foe /f/ and /v/ clearly correspond to Pole (South Kewa) /p/. Note the following:

| Gloss            | Foe           | Pole          | Correspondences |
|------------------|---------------|---------------|-----------------|
| ‘swamp’          | <i>fü</i>     | <i>pau</i>    | <i>f- :p-</i>   |
| ‘hole in ground’ | <i>fase</i>   | <i>pasu</i>   | <i>f- :p-</i>   |
| ‘rodent’         | <i>fagira</i> | <i>pakita</i> | <i>f- :p-</i>   |
| ‘light/dawn’     | <i>āfa</i>    | <i>yapi</i>   | <i>-f- :-p-</i> |
| ‘to go’          | <i>vi-</i>    | <i>pu</i>     | <i>v- :p-</i>   |

There are also a number of words that indicate a clear correspondence between Foe and Fasu /f/ as well, for example:

| Gloss          | Foe           | Fasu          | Correspondence          |
|----------------|---------------|---------------|-------------------------|
| ‘side of neck’ | <i>fufu</i>   | <i>fufu</i>   | <i>f- :f-, -f- :-f-</i> |
| ‘stomach’      | <i>faxo</i>   | <i>fako</i>   | <i>f- :f-</i>           |
| ‘rodent’       | <i>fagira</i> | <i>fakita</i> | <i>f- :f-</i>           |
| ‘light/dawn’   | <i>āfa</i>    | <i>fae</i>    | <i>-f- :f-</i>          |

It seems then that \*/p/ can be postulated to represent the source of present-day Foe /f/ and /v/, Pole /p/ (actually an affricate) and Fasu /f/. It is unclear how \*/p/ split into /f/ and /v/ in Foe. They may have been allophones in complementary distribution.

According to Rule (1977:8) Huli [s] is a free variant with [t] for some speakers. In Foe the sound is fronted (alveolar) before /a/ and /e/ and backed (alveopalatal) before /i/, /o/ and /u/. Foe /s/ has correspondences as follows:

| Gloss        | Foe            | Huli           | Kewa        | Correspondence                    |
|--------------|----------------|----------------|-------------|-----------------------------------|
| 'warm'       | <i>sisi-bu</i> | <i>riri-pu</i> | –           | <i>s-:-:-r-;</i> <i>-s-:-:-r-</i> |
| 'tail'       | <i>gese-ge</i> | <i>ere-ne</i>  | –           | <i>-s-:-r-:-</i>                  |
| 'leaf'       | <i>säe</i>     | <i>yu-ni</i>   | <i>yo</i>   | <i>s-.y-.y-</i>                   |
| 'bridge'     | <i>so-go</i>   | <i>to-go</i>   | <i>ro</i>   | <i>s-:-t-:-r-</i>                 |
| 'light fire' | <i>hisa</i>    | <i>dela</i>    | <i>kira</i> | <i>-s-:-l-(?)-:-r-</i>            |

In that both /s/ and /r/ often represent complex phonetic sequences, such as [ts] and [tr], the phonological source of both may have been identical. On the other hand, the correspondences of s:y are common between some languages in Engan (such as Kewa and Mendi), perhaps indicating a multiple source for /s/ in Foe.

### 3.2 The glottal in Foe

There were several Foe (as well as Kewa) phonemes that were a problem to analyse in the sound correspondences outlined by Franklin and Voorhoeve (1973:156-162), in particular the glottal stop, but /b, d/, and of course, the vowels as well.

By far the most troublesome phoneme, if we are to assign it that status, is the glottal stop. We reported earlier (Franklin & Voorhoeve 1973:155) that a variation of the glottal in some areas of Foe is a velar fricative (which we wrote as /x/). Because the occurrence of glottal is limited to word-medial position, including when morphemes are joined to stems, it is worth questioning its status. Additionally, there are no other languages in the vicinity with a glottal, including Fasu, which is adjacent to the Foe, south of Lake Kutubu. In the few possible cognates that I have found, there do not seem to be any regular correspondences with the adjacent languages. Cognates where Foe has glottal stop therefore seem to have been an innovation in some areas of the Foe, but not in all. Note the following comparisons with Huli and Pole, which are close geographical neighbours:

| Gloss          | Foe                 | Huli           | Pole          | Correspondences | Notes         |
|----------------|---------------------|----------------|---------------|-----------------|---------------|
| 'we two'       | <i>ya'a</i>         | <i>iya</i>     | <i>saa</i>    | -':-Ø-':- Ø     | unlikely      |
| 'back'         | <i>ki'o</i>         | –              | <i>kuou</i>   | -':-':-N-       | unlikely      |
| 'garden'       | <i>ebo'ore</i>      | <i>embeda</i>  | –             | -':- Ø -':-     | unlikely      |
| 'old'          | <i>gu'uru</i>       | <i>goba</i>    | –             | -':-b-':-       | unlikely      |
| 'boy'          | <i>u'ubi (ma'a)</i> | <i>igiri</i>   | –             | -':-g-':-       | unlikely      |
| 'drill a hole' | <i>wa'obe</i>       | <i>tombela</i> | <i>tombea</i> | -':-t-':-t-     | unlikely      |
| 'breast'       | <i>o'o</i>          | <i>andu</i>    | <i>andu</i>   | -':-nd-':-nd-   | unlikely      |
| 'thou'         | <i>ha'a</i>         | <i>i</i>       | <i>ne</i>     | -':- Ø -':- Ø - | unlikely      |
| 'garment'      | <i>kosa'a</i>       | <i>aga</i>     | <i>aka</i>    | -':-g-':-k-     | possible      |
| 'belt'         | <i>ka'o</i>         | –              | <i>kako</i>   | -':-':-k-       | possible      |
| 'red cockatoo' | <i>ga'are</i>       | <i>gabale</i>  | –             | -':-b-':-       | possible loan |
| 'withered'     | <i>ko'ora</i>       | <i>gabo</i>    | <i>kaapu</i>  | -':-b-':-p-     | possible      |

The function of the glottal in Foe seems to be primarily to separate vowel sequences and to mark the boundaries of certain possible suffixes. For instances of the latter, note the following existential and indicative markers:

- (1) *ga'-ae* [banana-that.is] 'That is a banana'
- (2) *agira'-ae* [sweet.potato-that.is] 'That is a sweet potato'
- (3) *nami'-ae* [pig-that.is] 'That is a pig'
- (4) *a ba nomo'-ae* [house this mine-it.is] 'This is my house'
- (5) *na kabeda'-ae* [I carpenter-am] 'I am a carpenter'
- (6) *wae* 'come', but *wama'-ae* 'come [in the future]'
- (7) *nae* 'to eat', but *noma'-ae* 'to eat [in the future]'
- (8) *na agira nibi'-ae* [I sweet.potato eat.past-did] 'I ate some sweet potatoes'
- (9) *yiamo ira goabi'-ae* [we.all wood chop.past-did] 'We all chopped the wood'

In negative-statement sentences, if the positive suffix ends in *-be-ge*, *-ge*, or *-ba'-ae*, then the corresponding negative will be *-bi-ye* or *-yi-ye*; if it ends in *-'oge* or *-'owa'ae*, the corresponding negative will be *-'ori-ye*; if the positive ends in *-owa'-ae* or *-da'-ae*, the negative will be *-'di-ye*. We can illustrate the glottal changes as follows:

| Positive        | Negative       | Comment   |
|-----------------|----------------|---|
| <i>-ba'ae</i>   | <i>-'oriye</i> | identical v separation > morpheme-initially before back v |
| <i>-'oge</i>    | <i>-'oriye</i> | both occur morpheme-initially before a back v             |
| <i>-'owa'ae</i> | <i>-'oriye</i> | both occur morpheme-initially before a back v             |
| <i>-da'ae</i>   | <i>-'diye</i>  | identical v separation > initially on the morpheme        |

The latter case, where the glottal precedes a consonant, is clearly unusual in Rule's data. The normal pattern is that if the suffix ends with two vowels separated by a glottal, then the question form will not have a glottal:

| Suffix ending | Question form | Comment   |
|---------------|---------------|---|
| -ge           | -ge           | the unmarked form                                 |
| -ba'ae        | -ige          | the replacement of glottal by /g/ is not uncommon |
| -wa'ae        | -riye         | the replacement of glottal by /y/ is not uncommon |
| -da'ae        | -dige         |   |
| -bi'ae        | -ye           |   |

Note that, in all of the illustrations given, glottal stop plus oral or prenasalised obstruent sequences are the only CC clusters in Foe.

### 3.3 Prenasalised stops

In my consideration of the Foe consonants I am also including some materials from Huli and Pole (the southern dialect of Kewa), taking my data mainly, but not exclusively, from Rule (1977).

Foe has a series of stops, /b, t, d, k, g/, whereas Huli has stops and prenasalised stops, /p, b, mb, t, d, nd, k, ŋg/. Kewa has /p, mb, t, nd, k, (ŋ)g/. Notice the few Foe correspondences with prenasalised stops in Huli and Kewa (and that /nd/ does not occur as one):

| Gloss            | Foe             | Huli            | Pole/Kewa       | Correspondences |
|------------------|-----------------|-----------------|-----------------|-----------------|
| 'lips'           | <i>koba-ru</i>  | <i>hambu</i>    | <i>kambu-lu</i> | -b-:-mb-:-mb-   |
| 'wild cane'      | <i>bai-gabe</i> | <i>gambe</i>    | <i>kambe</i>    | -b-:-mb-:-mb-   |
| 'open door'      | <i>doba-</i>    | –               | <i>lomba</i>    | -b-:- :-mb-     |
| 'meat'           | <i>mäi</i>      | <i>mbiri-ni</i> | <i>mind</i>     | m-:mb- :m-      |
| 'pandanus'       | <i>äge</i>      | <i>aŋga</i>     | <i>aŋga</i>     | -g-:-ŋg- :-ŋg-  |
| 'give to me/you' | <i>mi-gi-</i>   | <i>ŋgi</i>      | <i>ŋgi</i>      | -g-:-ŋg- :-ŋg-  |
| 'nails/claws'    | <i>gira-fe</i>  | <i>gindi-ba</i> | <i>kindi-pa</i> | -r-:-nd- :-nd-  |

## 4 Kutubuan – Engan suffixes

It seems clear that a protosuffix with multiple functions, attached to several classes of words, was prevalent in each of the language families and is still retained in most of the daughter languages. It is most conspicuous in the Engan Family, including Wiru, and has been reconstructed as \*-ŋg, always with a final vowel that is conditioned by the final vowel of the word to which it is attached. The proto-phoneme \*ŋg split into \*/n/ on the one hand and \*/ŋ(g)/ on the other. Earlier (Franklin & Voorhoeve 1973:174) we remarked briefly on the correspondences between these phonemes in present-day Engan and the Kutubuan group. Other possible suffixes, now mainly occurring as fossilised endings, have also been suggested both for Proto Engan and TNGP languages in general (Franklin 1997).

Although the evidence is sparse, my hypothesis is that the glottal in Foe (which in some cases is realised as a velar fricative), is reflected either as /-ha/ or /-Ø/ in Huli and is manifested by the vowel /aa/ in Pole. It is also possible that the suffix *-raka* in Fasu can be segmented as *-ra + -ka*, in which case *-ha* corresponds with *-ka* in Foe. The evidence comes from the endings of what I will call stative verbs:

| Gloss             | Foe             | Huli             | Pole              | Fasu               |
|-------------------|-----------------|------------------|-------------------|--------------------|
| 'be, exist'       | <i>era-ha-</i>  | <i>ha</i>        | <i>aa-Ø</i>       | <i>reke</i>        |
| 'wait'            | <i>era-ha-</i>  | <i>hondo-ha</i>  | <i>andoaa-Ø</i>   | <i>ase-kea</i>     |
| 'pour out'        | <i>doga-ha-</i> | <i>oda-Ø</i>     | <i>koyaa-Ø</i>    | <i>re-raka</i>     |
| 'hear'            | –               | <i>hale-ha</i>   | –                 | <i>kai-raka</i>    |
| 'hold on to'      | <i>mara-ha-</i> | <i>yaini-ha</i>  | <i>ripinyaa-Ø</i> | <i>name-raka</i>   |
| 'have fruit on'   | <i>beya-ha-</i> | <i>daa-Ø</i>     | <i>elaa-Ø</i>     | <i>furi-raka</i>   |
| 'put in bag'      | <i>mara-ha-</i> | <i>hana-Ø</i>    | <i>māitaa-Ø</i>   | <i>ke-raka</i>     |
| 'tread on'        | <i>aya-ha-</i>  | <i>henge-daa</i> | <i>rambuaa-Ø</i>  | –                  |
| 'touch'           | <i>dusude-</i>  | <i>ele-ha</i>    | <i>waraa-Ø</i>    | <i>rau-raka</i>    |
| 'come up (seeds)' | <i>kaburu-</i>  | <i>anda-ha</i>   | <i>opaa-Ø</i>     | <i>tanehe-naka</i> |
| 'stand up'        | <i>yena-ha-</i> | <i>heya-Ø</i>    | <i>reka-Ø</i>     | <i>takahi-naka</i> |

#### 4.1 Other complementary fossilised endings

Although the putative endings which are listed below are now represented by fully lexicalised words or phrases, they once had productive grammatical functions. These still appear as recurring partials in various word classes. For the most part, the endings *-de*: *-la*: *-la*, for example, occur with verbs that have a semantic correlation with some action that has to do with the mouth. The endings *-bu*: *-re* ~ *-he*: *-pu* occur with adjectives that refer to some inner state; and the endings *-ye*: *-ye*: *-pu* occur with adverbial-like notions.

| Word class    | Gloss          | Foe                         | Huli                                | Pole/Kewa                   |
|---------------|----------------|-----------------------------|-------------------------------------|-----------------------------|
| Adjective     | 'happy'        | <i>sese-ha</i>              | <i>туру-bi</i>                      | <i>rana pia</i>             |
| Adjective     | 'cold'         | <i>gogo-bu</i>              | <i>daga-re</i>                      | <i>koga-pu</i> <sup>5</sup> |
| Adjective     | 'hot (people)' | <i>sisi-bu</i>              | <i>pobo-he</i>                      | <i>riri-pu</i>              |
| Adjective     | 'angry'        | <i>sobu-bu</i> <sup>6</sup> | –                                   | <i>rono pia</i>             |
| Adverb        | 'alone'        | <i>ha'üme-ge</i>            | <i>hangu</i>                        | <i>nakunu-ma</i>            |
| Adverb        | 'much'         | <i>fore-ye</i>              | <i>timbu-ni</i>                     | <i>adaa-pu</i>              |
| Adverb        | 'little'       | <i>mano-ye</i>              | <i>eme-ye</i>                       | <i>onge-pu</i>              |
| Interrogative | 'how'          | <i>noma-ye</i>              | <i>agua</i>                         | <i>aki-pu</i>               |
| Verb          | 'spin around'  | <i>verovero-de-</i>         | <i>beregeberege-da</i> <sup>7</sup> | <i>perekepereke-ya</i>      |
| Verb          | 'quarrel'      | <i>abi-de-</i>              | <i>lai-la</i>                       | <i>ape-la</i>               |
| Verb          | 'cough'        | <i>soma-de-</i>             | <i>ko-la</i>                        | <i>koto-la</i>              |
| Verb          | 'lie'          | <i>segera-de-</i>           | <i>hawa-la</i>                      | <i>payapo-la</i>            |
| Verb          | 'tell truth'   | <i>namege-de-</i>           | <i>henene-la</i>                    | <i>ora-la</i>               |
| Verb          | 'rain stops'   | <i>faë-de-</i>              | <i>to-ha</i>                        | <i>ro-la</i>                |

<sup>5</sup> Dadibi has *koko/gogo ebo* or *kedau ebo*, similar to Foe and Pole.

<sup>6</sup> Dadibi has *sêbê ebo*, similar to the Foe form.

<sup>7</sup> Dadibi has *bebege ebo*, similar to the reduplicated Huli form.



## 4.2 Other adjective and verb suffixes

By focusing on the putative suffixes and ignoring the stems (which most often are not cognate) the following sets of endings can be matched:

| Gloss            | Foe | Huli | Kewa | Fasu      |
|------------------|-----|------|------|-----------|
| 'unripe'         | -gi | -nge | -∅   | kapu      |
| 'bind'           | -ge | -bia | -pia | iri-raka  |
| 'nice'           | -ni | -bi  | -∅   | tae~      |
| 'dark'           | -de | -he  | -∅   | -amo      |
| 'light (time)'   | -de | -he  | -∅   | sera      |
| 'dark (time)'    | -de | -he  | -∅   | kātōsa    |
| 'tie a knot'     | -de | -bia | -pia | ru-raka   |
| 'drill hole'     | –   | -la  | -∅   | pase-raka |
| 'straighten arm' | -de | -la  | -la  | rae-raka  |

## 4.3 Adverbs and other words

The same structural patterns that occur with adjectives apply to some additional word classes as well. For example, by examining only the putative endings the following sets can be matched:

| Gloss          | Foe   | Huli   | Kewa  | Fasu        |
|----------------|-------|--------|-------|-------------|
| 'side by side' | -ye   | -bu    | -∅    | sape        |
| 'well'         | -ye   | -hangu | -rupa | kote-aka    |
| 'lazily'       | -ye   | -halu  | -rupa | hisi-raka   |
| 'weakly'       | -ye   | -lu    | –     | wasu-raka   |
| 'strongly'     | -hare | -halu  | -pupu | iri-rasa    |
| 'how'          | -ye   | -∅     | -pu   | yaka-pasu   |
| 'where'        | -ye   | -∅     | -pu   | má          |
| 'many'         | -ye   | -∅     | -pu   | hasu-raka   |
| 'overhead'     | -ha   | -ni    | -∅    | -pura       |
| 'inside'       | -ri   | -ha    | -para | -ne         |
| 'underneath'   | -rari | -ha    | -para | -tura/-taua |

## 5 Some other grammatical and lexical resemblances

Most Papuan languages have a preferred SOV order, although in Torricelli languages the order is SVO (Foley 1986:10). Both Foe and Fasu follow the common SOV pattern, although a focused Object is sentence-initial in the former. In noun phrases, both Foe and Fasu follow the pattern of Noun + Quantifier but differ in word order for Adjective + Noun (Foe) and Noun + Adjective (Fasu). Both languages mark the subject or focus transitive with *-mo*:

- (i) (Foe) *no-mo (agira) nibi'ae* [I-FOC (sweet.potato) eat.did] 'I ate the sweet potato', where the focus is on the person who is eating the sweet potato.
- (ii) (Fasu) *no-mo asipa nesapo* [I-FOC (sago) eat.did] 'I ate the sago', with focus on the subject of the transitive clause.

Foe and Fasu have basic pronoun sets that mark singular, dual, plural, first, second, and third person. In addition, Foe marks inclusive and exclusive. Fasu has separate pronoun sets according to (i) intransitivity and the possession of body parts; (ii) transitivity and the possession of non-body parts; (iii) intensifiers. The latter have quite different forms from the first two sets for the second and third persons in the plural.

Interrogative forms have some similarity: Foe *ma* 'which' > Fasu *ma* 'where'; Foe *ibu* 'who' > Fasu *epa* 'who', but Foe *noma* 'what' and Fasu *yakapa* 'what'.

Basic demonstratives are: Foe *to* 'this' and *ba* 'that'; Fasu, *one* 'this' and *ane* 'that'. The first Fasu form is similar to Kewa: *o-ne* 'this (near)-direction'.

Verb classes are marked by the V stem + either *-e* or *-ye* in Foe; while in Fasu the V stem + *-a* and *-ka* is found on the one hand and V + *-ya* or *-yi* on the other. Both languages have a series of evidentials marking the verbal aspect: Foe has seen, unseen, deduced, possibility, and mental deduction; Fasu has seen, heard, reported, and thought. Both languages have a simple method of marking the same subject in consecutive actions with one base form. For switching between different subjects nouns or pronouns are used.

The command categories are similar: Foe has Immediate and Future; Fasu has Present (in sight) and Future (out of sight). Foe signals the negative command by a change in the verb suffix.

Adverbial phrases are marked postpositionally by clitics in both languages. For adverbs of direction, the demonstratives are commonly found in Foe; in Fasu *-táme* 'down', *-kime* 'up' and *-sape* 'side' are used. In Foe, adverbs of manner are marked with *-ye*; in Fasu, they occur as free forms or the adverb is marked with *-aka*. The categories (but not the forms) for adverbs of time are very similar: Foe has words for today, yesterday, and separate words for two, three, four and five days prior/hence. Fasu follows the same pattern but has the same word for today/yesterday.

## 6 Counting systems

Both Foe and Fasu resemble the Engan (and many other Papuan languages) by employing body-part counting systems. In the chart which follows, I compare Fasu, Foe, and South Kewa (Pole).

| Number | Gloss           | Fasu             | Foe            | South Kewa         |
|--------|-----------------|------------------|----------------|--------------------|
| 1      | 'little finger' | <i>mèno</i>      | <i>mena-gi</i> | <i>enga-li</i>     |
| 2      | 'ring finger'   | <i>tetà</i>      | <i>ha-gi</i>   | <i>enga-li ame</i> |
| 3      | 'middle finger' | <i>isiā</i>      | <i>i-gi</i>    | <i>adaa ki</i>     |
| 4      | 'index finger'  | <i>ki-tafá</i>   | <i>tugu-bu</i> | <i>maala</i>       |
| 5      | 'thumb'         | <i>kakō-rea</i>  | <i>kaba</i>    | <i>su</i>          |
| 6      | 'palm'          | <i>namá</i>      | <i>tama</i>    | <i>waraa</i>       |
| 7      | 'wrist'         | <i>yatipú-nu</i> | <i>bona-gi</i> | <i>kerepo</i>      |
| 8      | 'forearm'       | <i>kàri</i>      | <i>kwebo</i>   | <i>noe</i>         |

|    |                                    |                  |                               |                        |
|----|------------------------------------|------------------|-------------------------------|------------------------|
| 9  | 'inside elbow'                     | <i>tòkana</i>    | <i>karo-habo</i> <sup>9</sup> | <i>noe repa</i>        |
| 10 | 'upper middle arm'                 | <i>kāê yāko</i>  | <i>ame-ni</i>                 | <i>ali ropa</i>        |
| 11 | 'shoulder'                         | <i>kí-nu</i>     | <i>ki</i>                     | <i>pasaa</i>           |
| 12 | 'collarbone area',<br>'lower neck' | <i>kenó</i><br>— | <i>keno</i><br><i>heno-go</i> | <i>kalambe</i><br>—    |
| 13 | 'upper neck'                       | <i>fúfu</i>      | <i>fufu</i>                   | <i>maa</i>             |
| 14 | 'ear'                              | <i>sena-kí</i>   | <i>kia</i>                    | —                      |
| 15 | 'cheekbone'                        | <i>parè</i>      | <i>bobo</i>                   | —                      |
| 16 | 'eye'                              | <i>hî</i>        | <i>i</i>                      | —                      |
| 17 | 'side of nose'                     | <i>nò</i>        | <i>to</i>                     | —                      |
| 18 | 'ridge of nose'                    | <i>tera-yia</i>  | <i>kisi</i>                   | <i>yangá</i> (= 'jaw') |

Foe and Fasu again show a number of similarities, but Kewa shows virtually none. According to Wagner (1967:245) Dadibi use body parts or counting sticks as tally markers. When counting on the body the Dadibi start with the little finger of the left hand, proceed up one arm, across the chest, and down the other, marking off two's by naming the parts, with three two's always counted on each hand. The Dadibi collective body parts total 26 to 30.

## 7 Conclusion

Foe and Fasu bear an obvious but quite distant genetic relationship, as evidenced by common kinship and counting terms and systems, some regular sound correspondences, and a few similar grammatical markers. When examining words that are not kin, the Foe and Fasu lexical relationship is 18–20% (Franklin & Voorhoeve 1973:154). By examining kinship terms alone, I would judge that the relationship is closer to 50%.

A number of common kinship terms also occur between Kutubuan and Engan, as well as with Dadibi, again much more frequently than those of other word classes or semantic groups. Notice, however, that MacDonald (1973:122) assigns Dadibi only a 5% relationship with Foe and calculates a 14% relationship between Polopa (the westernmost Teberan language) and Foe.

Despite these relationships, there is not sufficient evidence to suggest any proven genetic relationship between Kutubuan and the Teberan Family, nor to suggest that Kutubuan and Engan should be considered as one genetic related group or as a subgroup of Trans New Guinea phylum (Ross 1995).

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# 10 *Event-formulas: sentences as minimal narratives*

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VOLKER HEESCHEN

## 1 Introduction: lexicon, narration, grammar

Boas (1955 [1927]:308-309) characterised North American Indians' narratives as follows:

In free prose narrative particular stress is laid upon the completeness of the succession of events. [...] A Pueblo will say, "You cannot say, 'he entered the house,' for he must first climb up the ladder, then down into the house. He must greet those present properly and receive the proper courteous reply." None of these steps may be omitted. [...] The Kwakiutl cannot say, "Then he spoke," but they would say "Then he arose, spoke and said." They do not allow a person to arrive at a place without first letting him start and travel. An epic diffuseness, an insistence on details is characteristic of most free primitive narrative.

The completeness and diffuseness noted by Boas as characteristics of 'primitive art', that is as style, have also been observed in Papuan languages. There they have been related to different ways of encoding events (Pawley 1987) or to ways of constructing chains of clauses that reflect lived experience or the logic of 'epic' narratives (Heeschen 1998). Boasian completeness probably means reference to known sequences of events mainly referred to, and expressed by, verbs.

This contribution, then, is an attempt at describing such completeness – the relationship which may exist between words (and word-classes), uses of language, that is speech, and emergent grammar as shown in combined clauses qua minimal narratives.

My interest in this relationship has probably been determined by the course of my studies: writing a grammar followed the compilation of dictionaries and the edition of texts:<sup>1</sup>

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<sup>1</sup> Heeschen and Schiefenhövel (1983), Heeschen (1990, 1992a, 1998). Eipo and Yale, members of the (Papuan) Mek language family, are spoken in the eastern, central mountains of Irian Jaya (West New Guinea), Indonesia. See Heeschen (1992b) for information on the composition of that family and its relationship to the Trans New Guinea phylum. Between 1974 and 1997 I spent more than five years in the Mek language area. Research was funded by the Deutsche Forschungsgemeinschaft and the Max-Planck-Gesellschaft. In 1974 and 1976 I worked among the Eipo in the centre of the Mek area as a

probably, I wished to establish a tighter relationship between the different linguistic subdisciplines than might be justified by their sets of peculiar data, divergent methods and differences in respect of theory and presentation.

When looking for pathways from lexicon to grammar one should not neglect the following facts: (a) the size of a community and the sheer number of words it uses in everyday speech and in elaborated ways of speaking; (b) the importance of sets of names referring to daily used objects, animals and plants, and the importance of verbs of movement and transaction; (c) the size of the planning units or building blocks of speech, which have to be sufficiently small so that surface structures can be generated “without much lookahead or backtracking” (Levelt 1989:125); (d) the preference of speakers of Papuan languages for serialised structures and clause chaining.

Some relationships can be made plausible, for instance that between a limited set of primary verbs, verb serialisation, and the chaining of small units of speech; such units may consist of just one referential noun phrase and one finite or infinite verb plus one connective – a structure for which instances can easily be found in Papuan verb-serialisation units or clause-chaining units.<sup>2</sup> I even hoped that relationships between the social life of a community and the lexicon-grammar (or style) complex could be constructed. The composition of the vocabulary, the actual use of subsets of the lexicon and the ways these subsets lend themselves to being handled in grammar cannot be studied without the help of social anthropology: basic needs, social life, material culture, the importance of some objects or living things as well as ways of speaking and communicative genres are like systems of ‘navigation’<sup>3</sup> for the growth and composition of the lexicon and its use in speech and discourse. Following Spitzer (1961 [1928], vol.2, 516-517) one could propose that grammatical rules are stylistic choices that have hardened into rules: “[...] denn bekanntlich ist die Allgemeinsprache nichts als ein Durchschnitt von Individualsprachen, die Grammatikalisierung verschiedener Sprechakte [...] nihil est in syntaxi quod non fuerit in stylo”.<sup>4</sup> Depending on the original composition of the lexicon and on the mere size of its subsets, noun classification could be a good means of integrating reference to new objects, verb serialisation could be a good means for describing sequences of events, and nominalisations may be required in reasoning which links the references to different times and events.

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member of the Interdisciplinary German Research project ‘Man, Culture, and Environment in the Central Mountains of West New Guinea, Indonesia’, and from 1978 to 1981 I worked for the Vereinigte Evangelische Mission, Wuppertal, among the Yale, the westernmost of the Mek people. In 1983, 1986, 1989, 1992, 1994, 1995 and 1997 I revisited the Yale as well as the Eipo.

<sup>2</sup> Size and form of Levelt’s planning units are not exactly defined; they are said to be smaller than clauses and larger than noun phrases, which makes sense, when one looks at intonation or the number of syllables per unit. Size and form cannot be grammatically characterised. Other authors delimit the size of such units by the one-noun phrase constraint (Dubois 1987), the one new concept at a time constraint (Chafe 1994), by intonation (Chafe 1994; Tao 1996), by Menzerath’s law (from which follows: “the longer the sentence, the shorter the clauses”; see Fenk & Fenk-Oczlon 1993; Heeschen 1994), and by the number of syllables (seven syllables plus minus two per unit; see Fenk and Fenk-Oczlon 1993).

<sup>3</sup> Wording taken from Bruce Chatwin.

<sup>4</sup> “[...] for, as is well-known, common language is nothing else but an average of individual languages, the grammaticalisation of different speech acts[...] there is nothing in grammar which was not already in style”.

On the other hand, there are no necessary or only incidental relations between the grammar and the lexicon; there are no, as it were, iconic relations between culture and the lexicon-grammar complex. Gender antagonism, so pervasive in so many small communities, and the means of establishing and assuring identity are expressed in different codes. Sometimes gender antagonism seems to be firmly built into grammar via noun classification, sometimes one has to trace it in rules of behaviour, in rituals, or in myth. Certainly, language refers constantly to man's position in space, but the linguistic means of expressing identity can be poor compared to the means of other codes. Verb serialisation was said to go together with a low number of primary verbs; indeed, it is an excellent means of overcoming that paucity either by favouring clause chaining or by leading to verb compounds (cf. Early 1993:90). Verb serialisation seems to indicate phases in the history of languages in which borrowing, simplification, mixing and restructuring of the lexicon may have occurred. The linguist finds serial verbs in geographically restricted parts of the world, in West Africa, in the Caribbean, in Southeast Asia and in New Guinea as well as in the creole languages spoken in these areas. That is to say, serialisation is an areal feature. Some peculiar socio-cultural conditions lead to areal features which enhance special subsets of the vocabulary and the ways it is built into the grammar. However, even if such a relationship is plausible in some language communities, it is far from being an implicative rule; on the contrary, the linguist has to face differences and divergences which obscure the possibility of any generalisation. There are serialising languages which show a substantial number of verbs (Early 1993), and verb serialisation is characterised by instability within single languages and by variation even among closely related languages (Bradshaw 1993; Crowley 1987; Durie 1988; Givón 1991; Sperlich 1993). Verb serialisation is a matter of surface grammar; it does not give canonic instances of "universal combinations of universal conceptual primitives" (Wierzbicka 1995:157).

This paper, will illustrate a few alternations between discourse, grammar and the lexicon, that is the interplay between condensed grammatical structures and semantic clarifications and elaborations.

An example of the phenomenon of alternation (on the notion of 'alternation' see Behrens 1994) is the systematic pairing of utterances like *the guests came and ate pork* and *the guests ate pork*. An example like *he came, and he went* is a condensed structure clarified and paraphrased by speakers in multiple ways of alternation: *the one came, the other one left, or the one from the neighbouring valley arrived in the morning, and the man from our hamlet left in the afternoon* or *as soon as the one arrived, the other one left, because the one who left didn't like the one who arrived* (see Heeschen 1993, 1998).

Loosely successive pieces of information aligned in clause-chaining structures develop into cohesive serialised structures or into systematically interdependent grammatical units, and serialised structures develop into fixed formulas for routines or into compounds (see Bisang 1994:178; Bradshaw 1993; Hale 1991:30). Besides probably being a structure of its own, verb serialisation seems to be a transfer and trading centre for other structures. Consequently, instead of looking for rules within single and more or less well-defined grammatical phenomena like 'serial verb' or 'transitive clause' I will describe the likelihood of movements from one domain into the other, for example from discourse to sentence or from sentence to word formation. Preferences as shown in wordings and narratives and ways of speaking may become grammar, which amounts to saying that the original question of how lexicon and grammar could be related is taken up in an even broader context. First of all, I have to demonstrate why seemingly autonomous sentences like *the guests ate pork* are, to put it mildly, unusual or strange in some Papuan languages.

## 2 Grammatical structures as condensed narratives

### 2.1 Event-formulas and forms of distribution

When I asked Eipo or Yalenang to translate the Indonesian equivalent of *the guests ate pork* into their language, the shortest version I obtained was:

(1) Yale:

*Nimi bok-nang ya-lam-ek-di,*  
 man distribute.Vstem-people come-DUR-3PL.PAIII-then.SS  
*pam de-lam-ek.*  
 pork eat-DUR-3PL.PA.III  
 'The guest came and ate pork.'<sup>5</sup>

A more common as well as embellished and expanded version would be as follows:

(2) Yale:

*Nimi bok-nang ya-lam-ek-ba, nu*  
 man distribute.Vstem-people come-DUR-3PL.PAIII-then.DS our  
*dinge pam u-lam-ok-ba, pam aneko obi*  
 property pig be-DUR-3SG.PAIII-when.DS pig this kill.INF.SUC  
*aka, yobi aka dade-lam-ubu-ba, de-ek.*  
 after cook.INF.SUC after give-DUR-1PL.PAIII-when.DS eat-3PL.PAIII  
 'While the guests were coming, we had a pig, and having killed and cooked it,  
 we gave it to them, and they ate it.'

Sometimes I am confident of being able to piece together Eipo utterances from whatever I have heard and from whatever has proved a success in living with the Eipo and in participating in their conversations. I know for sure that it is hard to translate a sentence like *I went from Kosarek to Eipomek*. I have learnt to take my time, to relax, to transform each blunt statement into a story, to make self-corrections, to insert additional information and to go back to the main line of arguments. The English sentence would have to be expressed in Eipo with (minimum) wording along the following lines:

(3)a. Eipo:

*Kosarek u-lam-se ane, na mape fatan ate,*  
 Kosarek be-DUR-1SG.PAIII SC my boy/PL desire for  
 "Eipomek bi-na-(a)b!" *winyab-uke, fanab-uke, bisik-ak*  
 Eipomek go-FUTIII-1PL say-INF.SUC start-INF.SUC way-at  
*like winilye mab-uke, Eipomek ya-se.*  
 time three sleep-INF.SUC Eipomek come-1SG.PAIII  
 'While I was living in Kosarek, I thought of my (Eipo) boys, and having said:  
 "We will go to Eipomek!" and having started and having slept three times on my  
 way I arrived in Eipomek.'

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<sup>5</sup> The abbreviations used in these examples are listed in the Appendix.



Pawley (1993:109) heard similar expansions and 'narratives' instead of sentences, noticing that people continuously edited his utterances:

For instance, if someone asked, "Where's Kiyas?" (the young man who was my chief informant) and I answered, "He's in his garden", a bystander might say, "He said 'Kiyas has gone to Matpay to work in his garden. He'll be back later', he said".

Pawley (1993:110) resumes his experience as a speaker in the Kalam society as follows:

The information added by my Kalam "editors" was not usually material required by the autonomous rules of clause and sentence structure. Nor was it usually new information [...] The extra information usually consisted of details about the actor's movements to and from locations, prior to or after the act I had described.

Each reference to named agents and their doings is embedded in everyday routines and forms part of the known concatenation of events. The first stories Eipo and Yale children learn to tell are mere attempts at putting into words these routines and these concatenations. Sometimes, the narrator may colour them through references to some personal experience. One cannot say: "My father collected pandanus nuts". One has to say: "My father lived in the hamlet, he went to the mountain forests, he cut pandanus nuts, he carried them, came home, cooked them, distributed them and ate them" (cf. Pawley 1993:113). Guests first have to come, then you may take a pig and give it to them, and the enemies have to have come and have to go somewhere and to be spotted, then they may wound someone. Once the Western hearer has learnt to appreciate the event formulas, he will discover them everywhere. An Eipo speaker does not say "they supported the notched pole (leading into the men's house) by means of a post". You first have to cut the post:

(3)b. Eipo:

*Ore abye ara, kabye ton toub-ik-ye-ora, salenaik*  
 well pole T kabye and cut-3PL.MED-and-then men's/house

*aik abya di-lam-ak.*  
 hut pole support-HAB-3PL.PRES

'Well, as to the notched pole, they cut (a post from) the *kabye*-tree, and then they support the notched pole of the men's house (by means of this post).'

When a child is crying, Eipo speakers do not say: "They are comforting the child". One has to mention the means of comforting and how these means are "moved". They say:

(4) Eipo:

*Mape enge-n-m-ak-ye-ine, sik kayape bace,*  
 child.PL cry-REP-DUR-3PL.PRES-and-SC they friend.PL bace

*kuy bob-uka neneb-ik-ye-ora, engene gum.*  
 sugarcane carry-INF.SUC calm.down-3PL.MED-and-then cry.VN not

'When children cry, their friends bring *bace*-vegetables and sugarcane to them and calm them down, then there will be no crying.'

In order to describe what a human agent does one has to indicate place and movement:

(5) Yale:

*Wao-ak anekona, In dala-ak aneko bi-ok danena,*  
 bridge-at this In bank-at this go-3SG.PAIII then

*Kelebseng wao aneko sob-ok.*

Kelebseng bridge this build-3SG.PAIII

'As to this bridge, he went to the banks of the In river, and he constructed the Kelebseng bridge.'

The knowledge of routines, known places and common movements even directs the semantically based metalinguistic awareness of speakers: 'speech' and 'laughter' are akin, because "people first speak and then laugh"; asked to sort out semantic pairings from a series like 'cuscus, bow, stone-adze', the informants said that 'bow' and 'cuscus' belong together, because "you take a bow and hunt cuscus". The 'cuscus' is not put aside for having the feature 'animate', and 'stone-adze' and 'bow' do not go together for being 'tools'.

The Eipo and Yale clauses are somewhat shorter than the formulas for reporting events in Kalam. I have only described sequences of two or three verbs and their arguments, while Pawley has up to six verbs for complex events. But Kalam formulas are "often realized in discourse by a standard sequence of no more than 8 to 9 syllables, spoken in a one to two second burst" (Pawley 1993:113), while the size of such a burst is needed for just one Eipo unit consisting of a verb and one or two noun phrases. Of course, there are differences which must be studied, but I believe that the peculiar style and the grammar this style enhances are the same. Both of them result from general discourse principles and from the way speakers embed a single action in a complex event. Thus, Pawley's (1993:116) concluding remark is also valid for Eipo and Yale. Narratives instead of single sentences are consistent with event-formulas.

Formulas, then, are systems of knowledge that bind together pragmatic knowledge (of a world and discourse about that world) with semantic, syntactic and idiomatic-stylistic knowledge, and in which the pragmatic and semantic elements are primary.

These event-formulas or minimal narratives develop consistent grammatical patterns; in other words, grammatical patterns are condensed narratives:

1. Usually two or more than two referential noun phrases are distributed over two clauses; that is, each noun phrase is governed by a verb of its own. I have called this principle of piecing together longer sentences from short clauses the principle of "forms of distribution" (Heeschen 1992b, 1994), which conforms to Dubois' (1987) "one-modifier constraint".
2. SOV sentences are avoided. Instead of speaking of SOV languages one should classify them as SV + OV languages where V in SV is intransitive and V in OV transitive (see example (1)).
3. In SV + OV sequences neither S nor O is marked for case. Consider:

(6) Yale (cf. 5):

*Nimi-di Kelebseng wao aneko sob-ok.*

man-S Kelebseng bridge this build-3SG.PAIII

'The man built the Kelebseng bridge.'

Though speakers could say this, case marking, in this instance subject marking, is stylistically marked and one should translate as: "It was this man who built the bridge". Or example (6) resumes a more or less long story and all participants are known and have been introduced in previous sentences or bits of information. Thus SV + OV sequences without case marking and SOV sentences with optional case marking represent

alternations, or the latter structure is a condensed structure of the former one. The clause seems to be a transitory phenomenon.

4. It follows from SV + OV sequences that the transition between the two parts must be regulated. Consequently, temporal sequencing or tight rules for the *consecutio temporum* are more important than hierarchical structure required in SOV sentences (cf. indication of successivity in examples (2) and (3)). Such sequencing favours clause-chaining instead of sentences consisting of matrix clause and subordinate clauses.

Event-formulas or sentences as minimal narratives are congruent in several cases, or, in other words, several types of sequences enhance equivalents of hierarchically structured clauses.

We know already the first pattern: **a human agent (or human-like agent) moves and acts upon something or creates something.**

- (7) Yale:

*Pam Mambol pam ya-ok-di, So'e-nang mangka-hi-ok.*  
 pig Mambol pig come-3SG.PAIII-then.SS So'e-people give.birth-us-3SG.PAIII  
 'The Mambol pig (a mythical pig) came, and it gave birth to the So'e clan.'

- (8) Eipo:

*Burublob birye<sup>6</sup> fanab-uka, takunya marab-uk.*  
 Burublob S turn.up-INF.SUC shoulder wound-3SG.PAIII  
 Burublob turned up and wounded his (another man's) shoulder.'

The second pattern consists in the sequence **moving, taking (carrying)<sup>7</sup> and acting upon something**. Taking and carrying are inserted into mere moving – acting upon sequences. While the two clauses of the first pattern can be conflated into one sentence, the clauses of the second pattern usually remain distinct units. The take + object noun phrase unit is quite often the equivalent of an instrument noun phrase (seen from our typological experience).

- (9) Eipo:

*Isa kil yanukabukye a-lye bok*  
*yan-uka-ab-uk-ye*  
 spirit woman come-INF.SUC-make-3SG.PAIII-and here-skirt leaf  
*dob-rak dob-uk-ye, yumce ab kolub-rongob-uk.*  
 take-Vstem.EXHAUST take-3SG.PAIII-and awl with pierce-INC-3SG.PAIII  
 'The spirit woman came and took all the leaves of the skirt and pierced them with an awl (kind of black magic).'

Usually, the pure act of coming and the temporal sequence are sufficient to indicate, or at least imply, causal relationships. Example (8) could also be translated by 'by its appearance the Mambol pig created the So'e clan'. These temporal relationships "are extended metaphorically in other directions" (Longacre 1985:265); for instance, causal relations show up, which may be indicated by the appropriate connectives. The sequencing of small units is kept, but the characteristics of an event formula being an equivalent of a hierarchically structured sentence are somewhat weakened. Compare example (9) with the following:

6 Subject marking is not obligatory.

7 Each sequence can be prolonged by carrying, putting down, taking again and so on.

(10) Eipo:

*Ise kil yan-uk-ab-lirye, aik aruma*  
 spirit woman come-INF.SUC-make-3SG.and hut roof

*sen arye tokwe-tam lungnul-tak-a-lam-le.*  
 shake.VN by ground-side push.down-twist-DER-HAB-3SG.PRES

'The spirit woman, (by) having come, pushes the roof down by shaking.'

Local adverbials are easily handed over to an intransitive clause whose verb refers either to movement or to position. The third sequence consists of moving to or being somewhere + acting upon something or creating something. Instead of *Imdindam kwaning yubupe* 'we cooked sweet potatoes in Imdindam' or *asik kwaning diblyam* 'you shall eat sweet potatoes in the hamlet' speakers prefer to say:

(11) Eipo:

*Imdindam yan-uka kwaning yub-upe.*  
 Imdindam come-INF.SUC sweet.potato cook-1PL.PAIII  
 'Having come to Imdindam, we cooked sweet potatoes.'

(12) Yale:

*As wab-men-di, kwaning de-lulam.*  
 hamlet be-2SG.MED-when.SS sweet.potato eat-2SG.FUT  
 'When you stay in the hamlet, you shall eat sweet potatoes.'

A fourth pattern may consist in movement, taking, acting upon something or creating something, and transfer; transfer implies the presence of a beneficiary. Grammatically, we find tri-valent sentences. The direct object noun phrase is governed by a verb of its own. In most instances this verb is *dob-* 'to take'. The indirect object noun phrase exclusively goes together with a verb of transfer, in most instances with *areb-* 'to give', and the subject noun phrase may be introduced in an intransitive clause, the verb of which is a verb of movement. A typical formula, i.e. minimal narrative, is as follows:

(13) Eipo:

*Anye ya-lye-obora, basam dob-uka, ninye*  
 this.here come-3SG.MED-after pig take-INF.SUC man

*asik-nang areb-lul.*  
 hamlet-people give-3SG.HORT

'This man, having come, having taken a pig, may give it to the guests.'

I have found these patterns in the texts. The simple reason for making a difference between them consists in their frequency, the semantic importance of acts like giving, their systematic alternations, and their capacity of referring to more than one participant. The first pattern S + V, O + V alternates with S + O + V, the second carefully introduces the presence of a direct object, the third adds indication of place, and the fourth introduces a secondary (indirect) object or beneficiary. All patterns can be conflated; however, mere frequency suggests their status as a distinct series of events.

The common ground shared by the four patterns may consist in the constraints referred to in the beginning of this contribution. Furthermore, in event-formulas, clause-like units, consisting of one verb and one referential noun phrase – chained clauses, not subordinate clauses – are tied together by temporal sequencing and the units are equivalents of case-

marked noun phrases in autonomous, hierarchically structured sentences. The subject introduced in an intransitive clause is, as it were, a clausal subject (noun) phrase. The events condensed into grammatical sequences consist of: movement/position, taking, carrying, transferring, acting upon something or creating something.

It could be argued that the event sequences or forms of distribution<sup>8</sup> mirror the special use Eipo speakers make of their underlying grammar. An autonomous and self-sufficient sentence like 'this man gives a pig to the guests', with its more or less prescribed word order and its usual, but not obligatory case marking, underlies all forms of distribution. Indeed, the form of such autonomous sentences is much more governed by rules and much more formalised than that of the forms of distribution. Speakers have to use one form, if they pack all information into one sentence or if one assumes that the sentence underlies the narrative: 'this man gives a pig to the guests'. However, they may find many wordings, if it is assumed that the narrative underlies the sequencing of units: 'this man has a pig, and he gives it to the guests', or 'the guests come, and this man takes a pig and gives it to them'. The forms of distribution alternate with autonomous sentences, the latter being pieced together from the single parts found in the forms of distribution.

The assumption that autonomous sentences are broken down into forms of distribution and precede event formula or minimal narratives would deny the relevance of the one-noun phrase constraint, the form imposed on structure by intonation and the preferences of speakers in actual discourse. Furthermore, the genetic and historical relation between discourse and style on the one hand and grammar on the other would be reversed. And, what is even more important than general assumptions, the Eipo and Yale data show that the autonomous sentences are a kind of résumé for what has been narrated, and that they follow the forms of distribution: in other words, that rules defining the autonomous sentence derive from the pragmatics of discourse and the likelihood of sequences of events.

In respect of the questions asked in the beginning one may say that primary<sup>9</sup> verbs like *come*, *go*, *take* and *give* show up in event-formula or chained clauses. These verbs fill a prominent role in verb serialisation and compounding. Verbs which accumulate special features (such as *luknultak-* 'to push down and twist' in example (10)) occur at the end of an utterance. The preference for event-formula and forms of distribution, that is special ways of assembling units of speech into minimal narratives, seem to be interdependent. If, on the one hand, chains like 'go – take', namely chains consisting of more or less primary verbs, form part of event-formulas, and if, on the other hand, the same chains make their appearance in verb serialisation and compounding, a relation between a preferred style and ways of enriching the grammar and the vocabulary could be maintained.

## 2.2 Event-formulas, verb serialisation, and compounds

Example (3)a is not only an illustration of how Eipo speakers turn what we expect to be mere statements into a minimal narrative. It is also an instance of what can be called a

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<sup>8</sup> I apply the term 'forms of distribution' to sentences which distribute two or more referential noun phrases over two or more clauses, with each noun phrase being governed by a verb of its own. See example (7): subject and object noun phrase are distributed over two clauses. See Heeschen (1994, 1998).

<sup>9</sup> Verbs not consisting of compounds.

routine: being somewhere, going, arriving. Accounts of everyday life, fairytales and even myths are interspersed with the description of such routines. The narratives of very young narrators as well as those of unsophisticated storytellers may consist only of reference to routines: going into the garden, harvesting, making an earth-oven, eating, sleeping. Here is a tiny narrative told by six-year-old Oni Dibul:

(14) Yale:

*Auwang ya-ok danena, yalukkab-do boa*  
 mother's.brother come-3SG.PAIII then nut cut-INF.SIM carry-INF.SIM  
*ya-ok danena, yaluk aneko nalab-ubu. Yaluk aneko*  
 come-3SG.PAIII then nut this cook-1PL.PAIII nut this  
*nalab-ubu danena, di-bu danena, mab-ubu.*  
 cook-1PL.PAIII then eat-1PL.PAIII then sleep-1PL.PAIII  
 'Mother's brother came, and he had cut nuts (*Pandanus brosimus*) and he had carried them, and he came, and then we cooked them (in hot ashes). And when we had cooked the nuts, we ate them, and then we slept.'

A routine which narrators never forget is the gathering of food (in the following example incidentally mentioned by a skilled grown-up narrator):

(15) Yale:

*Aue-ak bi-dek danena, am mehe-do, boa,*  
 garden-at go-3DU.PAIII then taro cut-INF.SIM carry-INF.SIM  
*doke bo-do, kui lek-do, ken*  
 doke carry-INF.SIM sugarcanebreak-INF.SIM pandanus.conoideus  
*dak-do, bob-dek-di Singin mak lu bi-dek.*  
 pick-INF.SIM carry-3DU.PA.III-when.SS Singin river plain go-3DU.PAIII  
 'The two of them went to their gardens, and, cutting taro, carrying it, carrying *doke*-vegetable, breaking sugarcane, picking off *Pandanus conoideus*, the two of them carried all of this, and the two of them went to the headwaters of the Singin river.'

Within such chains some collocations are more likely to occur than others, and such pairings become serial verbs and eventually compounds or, at least, clause chaining varies with verb serialisation.<sup>10</sup> The most common pairings are *take or do something – carry, carry – go or come, do something or act upon something – move* all of them forming part of event-

<sup>10</sup> Drawing a distinction between clause chaining and verb serialisation on the one hand, and verb serialisation and compounding on the other, is sometimes a difficult and language-specific task. Concerning Eipo and Yale four main criteria (out of eight) for distinguishing between clause-chaining and serialisation are as follows: the chained unit is morphologically characterised for person, number, and tense, and it takes aspect suffixes; the serialised unit may consist of a mere verb stem (see examples (19) and (20)); between chained units connectives may show up; semantically serial verbs are tight units and temporal sequencing is less important (cf. Crowley 1987; Hale 1991, Heeschen 1998; Longacre 1985). I found seven criteria for distinguishing between verb serialisation and compounding in Eipo and Yale, the most important being as follows: the morphology is distinct; in contrast to serial units compounds juxtapose verb stems or are formed by means of derivational suffixes; no indication of *consecutio temporum* occurs; and new meanings and syntactic functions develop (see Bisang 1994; Crowley 1987; Heeschen 1998; Sperlich 1993).

formulas and routines and illustrated already in the preceding examples. While the members in these formulas are coordinated and do not change their meaning, the first members of other pairings are quite often equivalents of directional adverbs or modal/manner adverbs. For example:

(16) Yale:

*Yakoli kou-do bi-ok.*  
 Yakoli cross-INF.SIM go-3SG.PAIII  
 'He crossed (went across) the Yakoli river.'

(17) Eipo:

*Tangub-uke sak-le.*  
 turn-INF.SUC fall-3SG.PAI  
 'It has fallen over (or down).'

(18) Eipo:

*Saboka kidik-uke areb-se.*  
 tobacco get.lost-INF.SUC give-1SG.PAIII  
 'I mistakenly gave the tobacco.'

The step from chaining to serialisation is that from multiple events to paired events, and it goes together with reducing the possibilities of subject tracking, the number of objects handled by different agents, and with limiting the range of temporal sequences. A sequence like [...] *bobdek-di* [...] *bidek* (from example (15)) with reference to a multiplicity of events and actions turns into *boa bidek* 'the two of them carried and walked', that is 'the two of them brought'. Alternations between chaining and serialisation and serialisation and compounding are well attested. For *carry* – *come* the following alternations are found:

(19) Yale:

*Bo-do aka ya-ok.*  
 carry-INF.SIM after come-3SG.PAIII  
 'After having carried, he came.'

*Bo-do ya-ok.*  
 carry-INF.SIM come-3SG.PAIII  
 'He came carrying.'

*Bobo ya-ok.*  
 carry.reduplicated.Vroot come-3SG.PAIII  
 'He came, carrying this and that.'

*Boa*<sup>11</sup> *ya-ok*  
 carry-INF.SIM come-3SG.PAIII  
 'He came carrying' (OR: 'he brought').

*Ba-ya-ok.*  
 carry.Vroot-come-3SG.PAIII  
 'He brought' (OR: 'he carried and brought').

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<sup>11</sup> *Boa* may be shortened *bodo aka*.

Alternations go from temporal sequencing to unmarked juxtaposition, from the independent meaning of the constituent parts to interdependence and establishing a new meaning, and from unchanged morphemes to assimilated morphs.

For a sequence consisting of *do something or act upon something – go or come* I found the following alternations in the Eipo language:

(20) Eipo:

*Dak-de*<sup>12</sup>      *ba-lam-le.*

break-INF.SIM go-HAB-3SG.PRES

'He is going breaking (twigs, which is a kind of fertility ceremony).'

*Dake*      *ba-lam-le.*

break.Vstem go-HAB-3SG.PRES

'He is going breaking (twigs).' (OR: 'He goes and breaks twigs.')

*Dak-ba-lam-le.*

break.Vstem-go-HAB-3SG.PRES

'He is going breaking (twigs).' (OR: 'He goes and breaks twigs.')

*Dak-al-ba-lam-le.*

break-DER-go-HAB-3SG.PRES

'He is going and breaking (twigs).' (OR: 'He goes in order to break twigs.')

The series – the only complete one I have at hand – begins with a form which clearly indicates verb serialisation (*dakde*) and which could be used in chaining, then proceeds to a structure in which euphonic *-e* (in *dake*) still reveals the independence of the stem from the following finite verb. This distinctiveness, that is the status as a free morpheme, is lost in the third variation and, finally, formal signs of compounding (the derivational suffix *-al-*) appear in the fourth variation. Other compounds may result from similar processes of fusion, that is from verb serialisation turning into a compound verb.

Besides reduction of syntactic chaining and serialising possibilities there is another mechanism which creates compounds and which is similar to the résumé character of hierarchically structured sentences. Constituent parts which have been introduced step by step are finally pressed into one form. The characteristics of event-formula and of temporal sequencing are suspended and only the semantic features are summarised, and run together, in one word. Having spoken about the rules of begging in times of famine, having paraphrased several times the rule *if you are hungry, you may beg*, in which the verbs *fatab-* 'to lack, to be hungry, to desire, to long for' and *morob-* 'to beg' show up, the speaker concludes as follows:

(21) Eipo:

*Fatab-morone*      *yupe*      *ateba.*

lack.Vstem-beg.VN speech here.PRED

This is talk about shortage and begging.

In the following example, too, the narrator introduces step by step the component parts, finally summarising the single constituents and assembling them in one compound:

---

<sup>12</sup> Also with reduplication of the stem: *dakdak-de*.



(22) Eipo:

*Bongto dob-uk, lukunde do-be-(y)uk. Kalik-le*  
 Bongto take-3SG.PAIII night take-go-3SG.PAIII sneak-INF.SIM

*be-(y)uk, lukenyan kalik-il-bin-m-uk. Berek-uk*  
 go-3SG.PAIII night sneak-DER-go-DUR-3SG.PAIII dawn-3SG.PAIII

*ora, dib-re bin-m-uk ora, dil-kalik-il-be-(y)uk.*  
 then see-INF.SIM go-DUR-3SG.PAIII then see-sneak-DER-go-3SG.PAIII

'He took (abducted) Bongto, he abducted and fetched her at night. He walked and sneaked up, at night he went sneaking up. In the morning he looked and walked, he looked around and sneaked up.'

Twice we find here an ideal progression from serialisation to summarising compounds: 1. primary verb *dob-* 'take', 2. compound verb *dobe-* 'to fetch', from *dob-* 'take' and *bin-* 'go', 3. serial verb construction consisting of *kalik-* 'bend, creep up' and *bin-* 'go', 4. verbal compound consisting of the same parts as the preceding serial verb construction, 5. serial verb construction consisting of *dib(ren)-* 'look' and *bin-* 'go', 6. verbal compound assembling all preceding component parts: *dikalikbe-* consisting of *dib(ren)-* 'look', *kalik-* 'bend, creep up', and *bin-* 'go'.

Forms as found in example (21) could be classified as root serialisation (cf. Bisang 1994:178). Indeed, roots (or stems) are juxtaposed without intervening suffixes as well as without semantic and morphologically conditioned changes. In the Mek languages such mere juxtaposition is common, especially when the component parts seem to be semantically incompatible (see (21)) and where there is no likelihood of semantic fusion, yet all juxtapositions could have been formed in the same way as (21), namely as a summary of previously mentioned single and different activities. Compare:

(23) Eipo:

*de-mab-*  
 eat-sleep  
 'to eat and sleep'<sup>13</sup>

(24) Yale:

*de-sek-*  
 eat-stand  
 'to eat and stand' (to have finished eating when another person comes for whom nothing is left).

The last examples show that these juxtapositions apparently do not follow one of the cross-linguistically proven patterns, as the sequences directional verb + verb of movement do (see 16–18). Juxtapositions are idiosyncratic and sometimes very culture-specific. Compare:

(25) Yale:

*meknel-dab-*  
 miss-cook  
 'to miss and cook' (to cook amiss, to cook and throw away sweet potatoes during a ceremony against famine)

<sup>13</sup> Think of a guest in your hut, what he does is, in 'one' word: he eats and sleeps.

(26) Eipo:

*yob-menteb-*

fuck-miss

'to fuck and miss' (to have sexual intercourse with something unsuitable:  
in the beginning the women had no vagina and the ancestor tried out  
rocks and trees and so on)

Compounds and juxtapositions, then, are either acts summarising previous commonly known event sequences or condensed structures of culturally specific events. As such, they are condensed event-formulas. The component parts show signs of fusion, for example stem change from *-b-* to *-l-* (cf. Eipo *dib-* 'look' and forms in (22), Yale *mekneb-* 'miss' and forms in (25)) or the derivational suffix *-il-* in (22). The likelihood of semantic fusion, too, has to be taken into account; the simple juxtaposition of the component parts in (25) and (26), for example, does not explain the reference to a culture-specific chain of events and to the complex meaning of the whole. The term root serialisation adequately refers to the original act of juxtaposition, which subsequently undergoes further morphological and semantic developments.

In this section I have described alternations or movements from discourse to fixed patterns, pairings, and condensed structures on the level of subclausal units and 'words'. This leads back to the suspected relations between lexicon and grammar.

### 3 Conclusion: typology, minimal narratives, and condensed structures

While §2.1 treated variations between discourse and sentences as minimal narratives, §2.2 tried to give some characteristics of verb serialisation, serial verbs, and verb compounds: they seem to be the outcome of descriptive and narrative routines, preferred ways of pairing, and mechanisms of summarising and assembling into one whole previously scattered pieces of information. Description and narration of routines leads to serialising primary verbs, which apparently refer to so-called semantic primitives, and to known patterns of serial verbs, while summarising and juxtaposing formations lend themselves to highly culture-specific and semantically complex compounds via root serialisation.

First of all, a relation between narrative structures and forms of distribution is suggested: temporal sequencing in chains of short clauses, which conform to the one-noun phrase constraint, become, or are identical with, the sequence of 'clausal' subject, object and peripheral noun phrases; in other words, each referential noun phrase is governed by one verb. Instead of ideal SOV one should consider Eipo and Yale as SV + OV languages, or at least one should stress the typologically relevant interdependence and functional specificity of SOV and SV + OV structures. SOV sentences summarise previous information: the well-structured and autonomous sentence is pieced together during discourse. SV + OV sequences conform to what was called event-formula: standardised and canonical sequences are minimal narratives. Variation (alternation) between minimal narratives and SOV sentences as forms of summarising is systematic and determined by style and privileged places of occurrence in discourse or narration.

Secondly, in the same way in which SV + OV sequences and SOV sentences are related to each other, sequences of (O)V are related to verbal compounds via or by means of verb

serialisation: in the course of pieces of information or narration the final compounds result from, and are pieced together, from the previously mentioned or introduced component parts.

Thirdly, narrative routines prepare the ground for standardised serial units, as long as these consist of primary verbs which more or less correspond to what Wierzbicka (1995) would call semantic primitives. Variation between this type of narration and verb serialisation and compounding is attested, but I believe less systematic: narrative routines and otherwise clearly distinct narration or discourse types shade into each other and the former frequently form part of the latter.

Fourthly, a relationship between discourse-minimal narratives, i.e. clause-chaining structures, routines, serialisation, compounding, can be constructed and is proven by variations and alternations. Minimal narratives are condensed structures of free and stylistically unmarked discourse, which only follows the rules of temporal sequencing, and compounds are condensed structures of serial units or of clauses containing at least one verb.

Fifthly, if styles and types of discourse and narration can be said to be culture-specific, subparts of the lexicon are specific, too. Serial verbs being equivalents of, for example, directional adverbs + generic verb of movement, seemingly conform to what can be expected from typology and research on universals: semantic primitives as found in universal combinations. Conversely, compounds created by means of root serialisation are highly culture-specific and result from culture-specific sequences of events. In fusions like Eipo *fatabmorob*- 'lack and beg' or Yale *mekneldab*- 'miss and cook' a special and peculiar way of handling information and discussing culturally determined meanings seems to be within reach.

Methodological questions should be left aside here. Statements based on the investigation of just one language (or group of closely related languages) follow the "immanent-typologische" method as advocated by Sasse (1988) or illustrated by Pawley (1987, 1993). Whether such statements must be backed by limited contrastive studies or by cross-linguistic work depends on the actual objectives ranging between purely descriptive work and research on universals (cf. Comrie 1996; Haspelmath 1994; König 1996). With regard to the themes displayed in the literature on verb serialisation I probably tend to neglect the importance of drawing distinctions between clause-chaining and verb serialisation (Hale 1991; Longacre 1985), serial verbs and converbs (Bisang 1994; Haspelmath 1994), "lexical verbhood" and "grammatical verbhood" (Givón 1991; Pawley 1993). Perhaps I attempted to justify this neglect by describing movements and alternations between parts of the lexicon and the grammar which are kept distinct in other works. "Event identification", distinguishing "the more 'cohesive' serial construction from its more 'loosely' successive clause chaining look-alike" (Hale 1991:30), is here not a matter of linguistic classification but of discourse and narration type. The question of lexical or grammatical verbhood of serial verbs is here thought of as a matter of style with different results in different communicative genres. By showing movements and alternations one tentatively confers psychological reality to terms hitherto used in taxonomies and typology.

The problem, then, consists in tying together cross-linguistic work and 'immanent-typological' studies, generalisations and psychological reality. Stylistic variations, movement between types of narration and alternations between subsets of lexicon and grammar show how speakers work at their language. These natural experiments of natural native speakers suggest – along with "Slobin's experimental results" – "that some facets of grammatical organisation indeed constrain the way members of different speech communities – i.e. cultures – organise their **thinking for speaking**. What these studies suggest is that cognitive

organisation *for the purpose of* verbal communication is more language-specific, thus distinct from human-universal cognitive organisation" (Givón 1991:176; cf. Slobin 1987). Sentences as minimal narratives could be culture-specific, but this specificity may be valid across the boundaries of single language families. One should look for event-formulas in Dani and Ok languages, the western and eastern neighbours of the Mek languages: in order to prove the psychological reality of structures of just one language, one has also to do cross-linguistic work.

## Appendix

### Abbreviations

|                 |  |
|-----------------|--|
| –               | (1) In Eipo and Yale texts the hyphen indicates the break between bound morphemes (not the boundary between two syllables!). This hyphen is repeated in the glosses. (2) In Eipo and Yale texts the hyphen also connects postpositions and connectives |
| [ ]             | Square brackets with an appropriate subscript in the glosses indicate syntactic functions.   |
| ( )             | Round brackets in the free translations contain additional information concerning either constituents missing in the text or comments or explanations related to the culture of the Eipo and the Yale.   |
| 1, 2, 3         | indicate first, second, or third person.   |
| AD              | adjunct  |
| ADJ             | adjective  |
| ADV             | adverb, adverbial (phrase)   |
| ATT             | attenuative (manner of action)   |
| DU              | dual   |
| DER             | derivational suffix  |
| DS              | different subject (in the next clause)   |
| DUR             | durative, repetitive   |
| EXHAUST         | exhaustive (manner of action)  |
| FUT. I, II, III | immediate, near, and far future  |
| HAB             | habituaive (for <i>-lam</i> -suffix of the verb)   |
| HORT            | hortative-deliberative, optative   |
| I               | instrument (phrase)  |
| IMPER           | imperative mode  |
| INC             | inchoative (manner of action)  |
| INCOMP          | incomplete (manner of action)  |
| INF             | infinite (verbal form)   |
| INT             | interrogative (marker)   |
| MED             | sentence medial verb   |
| N               | noun, nominalising   |
| OPT             | optative   |
| PA. I, II, III  | today's past, near past, remote past   |
| PERF            | perfective (for <i>-am</i> -suffix of the verb)  |

|       |                               |
|-------|-------------------------------|
| PL    | plural                        |
| POSS  | possessive                    |
| POST  | postposition                  |
| PRED  | predicative                   |
| PRES  | present tense                 |
| Q     | quotative particle            |
| REFL  | reflexive                     |
| REL   | relative, relativiser         |
| S     | subject                       |
| SC    | scene, background             |
| SG    | singular                      |
| SIM   | simultaneous                  |
| SS    | same subject (in next clause) |
| SUC   | successive                    |
| T     | theme                         |
| V     | verb(al)                      |
| Vad   | verbal adjunct                |
| VN    | verbal noun                   |
| Vroot | verbal root                   |
| Vstem | verbal stem                   |

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# 11 *Number and person in the Duwet language of Papua New Guinea: the obsessive case of number*

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SUSANNE HOLZKNECHT

## 1 Introduction

The notion of *deixis* has been developed by linguists to refer to the formal properties of a language's utterances "whose interpretation is relative to the linguistic or extralinguistic content of the utterance" (Martinovski 1997:1) and includes who is speaking, how many people or animals or objects are involved in the event, what status the interactive participants have, what relationships they have to each other, the time and place of speaking or of what is being spoken about, and the current location of the speech event in the present discourse (Lyons 1969; Fillmore 1975; Martinovski 1997; SIL 1998). Utterances in all natural languages carry such references which relate the speech act to the immediate context.

These instances of deixis have traditionally been categorised into time deixis, place deixis, and person deixis. In recent times, these categories have been expanded to include discourse deixis and social deixis (Green 1995:15). Person deixis, which forms the focus of this present paper, is a sub-category of social deixis and includes the speaker, the addressee(s), and referents who are neither speaker nor addressee (SIL 1998). Distinctions among speaker, addressee and others are, moreover "often conflated with other distinctions such as number, gender and possession" (Perkins 1992:137).

Personal pronouns and pronoun affixes on nouns and verbs are, according to Fillmore (1975:76) good places to look for information on social deixis. This information is encoded in the person and number marking of the pronoun forms, as well as in other features of pronouns such as gender, relative status and age, as for example in the Vietnamese independent person forms in which the first person has distinctions for respectful/superior/abrupt (Thompson 1965 cited in Perkins 1992:22).

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This paper focuses on person deixis, which is taken to include the features of person and number, in Duwet, an Austronesian language of the Markham family, which is spoken in several small communities in the upper Busu River valley on the Huon Peninsula in Morobe Province, Papua New Guinea. In Duwet, the feature of person, in the grammatical sense, is encoded in the personal pronouns – focal pronouns, reflexive/reciprocal pronouns, possessive pronoun suffixes on certain categories of nouns and subject pronoun prefixes on verbs.

The notion of number, which in Duwet contrasts singular, dual and plural, is also encoded in Duwet pronouns as well as in suppletive forms of some verb roots and nouns, and is marked to a very high degree, with a consequent high level of redundancy in some utterances. This preoccupation with the number of participants in any action is common to all of the languages of the Lower Markham group, but Duwet stresses this feature much more intensely than the other languages (Holzknecht 1989:189).

Thus person and number marking in Duwet will be analysed through primarily pronoun sets and pronominal morphemes, as well as those adjectives, nouns and verbs which exhibit this feature.

## 2 Duwet in context

Before proceeding with the analysis, it is necessary to put the Duwet language community into its geographical, historical and academic contexts. Duwet has been chosen for investigation because in many ways it is an aberrant language, and because one of its aberrations is the emphasis placed in utterances in the language on the delineation of person and particularly of number. Moreover, Papua New Guinean languages, such as Duwet, whose description presents interesting issues of classification and analysis have been the subjects of Tom Dutton's work for many years now, and it is to Tom that this paper is dedicated.

The people and language referred to as Duwet in this paper have variously been called 'Waing' (Neuhauss 1911:125ff.; Schmutterer 1923:66; Capell 1954), 'Guwot' and 'Duwet' (McElhanon 1970:1184, 1186; Hooley and McElhanon 1970:1078, 1079; Hooley 1971:95-98). There is a small population of approximately 400 speakers, who formerly lived in three villages (Lambaip, Lawasumbileng, Ninggiet) in the upper Busu River valley in the Huon Peninsula (PNG, NSO 1982). Ninggiet and Lawasumbileng moved together in the 1980s to form a new village, Nambut. In the neighbouring villages, the Austronesian languages Nafi (to the north) and Musom (to the south-east), both of which are closely related to Duwet, are spoken. The Papuan languages Nuk (to the north), Nakama and Munkip (both to the west) (McElhanon 1984, map) are also neighbours of Duwet-speaking villages, and it is highly likely that through intermarriage and trade ties language influences have gone in both directions.

Hooley (1971:95) was the first to distinguish between Guwot and Duwet, deciding on the basis of "lexicostatistical evidence" that "Duwet...proved to be a dialect of Guwot". On perusing the word lists obtained by Hooley from speakers of so-called Guwot and Duwet, it is not difficult to see how this misinterpretation arose. Hooley did not recognise the very complex morphophonemic alternations which occur in Duwet, and so mistook different pronunciations of the same word for two different, but related words. He also did not investigate noun or verb morphology, so that, for example, verbs given by informants with

different subject-pronoun prefixes attached or presented in their alternate, suppletive forms were analysed as being different.

Hooley (1971:98) also maintained that Guwot was a divergent member, possibly a language isolate of the Musom Subfamily of the Azera Family of Morobe Austronesian languages. The relationship between Guwot and Sirak (Nafi) and Musom he ascribed to borrowing. Bradshaw (1978:49) also classified Guwot as “maybe a divergent member” of the Musom Subfamily of Azera languages. By 1984 McElhanon (1984:20) had changed the name to Duwet, and he included Duwet in the Busu Subfamily of the Azera Family.

After extensive fieldwork in the Austronesian languages of the Markham Valley and associated valleys, I have classified Duwet as a member of the Busu Subgroup of the Lower Markham Group, within the Markham Family of Austronesian languages (Holzknecht 1989). I have argued elsewhere (1989:212) that Duwet is indeed an aberrant member, even of the Busu Subgroup. The language contains many lexical items not shared with the other four languages of the Subgroup (Musom, Nafi, Aribwaungg and the now-extinct Aribwatsa); some of these are retentions from Proto Markham (PMk) which indicates that speakers of Duwet migrated away from the Proto Lower Markham (PLMk) community earlier than the other members of the Busu Subgroup. These reflexes of PLMk have undergone irregular and unusual phonological and morphophonemic changes (Holzknecht 1989). In addition, some Duwet lexical items and phonological innovations appear to be more recent borrowings from their Papuan neighbours (who are called the ‘Wain’ by the other language groups in the area).

### **3 Person and number marking in Duwet pronominal forms**

#### **3.1 Numerals and counting system**

In order to analyse the morphology of the Duwet pronouns, it may be helpful to understand the counting system, and to be familiar with the numerals which make up this system. The Duwet numerals are listed below:

1. *tagine ~ taine ~ta* ‘one’
2. *seik* ‘two’
3. *seik mba ta* ‘three’ (‘two and one’)
4. *seik mba seik* ‘four’ (‘two and two’)
5. *lima-ngg* ‘five’ (‘hand.1.POSS’)

Duwet has a base-two counting system, thus has only two numerals, *ta* ‘one’ and *seik* ‘two’. The word given for ‘five’, *lima-ngg*, can be translated literally as ‘hand-my’. It will be seen below that *ta* ‘one’ also functions as a definite article and *seik* ‘two’ is used in conjunction with certain pronouns to indicate dual number.

#### **3.2 Pronouns: unbound forms**

The free pronouns (that is, unbound forms) can be divided into several categories: pronouns which can be subjects of verbs; pronouns which can be objects of verbs; reflexive/reciprocal pronouns; and possessive pronouns. Each of these categories is presented

and discussed below by first tabulating the whole set for all persons and numbers, then giving examples, and finally analysing the forms with respect to person and number marking.

**Table 1:** Pronouns as subjects of verbs: unbound forms

|      | Singular                                | Plural                    | Dual  |
|------|---|---------------------------|---|
| 1EXC | <i>ahei?</i> ~ <i>ahi?</i> <sup>1</sup> | <i>yaya</i>               | <i>yaya seik</i>                                      |
| INC  |   | <i>aind</i> ~ <i>ai?0</i> | <i>aind seik</i> ~ <i>ai? seik</i> ~ <i>au ahahi?</i> |
| 2    | <i>au</i>                               | <i>yam</i>                | <i>yam seik</i>                                       |
| 3    | <i>ei</i>                               | <i>eis</i> ~ <i>eih</i>   | <i>ei(s) seik</i>                                     |

In Duwet, as in many other Austronesian languages, first person inclusive and exclusive, second person and third person referents, and singular and plural number are distinguished in the pronouns. The pronouns are, in most cases, portmanteau forms which encode both person and number in the same lexical item. First person is the person speaking, second person is the person/animal<sup>2</sup> spoken to and third person is the person/animal spoken about. First person plural exclusive pronoun does not include the hearer/person being addressed in its referent, while first person plural inclusive does include the hearer. My data has no examples of inanimate objects being referred to using the third person pronouns; these pronouns seem to be confined to use with animate (human and non-human) referents. The pronouns for dual number are not portmanteau forms but are actually pronominal compounds, consisting of the plural form followed by the numeral *seik* ‘two’ – (see §3.1 above). Therefore true dual pronouns do not exist in this set.

In the following examples of use of personal free pronouns in subject position, the verb used for all examples is *neim* ‘drink’, because this verb root does not change its form for different person or number subjects. As will be discussed and exemplified below, some verb roots in Duwet have suppletive forms for different person and particularly different number subjects.

### Singular pronouns

- (1)a. *Ahei?* *nga-neim* *mbei.*  
 1SG S1.NONPAST-drink water  
 ‘I drink water.’
- b. *Au* *ngu-neim* *mbei.*  
 2SG S2.SG.NONPAST-drink water  
 ‘You drink water.’
- c. *Ei* *ngi-neim* *mbei.*  
 3SG S3.NONPAST-drink water  
 ‘He/she/it drinks water.’

<sup>1</sup> In this table, and in those below, the symbol ~ means ‘alternates freely with’.

<sup>2</sup> In stories and myths, animals can speak and refer to themselves using this set of first person pronouns and can also be referred to using second person pronouns.

### Plural pronouns

- (2)a. *Ai?* *manga-neim mbei.*  
 1PL.INC S.PL-drink water  
 'We (INC) drink water.'
- b. *Yaga manga-neim mbei.*  
 1.PLEXC S.PL-drink water  
 'We (EXC) drink water.'
- c. *Yam manga-neim mbei.*  
 2PL S.PL-drink water  
 'You (PL) drink water.'
- d. *Eis ngi-neim mbei.*  
 3PL S3.NONPAST-drink water  
 'They drink water.'

### Dual forms of pronouns

- (3)a. *Au ahahi?* *manga-neim mbei.*  
 1DL.INC S.PL-drink water  
 'We two (EXC) drink water.'
- b. *Ai?* *seik manga-neim mbei.*  
 1DLEXC S.PL-drink water  
 'We two (EXC) drink water.'
- c. *Yam seik manga-neim mbei.*  
 2DL S.PL-drink water  
 'You two drink water.'
- d. *Eis seik ngi-neim mbei.*  
 3DL S3.NONPAST-drink water  
 'They (two) drink water.'

The pronouns illustrated above are in the position of subject of verb. Three pronouns exhibit alternate forms. The first person plural exclusive pronoun *aind* alternates with *ai?*, exemplifying a regular morphophonemic change within Duwet: pre-nasalised voiced stops /nd, ngg/ word-finally become glottal stop /ʔ/ across word boundaries before a consonant. Third person plural *eis* alternates freely with *eih*, exhibiting a common free alternation of final [h] and [s] which is probably influenced by the neighbouring Papuan language Numanggang, in which word-final [h] alternates freely with [s] (pers. comm. David Hynum, SIL, 1985). This word-final alternation of [h] with [s] also occurs in Nafi, a neighbouring Austronesian language which is very closely related to Duwet (see Holzkmnecht 1989:192). First person dual inclusive pronoun *aind seik* ~ *ai?* *seik* also alternates with a third form, *au ahahi?*

**Table 2:** Pronouns as objects: unbound forms

|      | Singular          | Plural                   | Dual                        |
|------|-------------------|--------------------------|-----------------------------|
| 1EXC | <i>ni</i>         | <i>yaya</i>              | <i>yaya seik</i>            |
| INC  |                   | <i>aind</i>              | <i>aind seik ~ ai? seik</i> |
| 2    | <b><i>nou</i></b> | <b><i>yam ~ guam</i></b> | <i>yam seik</i>             |
| 3    | <i>ei</i>         | <i>eis ~ eih</i>         | <i>ei seik</i>              |

Pronouns in the position of both direct and oblique object of a verb or object of a preposition exhibit forms identical to those which function as subjects of verbs, except for first person singular, which as object is *ni*, second person singular, which as object is *nou* and second person plural, which as object is *yam ~ guam* – that is, the forms in bold in the table above.

Sometimes the third person plural form *eis* occurs resumptively after the verb. This form occurs as both third person plural pronoun and general plural marker as in example (22)c below. It is most likely that the general plural-marking form developed from the third person plural.

- (4)a. *Ta dzambihin anan nggi-dzah ni?*  
 ART boy who S3.PAST-hit 1SG.OBJ  
 ‘Which boy hit me?’
- b. *Yaya nga-nggwik nou.*  
 1PL.EXC S1.NONPAST-wait.for 2SG.OBJ  
 ‘We are waiting for you.’
- c. *Ahei? nga-kut guam.*  
 1SG S1.NONPAST-leave 2PL  
 ‘I will leave you (PL).’

**Table 3:** Reflexive/reciprocal pronouns

|      | Singular               | Plural                         | Dual                           |
|------|------------------------|--------------------------------|--------------------------------|
| 1EXC | <i>iliangg ~ ilia?</i> | <i>ilianggangg ~ iliangga?</i> | <i>iliand seik</i>             |
| INC  |                        | <i>iliendangg</i>              | <i>iliend seik</i>             |
| 2    | <i>iliam</i>           | <i>iliamam</i>                 | <i>iliamam seik</i>            |
| 3    | <i>ilien ~ ilie?</i>   | <i>eisangg ~ ilasangg</i>      | <i>ilies seik ~ ilie? seik</i> |

The reflexive/reciprocal pronouns are used in two ways in Duwet. The first occurs before verbs, and in this context emphasises the nature of the actor(s): they are translated here as pronoun/noun + ‘self’. The second way in which they are used is after verbs, where they are also translated as ‘self’, but serve a reciprocal function in that the action of the verb occurs on the actor in the subject.

Below are examples of the reflexive/reciprocal pronouns, firstly after nouns and pronouns, and secondly after verbs.

**After nouns and pronouns (reflexive)**

- (5)a. *Mua mba saya mba iliam ngu-luk.*  
NEG and bad.thing and 2SG.REFL S2.SG.NONPAST-go.down  
'It would be bad if you yourself went down.'
- b. *Yaya ilianggung ngga-yan mwanip ilein-an.*  
1PL.EXC 1PL.EXC.REFL S1.PAST-eat eel head-3.POSS  
'We ourselves ate the eel's head.'
- c. *Iliend seik nga-lak eis.*  
1DL.INC.REFL two S1.NONPAST-go 3.PL  
'We two are going ourselves.'

**After verbs (reciprocal action)**

- (6)a. *Seik ngi-pi ilies.*  
two S3.NONPAST-fight 3DL.REFL  
'The two (of them) are fighting each other.'
- b. *Ngu-lipih iliam!*  
S2.NONPAST-move 2SG.REFL  
'Move yourself!'

The reflexive/reciprocal pronoun forms are analysed as base *ili-* plus epenthetic vowel ([a] or [e]) plus possessive pronoun suffix according to person and number (possessive pronoun suffixes are discussed in §3.3 below).

**Table 4:** Possessive pronouns

|      | Singular         | Plural               | Dual                       |
|------|------------------|----------------------|----------------------------|
| 1EXC | <i>lay ahī?</i>  | <i>la yayain</i>     | <i>au ahahi? yayain</i>    |
| INC  |                  | <i>la ai? yayain</i> | <i>lay ai? seik yayain</i> |
| 2    | <i>la yay au</i> | <i>la yayuam</i>     | <i>yam seik yayuam</i>     |
| 3    | <i>lay ie</i>    | <i>lay eis ies</i>   | <i>la seik ies</i>         |

The possessive pronouns tabulated above are not single morphemes, but are made up of the demonstrative *laya* (which has alternative forms *lay ~ lak ~ alan ~ lan ~ la* ) indicating 'that, there', preceding the focal pronoun. The morphology of these pronominal compounds is difficult to analyse, but they are closely related to the free personal pronouns. These pronouns can be used alone as emphatic utterances, or as subjects or predicates of verbs. Some examples are given below:

- (7)a. *Lay ahī? uwak?*  
1.SG.POSS where  
'Where's mine?'
- b. *Male? la yay au.*  
yes 2.SG.POSS  
'Yes, it's yours.'

### 3.3 Pronouns as bound forms

In Duwet, person and in some cases number are marked in bound pronoun forms, in subject pronoun prefixes and in possessive pronoun suffixes on inalienable nouns. The subject pronoun prefixes are discussed first. They are prefixed to verbs, and agree with the subject of the verb in person, and for first and second person plural subjects, in number. These prefixes are all portmanteau forms which include both tense (either Past or Non-Past) and person, and number. The exceptions to this are first and second person plural, Past and Non-Past for which there is only one form, *manga*. Below are tabulated the person-marking parts of these morphemes, in all cases the vowels, which have been separated out of the portmanteau morphemes for analytical purposes only. These do not have any meaning unless they are combined with the tense-marking parts of the morphemes, in all cases nasal and prenasalised voiced stops.

**Table 5:** Subject pronoun prefixes (root forms)

|      | Singular  | Plural    | Dual      |
|------|-----------|-----------|-----------|
| 1EXC | <i>a-</i> | <i>a-</i> | <i>a-</i> |
| INC  |           | <i>a-</i> | <i>a-</i> |
| 2    | <i>u-</i> | <i>u-</i> | <i>u-</i> |
| 3    | <i>i-</i> | <i>i-</i> | <i>i-</i> |

The person/number/tense portmanteau prefixes are:

|                 |                              |               |
|-----------------|------------------------------|---------------|
| <b>Non-past</b> | first person singular        | <i>nga-</i>   |
|                 | second person singular       | <i>ngu-</i>   |
|                 | third person singular/plural | <i>ngi-</i>   |
|                 | first person plural          | <i>manga-</i> |
|                 | second person plural         | <i>manga-</i> |
| <b>Past</b>     | first person singular        | <i>ngga-</i>  |
|                 | second person singular       | <i>nggu-</i>  |
|                 | third person singular/plural | <i>nggi-</i>  |
|                 | first person plural          | <i>manga-</i> |
|                 | second person plural         | <i>manga-</i> |

Examples of use of these subject pronoun/tense marking prefixes are given below.

#### Singular subjects:

- (8)a. *Ahi?* *nga-mbundimb* *lambeip.*  
 1SG S1.SG.NONPAST-crumble pitpit  
 'I crumble the pitpit (*Saccharum edule*).'
- b. *Ngu-kwaut* *ngi-lak* *eis!*  
 S2.NONPAST-allow S3.NONPAST-go 3PL  
 'Let them go!'



- c. *Siaŋ nggi-nu?*                      *miak si?*  
 sun    S3.PAST-become    dark    COMPL  
 'The sun became dark.'

**Plural subjects:**

The plural subject pronoun prefix, *manga-* is used with first and second person plural and dual subjects. Third person plural subjects occur with the regular portmanteau subject pronoun/tense prefixes *ngi-* (NONPAST) or *nggi-* (PAST pronoun).

**First person plural subject:**

- (9)a. *Yaya manga-lak alus.*  
 1PL.EXC S.PL-go (to) sea  
 'We are going to the sea.'

However, if the verb root is in the plural form (see below for discussion of verb root suppletion), then the plural subject pronoun prefix *manga-* is rarely used with first person dual or plural, but it was recorded in a few examples co-occurring with plural forms of verb roots, for example *manga-min* 'we stay'. It is, however, usually replaced by the regular subject pronoun/tense prefixes:

**First person plural subject:**

- (9)b. *Ai? seik nga-min eimb.*  
 1PL.EXC two    S1.NONPAST-stay.PL house  
 'We two are staying in the house.'

**Second person plural subject:**

- (9)c. *Manga-ndik anan mbauk.*  
 S2.PL-say    thought pig  
 'You (PL) think it is a pig.'

**Third person plural subject:**

- (9)d. *Mba ngi-gien ngi-min eis.*  
 and    S3.NONPAST-eat    S3.NONPAST-stay 3PL  
 'And they were eating.'

However, the placing of the third person plural marker *eis* after the verb seems to be used for emphasis, and does not always occur. In the example below, although the subject of the verb is third person plural, the pronoun *eis* does not occur after the verb:

- (9)e. *Mba nggi-liak mba nggi-wusu*  
 and    S3.PAST-go and    S3.PAST-cut up  
 'And they went and cut up [the eel].'

**Table 6:** Possessive pronoun suffixes: Set 1

|      | Singular | Plural   | Dual     |
|------|----------|----------|----------|
| 1EXC | -ng ~ -ʔ | -ng ~ -ʔ | -ng ~ -ʔ |
| INC  |          | -ng ~ -ʔ | -ng ~ -ʔ |
| 2    | -m       | -m       | -m       |
| 3    | -n       | -n       | -n       |

**Table 7:** Possessive pronoun suffixes: Set 2

|      | Singular | Plural | Dual |
|------|----------|--------|------|
| 1EXC | -k       | -k     | -k   |
| INC  |          | -k     | -k   |
| 2    | -p       | -p     | -p   |
| 3    | -s       | -s     | -s   |

In Duwet, as in all other languages of the Markham Family, two sets of possessive pronoun suffixes are found, marking two separate sub-classes of inalienably possessed nouns (see Holzkecht 1989:104-112). Within the one set, the forms are identical for singular and plural nouns or possessors. Nouns possessed inalienably are those which are considered to be an integral part of a human being and which cannot be separated from the person. Those nouns possessed inalienably through use of the Set 1 possessive pronoun suffixes (Table 6, above) include most kinship terms, most body parts, some body substances, a person's spirit, name, voice, reflection and shadow. These suffixes are all nasals, first person being a pre-nasalised velar stop:

|               |      |
|---------------|------|
| first person  | -ngg |
| second person | -m   |
| third person  | -n   |

### Examples of use of inalienable possessive pronoun suffixes, Set 1:

- (10)a. *Ngambei-ngg binia-n Salaksalak.*  
 grandparent-1.POSS name-3.POSS Salaksalak  
 'My grandfather's name was Salaksalak.'
- b. *Au lai-m puling ngi-mahaun.*  
 2SG brother-2.POSS older S3.NONPAST-stay.SG  
 'Your (SG) older brother is here.'
- c. *Yam lasi-m ngi-hinggisiʔ.*  
 2PL sister-2.POSS S3.NONPAST-sleep.PL  
 'Your (PL) sisters are sleeping.'

Set 2 possessive pronoun suffixes are affixed to inalienably possessed nouns within a closed, very restricted subset which includes, in Duwet, the kinship terms for father's sister, sister-in-law (female speaking), and husband's other wife (female speaking). The forms of these suffixes are:

|               |    |
|---------------|----|
| first person  | -k |
| second person | -p |
| third person  | -s |

These stops are clearly phonetically related to the Set 1 forms; they are homorganic with the forms for Set 1.<sup>3</sup> However, the relationship between the possessor and the possessed is different: they all appear to be females possessed through a male.

**Examples of inalienable possessive pronoun suffixes, Set 2:**

- (11)a. *La ahei? ie-k ie mamin.*  
 DEM 1SG sister.in.law-1.POSS 3SG.POSS betelnut  
 'That (is) my sister-in-law's betelnut.'
- b. *Yam wawo-p ngi-mieh eis.*  
 2PL father's.sister-2.POSS S3.NONPAST-come.PL 3PL  
 'Your (PL) aunts are coming.'
- c. *Ai nggo ngi-gwaik ei layau-s.*  
 woman DEM S3.NONPAST-look.after 3SG co.wife-3.POSS  
 'That woman is looking after her co-wife.'

However, inalienable possession of third person plural nouns, by a third person plural noun or the third person plural pronoun *eis*, can exhibit a different pattern. The following examples were recorded for the nouns 'father' and 'head' with first and second person possessors:

- |  |  |
|--|--|
| (12)a. 'Father':                           | b. 'Head':                             |
| <i>au lamua-m</i> 'your (SG) father'       | <i>au ilei-m</i> 'your (SG) head'      |
| <i>yam lamua-m</i> 'your (PL) father'      | [ 'your (SG) heads' is not logical ]   |
| <i>yam lamua-m eis</i> 'your (PL) fathers' | <i>yam am ilei-m</i> 'your (PL) heads' |

The examples above conform to the pattern analysed for second person Inalienable Type 1 possession, discussed above, except in the example for second person plural subject of 'head', in which part of the possessor pronoun is reduplicated to indicate plural.

However, with a third person plural subject possessing the noun, the suffix *-s*, noted above as usually being associated with Type 2 Inalienable possession for third person possessor, is used to mark the plural, as exemplified below:

- |   |                                 |
|---|---------------------------------|
| (13)a. 'Father':                        | b. 'Head':                      |
| <i>ei lama-n</i> 'his/her father'       | <i>ei ilei-n</i> 'his/her head' |
| <i>eis a lama-s</i> 'their father'      | [ 'their head' is not logical ] |
| <i>eis a lama-s eis</i> 'their fathers' | <i>eis ilei-s</i> 'their heads' |

It is possible that a paradigm shift is occurring in the way third person plural possession is marked, with the expected *-n* third person possessive suffix moving to *-s + eis*, in order to account more precisely for plural.

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<sup>3</sup> This analysis is confirmed when the Duwet sets are compared with similar sets occurring in other languages of the Markham family (see Holzknacht 1989:104-112).

#### 4 Person and number marking in Duwet verb roots

Verb roots in Duwet show two types of variation. The first consists of a morphophonemic change to the verb root, the change usually occurring in the vowels, in order to achieve harmony between the vowel of the subject pronoun prefix and that of the verb root. For example, in the verb 'eat', the verb root changes according to person of subject:

- |      |                                      |                   |                |
|------|--------------------------------------|-------------------|----------------|
| (14) | first person singular/plural subject | <i>nga-yan</i>    | 'I/we eat'     |
|      | second person singular subject       | <i>ngu-yun</i>    | 'you (SG) eat' |
|      | second person plural subject         | <i>manga-yuan</i> | 'you (PL) eat' |
|      | third person singular/plural subject | <i>ngi-yien</i>   | 'he/she eats'  |

Similarly, for the verb 'go', the vowel of the verb root changes for person, in harmony with the vowel of the subject pronoun prefix:

- |      |                       |                |                      |
|------|-----------------------|----------------|----------------------|
| (15) | first person subject  | <i>nga-lak</i> | 'I/we go'            |
|      | second person subject | <i>ngu-lu</i>  | 'you (SG/PL) go'     |
|      | third person subject  | <i>ngi-lia</i> | 'she/he/they go(es)' |

In the verb 'see', differentiation is made in the verb root for both person and number:

##### Singular subjects:

- |      |                                |                   |                |
|------|--------------------------------|-------------------|----------------|
| (16) | first person singular subject  | <i>nga-kaungg</i> | 'I see'        |
|      | second person singular subject | <i>ngu-kuangg</i> | 'you (SG) see' |
|      | third person singular subject  | <i>ngi-kiaung</i> | 'he sees'      |

##### Plural subjects:

- |      |                              |                     |                |
|------|------------------------------|---------------------|----------------|
| (17) | first person plural subject  | <i>nga-kanungg</i>  | 'we see'       |
|      | second person plural subject | <i>ngu-kuanungg</i> | 'you (PL) see' |
|      | third person plural subject  | <i>ngi-kianungg</i> | 'they see'     |

However, in the verb 'come' the verb root distinguishes person of subject, but it also also exhibits a different form for plural subject in the third person only:

- |      |                               |                   |                 |
|------|-------------------------------|-------------------|-----------------|
| (18) | first person singular/plural  | <i>nga-mia</i>    | 'I come'        |
|      | second person singular/plural | <i>ngu-muia</i>   | 'you (SG) come' |
|      | third person singular         | <i>ngi-mia</i>    | 'he comes'      |
|      | third person plural           | <i>ngi-mayeis</i> | 'they come'     |

In the second type of verb root variation, verb suppletion, the verb root changes completely to reflect singular or plural number of the subject. Only a small set of verbs exhibit this type of suppletion. They include a verb which can be translated as 'stay', 'sit', 'dwell' or 'be', and the verb 'sleep, lie (down), recline'.

Examples of suppletive forms of the verb translated as 'stay', 'sit', 'dwell' or 'be':

##### (19) Singular subject:

- |                                |                   |                   |
|--------------------------------|-------------------|-------------------|
| first person singular subject  | <i>nga-mahaun</i> | 'I stay'          |
| second person singular subject | <i>ngu-mahaun</i> | 'you (SG) stay'   |
| third person singular subject  | <i>ngi-mihaun</i> | 'he/she/it stays' |

**Plural subject:**

|                              |                   |                 |
|------------------------------|-------------------|-----------------|
| first person plural subject  | <i>manga-mein</i> | 'we stay'       |
| second person plural subject | <i>manga-min</i>  | 'you (PL) stay' |
| third person plural subject  | <i>ngi-miein</i>  | 'they stay'     |

Examples of use:

- (20)a. *Mba ngi-gien ngi-miein eis...*  
 and S3.NONPAST-eat S3.NONPAST-stay.PL 3.PL  
 'And they were eating..'
- b. *Ei ngi-mahaun amba nga-lak.*  
 3.SG S3.NONPAST-stay.SG and S1.NONPAST-go  
 'If he stays, I will go.'
- c. *Yaya awas manga-mein.*  
 1PL.EXC still S1.PL.NONPAST-stay.PL  
 'We are still here.'

Below are listed all the forms for the verb 'sleep, lie (down), recline'.

(21) **Singular subject:**

|                                |                |                    |
|--------------------------------|----------------|--------------------|
| first person singular subject  | <i>nga-yik</i> | 'I sleep'          |
| second person singular subject | <i>ngu-yik</i> | 'you (SG) sleep'   |
| third person singular subject  | <i>ngi-yik</i> | 'he/she/it sleeps' |

**Plural subject:**

|                              |                      |                  |
|------------------------------|----------------------|------------------|
| first person plural subject  | <i>nga-hinggisi?</i> | 'we sleep'       |
| second person plural subject | <i>ngu-hinggisi?</i> | 'you (PL) sleep' |
| third person plural subject  | <i>ngi-hinggisi?</i> | 'they sleep'     |

Examples of use:

- (22)a. *Ahei? ngga-yik siei.*  
 1SG S1.PAST-lie down  
 'I lay down.'
- b. *?a ngi-yik layau kisai.*  
 tree S3.NONPAST-lie road across  
 'The tree is lying across the road.'
- c. *Malayeis nggi-hinggisi? mbei walaman eis.*  
 coconut S3.PAST-lie water inside 3PL  
 'The coconuts lay in the water.'
- d. *Miek mba yaya pa? ngga-hinggisi?.*  
 night and 1PL.EXC NEG 1.PAST-sleep  
 'We did not sleep in the night.'

One Duwet transitive verb, 'throw', exhibits suppletive forms in the verb root for singular or plural object. Compare the following two examples:

- (23)a. *Nggi-sia malayeis nggi-waim nggi-liauk.*  
 S3.PAST-climb coconut S3.PAST-throw.SG S3.PAST-come.down  
 'He climbed the coconut palm and threw (it) down.'
- b. *Nggi-sia malayeis nggi-siliang nggi-liauk.*  
 S3.PAST-climb coconut S3.PAST-throw.PL S3.PAST-come.down  
 'He climbed the coconut palm and threw (them) down.'

In the first example (23)a one coconut was thrown down, and so the verb root is *waim*, whereas in the second example (23)b, more than one coconut was thrown down, so this is shown in the verb root *siliang*. The verb is not, however, used in this way if there is plurality or repetition of action, for example children throwing one coconut back and forth between them.

## 5 Number marking in some Duwet nouns

Certain common nouns in Duwet exhibit suppletive forms for singular and plural. For example, 'man' is *uwot* or *at*, whereas 'men' is *miaus*. There is no obvious morphophonemic relationship between these two forms. In contrast, the same word is used for both 'woman' and 'women', the only difference being that for 'women' the general third person plural pronoun is added:

- (24) woman ?*aih*  
 women ?*aih eis*

## 6 Conclusion

The almost obsessive concern shown in the Duwet language for the number of actors participating in any speech act is unusual even within the Busu Subgroup of the Lower Markham Group of the Markham languages. The other languages in the Busu Subgroup – Musom, Nafi, Aribwaungg and Aribwatsa – also exhibit some concern for marking singular and plural. In all those languages, a plural subject is marked in the form of the word (if pronoun) or by numerals or some other modifiers, and in suppletive forms of only two verbs: the verb 'stay, sit, dwell, be', and the verb 'sleep, lie (down), recline'.

In three of the languages of the Upper Markham Group – Adzera, Mari and Sarasira – animate/human nouns co-occur with reflexes of the PUMk verb *\*-mba* 'sit, stay, be, remain, dwell' and non-animate nouns co-occur with reflexes of the PUMk verb *\*-min* 'sit, stay, be, remain, dwell'. The former reconstructed form of the verb is cognate with PLMk *\*-mbum* 'sit, stay, be, remain, dwell' whose reflexes in Musom, Nafi, Aribwaungg and Aribwatsa co-occur with singular subjects. The Duwet form, *-mahaun*, appears not to be a reflex of *\*-mbum*, but given Duwet's complex morphophonemics, it probably is. The latter reconstructed form PUMk *\*-min* is cognate with a proposed LMK verb form *\*-min* 'sit, stay, be, remain, dwell', whose reflexes in all the languages of the Lower Markham Group, including Duwet, co-occur with plural subjects (see Holzkecht 1989:95, 133). Thus it is likely that this feature, of distinguishing among actors in an utterance on the basis of some quality – whether of animacy/inanimacy or singular/non-singular – and their co-occurrence

with certain existential verbs is one that has been inherited from a common ancestral language.

However, Duwet has taken the feature of distinguishing between singular/non-singular to a much greater extent than any of its sister languages. Marking of this feature occurs in nouns, pronouns, verb roots, possession and in both subjects and objects of some verbs. Moreover, in some paradigms, for example possessive marking, a shift seems to be occurring in order to emphasise even more the plural nature of the actors in an utterance.

In some Duwet sentences, it is actually possible to have almost every constituent marked for singular/plural distinction, as in the two examples below:

- (25) *Iliend seik manga-lak eis.*  
 1PL.INC.REFL two S.PL.-go 3PL  
 'We two are ourselves going.'
- (26) *Miaus anggihinggis nggi-miein eis?*  
 man.PL how.many.Q S3.PAST-stay.PL 3PL  
 'How many men were there?'

In these two examples, the subject noun or pronoun, quantifier ('how many?'), subject pronoun prefix, verb root, and postverbal modifier in the form of a third person plural pronoun are all marked for plural actors.

It is thus probable that this feature of Duwet represents a retention from a common mother language that has become more accentuated. While it could be speculated that the feature has been borrowed from Papuan-speaking neighbours or from a Papuan-speaking group with which Duwet speakers were in contact in the past, this is unlikely in view of the strong evidence that it is an inherited feature from an ancestral language. Both Wurm (1982:62-63) and Foley (1986) suggest that the verb undergoing changes according to the person and number of the object or beneficiary is a characteristic of some languages of the Trans New Guinea phylum, in which the Papuan neighbours of Duwet have been classified as belonging. However, this is not sufficient evidence to suggest that this strong feature of Duwet has been borrowed from its Papuan neighbours. There also is insufficient data available on the individual Papuan languages of the area to be able to eliminate borrowing completely as an influence in this apparent aberration of Duwet.

It is interesting, but not very profitable, to look for extralinguistic explanations for why Duwet has accentuated the feature of singular/non-singular distinction within its system of person deixis to such an extent. Perhaps, being such a small group, and presumably even smaller in the past, they needed to keep track of where everyone was at any given time, and this became part of the deictic marking in the language. Perhaps the speakers of this (also in many other ways) singular language just want to be different and are still in the process of tinkering with their language in order to exaggerate their differences from their neighbours, a phenomenon that is not unknown in Papua New Guinea languages.

**Abbreviations used in the paper**

|         |   |
|---------|---|
| 1PLEXC  | first person plural exclusive pronoun                                 |
| 1PL.INC | first person plural inclusive pronoun                                 |
| 1SG     | first person singular pronoun   |
| 2PL     | second person plural pronoun  |
| 2SG     | second person singular pronoun  |
| 3PL     | third person plural pronoun   |
| 3SG     | third person singular pronoun   |
| ART     | article   |
| COMPL   | completive  |
| DL      | dual  |
| NEG     | negative  |
| NONPAST | non-past tense  |
| OBJ     | object  |
| PAST    | past tense  |
| PL      | plural  |
| POSS    | possessive  |
| Q       | question marker   |
| REFL    | reflexive/reciprocal  |
| S1      | first person subject pronoun prefix                                   |
| S2      | second person subject pronoun prefix                                  |
| S3      | third person subject pronoun prefix                                   |
| SG      | singular  |
| SPL     | plural subject pronoun prefix (first and second person subjects only) |

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# 12 *Passive and food possession in Oceanic languages*

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JOHN LYNCH

## 1 Introduction

The possessive-marking system of Proto Oceanic (POc) and its daughter languages has generated considerable debate over the years (see for example Lichtenberk 1985 and Lynch 1996). This paper is a detailed examination of one area of Oceanic possession – the marking of passive possession – which has repercussions not only for the reconstruction of the possessive system itself, but also for the way in which possessive suffixes were used in attributive and verbal constructions.<sup>1</sup>

I will show in this paper that passive possession was marked in Proto Oceanic by direct suffixation. In doing this, however, the very widespread merger of passive with food possession also needs to be accounted for, and I will suggest a number of factors which led to certain languages making this change while other, closely related, languages did not.

## 2 Background

The Oceanic subgroup of Austronesian consists of around 500 languages occupying Polynesia, nearly all of Micronesia and much of Melanesia. Recent research (summarised in Lynch, Ross and Crowley forthcoming) suggests that the subgrouping of Oceanic given in Figure 1 can be justified. Following Pawley and Ross (1995), I use the term **family** to refer to an innovation-defined subgroup deriving from a split in a single homogeneous language; the term **linkage** to refer to an innovation-linked subgroup deriving from an earlier dialect network; and the term **subgroup** in talking about both families and linkages when the

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<sup>1</sup> It is a pleasure to be able to be part of a volume honouring Tom Dutton's contributions to linguistics in the New Guinea area. I remember with fondness his period as Foundation Professor of Language and Literature at the University of Papua New Guinea, and note with special appreciation his contributions to the development of Papua New Guinean linguists and his promotion of the Bundaberg oyster.

difference between them is unimportant to the topic under discussion, or when it is not clear (as in the case of Central-Eastern Oceanic) whether the grouping is a family or a linkage.

|   |
|---|
| <p>PROTO OCEANIC</p> <ol style="list-style-type: none"> <li>1. The Admiralty Islands family</li> <li>2. The Western Oceanic linkage, comprising             <ol style="list-style-type: none"> <li>a. The North New Guinea linkage (probably including the Sarimi/Jayapura Bay family)</li> <li>b. The Papuan Tip linkage</li> <li>c. The Meso-Melanesian linkage</li> </ol> </li> <li>3. The Central-Eastern Oceanic subgroup, comprising             <ol style="list-style-type: none"> <li>a. The Southeast Solomons family</li> <li>b. The Utupua-Vanikoro subgroup (possibly two distinct families)</li> <li>c. The Southern Oceanic linkage (the languages of Vanuatu and New Caledonia)</li> <li>d. The Micronesian family (including Nauruan)</li> <li>e. The Central Pacific linkage (Fijian, Rotuman and Polynesian)</li> </ol> </li> <li>4. Unclassified – possibly first-order branches             <ol style="list-style-type: none"> <li>a. Yapese</li> <li>b. The Saint Matthias family</li> </ol> </li> </ol> |
|---|

**Figure 1:** Probable Oceanic subgrouping

The status of Yapese and the Saint Matthias family is currently unclear: either or both **may** be first-order subgroups, or may prove instead to subgroup with the Admiralties family in some “Greater Admiralties linkage”.

The following features of Proto Oceanic possession are generally agreed:

- (a) Proto Oceanic distinguished **direct** and **indirect** possession.
- (b) In direct constructions, the possessive pronoun was suffixed to the possessed noun. Referents of nouns participating in direct constructions were more or less ‘inalienable’ – most kin terms, most body parts and parts of things, spatial relations and other items ‘closely associated’ with the possessor.
- (c) In indirect constructions, the possessive pronoun was suffixed to a **possessive marker** (or **classifier**). Referents of nouns participating in this construction were more or less ‘alienable’.
- (d) There was a small number of possessive markers. Those widely agreed upon are listed below, though there may have been a few others:
  - \**ka*- marking possession as food,
  - \**ma*- marking possession as drink, and
  - \**na*- or \**a*- (possibly also \**ta*- and/or \**sa*-) marking general (or neutral) possession.

There has been some debate in the literature as to whether these different possessive constructions marked **relationships** or whether they reflected a **noun-class/gender** system. The fact that POC \**niuR* ‘coconut’, for example, could be possessed with \**ka*- (the fruit as food), with \**ma*- (the fruit as drink), and with \**na*- or \**a*- (the fruit used for some other

purpose, or the tree) suggests that a strict noun-class system was not operating. On the other hand, the fact that \**tama*- 'father' could be possessed only in a direct construction suggests that there are some elements of noun classification involved. Pawley and Sayaba (1990:167-168) make the following comment about possessive marking in Wayan Fijian, but I believe the comment applies more generally to Oceanic as a whole:

The selection of possessive marker is not governed solely by either the semantic relation principle or the noun class principle. Possessive-marking of many nouns accords with semantic relations – but there are numerous exceptions... Furthermore, certain nouns are restricted to a single type of possessive-marking and it is difficult to find a convincing semantic basis for these restrictions... Certain nouns belong to strict and semi-arbitrary noun classes, for purposes of possessive marking, [while] others show marking consistently following semantic principles.

Interstage and modern Oceanic languages have modified the original system in a number of ways. Most of these modifications have involved either increasing or decreasing the number of possessive markers/classifiers, though in some cases – e.g. Labu (Morobe Province, Papua New Guinea), Rotuman and Polynesian – the direct/indirect distinction itself has been completely or almost completely lost. In addition, there is considerable variation from one subgroup or language to the next as to what is 'inalienable' and thus directly possessed, and what is 'alienable' and thus indirectly possessed.

### 3 Passive possession

This paper, however, is concerned with another complex of possessive categories which I have not yet mentioned.<sup>2</sup> These have been termed **passive**. As with other categories of Oceanic possession, it is difficult to give an unambiguous definition. However, passive possession refers to some or all of the following:

- (a) possession by the logical object of a nominalised verb (as in 'my having been hit');
- (b) possession of nouns which are not nominalisations and which refer to things done to or about the possessor (like 'my wound – which I received', or 'her song/story – sung/told about her');
- (c) possession of animate or inanimate nouns where the relationship is one which might precipitate suffering on the part of the possessor – such as 'enemy', 'club' and other weapons (to be used on the possessor), and so on; and
- (d) possession of other nouns which can be seen as being 'suffered' by the possessor – parasites, disadvantage, etc.

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<sup>2</sup> Data sources are given in the Appendix. I am grateful to the following people, who supplied data on their own language: Hollingsworth Ala Ngwele and Evelyn Tavoia (West Ambae), and Rongorongo Terubea (Kiribati). I am also grateful to various colleagues for comments and/or assistance with additional data: Terry Crowley, Robert Early, Frank Lichtenberk, Bill Palmer, Ken Rehg, Malcolm Ross, and Gunter Senft.

Abbreviations used in citing language data are:

|       |                             |     |                      |      |                      |
|-------|-----------------------------|-----|----------------------|------|----------------------|
| ART   | article                     | EXC | exclusive            | PASS | passive (possession) |
| BENEF | benefactive                 | GEN | general (possession) | PL   | plural               |
| CHAR  | characteristic (possession) | NOM | nominaliser          | POSS | possessive           |
| DIR   | directional                 | OBL | oblique              | SG   | singular             |

Often included in the passive category in descriptions of some Oceanic languages and in the inalienable category in descriptions of others, but probably distinguishable from both of these, is what can be referred to as **characteristic** possession. This occurs with nouns characterising either all typical possessors ('size', 'height', 'character', etc.) or certain individual possessors (like facial or behavioural characteristics of a particular individual, possession of nouns like 'boils', 'scabies', etc.).

### 3.1 Passive-marking strategies

The point of interest here is that Oceanic languages differ in how they mark passive/characteristic possession. There are basically four possible strategies.<sup>3</sup> In one of these, type (b) below, passive and food possession are marked in the same way; and indeed some linguists have reconstructed POC *\*ka-* as the marker of both food and passive possession. One of the points I will be making in this paper is that this was probably **not** the case in Proto Oceanic. Thus in this section I will be particularly interested in comparing passive and food marking.

- (a) There is a wide range of Oceanic languages in which passive possession is marked in the same way as 'inalienable' (kin and part) possession – most commonly by a direct construction. This is found in, inter alia, Yapese, most (or all?) Central Papuan languages, a number of North New Guinea languages (like Manam), languages in both the north-west and south-east Solomons (e.g. Banoni, Kokota, Gela), many languages of north and central Vanuatu, and most Micronesian languages. Polynesian languages and Rotuman also mark passive possession in the same way as inalienable possession, though not by a direct construction. For example:

- (1) Aroma (Papuan Tip linkage):

|  |                                  |
|--|----------------------------------|
| <i>(thau) ama-ku</i>                             | KIN/PART – DIRECT                |
| (I) father-1SG                                   |                                  |
| 'my father'                                      |                                  |
| <i>(thau) rauparaupa-ku</i>                      | PASSIVE – DIRECT                 |
| (I) picture-1SG                                  |                                  |
| 'my picture (depicting me)'                      |                                  |
| <i>(thau) ya-ku                      yanyani</i> | FOOD – INDIRECT WITH <i>*ka-</i> |
| (I) POSS.FOOD-1SG food                           |                                  |
| 'my food (to eat)'                               |                                  |

<sup>3</sup> There are, of course, other possible strategies for encoding the same relationship. Lewo (Southern Oceanic), for example, can express the idea of passive possession by nominalising a verb with its accompanying object suffix:

*na-ila-nu-ena*  
 NOM-help-1SG.OBJ-NOM  
 'my being helped'

I am concerned here only with strictly 'possessive' constructions.

There are also some Oceanic languages which mark passive and characteristic possession differently. I will ignore this for the moment, and at this stage concentrate on strictly **passive** possession, but will return to a discussion of characteristic possession in §3.6 below.

(*thau*) *ye-ku rauparaupa* GENERAL

(I) POSS.GEN-1SG picture  
'my picture (which I have/took/painted)'

- (b) There is also a wide range of Oceanic languages in which passive possession is marked in a manner formally identical to that of food possession, usually with what appears to be a reflex of the food marker \*ka-. Among the languages which use this strategy are Papuan Tip languages like Dobuan and Gapapaiwa, Meso-Melanesian languages like Tolai, many languages in the south-east Solomons and northern and central Vanuatu, and most Fijian dialects. For example:

- (2) Standard (Bauan) Fijian (Central Pacific linkage):

*tama-mu* KIN/PART – DIRECT  
father-2SG  
'your father'

*ke-mu itukutuku* PASSIVE – INDIRECT WITH \*ka-  
POSS.PASS-2SG report  
'your report (made about you)'

*ke-mu madrai* FOOD – INDIRECT WITH \*ka-  
POSS.FOOD-2SG bread  
'your bread (to eat)'

*no-mu itukutuku* GENERAL  
POSS.GEN-2SG report  
'your report (which you made)'

- (c) There are some languages in which passive possession occurs in an indirect construction, but with a marker distinct from the food or any other marker:

- (3) Iaii (Southern Oceanic linkage):

*caa-n* KIN/PART – DIRECT  
leg-3SG  
'his/her/its leg'

*hnââ-n aat* PASSIVE – SPECIAL MARKER  
POSS.PASS-3SG wound  
'his/her wound'

*a-n wââ* FOOD – INDIRECT WITH \*ka-  
POSS.FOOD-3SG fish  
'his/her fish (to eat)'

*anyi-n thaan* GENERAL  
POSS.GEN-3SG chief  
'his/her chief'

- (d) Finally, there are some languages which retain both direct and food marking but which nevertheless mark passive possession in the same way as general possession.<sup>4</sup>

- (4) Lauan Fijian (Central Pacific linkage):

|  |              |                           |
|--|--------------|---------------------------|
| <i>drau-na</i>   |              | KIN/PART – DIRECT         |
| leaf-3SG   |              |                           |
| ‘its leaf’   |              |                           |
| <i>ke-na</i>   | <i>puaka</i> | FOOD – INDIRECT WITH *ka- |
| POSS.FOOD-3SG  | pig          |                           |
| ‘his/her pork (pig as food)’   |              |                           |
| <i>o-na</i>  | <i>itaba</i> | PASSIVE AND GENERAL       |
| POSS.GEN-3SG   | image        |                           |
| ‘his/her photo – either depicting him/her, or in his/her possession’ |              |                           |

We face two problems in trying to reconstruct the nature of passive-possession marking in Proto Oceanic. The first is an amazing shortage of data. Many descriptions of Oceanic languages make no mention or give no examples of this category or, if they do, they use such vague phrases as “items closely associated with the possessor” which may have a variety of interpretations.

The second problem relates to the distribution of the four marking strategies outlined above. This problem is not simply one of trying to decide which of these four strategies represented the original Proto Oceanic one and then treating the other three as more recent, localised innovations. The following facts pose additional complications. Firstly, both direct possession and \*ka- marking are quite widespread throughout Oceanic – both geographically and genetically – as strategies for marking passive possession. And secondly, and more importantly, there are a number of cases in which different languages belonging to the same lower-order subgroup use different strategies to mark passive possession.

### 3.2 Distinct passive marker

We can almost certainly eliminate type (c), a distinct passive marker, from being a candidate for Proto Oceanic status. Type (c) seems to be restricted to the Southern Melanesian family of the Southern Oceanic linkage. The Iaa examples in (3) above show a distinct passive marker in a New Caledonian language. The Southern Vanuatu languages also have a distinct passive marker, but it is not cognate with the New Caledonian forms; instead, it has developed out of the oblique preposition:

- (5) Lenakel (Southern Oceanic linkage):
- |                  |             |                              |
|------------------|-------------|------------------------------|
| <i>r-am-eiua</i> | <i>la-k</i> | OBLIQUE PREPOSITIONAL PHRASE |
| 3SG-PAST-lie     | OBL-1SG     |                              |
| ‘he lied to me’  |             |                              |

<sup>4</sup> There are a number of languages which have lost the food marker altogether, and which mark food – and often passive – possession with the general marker. I am not interested in those cases here, but only in those where there has been a merger of passive and general as distinct from food.



|                                    |  |
|------------------------------------|--|
| <i>nouanage la-k</i>               | PASSIVE – OBLIQUE PREPOSITIONAL PHRASE |
| story POSS.PASS-1SG                |  |
| 'my story (the one told about me)' |  |
| <i>nouanage taha-k</i>             | GENERAL                                |
| story POSS.GEN-1SG                 |  |
| 'my story (which I tell)'          |  |

Passive possession marked by a distinct passive marker, then, is quite rare in Oceanic. In addition, the markers that are found do not appear to be cognate beyond small individual subgroups – e.g. the Proto Southern Vanuatu marker *\*(i)ra*, *\*ira-* is not cognate with the Iaaï marker *hnââ-* (and similar statements could be made about markers in different New Caledonian subgroups). Thus we can not reconstruct any marker at a high level even within Southern Melanesian.

### 3.3 Passive marked in the same way as general

The type (d) strategy, by which passive and general are marked in the same way, differently from food, occurs randomly through some parts of the Oceanic subgroup. I instanced Lauan Fijian above in (4). Lewo also merges passive and general:

- (6) Lewo (Southern Oceanic linkage):

|  |                                  |
|--|----------------------------------|
| <i>ka-la piaki</i>                                 | FOOD – INDIRECT WITH <i>*ka-</i> |
| POSS.FOOD-3PL pot                                  |                                  |
| 'their cooking-pot'                                |                                  |
| <i>sa-u vis-ena</i>                                | GENERAL/PASSIVE                  |
| POSS.GEN-1SG tell.story-NOM                        |                                  |
| 'my story – either told about me, or which I tell' |                                  |
| <i>sa-u toutou</i>                                 | GENERAL/PASSIVE                  |
| POSS.GEN-1SG image                                 |                                  |
| 'my photo – either taken of me or which I took'    |                                  |

Since we can reconstruct a passive **category** of possession for Proto Oceanic, and since the neutralisation of passive with general, or of food with general, is cross-linguistically common and not unexpected, I believe that type (d) also does not represent the Proto Oceanic situation.

### 3.4 Direct and *\*ka-* marking

The two remaining 'candidates', then, are direct possession and indirect possession with *\*ka-*. As I mentioned earlier, both of these marking strategies are quite widespread in Oceanic. In this section, I will discuss their distribution, while I will reconstruct the Proto Oceanic passive-marking strategy in §3.5.

3.4.1 **Western Oceanic**

Both marking strategies are found in each of the subgroups of the Western Oceanic linkage. In the North New Guinea linkage, for example, we find languages like Manam, which encodes passive possession in a direct construction, but also languages like Mangap-Mbula, which encodes it in a food construction:

- (7) Manam:
- |             |                               |                           |
|-------------|-------------------------------|---------------------------|
| <i>údi</i>  | <i>tanóm-a-di</i>             | PASSIVE – DIRECT          |
| banana      | plant-NOM-3PL.POSS            |                           |
|             | ‘the planting of the bananas’ |                           |
| <i>bang</i> | <i>'ana-di</i>                | FOOD – INDIRECT WITH *ka- |
| taro        | POSS.PASS-3PL                 |                           |
|             | ‘their taro (to eat)’         |                           |
- (8) Mangap-Mbula:
- |               |                      |              |                              |
|---------------|----------------------|--------------|------------------------------|
| <i>ko-ng</i>  | <i>koi</i>           | <i>bizin</i> | PASSIVE – INDIRECT WITH *ka- |
| POSS.FOOD-1SG | enemy                | PL           |                              |
|               | ‘my enemies’         |              |                              |
| <i>ko-ng</i>  | <i>pin</i>           |              | FOOD – INDIRECT WITH *ka-    |
| POSS.PASS-1SG | banana               |              |                              |
|               | ‘my banana (to eat)’ |              |                              |

In the Papuan Tip linkage, Motu exemplifies those languages which use direct constructions to mark passive possession (see also Aroma in example (1) above), while Gapapaiwa exemplifies languages which use food possession for the same purpose:

- (9) Motu:
- |                   |                                    |                           |
|-------------------|------------------------------------|---------------------------|
| <i>sivarai-gu</i> |                                    | PASSIVE – DIRECT          |
| story-1SG         |                                    |                           |
|                   | ‘my story – the one told about me’ |                           |
| <i>a-gu</i>       | <i>aniani</i>                      | FOOD – INDIRECT WITH *ka- |
| POSS.FOOD-1SG     | food                               |                           |
|                   | ‘my food’                          |                           |
- (10) Gapapaiwa:
- |               |  |                              |
|---------------|--|------------------------------|
| <i>ka-na</i>  | <i>gara</i>                                    | PASSIVE – INDIRECT WITH *ka- |
| POSS.PASS-3SG | clothing                                       |                              |
|               | ‘his/her clothes (to wear)’                    |                              |
| <i>ka-na</i>  | <i>siya</i>                                    | FOOD – INDIRECT WITH *ka-    |
| POSS.FOOD-3SG | meat   |                              |
|               | ‘his/her meat (to eat)’                        |                              |
| <i>i-na</i>   | <i>gara</i>                                    | GENERAL                      |
| POSS.GEN-3SG  | clothing                                       |                              |
|               | ‘his/her clothes (e.g. to sell at the market)’ |                              |

In the Meso-Melanesian linkage, Kokota (Santa Isabel) exemplifies languages which use direct possession, and Tolai languages which use food possession:

(11) Kokota

*totoyale-gu ara* PASSIVE – DIRECT

picture-1SG I  
'my photograph (depicting me)'

*no-gu totoyale* GENERAL

POSS.GEN-1SG picture  
'my photograph (I own it)'

*ye-gu zora ara* FOOD – INDIRECT WITH \*ka-

POSS.FOOD-1SG pig I  
'my pork'

(12) Tolai:

*a-na ram* PASSIVE – INDIRECT WITH \*ka-

POSS.PASS-3SG club  
'its club (with which it will be killed)'

*a-na vudi* FOOD – INDIRECT WITH \*ka-

POSS.FOOD-3SG banana  
'his/her banana (to eat)'

### 3.4.2 Central-Eastern Oceanic

There are no data on passive possession from languages of the Utupua-Vanikoro subgroup. For three of the other four subgroups, both direct possession and \*ka- marking is found. Thus in the Southeast Solomons family, for example, we find direct marking in Gela but food marking in Arosi:

(13) Gela:

*na tutugu-gu* PASSIVE – DIRECT

ART story-1SG  
'my story – told about me'

*ni-gua na tutugu* GENERAL

POSS.GEN-1SG ART story  
'my story – which I tell'

*naya-gua na vaŋa* FOOD – INDIRECT WITH \*ka-

POSS.FOOD-1SG ART food  
'my food'

(14) Arosi:

*o'o 'a-na* PASSIVE – INDIRECT WITH \*ka-

spear POSS.PASS-3SG  
'his/her spear – intended to kill him/her'

*bwaa 'a-na* FOOD – INDIRECT WITH \*ka-  
 taro POSS.FOOD-3SG  
 'his/her taro (to eat)'

In the Southern Oceanic subgroup, West Ambae exemplifies those languages which use direct marking, and Paamese those which use food marking:

## (15) West Ambae:

*bolo-ŋgu* PASSIVE – DIRECT  
 story-1SG  
 'my story – about me'

*ka-ŋgu bweta* FOOD – INDIRECT WITH \*ka-  
 POSS.FOOD-1SG taro  
 'my taro (to eat)'

## (16) Paamese:

*ipu â-m* PASSIVE – INDIRECT WITH \*ka-  
 loss POSS.FOOD-2SG  
 'your loss/disadvantage (in playing a game)'

*ani â-m* FOOD – INDIRECT WITH \*ka-  
 green.coconut POSS.FOOD-2SG  
 'your green coconut (to eat)'

In Central Pacific, direct marking is now found only in the Fijian dialects, having been totally or almost totally lost in Rotuman and the Polynesian languages. Most of the Fijian dialects have merged passive with food – the relevant Standard Fijian examples in (2) above are repeated here as (17).

## (17) Standard (Bauan) Fijian:

*ke-mu itukutuku* PASSIVE – INDIRECT WITH \*ka-  
 POSS.PASS-2SG report  
 'your report (made about you)'

*ke-mu madrai* FOOD – INDIRECT WITH \*ka-  
 POSS.FOOD-2SG bread  
 'your bread (to eat)'

Western Fijian dialects retain normal suffixed possession for kin terms, but use prefixed direct possession for part terms. Of these dialects, Nadrogā alone uses prefixed possession for both part and passive:

## (18) Nadrogā Fijian:

*tama-m* KIN – DIRECT, SUFFIXED  
 father-2SG  
 'your father'

*m-mata* PART – DIRECT, PREFIXED  
 2SG-eye  
 'your eye'

|                           |                            |
|---------------------------|----------------------------|
| <i>qu-itaba</i>           | PASSIVE – DIRECT, PREFIXED |
| 1SG-image                 |                            |
| ‘my photo – depicting me’ |                            |
| <i>ke-qu</i> <i>doko</i>  | FOOD – INDIRECT WITH *ka-  |
| POSS.FOOD-1SG taro        |                            |
| ‘my taro (as food)’       |                            |

Paul Geraghty (pers. comm.) speculates that the change from suffixed to prefixed possession may have proceeded through an intermediate stage whereby part terms were possessed in an indirect construction using the marker *e-* (see Lynch 1997:238). Whether or not this is correct, what is clear is that Nadrogā marks part and passive in the same way, differently from food.

It is only in the Micronesian family that we appear to find just one passive-possession marking strategy – and that is direct marking:<sup>5</sup>

(19) Ponapean:

|                          |                  |
|--------------------------|------------------|
| <i>ronge-i</i>           | PASSIVE – DIRECT |
| news-1SG                 |                  |
| ‘news of/about me’       |                  |
| <i>ah-i</i> <i>rohng</i> | GENERAL          |
| POSS.GEN-1SG news        |                  |
| ‘my news (to tell)’      |                  |

(20) Kiribati:

|                               |                  |
|-------------------------------|------------------|
| <i>mani-m</i>                 | PASSIVE – DIRECT |
| animal-2SG                    |                  |
| ‘your bugs/parasites’         |                  |
| <i>a-m</i> <i>man</i>         | GENERAL          |
| POSS.GEN-2SG animal           |                  |
| ‘your animal(s), your pet(s)’ |                  |

(21) Puluwatese:

|                                |                            |
|--------------------------------|----------------------------|
| <i>rani-y</i>                  | PASSIVE – DIRECT           |
| water-1SG                      |                            |
| ‘my water (I’m bathing in it)’ |                            |
| <i>wúnúmá-y</i> <i>raan</i>    | DRINK – INDIRECT WITH *ma- |
| POSS.DRINK-1SG water           |                            |
| ‘my water (to drink)’          |                            |

---

<sup>5</sup> Malcolm Ross (pers. comm.) notes that, with the proliferation of classifiers in Micronesian (compared to other Oceanic subgroups), the syntax of direct possession is more pervasive, and it would thus be surprising if passive possession were not marked by a direct construction. On the other hand, the opposite view could also be taken – that given the proliferation of classifiers, it would not be surprising to find that a separate passive classifier had developed in Micronesian.

### 3.4.3 *Other Oceanic groups*

There is very little evidence available from the languages of the Admiralties family (and none at all from the Saint Matthias family) which can be brought to bear on this issue. The following Loni examples, however, suggest that at least one Admiralties language uses direct marking to encode passive possession:

(22) Loni:

|                            |                           |
|----------------------------|---------------------------|
| <i>hɛya-n</i>              | PASSIVE – DIRECT          |
| wash-3SG                   |                           |
| ‘the washing of it’        |                           |
| <i>ana-n</i> <i>ɛnɛyan</i> | FOOD – INDIRECT WITH *ka- |
| POSS.FOOD-3SG food         |                           |
| ‘his/her food’             |                           |

Yapese, however, is a much clearer case: it quite clearly uses direct constructions to mark passive possession.<sup>6</sup>

(23) Yapese:

|                           |                  |
|---------------------------|------------------|
| /taŋi-gu/                 | PASSIVE – DIRECT |
| song-1SG                  |                  |
| ‘my song – sung about me’ |                  |
| /ta:ŋ ro-gu/              | GENERAL          |
| song POSS.GEN-1SG         |                  |
| ‘my song – which I sing’  |                  |

## 3.5 *Proto Oceanic passive marking*

Until recently, most Oceanists have assumed that Proto Oceanic marked passive possession in an indirect construction with \*ka-. Both Pawley (1973) and Lichtenberk (1985), for example, reconstruct POc \*ka- ‘passive possession marker’, though disagreeing as to whether there were two homophonous markers (one marking food and the other passive) or whether there was a single marker of both categories.

The data presented in §3.4, however, paint a different picture. Those data are summarised in Table 1, which omits subgroups for which no information is available and ignores types (c) and (d).

---

<sup>6</sup> Yapese morphophonemics are quite complex, and for that reason I use underlying rather than standard orthographic forms in the examples here. Note also that Yapese has no food category.

**Table 1:** Distribution of passive-possession marking strategies

|                         | MARKING STRATEGIES |                 |
|-------------------------|--------------------|-----------------|
|                         | DIRECT             | INDIRECT = FOOD |
| ADMIRALTIES             | YES                | ?               |
| WESTERN OCEANIC         |                    |                 |
| North New Guinea        | YES                | YES             |
| Papuan Tip              | YES                | YES             |
| Meso-Melanesian         | YES                | YES             |
| CENTRAL-EASTERN OCEANIC |                    |                 |
| Southeast Solomons      | YES                | YES             |
| Southern Oceanic        | YES                | YES             |
| Micronesian             | YES                | NO              |
| Central Pacific         | YES?               | YES             |
| YAPESE                  | YES                | NO              |

The evidence presented above suggests a different conclusion from that reached by previous writers. Marking of passive possession by a direct construction occurs in every first-order subgroup, and in every branch of each of those first-order subgroups (with the possible exception of Central Pacific, depending on how one interprets Nadrogā prefixed possession). Marking of passive possession by the food construction does not appear to occur in every first-order subgroup (Yapese being the exception), nor does it occur in every second-order grouping (Micronesian being the exception). This would suggest that passive possession in Proto Oceanic was marked by a direct construction.

If this is the case, direct possession was replaced by an indirect construction in a wide range of languages. This is in no way unusual: the replacement of direct constructions by indirect constructions has occurred for other types of possession marking in a number of Oceanic subgroups or individual languages, and indeed it is a feature of the development of Proto Oceanic that the Proto Austronesian system of direct suffixation was replaced by indirect constructions for certain kinds of possessive relationships. This trend from direct to indirect would also suggest that my hypothesis is correct. If passive was marked by a *\*ka*-construction in POc, then we would have to explain why a wide range of languages replaced an indirect construction with a direct one – against the trend.

### 3.6 Characteristic possession

In general terms, Oceanic languages mark characteristic possession in the same way as they mark passive possession. For example, Yapese uses direct marking for both passive and characteristic possession, Standard Fijian uses *\*ka*- marking for both, and Nadrogā Fijian uses prefixed direct possession for both:

- (24) Yapese:
- |  |                         |
|--|-------------------------|
| /taŋi-gu/<br>song-1SG<br>'my song – sung about me'       | PASSIVE – DIRECT        |
| /gaʔe-ŋi-gu/<br>big-STEM.FORMING.SUFFIX-1SG<br>'my size' | CHARACTERISTIC – DIRECT |
- (25) Standard (Bauan) Fijian:
- |  |                                     |
|--|-------------------------------------|
| <i>ke-na</i> <i>uvi</i><br>POSS.FOOD-3SG yam<br>'his yam (to eat)'                       | FOOD – INDIRECT WITH *ka-           |
| <i>ke-na</i> <i>i-caqe</i><br>POSS.PASS-3SG NOM-kick<br>'your kick (which you received)' | PASSIVE – INDIRECT WITH *ka-        |
| <i>ke-na</i> <i>levu</i><br>POSS.PASS-3SG big<br>'his size'                              | CHARACTERISTIC – INDIRECT WITH *ka- |
- (26) Nadrogā Fijian:
- |  |                                   |
|--|-----------------------------------|
| <i>qu-itaba</i><br>1SG-picture<br>'my photograph, taken of me' | PASSIVE – DIRECT, PREFIXED        |
| <i>qu-yabaki</i><br>1SG-age<br>'my age'                        | CHARACTERISTIC – DIRECT, PREFIXED |

Because this is such a general and widespread pattern, it appears logical to assume that passive and characteristic possession were marked in the same way in Proto Oceanic – by a direct construction – and that both came to be marked by \*ka- when the change to \*ka- occurred. This would be strong evidence that they were in fact a single category in Proto Oceanic.

There are, however, exceptions to this generalisation, and I will cite three here. Example (6) from Lewo showed that *sa-* is the general marker which is also used in passive possession: *sa-u toutou* 'my photo' can be either one I took or one taken of me. The food possessive marker is *ka-*, but *ka-* also marks characteristic possession:

- (27) Lewo:
- |   |                                     |
|---|-------------------------------------|
| <i>ka-la</i> <i>piaki</i><br>POSS.FOOD-3PL pot<br>'their cooking-pot'         | FOOD – INDIRECT WITH *ka-           |
| <i>ka-na</i> <i>kausu</i><br>POSS.CHAR-3SG washer<br>'its (the tap's) washer' | CHARACTERISTIC – INDIRECT WITH *ka- |



|                           |                |                                     |
|---------------------------|----------------|-------------------------------------|
| <i>ka-na</i>              | <i>yau-ena</i> | CHARACTERISTIC – INDIRECT WITH *ka- |
| POSS.CHAR-3SG             | sing-NOM       |                                     |
| 'its (the ritual's) song' |                |                                     |

Gela, which marks passive with a direct construction, also marks characteristic possession with a food construction. Compare the following with (13):

(28) Gela:

|                 |           |             |                           |
|-----------------|-----------|-------------|---------------------------|
| <i>naya-gua</i> | <i>na</i> | <i>vaŋa</i> | FOOD – INDIRECT WITH *ka- |
| POSS.FOOD-1SG   | ART       | food        |                           |
| 'my food'       |           |             |                           |

|  |           |               |                                     |
|--|-----------|---------------|-------------------------------------|
| <i>naya-gua</i>  | <i>na</i> | <i>tutugu</i> | CHARACTERISTIC – INDIRECT WITH *ka- |
| POSS.CHAR-1SG  | ART       | story         |                                     |
| 'my traditional story – one I respect about myself or my lineage,<br>or one which tells how we got to be where we are today' |           |               |                                     |

|                       |           |               |                                     |
|-----------------------|-----------|---------------|-------------------------------------|
| <i>naya-gua</i>       | <i>na</i> | <i>keramo</i> | CHARACTERISTIC – INDIRECT WITH *ka- |
| POSS.CHAR-1SG         | ART       | spirit        |                                     |
| 'my ancestral spirit' |           |               |                                     |

So the Lewo and Gela data seem to indicate that, where there is a departure from the norm of passive = characteristic, that departure is in the direction of marking characteristic by a food or \*ka- construction.

Kilivila, however, seems to be an exception both to the passive = characteristic norm and to the Lewo-Gela principled exception. In Kilivila, food possession is marked with \*ka-, general possession by simply preposing the possessive pronoun to the noun, and passive by direct suffixation:

(29) Kilivila:

|                         |             |                           |
|-------------------------|-------------|---------------------------|
| <i>ka-la</i>            | <i>yena</i> | FOOD – INDIRECT WITH *ka- |
| POSS.FOOD-3SG           | fish        |                           |
| 'his/her fish (to eat)' |             |                           |

|                 |              |         |
|-----------------|--------------|---------|
| <i>la</i>       | <i>bwala</i> | GENERAL |
| 3SG             | house        |         |
| 'his/her house' |              |         |

|                                   |                  |
|-----------------------------------|------------------|
| <i>butu-gu</i>                    | PASSIVE – DIRECT |
| mocking.song-1SG                  |                  |
| 'my mocking song (sung about me)' |                  |

There is, however, another possessive marker *a-*, which

marks a kind of intermediate degree of possession, intermediate between intimate [i.e. direct] and more distant [i.e. food and general] possession. It is also produced referring nominally to having or being in certain states, like being hungry, thirsty, cold, sick, or abhorring something or someone. (Senft 1986:49)

Among examples given by Senft we should note the following:

(30) Kilivila:

- a-gu molu* 'my hunger, my need'  
*a-gu daka* 'my thirst'  
*a-gu boku* 'my cough'

Note also the following distinction between *a-* possession and general possession with the noun *tobaki* 'tobacco' (Gunter Senft, pers. comm.):

(31) Kilivila:

- a-la tobaki* 'my tobacco, that I am intending to smoke'  
*la tobaki* 'my tobacco, that I will give away'

It may be that *a-* marks, or marks, some kind of characteristic possession distinct from passive possession.

### 3.7 Possessive suffixes on adjectives

The hypothesis that passive/characteristic possession was marked by a direct construction is supported by one other set of facts – the use of possessive suffixes on adjectives. There are a number of Oceanic subgroups in which this occurs, though it is not found to my knowledge in any Central-Eastern Oceanic subgroup. The following examples are from Papuan Tip languages:

(32) Duau:

- hada kehau-na*  
house new-3SG.POSS  
'a new house'

- hada kehau-di*  
house new-3PL.POSS  
'new houses'

(33) Yamalele:

- Yau kwamana siai-ku.*  
I child small-1SG.POSS  
'I was a small child.'

Ross (1988:347-350) has a fairly lengthy discussion of this aspect of Oceanic grammar, and a summary of his findings follows. This feature is found in all three subgroups of the Western Oceanic linkage, although

its distribution is inconsistent: in the Meso-Melanesian [linkage] it occurs only in Mono-Alu and Roviana, and there only in limited environments (predicatively in Roviana); in Manam it is found only with certain adjectives...only in languages of the Papuan Tip [linkage] is it an obligatory feature. (Ross 1988:350)

In the Admiralties family "there is evidence, in the form of a fossilised *-n* on some adjectives...that a reflex of POC *\*-ña* [3SG.POSS] may have also been attached to [Proto Admiralty] adjectives" (Ross 1988:350).

In addition, Blust (1984:165) notes that “an attributive suffix containing the common element *-na* is common in Mussau adjectives”, and this is formally identical with the third person singular possessive suffix. In other words, languages of the Saint Matthias family seem to behave in a similar fashion in this respect to Admiralties languages.

Thus the feature of possessive suffixation on adjectives can probably be reconstructed for Proto Oceanic, though it seems to have been subsequently lost in the Central-Eastern Oceanic subgroup. Now an adjective modifying a head noun can be interpreted as referring to a characteristic of that noun. As I have mentioned already, and will show in more detail below, passive and characteristic possession were probably marked in the same way. Possessive suffixation on adjectives in languages of most western subgroups supports the hypothesis that this category was marked by direct suffixation in Proto Oceanic.

#### **4 The merger of passive and food possession**

The major remaining problem – and it is a major one – is to account for why *\*ka-* marking is so widespread as a marker of passive possession. The problem can be outlined as follows.

- (a) It is unlikely that passive possession was marked variably in Proto Oceanic by both direct suffixation **and** by a *\*ka-* construction. No single modern language that we know of allows this flexibility – with the partial exception of languages like Gela and Kilivila, referred to in §3.6. Therefore, passive was marked **either** by a direct construction (in which case we have to explain the development of *\*ka-* marking), **or** by a *\*ka-* construction (in which case we have the even more difficult task of explaining why an indirect construction was replaced by a direct one, against the normal trend in Austronesian). For the reasons outlined in §3.5, I believe that the hypothesis that passive was marked in a direct construction is the stronger one, and that the development of *\*ka-* marking thus needs explanation.
- (b) If direct suffixation was the POc strategy for marking passive possession, then presumably that was also the strategy in any intermediate protolanguage one of whose descendants uses that strategy. This would imply, for example, the reconstructions for the Central-Eastern Oceanic subgroup as given in Figure 2. I include in that figure only those modern languages exemplified in §3.4.2, as representatives of a wider set of languages in a particular subgroup.<sup>7</sup>

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<sup>7</sup> The fact that, for example, ‘Proto Southern Oceanic’ may have been a dialect chain rather than a single relatively homogeneous language is not relevant to the argument.

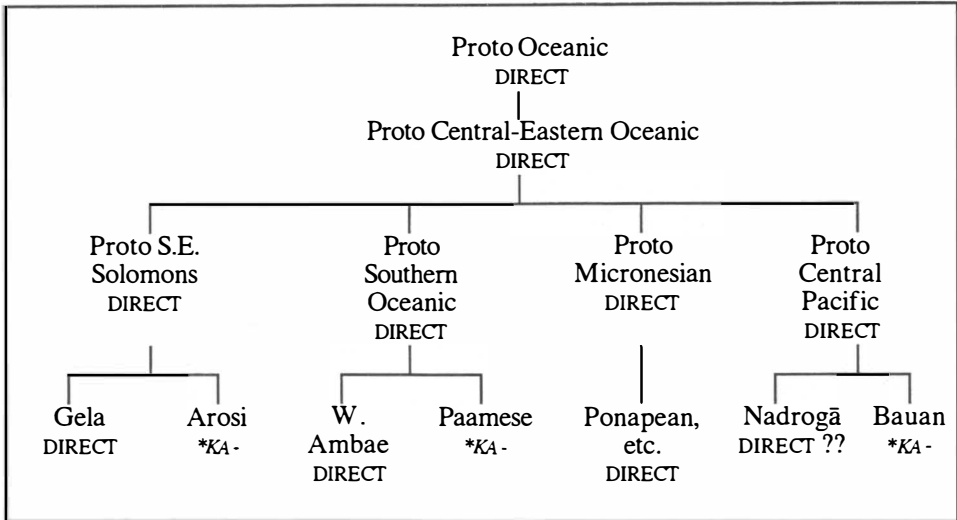


Figure 2: Central-Eastern Oceanic passive possession

- (c) Therefore, the change from direct to *\*ka-* marking happened not once, but many times, in the history of Oceanic. For example, because Gela retains direct marking, Proto Southeast Solomons must also have marked passive possession by a direct construction; therefore Arosi must have changed this to *\*ka-* marking. But languages in different subgroups of both Central-Eastern and Western Oceanic, like Paamese in Southern Oceanic and Gapapaiwa in Papuan Tip, must have also made the same change, even though other members of the subgroups of which they are members retain the original construction.

What we need to explain is **why** this is so. There are a number of factors which seem to be relevant, and I will discuss each of these in turn.

#### 4.1 POc benefactive preposition *\*ka-*

Ross (1988:107-108) reconstructs a Proto Western Oceanic (PWOc) benefactive (or, better, affective) preposition *\*ka-* which probably took possessive pronominal suffixes. The Tiang example below (where *\*ka-* > *kə-*) will illustrate its use:

(34) Tiang:

*Sik əmən tə buə kə-məm.*  
 carry DIR some betelnut BENEF-1EXC.PL  
 'Bring us some betelnut.'

In Proto Meso-Melanesian, the *\*k* in the POc food marker *\*ka-* lenited to *\*ɣ*, and subsequently the affective preposition *\*ka-* was reinterpreted as a general possessive marker (Ross 1988:273-275); i.e. the sequence of changes was:

1. *\*ka-* food marker > *\*ɣa-*
2. *\*ka-* affective preposition > *\*ka-* general marker

In other Western Oceanic subgroups, this change did not take place.

Frank Lichtenberk (pers. comm.) informs me that To'aba'ita (Southeast Solomons family) has a form *'a-* “which functions, among other things, as a benefactive/recipient preposition (but not as an alimentary classifier)” and which takes possessive suffixes. This suggests that *\*ka-* ‘benefactive, affective’ is reconstructible for Proto Oceanic.

Given the formal similarity between POc *\*ka-* affective preposition and POc *\*ka-* food marker, and given also the fact that both took possessive suffixes, the possibility of the two forms merging is a likely one. I suggest that indeed these two merged in more than one language, as a possessive marker *\*ka-* marking both food possession and affective relationships – the latter taking over the role of marking passive possession from direct constructions. This multiple merger hypothesis would explain why some languages mark passive in a *\*ka-* construction while other, closely related, languages retain the original direct construction, **without** having to posit the change from direct to *\*ka-* marking as a shared innovation.

#### 4.2 The semantics of the verb ‘eat’

A second point which seems to have some bearing on this issue concerns the semantics of the verb ‘eat’. Let me begin this discussion with a rather lengthy quote from Geraghty (1983:249-250) on Fijian:

In eat [= food] possession, the possessor eats or suffers the head nominal...The ‘suffer’ meaning has been neglected in previous descriptions, probably because it is not common; but it is important because it constitutes the middle ground between passive and eat possession, and helps explain why the two types are usually marked in the same way. It would be reasonable to consider the following as examples of passive possessed deverbal nouns:

[Standard Fijian] *kemu i-caqe* ‘your kick’ (you are kicked)  
*kemu i-roba* ‘your slap’ (you are slapped)

were it not for the fact that they appear to be somehow related to the verb *kana* ‘eat, suffer’, as exemplified in these attested sentences:

*kana i-caqe* ‘suffer kicking, get kicked’  
*kana i-roba* ‘suffer slapping, get slapped’  
*kana vosa* ‘get told off’ (*vosa* ‘talk’)  
*kana uca* ‘get drenched by the rain’ (*uca* ‘rain’)

I could perhaps reword (and slightly change) Geraghty’s argument as follows. One of the reasons that Fijian nouns like *madrai* ‘bread’ or *uvi* ‘yam’ are marked with *ke-* in a food construction is because they can be objects of the verb *kana*. One of the reasons why nouns like *i-caqe* ‘a kick’ or *vosa* ‘talk’ can be marked with *ke-* in a passive construction is because they can also be objects of the verb *kana*, in its meaning of ‘suffer’ rather than strictly ‘eat’.

Terry Crowley (pers. comm.) has pointed out to me that Bislama *kakae* ‘eat’ is also used in the ‘suffer’ sense: for example, *kakae bolet* (eat bullet) ‘get shot’, *kakae han* (eat hand) ‘get punched’, *kakae kalabus* (eat prison) ‘receive a prison sentence’. This may reflect substrate influence from one or a number of northern and central Vanuatu languages, though I have not yet been able to identify any such languages in which the verb meaning ‘eat’ also means ‘suffer’ (apart possibly from Paamese – see below).

An attempt to find other languages in which ‘eat’ = ‘suffer’ did not meet with a great deal of success. Tongan *kai* falls into this category. Paamese *kani* has the meanings ‘1. eat; 2.

(sore) afflict; 3. burn up, burn down; 4. get burnt'. While meaning 2 clearly involves suffering, I am not sure in this case whether the suffering relates to the meaning 'eat' or to the meanings involving 'burn'.

It is possible nevertheless that reflexes of POc *\*kani-a* 'eat' had, or have, the subsidiary meaning 'experience, usually negatively'; whether this has anything to do with the instrumental prepositional verb POc *\*(k)ani-* is another question. Because of this, *\*ka-*possession came to mark both food and passive.

## 5 Conclusion

I have suggested that passive (and characteristic) possession was marked by a direct construction in Proto Oceanic, and also suggested that Proto Oceanic had the benefactive or affective preposition *\*ka-*, which was formally identical to the POc food possessive marker. In a wide range of Oceanic languages, however, passive/characteristic and food possession are marked in the same way, by a reflex of *\*ka-*. I have suggested that this may be explained by the merger of the affective preposition and the food marker as a single marker, and that this merger took place many times in the history of Oceanic. The fact that POc *\*kani* 'eat' probably also meant 'experience (negatively)' may have provided further motivation for this merger.

## APPENDIX

### Data sources

Names without dates indicate personal communications; JL = my own field notes.

#### *Western Oceanic languages*

|              |                            |
|--------------|----------------------------|
| Aroma        | JL                         |
| Banoni       | Lincoln (1976)             |
| Duau         | Ross (1988)                |
| Gapapaiwa    | McGuckin (forthcoming)     |
| Kilivila     | Senft (1986); Gunter Senft |
| Manam        | Lichtenberk (1983)         |
| Mangap-Mbula | Bugenhagen (1985)          |
| Motu         | JL                         |
| Tiang        | Ross (1988)                |
| Tolai        | Mosel (1984)               |
| Yamalele     | Ross (1988)                |

#### *Central-Eastern Oceanic languages*

|                           |  |
|---------------------------|--|
| Arosi                     | Capell (1971), Lynch and Horoi (forthcoming) |
| Fijian – Lauan            | Geraghty (1983)                              |
| Fijian – Nadrogā          | Geraghty (forthcoming)                       |
| Fijian – Standard (Bauan) | JL   |

|            |                                      |
|------------|--------------------------------------|
| Gela       | Crowley (forthcoming)                |
| Iaai       | Ozanne-Rivierre (1976)               |
| Kiribati   | Groves, Groves and Jacobs (1985); JL |
| Kokota     | Bill Palmer                          |
| Lenakel    | Lynch (1978); JL                     |
| Lewo       | Early (1994); Robert Early           |
| Paamese    | Crowley (1982)                       |
| Ponapean   | Rehg (1981)                          |
| Puluwatese | Elbert (1974)                        |
| To'aba'ita | Frank Lichtenberk                    |
| Tongan     | Churchward (1959)                    |
| West Ambae | JL                                   |

*Other*

|        |               |
|--------|---------------|
| Loniu  | Hamel (1994)  |
| Yapese | Jensen (1977) |

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# 13 *Aspects of ergativity and reported speech in Ku Waru*

FRANCESCA MERLAN AND ALAN RUMSEY

## 1 Introduction

This paper concerns questions of transitivity, ergativity and its role in the framing of reported speech in Ku Waru, a Papuan Language of the New Guinea Highlands. Beginning in 1981, our fieldwork on Ku Waru was a first foray into Papuan languages for both of us after earlier extensive work on Australian Aboriginal languages. Tom Dutton was instrumental in getting us started in that new project, as a wonderfully congenial colleague during our terms as visiting fellows at The Australian National University in 1981 and 1982. Having now moved to Canberra, we have felt fortunate to have been able to renew the friendship. We would like to offer this paper as a tribute to Tom and his pioneering work on Papuan languages.

As most readers of this volume will know, these languages are genetically diverse, but tend to have certain typological features in common. Almost all of them have verb-final syntax, and more or less extensive systems of verb serialisation, as will be exemplified from Ku Waru below. In almost all of them there is at least some person-and-number marking or pronominal affixation on at least some of the verbs, minimally for subject or object, and often for both. At least some local and adnominal case relations are usually signalled by suffixes or postpositions. And, most relevant to this paper, in many Papuan languages, especially those in the Highlands, there is often also a marker which is apparently used for a kind of **syntactic** case relation, i.e., on one of the NPs in association with predicates such as 'see', 'hit', 'eat' – namely, on the NP referring to actor doing the seeing, hitting, eating, and so on.

Should such a form be regarded as an ergative marker? At first glance it might appear obvious that the answer is yes. But on closer examination, the picture has always turned out to be more complicated than that – messier, and for some scholars perhaps even disappointing in comparison to the standard case of presumed 'deep', syntactic ergativity which Bob Dixon (1972) had found and so lucidly set forth in his grammar of Dyirbal, spoken but a few hundred miles to the south. Li and Lang (1979), for instance, in their analysis of this kind of marker in Enga, show that it is optional on some transitive subjects

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and can occur also on some kinds of intransitive subjects, and that Enga syntax operates in terms of a non-ergative notion of ‘subject’ (i.e. one which lumps transitive and intransitive subjects together as opposed to transitive objects). They argue in conclusion (1979:319) that “ergativity in Enga is merely a morphological phenomenon without any noticeable syntactic or semantic consequences”. John Haiman (1980:361) points out similar patterns in his grammar of Hua, and says that they “weaken ergativity in Hua to virtual insignificance”. And Foley (1986:96) in his typological summary of Papuan syntactic case systems argues that nominal case suffixes for core participants (including ergative marking for “agents” of “transitive verbs”) are only a “superficial embellishment” on the more basic Papuan case-marking schema, which uses “verbal affixation for core participants and nominal case for the peripheral ones”.

‘Inconsequential’, ‘superficial embellishment’, ‘weakened to significance’ – hardly neutral descriptive terms: the air of disappointment is palpable. But might all this be a little bit premature? Here, after all, is a very frequently used linguistic device in many Papuan languages, the **formal** identity and integrity of which is beyond question – unlike in Georgian for instance, where the complexity of the morphology itself leaves room for endless debate about how to analyse it even in strictly formal terms (Hewitt 1995), or Nunggubuyu, where the morphophonemic machinery necessary in order to reveal its (Algonquian-like) “direct-inverse” syntactic case-marking system (Heath 1984) is truly formidable. Indeed, the morphological transparency of this Papuan device, and the resulting easy identifiability of its syntactic association with transitive agent NPs, was no doubt one of the reasons why all these Papuanists working on otherwise diverse languages should so readily conclude that it **ought** to be serving a single, well-defined function, namely as an ergative marker.

But if their hopes on that score were too easily raised, we want to argue here that, having had them dashed, these scholars have been premature in leaping to the conclusions we have reported above. In particular, we want to argue strongly against Li and Lang’s sort of move – from the demonstration that something is not a straightforward ergative marker, directly to the conclusion that it has no “syntactic or semantic consequences”. Or rather, no “noticeable” syntactic or semantic consequences. The difference is important, because what we want to argue here is that what has really led people to such negative conclusions is not anything about this Papuan NP marker itself, but rather that there is a need to expand our understanding of the dimensions of contrast along which such a marker has its meaning. We will show that, while by no means a canonical ergative marker, this morpheme has a specifiable normal distribution, recognition of which leads to some new and interesting questions for the cross-linguistic study of syntactic case-marking systems. As necessary background for that discussion, we will now provide a brief general introduction to the syntax and semantics of Ku Waru clauses (for further details see Merlan & Rumsey 1991:322-343; Merlan et al. 1997).

## 2 Ku Waru clause types

Like most other Papuan languages Ku Waru is a rigorously verb-final one: the main verb in the clause always comes last. There is a small stock of verb roots which are strung together in serial combinations to yield more or less idiomatic meanings of a kind which in other languages are expressed by a single verb: ‘get’ + ‘carry’ + ‘go’ = ‘take’; ‘get’ + ‘carry’ +

'come' = 'bring' etc. (see Table 4 below for further examples). This process is facilitated by an extensive system of verb chaining using the so-called 'medial' or 'non-final' verbs, which are non-finite in that they do not inflect for tense, but for same-or-different subject, temporal sequencing, and so on.

There is a problem with trying to apply ergative/accusative typologies to Ku Waru in so far as these presuppose a basic division of verbs and/or clauses into transitive and intransitive classes. In English and many other languages (e.g. most Australian Aboriginal ones), there is a fundamental division between intransitive verbs and transitive ones, and a more or less clear-cut distinction between corresponding clause types: intransitive ones involving a single core, syntactic case role, and transitive ones involving two, one for the Agent of the action and one for the undergoer or Patient (Dixon 1979). The basic clause types in Ku Waru are not amenable to any such binary classification, because the great majority of Ku Waru verbs can occur in construction with either one or two NPs in core, syntactic case roles. Nor does the distribution of syntactic case-marked NPs provide evidence for a binary transitive/intransitive distinction.

The two core syntactic cases in Ku Waru are ergative, marked by the postposition *-n(i)*, and absolutive, marked by zero (i.e. by the absence of a case postposition). A clause may contain one absolutive NP in construction with the verb (i.e. one 'argument') or two. In the former case, the verb may or may not agree in person/number with the NP. Where there are two absolutive NPs in construction with the verb, it always agrees with one of them. Alternatively, the clause may contain one ergative NP argument and one absolutive, the verb agreeing with one or the other. The one it agrees with we call its subject.

Which clauses then are transitive and which intransitive? In Ku Waru this is best regarded as a matter of degree, again as per Hopper and Thompson (1980). Instead of a binary distinction, we can posit for Ku Waru a transitivity **scale** which has at least five distinct steps. These can be established, not by ranking the verbs themselves for transitivity, but by asking, for each clause: (1) how many NPs are there in core syntactic case roles? (2) for what roles are they marked? (3) with which, if any of these NPs does the verb agree?

According to these criteria, we can distinguish among at least the five clause types shown below. These formulae represent the main clause types in their most explicit form, as they occur in isolated, elicited clauses or sentences. In longer texts, any of these NP argument types may be deleted from the clause when its reference is clear from the linguistic context. The ergative case postposition is also 'optional', at least in clause Type V.

The connecting line below each clause shows which NP the verb agrees with. In the two-argument clause types, the two NPs are shown in the order in which they normally (but not invariably) occur.

TYPE I: NP-ABS V (always third person – no agreement)

In Type I, the verb shows no argument agreement, but is of impersonal type, always with third person singular ending:<sup>1</sup>

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<sup>1</sup> The following abbreviations are used in this paper: ABS – absolutive; CND – conditional; COL – collective; CSV – causative; DEF – definite; DU – dual; ERG – ergative; FUT – future; GEN – genitive; HAB – habitual; IDF – indefinite; NF – non-final verb; NSG – non-singular; PAUC – paucative; PL – plural; PPR – present progressive; PRF – perfective; Q – question marker; RP – remote past; SG – singular; 1, 2, 3 – first, second, third person

- (1)a. *Nu siyl topa toba.*  
 you slip hit/do.NF.3SG hit/do.FUT.3SG  
 'You will slip and fall.'
- b. *Olyo korupa pukum.*  
 we poor go.PPR.3SG  
 'We are poor.'

The entity referred to by the absolutive NP, if animate, seems characteristically to be one which undergoes the action against its will or without control over it, as in these examples.

TYPE II: NP-ABS V

In Type II, the verb shows agreement with the sole NP argument:

- (2)a. *Ab dau taiki tepa pulym.*  
 woman Dau always do.NF.3SG go.HAB.3SG  
 '[The woman called] Dau always goes.'
- b. *Na kolkur.*  
 I die.PPR.1SG  
 'I am dying.'

Many of the constructions which would be glossed with intransitive verbs in other languages fall into this type, including a large class of existential verbs which subcategorise their subjects in complex ways (see Merlan, Roberts & Rumsey 1997:67-82 *et passim*).

TYPE III: NP-ABS NP-ABS V

Type III is what we call the 'double absolutive' clause type, in which there are two absolutive arguments, the verb agreeing with the second. This class comprises what appear to be a number of semantically distinct clause types, including possessive predications using the existential verbs and predications of bodily, emotional and other conditions. For example:

- (3)a. *Na kangabola yupuk molymeli.*  
 I children three be.HAB.3PL  
 'I have three children.'
- b. *Olyo tai um.*  
 we.ABS laughter.ABS come.PRF.3SG  
 'We felt like laughing.'

TYPE IV: NP-ABS NP-ERG V

Type IV may well be regarded as a semantic sub-type of II, formally distinguishable by the fact that though the verb agrees with the absolutive NP (generally, an 'undergoer' or patient), there is an ergative/instrumental-marked 'affecter' (condition, emotion) of the absolutive noun:

- (4)a. *Na engl-n kolkur.*  
 I hunger-ERG die.PPR.1SG  
 'I'm very hungry.' (lit. 'I'm dying of hunger').
- b. *Kolya yab-n pa sikim.*  
 place people-ERG be.full do.PPR.3SG  
 'The place is full of people.'

TYPE V: NP(-ERG) NP-ABS V

└──────────────────┘

Type V clauses in their full form also involve an ergative NP and an absolutive one, but are distinct from Type IV in that the verb agrees with the ergative NP rather than with the absolutive. Semantically, Type V clauses tend to be of the sort which are most commonly coded as highly transitive clauses in many other languages, i.e. with human or other higher animate agents who have a high degree of control over the action, and patients which do not (Hopper and Thompson 1980).

- (5)a. *Koi-ni no bia nolym.*  
 Koi-ERG water beer consume.HAB.3SG  
 'Koi drinks beer.'
- b. *Na-ni kera laima-yl tud.*  
 I-ERG bird cassowary-DEF hit/kill.PRF.1SG  
 'I killed the cassowary.'

### 3 Ku Waru ergative marking

In order to do searches of data on Ku Waru ergative marking, we have so far made use – among other things – of a published transcript of a local village court case which we attended and recorded (with permission) in the Nebilyer Valley in November 1983 (Merlan & Rumsey 1986). As a text, this turned out to be interestingly different from a corpus of narratives in various other local genres which we have analysed (see e.g. Merlan 1995; Rumsey 1995). The main difference is that there is considerable emphasis on the sourcing and reporting of speech on the part of all participants in the case, and so there are first and second persons referred to in reported speech situations where some of these correspond to parties in the present reporting situation. Thus, there appears a significant number of 'I said X', 'You (sg.) said X' (and also, of course, 'he/she said X'), while in comparison, in myth texts the first and second person perspectives of reporting events tend not to occur. Instead, though there is still a tendency in those text types for considerable use to be made of reported speech constructions, these are reports of intentions, speech, thoughts etc. of characters established in the narrative, and it tends to be only in the 'direct' discourse of such characters' reported speech, established by the narrator, that 'I' and 'you' appear, as in 'then the cannibal, climbing down the tree, "I will go chop wood", he said'. Again, the difference is that in the court-case text from which we have drawn much of the data for this chapter, there are people speaking (including reporting other speech events) in their own voices (as 'I'), and talking to addressees of whom they also make reports ('you'), as well as speaking

of, including reporting speech of, third persons. Thus, the nature of the material was such that we actually found examples of reporting events with speakers of all person types.

The court case involved a man and some of his tribesmen attempting to prosecute his wife and her parents and tribespeople for alleged adultery, so one can imagine how reports of things earlier said and otherwise done might loom large. We transcribed and analysed about an hour-and-a-half of the proceedings, which total 1,744 typescript lines.

The first five lines of Table 1 show the distribution of the ergative/instrumental marker *-n(i)* versus absolutive  $-\emptyset$  on personal pronouns of various sorts in these data. The bottom line shows the number of instances of *-n(i)* on third person NPs, whether pronouns or (far more frequently in this sample) lexical nouns or complex noun-phrases. Third person types include all (three) numbers, singular, dual and plural; and the figure indicates that there were 93 'instances' of ergative/instrumental-marked NPs, where some parallelisms in the text were counted as only one instance ('whether her brother, or her father, or her mother does it', etc.). Within the third person category we did not count the instances of absolutive-marked NPs.

**Table 1:** Incidence of ergative/instrumental versus absolutive NP types in Merlan and Rumsey (1986)

|            | Ergative/Instrumental | Absolutive |
|------------|-----------------------|------------|
| 1SG        | 22                    | 82         |
| 2SG        | 7                     | 67         |
| 1DU and PL | 21                    | 158        |
| 2DU and PL | 12                    | 109        |
| 3          | 93                    | ?          |

We will now consider these data in more detail.

Of the 93 third person ergative-marked NPs, eight cannot be counted core syntactic arguments. Most of these are better interpreted as instrumental phrases, as they co-occur with other subject NPs as indicated by verb agreement. For example:

- (6) *Olyo kung kibulu-n tolymolu.*  
 we pig stick-INST hit.HAB.1PL  
 'We slaughter pigs with a stick.'

The following is a related example, with a human noun in a kind of 'secondary predicate' function:

- (7) *Ya wi namba tu-yl-n kuduyl-iyl molym.*  
 here up number two-DEF-ERG? red-DEF be.HAB.3SG  
 'He is there as number two European [in a hospital].'

Of the other 85 *-n(i)* marked third-person NPs in our textual sample – those that occur on NPs functioning as core arguments in the clause – the great majority occur on an NP which is the subject of a Type V clause such as (5)a and (5)b. But one also occasionally finds them on the sole argument in Type II 'intransitive' clauses, as noted above for other Papuan languages. For example:

- (8) *Kalya-te yu-n um-lum kanubu pukur.*  
 thus-IDF he-ERG come.PRF.3SG-if see.FUT.1SG go.PPR.1SG  
 'Thus I'm going to see if he's come.'

- (9) ...*akin mel-te-n lku-tuku oba...*  
 then thing-IDF-ERG house-inside come.NF.3SG  
 ‘...and then something came into the house...’

Seven of the third person *-n(i)* marked arguments occur with indefinite marker *-te*. Though the absolute number of instances is small, it is nevertheless significant because *-n(i)* marking is strongly correlated with *-te* wherever this occurs on a Type-V clause subject NP (and sometimes even a Type-II one as in examples (8) and (9)). For example, we once got an informant to construct 94 sentences, asking him simply to work a particular lexical item into each one for illustrative purposes (so these were not exactly the usual sort of elicitation sentence, in that the formulation of the example was otherwise left to him). In the 94 sentences, *-te* appears 24 times, partly reflecting the way in which the material was derived (i.e. there being no previous textual instantiation of a referent as there would be in normally flowing discourse, it is expressed as ‘an X’ rather than ‘the X’ that we know of, have spoken of, etc.). Of the 24, nine are in NPs in Type-II-clause subject NPs, five in Type-II clause object NPs, two in comitative-marked NPs (‘a man and a boy fought (with each other)’), the remaining eight in Type-V-clause subject NPs. Of these latter, in six there is an overtly expressed object, and in five of those instances *-te* is followed by the ergative marker. In other words, there is only one *-te* marked NP in a clause with expressed object which lacks an ergative postposition, confirming our impression that the ergative is nearly obligatory in this context. An example from that collection of sentences is:

- (10) *Kang-te-n kang tenga mong-na tum.*  
 boy-INDEF-ERG boy other eye-LOC hit.PRF.3SG  
 ‘A boy hit another in the eye.’

Complex NPs are another kind in which *-n(i)* is especially frequent (other things being equal). For example:

- (11) *Ola yi-yl-n kanapa molym.*  
 above man-DEF-ERG see.NF.3SG be.HAB.3SG  
 ‘The man above (God) is watching.’
- (12) *Eni ya abu-ma-n te nyai.*  
 You(PL) here woman-COL-ERG one speak.IMP.PL  
 ‘One of you women who are here speak.’
- (13) *Tap yi-kil-n kanak lku oi tontik tiring.*  
 lead man-PAUC-ERG see.NF.3PI house divide do.CSV.NF.3PL do.RP.3PL  
 ‘Some of the leading men saw and divided the house.’
- (14) *Na abu lyiyl pul yi-yl-n na ab-ayl kot*  
 I woman taker base man-DEF-ERG I woman-DEF court  
*tensibu.*  
 do.CSV.FUT.1SG  
 ‘I, head of those who take her (to wife), I will take the woman to court.’

The subject of (14) is ‘I woman-taking chief-man-ERG’, i.e. leading man of the tribe segment into which the woman is married (recruitment to tribes here is patrilineal, post-marital residence largely with the husband’s father and other close agnates, and there is a strong sense of group unity, hence men sometimes speak of the members of such a ‘group’

taking a wife collectively). Of the 85 instances of NPs in the court-case text of *-n(i)* on core-argument NPs, 31 of the NPs are complex ones such as (11)–(14). Such examples indicate that the ergative, like other postpositions, may have as one component of its textual significance a phrase-marking or phrase-bounding role.

This raises another question: does ergative-marking also otherwise have an important disambiguating role, helping to distinguish subject from object? It may be supposed that a crucial text environment for such a possible function would be just in clauses where both subject and object are overtly expressed. To test this, one might compare ergative-marked collocations of this kind with ones where no ergative marker is present. Thus we also have here the question of the strength of word-ordering, and we will briefly make some comments on the relation of ergative marking to word order here.

As Foley (1986:10) observes, Papuan languages are commonly classified as SOV, and should at least be regarded as strongly verb-final. Ku Waru normal order appears overwhelmingly SOV, both in the absence and in the presence of ergative marking. Of our third person ergative-marked sample of 85 cases, in only 28 are both S and O overtly specified. Out of these 28, 24 were S-ERG OV – thus of the ‘usual’ ordering pattern despite the presence of the ergative marker – and four were of the minor ordering Type O S-ERG V, exhausting the sample between them. Further, in the sample of 28 there were ten cases where S and O, in terms of a notional hierarchy of NP types, might be judged roughly ‘equivalent’ – both human, animate, one or both expressed by pronouns, and the like. Of those ten cases, fully three are of the minor ordering Type O S-ERG V, but in those cases it appears that what is involved in the ordering difference is the markedness as theme (in the sense of Halliday 1985) of the S-ERG (there is independent evidence for the association of marked themes with pre-verbal position); and the fourth case is that of a pleonastic (and fronted) O, repeated subsequently in a construction of SOV order. Taken together, all this indicates that: the majority of ergative-marked arguments occur within the ‘normal’ word-order pattern; and that the difference between SOV and the infrequent OSV, with which the ergative appears strongly correlated (but the sample size is too small to be conclusive) has to do with special theme–rheme effects, not with the disambiguation of subject–object relations *per se*.

Having here briefly reviewed some of our more general findings concerning the distribution of Ku Waru ergative marking, we will turn in §5 below to a more extensive analysis of its role in Ku Waru reported speech constructions. Before we do that, some background discussion is in order concerning the nature of ‘split’ or ‘mixed’ case-marking systems.

#### 4 Ergativity and lexical hierarchy

In the ‘typical’ ergative–absolute systems such as those widely reported from Australia (see Silverstein 1976; Blake 1977; Dixon 1979, 1994) the case functions O and S are lumped together and receive the same morphological mark (typically  $-\emptyset$ ) while, in contrast, the A function is positively and distinctively marked.

Silverstein (1976) showed how evidence from so-called ‘split’ systems, where some but not all NP types are marked according to a single system, allows us to effectively state the implicational relations according to which marking will be distributed over NP types in ergative–absolute systems as compared to nominative–accusative ones. All NP types



(including personal pronouns) may be characterised by a set of lexical features (+/- speaker, +/- animate, etc.) which may themselves be ranked along a single scale according to which we can construct universal implicational generalisations concerning which NP types are more or less likely to pattern ergative-absolutively versus nominative-accusatively, other things being equal. It is NPs specified by features lower down on this (e.g. -animate) hierarchy that, if any, will be marked according to an ergative-absolutive pattern relative to those higher up which, if any, will be marked according to a nominative-accusative pattern.

Lexical 'splits' occur at different places on the hierarchy in different languages, but these general implicational relations remain constant over language-specific differences. Thus, all noun and pronoun types may be marked according to an ergative-absolutive pattern in some languages, but in others the split occurs at the level of +/- participant (in the speech event) so that all lexical nouns are ergative-absolutive marked, and person pronouns nominative-accusative; or, if only some third person (noun) types are ergative-absolutive marked, it will be the lowest ranked ones, and so on. For these split systems, Silverstein (1976) argued that morphological markedness of NP types in transitive agent function corresponds to their functional markedness ('unnaturalness') as effectors or agents relative to other NP types.

At least one of our observations regarding third person types in Ku Waru must be seen in relation to relative agent 'naturalness' – that is, the fact that it is precisely **indefinite** marked agents which, nearly obligatorily, take ergative marking. In terms of notions of a cline of agent-naturalness, indefinite arguments are lower down on the scale than are definite ones; so that we see, here again, that relative markedness as agent, as defined in terms of hierarchically ordered NP features, is at least statistically correlated with morphological markedness as agent.

We now turn to our findings concerning the use of ergative marking in reported speech constructions.

## 5 Ku Waru reported speech

Ku Waru reported speech is framed within a construction which in terms of the five-way classification of clauses above is of Type v. There is in Ku Waru only one verb which can be used for framing reported speech, *nyi-* 'to say', which, like all Ku Waru verbs, agrees in person and number with its subject. The language being strictly verb-final, this verb always follows the reported speech complement. Examples follow. The framed material is shown in bold.

- (15) *Ne yi-kil-n ab eninga-yl kanakelkuk nyikimil.*  
 there man-PL-ERG woman yours-DEF do.completely.NF.2/3PL say.PPR.3PL  
 'Those men keep on saying, "She's yours".'
- (16) *Lapayl-n de yupuk kapola-ko tal kapola-ko mola*  
 father-ERG day three o.k. two o.k. or  
*tripela fopela ilyi mada nyirim.*  
 three four that enough say.RP.3SG  
 'The father said, "Three days, that's o.k., or two or three or four is enough".'

- (17) *Nu-n kalya tripela tep-kin miribul i nyikin.*  
 you-ERG that three do-NF.1.COM bear.RP.1DU this say.PPR.2SG  
 ‘You say, “We did it three times and conceived a child”.’
- (18)a. *Ab-ayl-n mol kangabola yi-yl-nga.*  
 woman-DEF-ERG no child man-DEF-GEN  
 ‘The woman [says]: “No, the child is the man’s”.’
- b. *Kang-yi-yl-n kangabola na-nga mol.*  
 boy-man-DEF-ERG child I-GEN no  
 ‘The young man [says]: “The child is not mine”.’
- c. *Ab-ayl-n kangabola nu-nga nyikim.*  
 woman-DEF-ERG child you-GEN say.PPR.3SG  
 ‘The woman says, “The child is yours”.’

Based on such examples, we can give a general formula for Ku Waru reported speech constructions as in Figure 1.

(Speaker NP(-ERG) ) [framed locution] ((i ‘this’) (Verb of Saying based on *nyi-* ))

**Figure 1:** General formula for framing reported speech in Ku Waru

Note that all elements in this construction are ‘optional’ except the framed locution. That this should be true of the Speaker NP should not be surprising in view of what we have shown regarding the role of verb agreement in §2. Perhaps more surprising is that the verb of saying may sometimes be omitted, as in examples (18)a and (18)b. Where this happens, there is always ergative-marked, lexical representation of the Speaker, and this form-type by itself signals the reported-speech construction. This tends to happen (as in 18) where there is rapid alternation of ergative-marked Speaker of the report (A-B-A-B, etc.), this making the activity type (reporting of speech) highly presupposable in context. As far as we know the verb *nyi-* is the only Ku Waru verb that may be omitted in this way.

This optionality of the verb in these reported-speech constructions can be related to the other anomalous aspect of them which we have dwelled on above, viz. the atypical distribution of ergative case-marking across the range of agent NPs that occur within such constructions. To show how these two things can be related, we must first take up some other anomalous aspects of these clauses.

Consider in this connection the kind of determination one finds between the verb and its object or complement in reported-speech constructions versus others. For most verbs in most languages, these relations tend to run mainly in the direction: verb to object. That is, for a large majority of verbs at least, there is a more or less limited set of nouns or NP types that the verb can take as its object. The limiting case of this is the so-called cognate-object construction, where the choice of verb totally determines the choice of possible object noun: *ask a question, breathe a breath, think a thought*, etc. Note that this determination works in one direction only: the choice of question as an object, for instance, does not limit the choice of verbs to ones of ‘asking’: we can **hear** a question, **expect** a question, and so on.

But where the object or complement is a locution, such as in examples we have discussed, there is a total determination in the opposite direction: the choice of verb is limited to only one possible one, viz., *nyi-* 'to say'. This verb *qua* lexical root is therefore entirely redundant in such contexts, and serves only to provide syntagmatic slots for the grammatical affixes marking tense, aspect, and so on, and the person and number of the 'subject', i.e. the agent of speaking. That the verb itself is **uniquely** redundant in this context is evinced by the fact that these are the **only** kind of predications where the verb is sometimes omitted altogether. In such cases, the agent of speaking is almost always ergatively marked, and there is an implicit carry-over of the tense, aspect etc. of other verbs in the adjacent text (not unlike the constructions one finds in Shakespeare: and he to me (...), and I to him (...) etc.); and also in German, where after a reported clause, the verb of saying is omitted: *so der Bundeskanzler* 'so [said] the Chancellor'.

We submit that the disproportionately high incidence of ergative marking on subjects of verbs of saying, for NPs of all types, is related to the relatively greater share of the information load which the subjects of such verbs bear in these constructions. Where the verb is omitted altogether, the ergative marker becomes obligatory, marking it categorically as an 'agent-of-speaking' NP, since the verb *nyi-* is the only one that permits such deletion.

The same general form shown by Figure 1 is also used when the grammatical object of *nyi-* is not a quote, but an NP referring to a locution without specifying what is said in it.

- (19) *Olyo-n ung kare nyimulu-i.*  
 we-ERG word/speech some say.FUT.1PL-Q  
 'Are we going to say a few words?'

This example is unusual in that, in general, when *nyi-* occurs without an explicit quotation as its object, the subject does not occur in ergative case but in absolutive. For example:

- (20) *Ne ung nyikim aki-yl nu nyini.*  
 there words say.PPR.3SG that-DEF you speak/say.FUT.2SG  
 'What he's saying there is just what you'll say.'

- (21) *Na nyab.*  
 I speak/say.OPT  
 'Let me talk.'

- (22) *Olyo ya kot-nga kupulanum-na pilyip kongunsip nyikimul.*  
 we here court-GEN way-LOC hear.NF.1 work.CSV.NF.1 speak.PPR-1  
 'We are deliberating about the court procedure here.'

To get some statistical evidence on the uses of ergative case marking in such constructions, we first tabulated the incidence of ergative- versus absolutive-marked subjects for agents of speaking, with the verb *nyi-* and with other verbs. These figures are shown in Table 2.

**Table 2:** Incidence of agents of speaking among ergative-marked NPs in Merlan and Rumsey (1986)

|              | As speaker of framed locution | As other agent of speaking (w/o framed locution) | As other ergative-marked argument |
|--------------|-------------------------------|--|-----------------------------------|
| 1SG          | 12                            | 4  | 6                                 |
| 2SG          | 3                             | 3  | 1                                 |
| 1DU and PL   | 2                             | 4  | 15                                |
| 2DU and PL   | 5                             | 2  | 5                                 |
| 3            | 19                            | 8  | 58                                |
| <b>Total</b> | <b>41</b>                     | <b>21</b>  | <b>85</b>                         |

The first thing to note is how high a proportion of all uses of the ergative case are with agents of speaking, especially with the personal pronouns (35 out of 62, versus 27 out of 85 for third-person NPs). This no doubt has something to do with the nature of this particular text, which is a face-to-face interaction in which some of the most focal issues concern who said what to whom, and in which the parties refer often to what they and others have said in the course of the dispute. But it is not very different in that respect from much of the everyday conversation that goes on in Ku Waru, and certainly suffices to refute Munro's (1982:316-317) suggestion that verbs of speaking do not take ergative-marked subjects.

Second, in keeping with the converse claim we have made above regarding absolutive marking, these data show that ergative-marked subjects are more likely to occur with agents of speaking when the verb frames an actual locution. Across NPs of all types in this data, ergative marking occurs almost twice as often under those conditions as it does when the verb of speaking does not frame an actual locution. Table 3 provides evidence of the likelihood of absolutive marking under those conditions.

**Table 3:** Incidence of agents of speaking among three types of absolutive-marked pronouns

|              | As speaker of framed locution | As other agent of speaking (w/o framed locution) | As other absolutive-marked subject NP |
|--------------|-------------------------------|--|---------------------------------------|
| 1SG          | 8                             | 21   | 53                                    |
| 2SG          | 5                             | 6  | 56                                    |
| 1DU and PL   | 2                             | 25   | 131                                   |
| 2DU and PL   | 10                            | 19   | 80                                    |
| <b>Total</b> | <b>25</b>                     | <b>71</b>  | <b>331</b>                            |

The figures in columns 1 and 2 show a reverse distribution to the corresponding ones in Table 2: across its range of occurrence on NPs which are the subject of verbs of speaking, absolutive marking occurs only about one third as often with a framed locution as it does in other clauses of saying.

So far we have been talking as though the distinction between framed locutions and other kinds of objects of the verb *nyi-* 'to say' were a simple two-way one. Actually there is a wide range of other complements to the verb *nyi-* besides reported speech ones. In order to understand the differences among them it is necessary now to say a little more about Ku

Waru compositional verb constructions, in particular those which include *nyi-*. An example has already been given in (22), which shows how the verbs *pilyi-* ‘hear’ and *kongun-si* ‘cause to work’ combine to mean ‘deliberate about’. Other examples are shown in Table 4.

**Table 4:** Some Ku Waru compositional verb constructions with *nyi-* ‘speak’/‘say’

|                              |                   |                            |
|------------------------------|-------------------|----------------------------|
| <i>nyi- pilyi-</i>           | say+hear          | ‘think, believe’           |
| <i>nyi- modu-</i>            | say+send          | ‘relay news (about)’       |
| <i>nyi- si-</i>              | say+give          | ‘report, tell to’          |
| <i>kodu- nyi-</i>            | pull+say          | ‘refer to, mention’        |
| <i>(ung) nyi- pensi-</i>     | (word) say+put    | ‘propose’                  |
| <i>pilyi- nyi-</i>           | hear+say          | ‘speak informedly (about)’ |
| <i>pilyi- kongunsi- nyi-</i> | hear+work-CSV+say | ‘deliberate about’         |

There follows another example of a compositional construction, illustrating the first combination shown on the table:

- (23) *Abu-n yi tokur nyiba pilyilym.*  
 woman-ERG man.ABS do.to.PPR.1SG say.NF.SG hear.HAB.3SG  
*yi-n ab tokur nyiba pilyilym.*  
 man-ERG woman.ABS do.to.PPR.1SG say.NF.SG hear.HAB.3SG  
 ‘[When a man and woman have sex] The woman thinks “I’m doing it to the man” and the man thinks “I’m doing it to the woman”.’

This example is intermediate between ones like (16) and (20)–(21) because there are complement clauses, *yi tokur* and *ab tokur*, but they do not frame an actual locution, but rather a thought that is (humorously) attributed to men and women in a general class of situations.

Another kind of intermediate case is the following:

Speaker A (in translation):

‘Let all the court men come out and we’ll hold court.  
 We’re going to hold court now. Listen!’

Speaker B (one of the village court magistrates referred to by Speaker A):

- (24) *Barata na aku nyikir nyik pilyini.*  
 brother I.ABS that say.PPR say.NF.2 hear.PRF.2SG.Q  
 ‘Brother, is that what you think I’m saying?’

In (24) the speaker (B) points back to the entire utterance that speaker A has just made, with the anaphoric pronoun *aku*, which is typically used in this way for text-internal deixis (anaphora). A locution is still being framed, but indirectly so by anaphoric reference to it. Here as in most such examples, the subject of the framing verb appears in absolutive rather than ergative case.

Now consider the following:

- (25) *Na mol nyikir.*  
 I no say.PPR.1SG  
 ‘I say no.’

- (26) *Na aima age anumuyl nyikir.*  
 I really thank.you very.big say.PPR.1SG  
 'I thank you very much.'

These are examples of what J.L. Austin (1975) would have called the *performative* use of *nyi-* 'say', where the speaker frames what he is saying in the here and now with a verb which refers explicitly to the very speech act in which he is saying it. Note that the subject pronoun *na* here occurs in absolutive case rather than ergative. This is entirely typical. Unlike when *nyi-* is used to frame a location from another speech situation, in these performative uses it almost never takes the ergative marker.

Another less than fully quotation-like use of *nyi-* is to frame indirect discourse, i.e. reported speech in which the indexical categories of person, tense, spatial deixis, etc. are shifted so as to ground them in the speech situation of the 'reporting' event rather than the 'reported' one. The use of indirect discourse is rare in Ku Waru but it does occur. For example:

- (27) *Ab-ayl nunu-nga rong-te mol nyikim-ayl.*  
 woman-DEF she.herself-GEN fault-IDF no say.SR.3SG-DEF  
 'The woman says it was not her own fault.'
- (28) *Ya torukang nu-nga nyikin kera laime*  
 here father.in.law you-GEN say.PPR.2SG bird cassowary  
*nyikin kung nyikin-o.*  
 say.PPR.2SG pig say-PPR  
 '[The defendant's] father-in-law, yours, you say, the cassowary, you say,  
 the pigs [are yours], you say.'

The corresponding direct-discourse version of example (27) would have had *nanu* 'I myself' in place of *nunu-nga* 'she herself', and (28) would have had *na-nga* 'my' in place of *nu-nga*. In all 1,744 lines of our textual sample, we found only nine examples of such indirect discourse, and only one of them had an ergative-marked subject in the framing clause.

Finally, there is a use of *nyi-* in which it frames an accompanying locution not only with respect to the here and now, but in terms of some more encompassing range of contexts, which include that of the framing event, but are not limited to it. For example:

- (29) *Maku-na nyikimil na kor nyilyo.*  
 mark-LOC say.PPR.2/3PL I always say.HAB.1SG  
 'I've always said that what you say is right on the mark [i.e. true, apposite].'

Such uses of *nyi-* have something in common with the performative ones in that the speaker is framing his utterance in the very act of making it. But unlike in the performative uses, he is here also positing a more or less indefinitely extended series of other speech situations in which he has said the same thing. In such uses, the subject *nyi-* sometimes takes the ergative and sometimes the absolutive.

## 6 Conclusion

Summing up the discussion of examples (15) to (29), we can say, at the very least, that there are systematic differences among the kinds of material framed by the Ku Waru verb *nyi-* and that these tend to correlate with differences in the likelihood of ergative versus absolutive case marking on its subject. While there are no doubt many different factors involved, we think that at least some of this covariation can be seen as implementing a distinction of the general kind we have come to expect in light of the principles of feature hierarchy developed in Silverstein (1976), as discussed in §5 above. But although the distinction is of that general kind, it is made along a somewhat different dimension than any heretofore reported, in that it is being made **within** the first and second person categories, not according to their lexical specifications (+/- addressee etc.), but according to the degree of overlap (up to full identity) between the act of speaking which is predicated and that **in** which it is being predicated.

At one end of this scale of overlap lie what we have called the performative uses of the verb *nyi-*, where it is used to frame the very act of speaking in which it is being used. In these uses of *nyi-*, the subject is almost never ergatively marked. At or near the other end of the scale, we have first person predications of speaking which are entirely distinct from the present one, containing indexical elements (tense, spatial deixis, etc.) that presuppose another speech situation in which someone spoke whose identity is historically continuous with that of the present speaker (they are 'co-referential', i.e. the 'same person'), but in a different situation – usually an assertedly 'past' one. These are the predications in which the first person subject is most frequently ergative-marked. Intermediate between these two poles are other kinds of 'reports' as exemplified above, viz.:

- (1) indirect discourse, where the deictic grounding of the reported locution is shifted to that of the reporting one;
- (2) cases of 'encompassment', where the locution contains deictic elements which seem to presuppose the same speech situation as the present, i.e. reporting one, but where the reporting clause contains tense/aspect marking which predicates an act of saying over a more extensive range of situations including the present one, but not limited to it (e.g. (29)); and
- (3) clauses where the verb of speaking takes a lexical object rather than a locutionary complement ((19), (20)), and hence where there are no 'reported' uses of deictic elements which would allow the option of their being grounded in either the 'reporting' or 'reported' speech situation.

In all these typologically intermediate cases, the ergative marker is used to some extent, but less frequently than in the polar case described above, where the speaker is predicating of himself the speaking of a locution which is explicitly grounded in a speech situation other than the present one and not overlapping with it.

Now, how is all this to be understood in terms of principles of feature-hierarchy? That question cannot be adequately tackled in terms of the framework proposed in Silverstein (1976), much less in terms of the popular interpretation of that framework which formulates it as a directly notional ranking of NP types according to inherent suitability of their referents for acting as 'real-world' 'agents', as opposed to 'patients' or 'undergoers' of actions described by transitive verbs (see e.g. Wierzbicka 1981; Dixon 1994). A more adequate formulation for our present purposes is the one made in Silverstein (1981),

whereby what the ranking was seen to correspond most closely to was not agency potential per se, but the degree of “UNAVOIDABILITY AND TRANSPARENCY OF METAPRAGMATIC REFERENCE” (Silverstein 1981:24), i.e. the degree to which an NP’s reference is presupposed by its use in a particular speech situation. Thus, for example, +EGO or first person forms are ranked highest, because “by the very act of speaking...we guarantee the existence of the filled role of speaker”, whereas there is no such referential guarantee for forms not referring to participants in the speech act, so that the –EGO, –TU forms are ranked lower than the +EGO or +TU ones, etc. (1981:24).

But what is especially interesting about the Ku Waru data is that while it is eminently consistent with this way of understanding the ranking of NP types, it subdivides a category which even Silverstein (1981) lists as a unitary one at the top of the scale, namely the +EGO, or first person feature. Here a distinction is being made *within* the first person category, whereby the more morphologically marked kind of agent of speaking is the one in speech situations other than the present one even where the actor assertedly filling that role is the same in the two situations (‘I said...’). This morphological markedness corresponds to a relative functional markedness in terms of degrees of ‘metapragmatic transparency’ of just the kind formulated in Silverstein (1981). By contrast, a directly notional account in terms of ‘agency potential’ would not permit us to understand the difference we find among kinds of first person usages, since there is no reason to assume that people are regarded, or regard themselves as potentially more agentive in the present situation than in others. The same goes for alternative explanations in terms of ‘empathy’ such as that of De Lancey (1981), which has been taken up as a way of explaining a case of so-called ‘split ergativity’ in Siane, a Papuan language of the Eastern Highlands (Potts & James 1988). Such explanations may have a certain intuitive appeal and may actually correspond to feelings we have as speakers of a language, but in so far as they posit those feelings as explanatory principles, they are unable to be tested in terms of the kind of textual evidence we have been able to cite in favour of the explanation we have proposed here.

In addition, the explanation in terms of metapragmatic transparency seems especially appropriate in this case, since it allows us to build a bridge between our analysis of reported speech constructions in particular, and the wider issues of transitivity and syntactic case marking in general. Far from being peripheral to syntax, they may provide a unique entrée into the understanding of those more general issues.

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# 14 Tang bilong bulmakau long aspik: *talking about food in Tok Pisin*

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PETER MÜHLHÄUSLER

*Sioko i rabis kaikai* (Dutton 1973:197)

When Tom collected my wife Jackie and me from Canberra Airport in September 1972 he immediately informed me that I was to do his intensive course in Tok Pisin for six weeks, after which I was to commence fieldwork in PNG, an announcement which, whilst no doubt based on his longstanding experience as a successful supervisor, was received with horror by a jetlagged PhD scholar. I was underprepared for a rapid transition from the status of a theoretical or ‘as’ linguist to that of a functional field linguist. It speaks for Tom’s style that he had me in the field well before Christmas and that he had equipped me not only with a passable knowledge of Tok Pisin but with much good advice, including medical hints and the warning that my fieldwork would be devoted not just to collecting data but to more mundane matters such as putting a roof over one’s head and finding something to eat. As I had previously lived in a hall of residence at Reading University whose food could be digested only with the help of a regular intake of Eno stomach salts, almost any food seemed preferable at the time and I was in fact looking forward to an abundance of tropical culinary delights.

In retrospect I can see the attractions of studying the semantics of French cuisine or the lexicon of wine tasting as some linguists have opted to do. Tom’s Tok Pisin course suggested a rather rosy picture of culinary delights expecting the fieldworker. His long lists of supplementary vocabulary implied not only the availability of fresh *kulau* (drinking nuts), *pik ol i tanim long mumu* (pig properly cooked in an earth oven) or sago pancakes (these subsequently turned out to consist primarily of sawdust) but a variety of fruit, fish and meat. Like other participants in the course I was intrigued by the notion of ‘wavy biscuit’, which turned out to be a misprint for ‘navy biscuit’, one of my staple foods on long walkabouts.

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Andrew Pawley, Malcolm Ross and Darrell Tryon, eds *The boy from Bundaberg: studies in Melanesian linguistics in honour of Tom Dutton*, 233–239.  
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One of my immediate tasks in PNG was to help Tom collect suitable stories for the printed edition of his course, and texts about food featured prominently. Tom must have been aware of the discrepancy between the culinary desires of a fieldworker and the food supplies actually available. Indeed, one of his lessons features the grim tale of a European finding rubbishy choco rather than tomatoes on his plate.

My first personal experience with eating in the field were three weeks of navy biscuits, corned beef and warm SP beer (whose taste is described in an expert publication on world beers as reminiscent of used bandaids), supplemented by the occasional banana. This experience was followed by three months in a *haus kiap* in the Torricelli mountains which was made available to me on the condition that I employed a *mankimasta*/cook – whose favourite dish, it transpired, was *hatwara* (boiling water into which anything edible was thrown). Attempts to spice up this rather bland product with local *lombo* (chilli pepper) were disastrous as the power of even a tiny amount of this spice was enough to make Montezuma weep. My *mankimasta*'s recipe for tea incidentally ended up on page 123 of Tom's course:

2 heaped tablespoons of sugar.  
1 tablespoon of tea leaves.  
Add a bit of boiling water.  
Makes one cup.

Under such conditions one's body inevitably develops cravings, in my case initially for a box of chocolates. When the opportunity arose a box of chocolates was ordered and flown to a nearby good-weather airstrip by the bishop of Wewak. What was delivered was an enormous cardboard carton containing 50 large bars of chocolate – much to the delight of my informants and their offspring. A second craving for Vienna almonds was more difficult to satisfy: I had to postpone gratification for five whole months. Then, on the occasion of an entirely unsuccessful search for batteries on Manus Island I accidentally ended up in a trade store which for undisclosed reasons contained shelves full of glass jars filled with this morsel. As for some of the other items listed in Tom's course – honey, custard, fresh eggs, cheese, mutton and so forth – I saw nothing in the places I worked. Rural trade stores, apart from sugar, rice and smokes, did not run to such luxuries, and seeing *mumued pik* at close range made me resort to the white lie of "*Mi Sevende-mi tambu long pik*". The punishment was that I could not smoke my pipe in public. Added to all this, I was warned by a patrol officer's wife that eating out of tins for prolonged periods made one's kisses taste tinny – a warning well heeded by this newly married fieldworker accompanied by his wife. Apart from this, tins are heavy, and travelling with two patrol boxes imposed a severe constraint on amount and variety of supplies as indeed did the available cooking facilities, particularly during the rainy season.

Complaints about the culinary standards encountered in PNG together with attempts to improve them have a long history in the discourses of fieldworkers, missionaries, long-term residents and travellers, and it is to these I want to turn now. I shall refrain from following too closely my rather more scholarly analysis of 'cookery terminology' (Mühlhäusler 1985:652ff.) to which serious readers are referred. Whilst Tok Pisin was generally taken seriously by the German colonisers who ruled North East New Guinea until 1914, the British and Australian settlers who arrived after 1920 often exhibited little inclination to learn the language properly. Rather they treated it as a debased form of English, characterised through culinary metonyms such as 'kitchen English' or culinary metaphors such as "a sort of silly chop-suey English, bereft of procedure and devoid of limitations" (*Rabaul Times*, 8 November 1935, p.5). A sizeable number of so-called 'tropicalities' in expatriate

publications such as *Pacific Islands Monthly* had as their main emphasis to ridicule the language and its speakers. In our politically correct days they appear puerile if not offensive. Let me present a couple of examples from my collection:

A recipe for making sponge cake (*Pacific Islands Monthly*, 18 December 1931, p.6)

*You savvy egg? Savvy butter? Savvy corn flour? You catchim dish, catchim plenty egg: you fightim egg plenty too much.*

A kanaka lament (*Rabaul Times*, 11 March 1927, p.2)

*Rain he no come boy no got kai kai, no got water, no got sweet potato, no got yam, no got taro. Gott dam, he no good. All time go along Kong-kong buy'em rice, one bag 10 mark. Me no got mark no catchem rice, then me kaikai coconut all time. Me no like. Old fellow coconut tree he die too. Small fellow all same. Banan he too likilik. Pawpaw he fall down. Me can burn him. Why rain he no come? I tink byme bye me die finish. You got lik lik tobac? Tank you, you good feller master too much. Tree feller pig me sell'em kon kong. No can kaikai. What for English he no make'em store along kanaka? I tink boy he no go along kon kong. You got massis? I tink me like go now.*

What the pidgin words uttered by the blushing bride in the following scene (*Rabaul Times*, 21 July 1933, p.4) might have been is left to the imagination of its expatriate readers:

Scene: the verandah. Tea table laid. Guests waiting patiently for the arrival of the fluid which cheers but does not inebriate.

Enter from the kitchen Topowpow carrying the teapot gingerly.

Bride, rising hastily, rushes towards the 'coon' and breathlessly exclaims:

"Now don't say the bottom of the teapot is dirty, or that the milk jug's broken all to pieces."

I suspect she must have uttered something like:

*No can talk talk arse belong teapot he dirty or glass belong susu he bugger up altogether.*

A latter day example of this genre can be found in Rushton's (1983) *Brush up your Pidgin*, which among useful phrases for breakfast lists (pp.51ff.):

|                            |   |
|----------------------------|---|
| two eggs once over lightly | <i>by-en-by arse belong him come-up-on top</i>        |
| a game rissole             | <i>wanfella slais muruk he fryim</i>                  |
| Waiter! Waiter! There is a | <i>Kukiboy! Kukiboy! He got wanfella kokoros long</i> |
| cockroach in my sago!      | <i>sak-sak belong me!</i>                             |
| snake tartare              | <i>snek he no tan too much</i>                        |
| owl in a basket            | <i>taragau he flai long nait long baskit</i>          |
| strawberry sago            | <i>strooberri saksak</i>                              |
| Kentucky fried fingers     | <i>all fingga belong Kentuki he fryim</i>             |
| chopped lizard             | <i>gekko he krunguim</i>                              |

as well as, probably as the chef's special

chocolate milk *soklet milik*

Rushton, like Balint (see below), appears to be ignorant of the fact that *milis* or *milik* refers to coconut milk or semen only. But whilst Rushton's intentions can hardly be called serious, Balint's (1969) infamous *English Pidgin and French dictionary of sports and phrase book*, designed for the use of visitors to the Pacific Games, inadvertently produced

howlers that put it in the league of Pedro Carolino's (1883) *The new guide to the conversation in Portuguese and English*, better known by the title of the reissue edited by Mark Twain: *English as she is spoke*. Here we encounter phrases meant for Portuguese visitors to England sufficiently prone to misinterpretation to provoke an international incident, including:

Will you have that I bring the ham?  
 Yes, bring-him, we will cup a steak put a nappe cloth upon this table.  
 I have drinking. The small pies were very good.  
 The soup is bringed.  
 Gentilman, will you some bean?  
 Give us some beef and potatoes a beefstead to the English.  
 Give us some Hollande cheese and some prunes.  
 I will take a glass of brandy at the cherries.  
 I shall take willingly a or-geat's (sic!) glass or a sherbet.

But then, as Carolino reminds us:

Famished belly has no ears.

Balint's sensitivity to the dietary needs of foreign visitors to PNG does not lag behind Carolino's. For instance, the following were among phrases of help to a shopper at a supermarket (few of which were in existence in the year this booklet appeared, and moreover no explanation was given why one needs verbal expressions in a self-serve situation):

|                                  |  |
|----------------------------------|--|
| a dozen eggs                     | <i>tupela ten (= 20) kiau</i>                          |
| Bologna sausage                  | <i>wilwilim sosis</i>                                  |
| baked beans                      | <i>mumu bin (done in an earth oven)</i>                |
| please give me a clove of garlic | <i>plis givim mi long et paun (eight pounds) galik</i> |
| do you have any green onions?    | <i>yu gat sampela griin anian?</i>                     |
| Could I have some marrow bones?  | <i>Mi laik sampela bun i gat merou</i>                 |

(note the subtle allusion to the placename Meru, Dutch New Guinea, the source of a famous cutting knife named *naip meru*)

|              |  |
|--------------|--|
| hamburger    | <i>senwits wantaim wilwilim slais steik miit</i>                       |
| green pepper | <i>griin pepa (pepa = paper; lombo would be expected here instead)</i> |
| sauerkraut   | <i>smok kabis</i>  |

One is happy to note that the practice of smoking sauerkraut has not taken a foothold in PNG though it would seem that Balint's implicit aim was to confuse smokers and drinkers. How else is one to explain the following:

|                      |                        |
|----------------------|------------------------|
| beer                 | <i>sof drink</i>       |
| soft drink           | <i>kofi, bia, susu</i> |
| a pack of cigarettes | <i>bia</i>             |

Such confusion happily can be resolved with the help of Balint's phrasebook by asking the New Guinean storekeepers simple questions such as:

|   |  |
|---|--|
| What is the alcohol content of this wine? | <i>Haumas alkohol long dispela dispela wain?</i> |
|---|--|

or by insisting:

I would like to buy a real rye. *Mi laik baiim rai tru.*

Such phrases help avoid confusion with cheap local brews produced on the Rai coast. Like others Balint does not realise, however, that *konyak* refers to kava rather than the French product.

One can sympathise, however, with his concern for the preservation of traditional family values, which is also evidenced in the useful phrase:

Do you have a family size? *Yu gat wanpela famili sais?*

Balint commendably not only caters for ingredients but also for kitchen utensils. A well-equipped kitchen features:

|              |  |
|--------------|--|
| coffee maker | <i>kofi masin</i>                                |
| meat grinder | <i>sikerap bilong abus</i>                       |
| wax paper    | <i>weks pepa (p.12) or glas gumi pepa (p.17)</i> |

and of course

|           |                |
|-----------|----------------|
| gas meter | <i>gesmita</i> |
|-----------|----------------|

This last item illustrates that Balint was far ahead of his times.

In sum, we are dealing with a *buk save kamap strong tinktingk* (sic!) 'serious reading'. His question:

Do you have any cook books? *Yu gat buk bilong kuk?*

happily or unhappily can be answered in the positive. In fact Tok Pisin readers have the choice between two cookbooks, both written by missionary wives (Levi 1964; Lilke 1972) with the dual aims of teaching newcomers to cook with local ingredients and to lift the performance of local housewives. That their place is indeed in the kitchen is evidenced in the frequent use of *kuk* to refer to one's wife. These two cookbooks represent the Methodist and Lutheran approach to domestic science respectively. Whilst Levi at least appears to be aware of what ingredients and what implements are likely to be available to New Guinea villagers, Lilke shows no such cultural sensitivities. To be precise, Levi knows the objects but not the Tok Pisin names for many of them, resulting in embarrassing confusions such as mistaking the word *salat* to refer to salad rather than abortive or stinging nettle – and to insist that one should *bakim* 'fuck' rather than *bekim* 'bake' one's tarts would not seem to be in the spirit of a missionary publication. My own recipe for *tang bilong bulmakau long aspik* (composed with the help of our late mutual friend Don Laycock) would not have been out of place in either of the publications under discussion.

*Em kaikai ol misinari save laikim tumas. Pastaim yu mas go long stua na askim long stuakipa i mas givim tang long yu. Orait, putim tang i go long milik inap em i malomalo liklik. Pinis, yu mas skinim gut. Pinis, kisim tangwara na pulimapim sospen bilong yu. Boilim tang bilong yu inap em i tan pinis. Orait, rediim aspik na putim tang bilong yu i go insait longen. Sampela masta i laikim aspik i malomalo tumas. Orait, taim aspik i pas, em nau, yu kuk pinis na yu sevim tang wantaim salat na baket (Baguette).*

One of my Manus informants had bought Lilke's booklet for his *kuk* and was rather annoyed that the unavailability of simple kitchen utensils such as a *spätzle mashin* (a tool for preparing Swabian dumplings) prevented her from preparing the dishes described here.

Meanwhile fast convenience food such as *pisfinga* have made an appearance in the cities and towns of PNG reducing the need for meatgrinders and suchlike.

Let me wind up my discussion and draw a few lessons. It is well known to linguists that the organs used to articulate speech are the same ones used to eat, which incidentally is a good reason for not talking whilst eating. Wilson's (1932:112) observation on the languages of Santa Cruz cannot be regarded as a serious counterexample.

The nose ring falling across their mouths, and the betel-nut mess inside, has probably so influenced their language that perhaps it cannot be spoken with an empty mouth and undecorated nose.

Whilst, as I have tried to show, this relationship between masticatory and verbal activity was intuitively grasped by a number of writers on Tok Pisin, their writings leave much to be desired. The expatriate unwillingness to learn about eating in New Guinea typically is matched by the unwillingness to understand Tok Pisin, and it is one of Tom's many achievements to have raised the level of understanding of these matters. It was Tom who also pointed out to me that the name of another of his languages, Torres Strait Pidgin, is homophonous with that of one of the most delicious birds of the region. In the belief of many of my older informants Tok Pisin was given to them by the birds, and we have anecdotal accounts that eating long pig can enhance the linguistic proficiency of the eater.

Pidgin languages such as Tok Pisin are complex phenomena which are best understood through metaphor, and I am aware of several attempts to characterise them as a mix of cooking ingredients as in:

The recipe for the language is interesting: Take one sea full of British sailormen, hardy, daring, very British and profane, and leave it in a cool place for two days; extract their speech; then bring to boil and extract what speech remains. Add a coconut shell each of Chinese, Malay, German and Kanaka and bring to boil a hundred or so times, then season with a little war or two; add a few drops of Mission sauce and sprinkle with blackbird pepper and recruiter salt. Strain through kanaka lips and serve with beer on boat days, or with undiluted Australian any other time. (Robertson 1971:3-14)

It remains to be seen if this metaphor can be enhanced by adding creole sauce.

Em tasol. Mi toktok pinis. Nogut mi skruim longpela toktok tumas. Mobeta toktok bilong mi i mas sot. Yes, Tom, mi amamas long olgeta wok bilong yu na gutpela save yu bin givim mi longen. Em nau taim bilong malolo bilong yu na lukautim ol sipsip. Tenkyu tru wantok.

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# 15 *The functions of -i in Abu' Arapesh*

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OTTO I.M.S. NEKITEL

## 1 Introduction

This paper adumbrates the grammatical distribution of the clitic *-i* in Abu' Arapesh, a Papuan language of the Torricelli phylum of northern Papua New Guinea.<sup>1</sup> It begins with a review of *-i*'s reported role as a possessive and goes on to highlight other previously undetected grammatical functions. It contends that possessive marking is only one among a handful of grammatical functions that *-i* performs.

In earlier grammatical descriptions of Arapesh languages, *-i* was accorded a genitive function (e.g. see Fortune 1942; Nekitel 1986; Conrad and Wogiga 1991). However, a recent reanalysis of possession in Abu' reveals that *-i* appears to perform more than just the possessive function, hence a reanalysis of the role(s) *-i* performs is necessary.

The paper is organised as follows. Section 2 gives a brief outline of the typological characteristics of Abu'. The functions of *-i* are treated in §3 in relation to: occurrence in possessive constructions (§3.1); occurrence in various adjectival constructions (§3.2); role as a relative pronoun (§3.3); role as a deictic (§3.4); role as a clause-chaining device in discourse (§3.5); and role as a verbal directional (§3.6). Conclusions are given in §4.

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<sup>1</sup> The paper was written while I was a visiting Fellow at the Research Centre for Linguistic Typology, in the Arts Faculty of The Australian National University, from April to June 1998. My sincere gratitude is hereby extended to Professor R.M.W. Dixon, the Director, and Professor Alexander Aikhenvald, the Deputy Director, for inviting me to the centre to write a paper on Abu' gender (to appear). I am grateful to the University of Papua New Guinea for funding the trip. Professor Andrew Pawley and Dr Edgar Suter and Messers Sakarepe Kamene and Kenneth Sumbuk read an earlier draft and made some appreciative comments which helped me to refine the analysis. I thank each and every one but I alone am responsible for any of the paper's shortcomings.

## 2 Main typological characteristics of Abu'

Abu' Arapesh shares a subject–verb–object (SVO)<sup>2</sup> word order with other languages of the Torricelli and West Papuan phyla and most Austronesian (An) languages of Melanesia, especially Island Melanesia. This syntactic pattern contrasts with the typical SOV Papuan word order to which some An languages of the Central and Milne Bay provinces have adapted mainly as a result of Austronesian–Papuan contact.<sup>3</sup> Greenberg (1966a) observes that SVO word order reflects a universal tendency. Languages such as English, French, German and others share this typological feature with Abu', and most Oceanic languages also have the subject preceding the verb (Crowley et al. 1995:430). Constraint on word order elevates syntax as an important grammatical device in Abu' because case roles of core arguments are determined syntactically and not morphologically.<sup>4</sup> Abu' predication is realised by mono- and bi-valent verbs. The verbal complex consists of the verb stem as a core. Occurring in its leftmost slot is the subject prefix, followed by tense/aspect morphology. The post-core slot of a bi-valent verb is filled by object noun phrase (O NP) which must be introduced first as a lexical (free) morpheme and may or can then be inflected as a grammatical morpheme (an anaphoric concordant) when the O NP is cross-referenced on the modifier nominal adjuncts. Core arguments' affixes agree in number, class and gender (for genders 1 and 2, see Nekitel 1998 and forthcoming). The tense system comprises past, present and future. Typically, past is rendered by *a-*, which has been described elsewhere as the realis,<sup>5</sup> which embraces events that occurred before and those that occur during the moment of speech; there are also the futuritive *t-* and the irrealis *k-*. Epenthetic vowels that occur before and after the irrealis normally undergo lexeme-internal alternations triggered by immediate or distal linguistic environments of which vowel umlaut and ablaut are fairly common. Consonant gemination evokes epenthesis, realised typically by the insertion of a transitional schwa-sounding vowel – impressionistically – a barred *ɨ* which has been reported to be present also in the neighbouring Ndu language family.<sup>6</sup> The insertion of transitional vowels between consonant clusters are motivated by a (C)V(C) syllable structure which has been reported elsewhere to be a fairly common phenomenon among a good number of Papuan languages of New Guinea.<sup>7</sup> Morphophonemic processes in Abu' are extensive and

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<sup>2</sup> In this paper: ADV = adverb; An = Austronesian; ASP = aspect, AUG = augmentative; C = consonant; CONJ = conjunction/conjunctive; D = distal (deictic); DD = distal deictic; DD1/2 = medial 1 & 2; DECL = declarative; DM = derivational morpheme; EV = epenthetic vowel; F = feminine; FUT = future; GEN = genitive; HNC = head-noun concordant; iNC = gender 1 (male), nominal concord; iiNC = gender 2 nominal concord, etc.; INCA = class 1 nominal concord actor; IRR = irrealis, LOC = locative; NAn = non-Austronesian; NCA = nominal concord actor; NCE = nominal concord element; NCU = nominal concord undergoer; NP = noun phrase; PAR = paragogic; PERF = perfective; PROX = proximal; R = realis; REL = relativiser; S = subject; Sg = singular; SVO = subject verb object; U = undergoer; V = vowel; Vb = verb.

<sup>3</sup> See Capell (1969); Wurm (1982); Foley (1986:281-283); and especially Ross (1988).

<sup>4</sup> See for example; Wurm (1982; 1975), Foley (1986:167ff.) for details on this. Foley (1986) shows Yimas, a language of the Lower Sepik, to have a relatively free word order, hence the subject and the object of the clause are determined morphologically and not syntactically.

<sup>5</sup> See Nekitel (1985).

<sup>6</sup> Laycock (1973, 1965).

<sup>7</sup> See Reesink (1987) for more information on the wider distribution of the form.

complex. Examples (1)–(3) demonstrate how cross-referencing of A(ctor)/S(ubject) and U(ndergoer)/O(bject) is handled in Abu'.

- (1) S            S-ASP-V    U  
*Aleman n-a-ha bul.*  
 man    iNCA-R-kill pig  
 'The man killed a pig.'
- (2) *N-a-ha-l.*  
 iNCA-R-kill-NCU(pig)  
 'He killed it (pig).' (old information)
- (3) *Aleman n-i-ka-ha bul.*  
 man    ACA-FUT-kill pig  
 'The man will kill a pig.'

Example (2) is context-sensitive, in the sense that it appears when and if speech participants know that they are still focusing on the same subject.

In Abu', albeit a verb-medial language, a shift of object NP to clause-initial position is allowed when pragmatic focussing is required. A movement of the Object NP from the post- to the pre-verb position inside the clause does not affect the grammatical status of the O NP. It still remains an object but a 'grammatical subject'.

Morphologically, Abu' is halfway between isolating and agglutinating language types. Its agglutinating morphology is easily segmentable in comparison to the more highly agglutinating languages of Alaska, possibly Turkish and especially the Papuan languages of the Trans New Guinea phylum (see Foley 1986). Gahuku, a language of the Gorokan family of the Eastern Highlands of Papua New Guinea, has as many as 12 prefixes (performing different grammatical roles) to the independent verb stem (Tama 1995 and forthcoming). The majority of Abu' words are affixable save a few lexical morphemes such as *a-* 'yes'. Inflectional and derivational morphology are evidently present. The former are characterised by the pronominal subject prefixes and object suffixes to verbs, while the latter are demonstrated when a verb is converted into a noun by a derivational morpheme (DM), or when a noun is modified when suffixed with an inflected DM pursuant to the head noun and nominal adjunct grammatical concordance rule. The following few examples illustrate the process.

- (4) *suhur-u-ta*  
 to.skin-EV-DM (reference, penis)  
 'masturbator'
- (5) *ebih-i-rofu-*  
 cry(noun)-EV-DM-3FSgA  
 'the female mourner'

Abu' adverbs are manifested by a partial or full duplications of adverbial stems. These describe how actions, states or processes rendered by verbs are carried out, or are experienced by the actor and the affected. An adverbial phrase is of the order: Vb + ADV, as exemplified in:

- (6)      *Vb*    *ADV*  
*Hi'i ehiehi!*  
 come quick.quick  
 'Come quickly!'

Motu, an Austronesian language of the Central Province, exhibits a similar typological pattern:

- (7)      *Mai harakaharaka!*  
 come quick.quick  
 'Come quickly!'

### 3 The functions of *-i*

#### 3.1 *-i*'s role as a genitive

Unlike Austronesian and some Papuan languages, Abu' does not draw a distinction between alienable and inalienable possessive marking. Ownership of property is coded on the possessor and the possessed if the owner of a property is not known. Abu' thus differs somewhat from the Buki or Bukiyip Arapesh languages in the marking of possession. The two Arapesh languages code possession more on the possessed.<sup>8</sup> An Abu' declares her ownership over a possessed by suffixing the clitic *-i* to the possessor free pronoun or the nominal per se. Typically a possessive clause structure consists of NP1 + NP2. The former NP marks the possessed, the latter the possessor. Examples (8) and (9) demonstrate the way possession is coded in Abu'.

- (8)      *bub*      *Nekitel-i*  
 betel.nut    Nekitel-GEN  
 'Nekitel's betel nut'

Once established as Nekitel's betel nut, the possessed can be dropped as demonstrated in:

- (9)      *Nekitel-i*  
 Nekitel-GEN  
 'Nekitel's ((betel nut), from previous knowledge)'

A possible misunderstanding of what is being possessed is avoided by suffixing the possessed anaphoric concordant on the possessor before the suffixing of the possessive *-i* as shown in example (10). In (10) the anaphoric concordant *b-* is replicated from the terminal phoneme of the word *bub* 'betel nut' in sentence (8).

- (10)     *Nekitel-i-b-i.*  
 Nekitel-EV-iNC-GEN  
 'It's Nekitel's betel nut.'

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<sup>8</sup> See Conrad and Wogiga (1991) and also Dobrin (1999).

### 3.2 *-i*'s role in adjectival phrases

The clitic *-i* is realised also in grammatical constructions that describe or qualify the physical attributes of nominals focused upon. Word classes affected are adjectives, numerals and also colour-coding expressions or terms. The suffixing of *-i* in these adjectival-type constructions describes the size, shape, propensity, quality, colour and age of subjects or referents. The usual syntactic order in this peri-clausal type is: N + ADJ STEM + NC + *-(r)i*. Once a nominal is introduced in discourse, an attributive statement on the same is distinguished by suffixing the adjectival stem with the augmentative *-i* or the allomorphic variant *-ri* after the head-noun concordant (HNC) which agrees in number, class and, to some extent, gender with the referent. Compare example (11) with (12), (13) and (14).

- (11) *Aleman a ubah-i-n-a.*  
 man be big-EV-AC-AUG  
 'The man is growing big/up.'
- (12) *Aleman ubah-i-n-e-r-i!*  
 man big-EV-iNC-EV-PAR-AUG  
 'The man is big!/The big man!'
- (13) *Numata' a lou-'.*   
 woman be tall-iiNC  
 'The woman is growing tall/up.'
- (14) *Numata' lou-'i.*  
 woman tall-iiNC -AUG  
 'The tall woman./The woman is tall.'

In cases where the attributive clause is grammaticalised, the *-i* is coded on the adjective complex as shown in:

- (15) *aulaf aleman lou-n-a-r-i-f-i*  
 house man tall-iNC-EV-PAR-AUG-viNC-GEN  
 'the tall man's house'

*-i* also occurs in phrases that describe the colour of things and so behaves as it does in other adjectival constructions. Compare examples (16) and (17).

- (16) *Numata' alial-i-'i*  
 woman black-EV-iiNC-AUG  
 'A black woman.'
- (17) *aleman ou'es-i-n-e-r-i*  
 man red-EV-iNC-EV-PAR-AUG  
 'a red man' (lit. a white man)

The preceding examples indicate that the clitic appears in two forms: *-i* and *-ri*, which are phonologically conditioned allomorphs determined by the terminal phoneme of the possessor noun. If the noun ends in a consonant, suffixing of *-i* applies automatically, but if the possessor nominal terminates in a vowel, a paragogic (PAR) *r-* intervenes to provide a peri-consonantal milieu apropos of the suffixing of the morphemic vowel, *-i*.

### 3.3 *-i* as a relativiser

In certain clause types, the *-i* appears as a relative pronoun introducing a post-modifying clause. Compare clauses (18) and (19).

(18) *Numata' kw-a-ha aleman.*  
 woman iiNC-R-hit man  
 'The woman hit the man.'

(19) *numata' kw-a-ka-ha-n-a-r-i*  
 woman iiNCA-R-PERF-hit-iNCU-EV-PAR-REL  
 'the woman who hit the man (is the one we are concerned about)'

### 3.4 *-i* as a deictic

In the preceding section we delineated some of the functions of the clitic *-i*. In this section we focus on the functions of *-i* as a deictic. Its function as a medial deictic in Abu' Arapesh could be of some interest to both descriptive and theoretical linguists who delve into space terms. Deictic types have attracted attention in the past several decades, when social scientists, especially linguists, became more interested in ascertaining how speech communities code and distinguish the "impersonal, temporal or locational characteristics of the situation within which an utterance takes place, whose meaning is thus relative to that situation" (Crystal 1993:96). One of their purposes has been to synthesise the typology of space terms and to determine the similarities or differences in the way world communities cogitise the speaker's locus against the listener's and that of the third party's.<sup>9</sup>

The Abu' space term that denotes speaker's locus is *kan-* 'a general locative stem' which takes on the proximal, the medial 1 and 2 and the distal deictics: *a-*, *ai-*, *i-* and *o-* respectively. Peripheral clauses coding allative, illative, ablative, existential and locative space semantics are obtained when deictic forms are affixed to *kan-*. Thus when *kan-* is simulfixed with the proximal 'egomorphic'<sup>10</sup> form *a* as in *a-kan-a*, it denotes 'here, at this place', or, 'at speaker's locus'. When *kan-* is suffixed with *-i*, it renders a number of locative senses including illative, ablative, directional (e.g. up, down) and the more concrete locationals such as inside, outside, beside, underneath and above. Given these range of functions, we do not think there is an explicit prepositional form in Abu'. What the language apparently has is a locational form which when simulfixed or suffixed with the variant deictic forms, renders the different senses as illustrated in the following examples:

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<sup>9</sup> Comparative studies on this have been spearheaded by the Max Planck Institute of Cognitive Science in Holland. Scholars associated with the Institute have made remarkable contributions to knowledge on space terms by improving on the experimental methods used to gain a better understanding of space terms and how these correlate with the cognitive processes of speakers of languages studied. See for example, Gunther Senft (1992) and Gumperz and Levison (1996).

<sup>10</sup> The term 'egomorphic' was reported to have been proposed by Balthasar Bichel (1994) of the Cognitive Anthropology Research Group at the Max Planck Institute for Psycholinguistics and was cited on p.53 of the Cognition and Space Kit, Version 1.0, July 1993 pamphlet. It was preferred over the traditional seemingly more imprecise concept 'deictic' to refer to speaker's locus.



- (20) *a-kan-a*  
 PROX-LOC-PROX  
 'here, at this place, right here on this spot'
- (21) *a-kan-ai*  
 PROX-LOC-MD1  
 'close, somewhere close to both speaker and listener'
- (22) *kan-i*  
 LOC-MD2  
 'not close to speaker and listener'
- (23) *kan-o*  
 LOC-DD  
 'far away'

### 3.5 *i* as conjunctive

The use of *i* as a clause-chaining device (i.e. conjunctive) is observed in narrative discourse. When speech participants engage in storytelling or in different varieties of talk, they employ *i* to connect ideas into strings of clauses. It can be employed to conjoin NPs or clauses and hence assumes a role as a principal clause-chaining device. Examples (24)–(26) illustrate how *i* is used in narrative discourse.

- (24) NP1 + *i* NP2  
 'a'u' *i* anin  
 'she and he'
- (25) anin *i* 'a'u'  
 'he and she'
- (26) Sawadi'an *i* Nailiah  
 'Sawadi'an and Nailiah'

The use of *i* as a clause-chaining device is in the order: CLAUSE1 + *i/e* CLAUSE2, etc.

- (27) *Soko'um n-a-la' kan-i ouruf e n-u-wade, ama mahis*  
 Soko'um iNCA-R-go LOC-MD2 forest CONJ iNCA-R-hunt for animals  
*burkuh raraif e n-a-taka ana-b-a walub e*  
 pig.PL until CONJ iNCA-R-arrive.at DEM-NC.river-DECL river and  
*n-a-fan n-a-wa' lehin i mahin.*  
 iNCA-R-sit iNCA-R-eat sago and meat  
 'Soko'um went hunting pigs in the forest until he arrived at a river and then  
 he sat down and ate sago and meat.'

The conjunction form consists of two variants, *i* and *e*. In principle, the former is preferred in joining the shorter SP + NP type constructions (e.g. (24)) while the latter normally appears as a clause-chaining device and is perceived to encode pausal- cum- connective grammatical functions.

### 3.6 *-i* as a directional predicate marker

Finally the directional verbs, *hi'i* 'come' versus *hu'u* 'go' and several other motion verbs are coded by a predicate base *hV*. The exponent *V* changes to *i* or *u* by vowel harmony to signal two basic directionals; *-i* signals a movement towards and *-u* a movement away from the speaker. Examples (28)–(31) illustrate the difference between the two main deictic predication in Abu' Arapesh.

(28) *Hi'i!* 'Come!' (towards the speaker).

(29) *Hu'u!* 'Go' (away from the speaker).

(30) *'Usi!* 'Come in!'

(31) *'Usu!* 'Go in!'

## 4 Conclusion

This paper showed that *-i* performs more than just the genitive function. The various grammatical functions encoded by *-i* impel us to maintain that *-i* has or renders the following distinct meanings or functions: (a) possession; (b) medial 2 deictic; (c) speaker's focus directional verb; (d) adjectival constructions of all sorts and (e) a relative clause. While the senses encoded in (d) and (e) seem similar, the senses or functions rendered by *-i* in (a) to (c) are, as far as we can work it out, distinctive.

Closely connected with *-i* are the *i/e* variants that act as clause linkers for joining phrases or independent clauses. This reanalysis of *-i* makes us aware of some very significant roles the clitic performs. Such roles could have been missed or misconstrued had we begun the analysis from a particular grammatical category and gone out to ascertain data to demonstrate how genitive marking is done in Abu'. An inventory of the kinds of grammatical constructions that *-(r)i* was found to occur in are outlined in the paradigm that follows.

| <i>-i</i> 's<br>Homonymous role in marking    | versus | <i>-i</i> 's<br>Polysemous role |
|---|--------|---------------------------------|
| 1. Possession                                 |        | Various adjective phrases       |
| 2. Speaker focus directional verb             |        |                                 |
| 3. Augmentative function in adjective phrases |        |                                 |
| 4. Medial deictic                             |        |                                 |
| 5. Relative clause pronoun                    |        |                                 |

The analysis represents a native speaker-hearer's perception of the morphosyntactic functions of *i*. A colleague has suggested that the analysis also shows how common and complex *i* is in terms of its possible areal diffusion and the range of grammatical functions it serves. Zia of the Binandere family of the Trans New Guinea phylum has a comparably similar form which exhibits similar typological tendencies (Sakerepe Kamene, pers. comm. 1999, UPNG). The range of functions *i* performs in Abu' and possibly other New Guinea languages raises yet again the question of substrata influence on the early development of Tok Pisin especially with respect to the possible sources from which Tok Pisin could have acquired its preverbal particle *i*, as in: *em i go* '[he, she, it] goes/is going'. Could Abu' have been a possible source, among others?

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# 16 *The semantics of moŋ in the Chimbu–Wahgi languages of the Central Highlands, Papua New Guinea*

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MEREDITH OSMOND

In 1986 Don Laycock, a longtime friend and colleague of Tom Dutton at The Australian National University, published a paper in which he explored the possibility that semantic confluences might serve as a tool in genetic classification.<sup>1</sup> The paper was based on his collection of word lists in over 200 languages over a period of more than 20 years. Laycock had noted that many Papuan languages refer to distinct but related concepts, such as tree and fire, and head hair and leaf, by the one term. Although he did not offer any conclusive results, he suggested that such confluences could be a productive field for those searching for pointers to genetic classification.

I have arrived at a similar hypothesis by a different route. While searching for cognates within the languages of the Chimbu–Wahgi family of the Central Highlands, I was struck by the number of terms, frequently compounds, containing *moŋ* or apparent cognates of it,<sup>2</sup> some of which shared obvious semantic similarities while others were apparently unconnected. The purpose of this paper, then, is firstly to explore the semantic range of these terms within the Chimbu–Wahgi language group and try to isolate a common thread of meaning, and secondly to see if this range extends to their neighbouring groups and beyond.

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<sup>1</sup> I am grateful to Martin Steer for leading me to Don Laycock's paper, to Apoi Yarapea for his additions to the data, and to the members of the Summer Institute of Linguistics, Ukarumpa, who kindly made their word lists available on disk, Mack and Doris Graham for Kandawo, Patricia Brien, Joan Hainsworth and Kay Johnson for Narak and Lance Woodward for Maring. I am particularly indebted to Andrew Pawley for a host of useful comments on earlier versions of this paper.

<sup>2</sup> I have chosen to use the term *moŋ* to represent collectively the various forms *moŋ*, *mogo*, *muge*, *muŋ*, *meŋ*, *meŋe* and *magi*, rather than the form tentatively reconstructed for Proto Chimbu–Wahgi \**mVgV*, where V represents an indeterminate vowel.

The specific nature of the range may, if unusual enough, be traceable back to Proto Trans New Guinea.

The Chimbu–Wahgi languages form a relatively well-defined group, consisting of four subgroups – Chimbu, Wahgi, Jimi and Hagen – substantially as defined by Stephen Wurm in 1964. The map shows the approximate location of these subgroups, together with member languages. Dictionary sources are variable in size and quality, but the following gives some idea of their representativeness and depth:

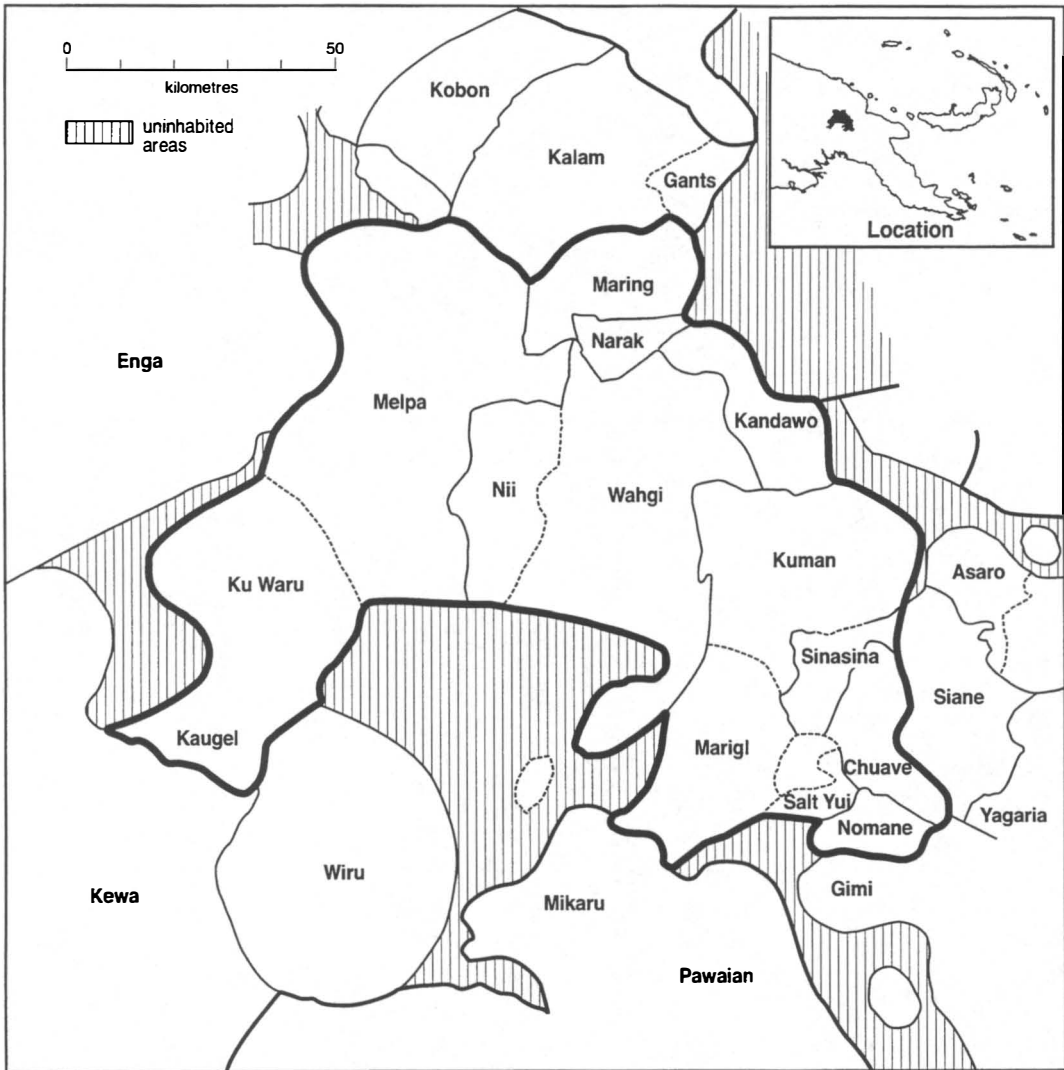
- (i) Chimbu – represented here by one small dictionary of Tabare (a dialect of Sinasina) (McVinney n.d.), and a more comprehensive one of Kuman (Nilles n.d.);
- (ii) Wahgi – well represented by Middle Wahgi (Ramsey 1975) and Nii (Stucky n.d.) dictionaries;
- (iii) Jimi – represented by small word lists from all three languages, Kandawo (Ganja), Narak and Maring, compiled respectively by Graham and Graham; Brien, Hainsworth and Johnson; and Woodward;
- (iv) Hagen – represented by only one dictionary, but a fairly comprehensive one – of Ku Waru (Rumsey & Merlan n.d.).

Greater direction has been given to my task by a detailed Kalam dictionary (Bulmer & Pawley, forthcoming). Kalam, a member of the Madang group of languages, shares a common border with the northernmost Chimbu–Wahgi languages, and happens to be rich in *moŋ* terms.

When I consider the range of meanings of all the *moŋ* words I can locate in the above languages, their most consistent reference is to ‘fruit, nut, seed’. The term carries this connotation in every language for which we have data. At least within this subgroup the referents are regarded as a natural category with a single label. With the possible exception of Ku Waru, where detailed information is lacking, *moŋ* can evidently be used for these referents with or without a modifier noun. The Kuman dictionary, for example, also lists *ende mogo* (*ende* ‘tree’) to refer to fruit, and *digeri mogo* (*digeri* ‘corn’) for grain of corn, while Nii has *ond moŋ* (*ond* ‘tree’) for both fruit and seed and *kune moŋ* (*kune* ‘food’) for rice, edible seeds and fruit. If we regard the bare term as representing the broad, generalised features of the class, then we should note that in Ku Waru *moŋ* on its own also means ‘eye’, while in Kuman, Middle Wahgi and Nii the bare term can also carry the meaning ‘kidney’.

So what is the basis of this classification? Clearly, shape is part of it – fruit, seeds and nuts are all compact, roundish objects. The classification of objects on the basis of perceptual features such as shape and size is extremely common in all kinds of systems of nominal classification. These three are also linked by being plant parts playing similar roles in propagation and possibly as food. The linking of these with kidney and eye may be solely shape-related, or perhaps due to perception of a vital-part/whole relationship.

Examination of the range of *moŋ* terms may throw further light. The items in the following table can all be seen as compact roundish objects. Kalam terms are included for ease of reference. A question mark indicates that the relevant dictionary offers no term for the concept, an ‘x’ that it offers a non-cognate term.



Map: Chimbu–Wahgi family

**Chimbu** (Nomane, Chuave, Salt Yui, Marigl, Sinasina (Tabare dialect), Kuman)

**Wahgi** (Wahgi, Nii)

**Jimi** (Ganja = Kandawo, Narak, Maring)

**Hagen** (Melpa, Kaugel, Ku Waru)

Table 1

|          | fruit/nut/seed    | kidney         | heart            | testicle          | eye                          |
|----------|-------------------|----------------|------------------|-------------------|------------------------------|
| Tabare   | <i>muge</i>       | x              | x                | ?                 | x                            |
| Kuman    | <i>mogo</i>       | <i>mogo</i>    | <i>kilu mogo</i> | ?                 | x                            |
| M. Wahgi | <i>muŋ</i>        | <i>muŋum</i>   | <i>mund muŋ</i>  | ?                 | x                            |
| Nii      | <i>moŋ</i>        | <i>moŋ</i>     | <i>mund moŋ</i>  | ?                 | x                            |
| Kandawo  | <i>megye</i>      | ?              | x                | x                 | x                            |
| Narak    | <i>meŋiye</i>     | ?              | ?                | ?                 | x                            |
| Maring   | <i>meŋ</i>        | <i>da meŋ</i>  | x                | ?                 | x                            |
| Ku Waru  | <i>moŋ</i>        | <i>lu moŋ</i>  | <i>mudu moŋ</i>  | <i>laka moŋ</i>   | <i>moŋ</i>                   |
| Kalam    | <i>(mon) magi</i> | <i>aŋ magi</i> | <i>mud magi</i>  | <i>walak magi</i> | <i>wdn magi</i><br>'eyeball' |

|          | Adam's apple  | raindrop         | hailstone            |
|----------|---|------------------|----------------------|
| Tabare   | ?   | ?                | ?                    |
| Kuman    | ?   | ?                | <i>aragl mogo</i>    |
| M. Wahgi | <i>nomiñ muŋ</i><br>( <i>nomiñ</i> 'front of neck') | ?                | x                    |
| Nii      | ?   | ?                | <i>tedameŋ moŋ</i>   |
| Kandawo  | ?   | ?                | <i>aral megye</i>    |
| Narak    | ?   | ?                | <i>alapi tadimiŋ</i> |
| Maring   | x   | <i>deeki meŋ</i> | ?                    |
| Ku Waru  | ?   | ?                | ?                    |
| Kalam    | <i>koŋam magi</i>                                   | <i>muŋ magi</i>  | x                    |

|          | coin <sup>3</sup>  | shell beads  |
|----------|--------------------|--|
| Tabare   | ?                  | ?  |
| Kuman    | ?                  | <i>uru mogo</i>                                    |
| M. Wahgi | ?                  | <i>tuñ muŋ</i> (round white shell strung as beads) |
| Nii      | <i>ku moŋ</i>      | <i>mol moŋ</i> (tiny Coix-like)                    |
| Kandawo  | <i>ku megye</i>    | ?  |
| Narak    | ?                  | ?  |
| Maring   | ?                  | ?  |
| Ku Waru  | <i>kobolka moŋ</i> | ?  |
| Kalam    | <i>moni magi</i>   | <i>mnan magi</i> (cowrie shells)                   |

Two other examples may also belong in this 'round' category, although it is possible that other features, discussed later, may be relevant:

<sup>3</sup> The headword here is *ku* 'stone'. The *ku* terms refer to coins as distinct from paper money.



Table 2

|          | mountain/range > peak |                    | breast > nipple |   |
|----------|-----------------------|--------------------|-----------------|---|
| Tabare   | x                     | ?                  | <i>am</i>       | [ <i>am mile</i> ] ( <i>mile</i> 'egg') |
| Kuman    | x                     | ?                  | <i>amu</i>      | <i>amu mogo</i>                         |
| M. Wahgi | ?                     | x                  | <i>am</i>       | [ <i>am muł</i> ] ( <i>muł</i> 'egg')   |
| Nii      | <i>komeŋ</i>          | <i>komeŋ moŋ</i> * | <i>am</i>       | ?                                       |
| Kandawo  | ?                     | ?                  | <i>am</i>       | ?                                       |
| Narak    | <i>kome</i>           | ?                  | <i>am</i>       | ?                                       |
| Maring   | <i>komoŋ</i>          | ?                  | <i>am</i>       | ?                                       |
| Ku Waru  | <i>komŋa</i>          | <i>komŋa moŋ</i>   | <i>ami</i>      | <i>ami moŋ</i>                          |
| Kalam    | x                     | x                  | <i>ti</i>       | <i>ti magi</i>                          |

\* means (i) 'individual hill'; (ii) 'summit of a mountain'

Examples found only in individual languages include Kuman *nigl mogo* 'pool of water, well'; Tabare *ere muge* 'pill' (lit. 'tree seed' so presumably metaphoric); Middle Wahgi *mal muŋ* 'clod of earth'; Kalam *sb magi* 'lump of dung', *wdn magi* 'eyeball', *yakt magi* 'bird's egg'.

Several of these examples (raindrop, hailstone, coin, shell bead, pill, clod of earth) reveal an extension of meaning whereby one particular roundish object can be singled out from a collection of essentially identical objects. Thus Kuman *digeri* 'corn', *digeri mogo* 'grain of corn'; Maring *deeki* 'rain', *deeki meŋ* 'raindrop'; Nii *tedameŋ* 'hail', *tedameŋ moŋ* 'hailstone', Middle Wahgi *mal* 'earth', *mal muŋ* 'clod'. I will call this the 'unit (of)' sense of *moŋ*.

In some languages, emphasis on roundness becomes secondary to its unit meaning. Terms for tooth, finger and toe are designated *moŋ* when single units are referred to. Kalam makes clear the distinction: *tob magi* 'a toe', *tob wt* 'the toes' (*wt* 'a bunch or cluster of connected things'). The mountain range/peak expression may also be included here, but without more detailed knowledge of speakers' usage, we cannot know whether the 'round' or 'unit' meaning applies. The following illustrate:

Table 3

|          | leg/foot > toe |                   | arm/hand > finger |                    | mouth/teeth > tooth |                                |
|----------|----------------|-------------------|-------------------|--------------------|---------------------|--------------------------------|
| Tabare   | <i>kale</i>    | <i>kale moge</i>  | <i>oge</i>        | <i>oge muge</i>    | <i>sige</i>         | ?                              |
| Kuman    | <i>kati</i>    | <i>kati mogo</i>  | <i>ogu</i>        | <i>ogu mogo</i>    | <i>sigin</i>        | <i>sigin mogo</i> <sup>4</sup> |
| M. Wahgi | <i>simb</i>    | <i>simb muŋ</i>   | <i>aŋel</i>       | <i>aŋel muŋ</i>    | <i>gupe</i>         | <i>gupe muŋ</i>                |
| Nii      | x              |                   | <i>aŋel</i>       | <i>aŋel moŋ</i>    | <i>gupe</i>         | <i>gupe moŋ</i>                |
| Kandawo  | <i>kage</i>    | <i>kage megye</i> | <i>agle</i>       | <i>agle megye</i>  | x                   |                                |
| Narak    | ?              |                   | <i>aŋglo</i>      | <i>aŋglo meŋiy</i> | x                   |                                |
| Maring   | x              |                   | <i>ag</i>         | <i>ag meŋ</i>      | <i>yakai</i>        | <i>yakai meŋ</i>               |
| Ku Waru  | <i>kibu</i>    | <i>kibu moŋ</i>   | <i>ki</i>         | <i>ki moŋ</i>      | <i>gu</i>           | ?                              |
| Kalam    | <i>tob</i>     | <i>tob magi</i>   | <i>ñn</i>         | <i>ñn magi</i>     | <i>meg</i>          | <i>meg magi</i>                |

<sup>4</sup> In Kuman, where there are separate terms for 'mouth/lips' (*dira*) and 'teeth/tooth' (*sigin*), *sigin mogo* means 'tooth sprout' or 'new tooth', thus retaining the seed metaphor.

Extension of meaning in this way finally loses any connection with roundness. Nii has *eñe moŋ endeim* 'one hour' from *eñe* 'sun, time' and *endeim* 'one'. Maring has *sep meŋ* 'voice, word' (from *sep* 'speech'). Kalam has *wati magi* 'a single fencepost', *añŋ magi* 'a single breath', *mass magi* 'a single match', *mnm magi* 'a single fragment of speech: word, phrase, sentence'.

Two rather more unusual *moŋ* terms found across the region are those for axe head and arrow tip (sometimes just arrow). It seems that the 'unit of' concept has in places transmuted into a whole/part expression, more specifically a whole/significant part, a category which could also include breast/nipple. This is clearly shown in Narak, for instance, which has an expression, *kahjik meŋiy*, which refers to 'truth of a matter, heart of a topic' (*kahjik* 'speech'). Alternatively, axe head and arrow tip may have been derived independently. Apoi Yaraepa, a native speaker of East Kewa, spoken immediately to the west of the Chimbu–Wahgi region, suggests that 'axe head' still contains the suggestion of roundness, a typical stone axehead being a roundish stone with one flaked edge. A possible explanation for 'arrow' (as opposed to 'arrow tip') lies in the fact that these languages typically refer to bow and arrow as one item. Thus, the need to distinguish the arrow separately is met by using the unitary *moŋ* term.

Table 4

|          | axe head          | arrow tip/arrow   |
|----------|-------------------|---|
| Tabare   | ?                 | <i>el muge</i> 'tip of arrow'   |
| Kuman    | <i>di mogo</i>    | <i>yere mogo</i> 'tip of arrow'   |
| M. Wahgi | x                 | <i>ope muŋum</i> ( <i>ope</i> 'bow and arrow', <i>muŋ</i> 'arrow alone')  |
| Nii      | <i>tui moŋ</i>    | <i>ope moŋ</i> ( <i>ope</i> 'bow and arrow', <i>moŋ</i> 'arrow alone', <i>karpe moŋ</i> 'points of a Supsup arrow')                           |
| Kandawo  | ?                 | <i>ei muga</i> 'arrow head' (for expected <i>ei megye</i> )   |
| Narak    | ?                 | <i>ey meŋ</i> 'arrow'   |
| Maring   | x                 | x   |
| Ku Waru  | <i>kubamu moŋ</i> | <i>el moŋ</i> ( <i>el</i> 'bow and arrow', <i>muŋ</i> 'arrow alone')  |
| Kalam    | <i>tu magi</i>    | <i>yakam magi</i> (tip of <i>yakam</i> 'a single-pointed arrow')<br><i>agl magi</i> (single prong on <i>agl</i> , 'a multiple-pronged arrow') |

*Moŋ* has an additional extension of meaning in Middle Wahgi, as 'container'. Examples are:

|                     |   |
|---------------------|---|
| <i>mundun muŋ</i>   | 'hollow log used for cooking purposes'                        |
| <i>pol miŋ/muŋ</i>  | 'bladder' ( <i>pol</i> 'urine')                               |
| <i>nol miŋ/muŋ</i>  | 'drinking container' ( <i>nol</i> 'water')                    |
| <i>kipe miŋ/muŋ</i> | 'burial place' (= 'spirit container') ( <i>kipe</i> 'spirit') |

Considering that Middle Wahgi has alternative forms *miŋ/muŋ* for three of the five, and that Ku Waru, Nii and Kuman have terms similar to the *miŋ* form (Ku Waru *miŋi*, Nii *-miŋ*, Kuman *mige*) 'any hollow object used as a container', it seems probable that /i/ is the first vowel of a formerly unrelated Proto Chimbu–Wahgi term for a container, and that the -u-alternation occurs through some overlapping of semantic categories. Containers may well be roundish in shape. Bladders certainly are.

I turn now to the question of how widespread the *moŋ* cognates are. Lying to the immediate west of the Chimbu–Wahgi group are Enga and Kewa of the West-Central Highlands group. Reasonably comprehensive dictionaries exist for both. I cannot locate a single *moŋ* cognate in Franklin’s (West) Kewa dictionary although a different term, *ini*, covers a semantic field which echoes that of *moŋ*. Examples are:

|                   |   |
|-------------------|---|
| <i>ini</i>        | ‘eye; kidney; any fruit, nut, seed; lake, pond’ |
| <i>rikini</i>     | ‘fingers, toes’ ( <i>ki</i> ‘hand/arm’)         |
| <i>adu ini</i>    | ‘nipple’ ( <i>adu</i> ‘breast’)                 |
| <i>yalima ini</i> | ‘Adam’s apple’                                  |

Apoi Yarapea has identified two East Kewa *moŋ* terms, *kobo mogo* ‘axe head’ and *pea mogo* ‘a bulbous end of nose’.

A number of Madang languages, Kalam aside, have apparent *moŋ* cognates, referring to ‘fruit, seed’ and ‘egg’ (data from Z’graggen 1980a–d). Urigina (Rai Coast sub-group) has *maŋgimu* ‘egg, seed’, Munit (Mabusu) *ma:g* ‘fruit, seed’, Ulingan (N. Adelbert) *makena* ‘fruit, seed’, Osum (S. Adelbert) *maka* ‘egg, fruit, seed’. Emerum (S. Adelbert, data from Wade n.d.) has *magi* ‘egg’ and *magi mugan* ‘nose ring’ (*mugan* ‘nose’). More interestingly, Inselmann’s Garuh (Mabusu) dictionary includes the following group:

|                   |              |
|-------------------|--------------|
| <i>dodo</i>       | ‘seed, pill’ |
| <i>baig dodo</i>  | ‘toe’        |
| <i>epeg dodo</i>  | ‘finger’     |
| <i>lat dodo</i>   | ‘arrow’      |
| <i>adita dodo</i> | ‘kidney’     |

which might be thought rather an ill-assorted bunch were it not for their *moŋ* counterparts in the Central Highlands.

Searching through dictionaries of other Trans New Guinea phylum languages, I find that two Gorokan (Eastern Highlands) languages to the east, Yagarua and Fore, apparently lack *moŋ* terms, but have a term that conflates a similar range of referents. As Laycock (1986:2) himself noted, “there is no a priori reason why a group of languages should not retain a semantic ‘habit’...even when the lexical items themselves change and are no longer cognate”.

Yagarua: (Renck 1977)

|                  |               |
|------------------|---------------|
| <i>laga</i>      | ‘fruit, seed’ |
| <i>ou laga</i>   | ‘eye’         |
| <i>hao? laga</i> | ‘kidney’      |

Fore: (Scott 1980)

|                |               |
|----------------|---------------|
| <i>ane</i>     | ‘fruit, seed’ |
| <i>na-yane</i> | ‘my kidney’   |

The same pattern emerges in the Finisterre–Huon Stock:

Kâte (E. Huon): (Flierl 1977)

|                    |                         |
|--------------------|-------------------------|
| <i>handan</i>      | ‘small roundish object’ |
| <i>jac handan</i>  | ‘tree fruit’            |
| <i>bu handan</i>   | ‘heart’                 |
| <i>rape handan</i> | ‘kidney’                |

|                     |   |
|---------------------|---|
| <i>wipe handaj</i>  | 'bird's egg'                                    |
| <i>qorac handaj</i> | 'round rocks'                                   |
| <i>aisi handaj</i>  | 'hailstones' (first element from English 'ice') |

Selepet (W. Huon): (McElhanon & McElhanon 1970)

|                      |                    |
|----------------------|--------------------|
| <i>kehetŋe</i>       | 'seed, fruit, egg' |
| <i>kehet kehetŋe</i> | 'kidneys'          |
| <i>sen kehetŋe</i>   | 'eyeball'          |

A long way to the west, we find evidence from Yale, the westernmost language of the Mek language family of Irian Jaya (Heeschen 1992):

|                  |                           |
|------------------|---------------------------|
| <i>wana</i>      | 'egg, fruit, seed; heart' |
| <i>luli wana</i> | 'hail'                    |

Tracing the twists and turns of the human mind as it makes semantic links is a highly speculative business. The links I suggest for the *moŋ* terms, from (1) compact roundish object to (2) a single roundish unit of a collection of similar units to (3a) one single unit (any shape) of a collection of similar units, or alternatively to (3b) the most significant part of a larger item, may seem logical. However, the grouping of referents which a community may have once made and incorporated into the lexicon can split and regroup and extend in unpredictable ways in daughter languages. The conflation of seed, fruit and nut is a particularly stable one, being so widespread across unrelated language families as to be almost universal. The extension of the grouping to include egg and eye is also common across language families, with other body organs like kidney, heart and testicle sometimes included, usually with a modifier. This appears to have been the case with Proto Trans New Guinea, Pawley (n.d.) having tentatively reconstructed *\*magə* for both 'fruit/seed' and 'egg', *\*giri-magə* for 'eye', and *\*mud-magV* for 'heart'. This grouping is not, on its own, sufficient evidence for genetic relatedness. For instance, two Austronesian languages, the north-west Solomonic Zabana (Ama & Fitzsimons 1985), spoken in Santa Isabel, and the Polynesian Mele Fila (Clark 1998), spoken in Vanuatu (outside geographical Polynesia), provide similar conflations (Zabana: *subuna* 'kidney, seed, tablet'; Mele Fila *fua* 'fruit, fish eggs, testicle, kidney'). More plausible evidence of relatedness would be where dispersed languages retain a grouping containing terms for referents where the more obvious conditions of roundness and/or propagation have disappeared. The inclusion of arrows and fingers and toes, as found in all the Chimbu–Wahgi languages, some Madang languages and at least one Engan language, are to my mind such an instance. Whether they are, in fact, echoes of a much older semantic conflation will depend on our locating other more far-flung examples within the Trans New Guinea phylum.

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# 17 *The Proto Trans New Guinea obstruents: arguments from top-down reconstruction*

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ANDREW PAWLEY

...the reconstruction of [Trans New Guinea phylum] forms is not a useful task at this time  
(John Haiman 1979)

## 1 Introduction

### 1.1 Methodological preliminaries

The fundamental task in understanding the history of a language family is working out its phonological history.<sup>1</sup> To do this one must (i) assemble a body of potentially related forms common to languages in the family, (ii) find, in these putative cognate sets, recurrent correspondences between the sounds of the various languages, and (iii) reconstruct from the correspondences a sound system and a lexicon for the common ancestor, from which the cognate forms of the daughter languages can be derived by a sequence of natural changes.

This paper presents evidence for reconstructing part of the sound system of Proto Trans New Guinea, the ancestor of the largest established genetic group among the 'Papuan' languages, i.e. the non-Austronesian languages indigenous to eastern Indonesia, New Guinea and Island Melanesia. Some methodological issues will also be considered, particularly the feasibility of doing 'top-down' reconstruction in a language family where very few cognates are shared by the most divergent subgroups.

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<sup>1</sup> It is a pleasure to dedicate this paper to Tom Dutton, friend and colleague. For help in compiling and checking data for this paper I am much indebted to Meredith Osmond, whose work as part-time research assistant in the Papuan Comparative Project, jointly based in the Departments of Linguistics, RSPAS, at The Australian National University and at the University of Sydney, has been funded in part by a grant from the Australian Research Council. Thanks are due to Edgar Suter for contributing comparative notes, particularly concerning Finisterre–Huon languages, and to Malcolm Ross for helpful comments on a draft of the paper.

Reconstructing the history of the sound systems of all the members of a large language family is a massive undertaking which is never completed in all details. Scholars are usually happy if after years of painstaking work they can accomplish steps (i) and (ii) and agree on certain essentials of (iii) – in particular on the phoneme distinctions and phonotactic system attributed to the protolanguage and on the subsequent development of this system in a representative sample of daughter languages. The sample of daughter languages sufficient to reconstruct the sound system of the protolanguage may be quite small – perhaps fewer than five per cent of the total membership of the family will do as ‘key witnesses’. But in order for the reconstruction to represent the common ancestor of the entire family the sample of witness languages should be drawn from each of the first-order subgroups of the family. Ideally, the sample should also include some phonologically conservative languages, such that between them they retain traces of all the original phonemic distinctions made by the mother tongue. This ideal selection can seldom be achieved first up. Often the subgrouping of the languages is poorly understood; and usually the best choice of witnesses does not become evident until the comparative work is well under way. It is to be expected that both the reconstructive hypotheses and the sample of languages compared will have to be revised from time to time.

## 1.2 The development of the Trans New Guinea hypothesis

The statement quoted at the head of this paper is taken from an insightful review article (Haiman 1979) about the book *Papuan languages and the New Guinea linguistic scene* (Wurm, ed. 1975). Haiman’s statement contains a paradox that reflects certain methodological tensions in Papuan historical linguistics, to be discussed below.

*Papuan languages and the New Guinea linguistic scene* (henceforth *Papuan languages*) is a 1,000-page symposium summarising the history of research on all the main groups of Papuan languages up to the mid 1970s. It was produced by a dozen or so scholars, almost all of whom were associated with the Department of Linguistics in the Research School of Pacific Studies at the Australian National University. The dominant theme of the book was the advocacy of the hypothesis that 500 of the 800 or so Papuan languages belong to a single genetic grouping, termed the Trans New Guinea (TNG) phylum. This hypothesis was a spectacular extension of earlier proposals about relationships among Papuan languages made by the Australian National University research group and other scholars.

Fifty years ago, most of the Papuan languages of New Guinea were still either completely undocumented, or known only from brief vocabularies and/or sketchy grammatical notes. The skimpy evidence then available suggested extreme genetic diversity, with scores of apparently unrelated linguistic families. This view began to change in the course of the 1950s. Towards the end of the decade, building on Arthur Capell’s pioneering comparative study of languages of the Central Highlands of Papua New Guinea (Capell 1948), Stephen Wurm carried out a survey of over 50 languages from Enga Province to the Kainantu area and subsequently concluded that all these languages fall into a single genetic group with a number of subgroups, as indicated in Figure 1 (Wurm 1960, 1964, 1965, 1971). His grounds for this subgrouping were chiefly lexicostatistical and typological.



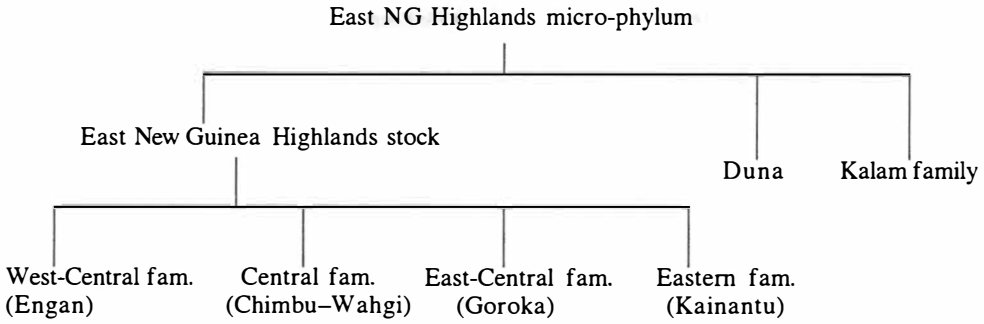


Figure 1: Subgroups of the East NG Highlands micro-phylum (after Wurm 1971)

In the 1960s and 1970s other groupings of a similar order were identified. Layock (1965) proposed a number of groups, some well-defined, others weakly indicated, in the Sepik and Ramu regions. Solid comparative arguments for the Ok group of some 20 languages, in the far west of Papua New Guinea, were given by Healey (1964). Later Healey demonstrated a common origin for the Ok and Awyu–Dumut groups, spoken to the south-west of Ok (Healey 1970). Bee (1965) made some very tentative first phonological and lexical reconstructions for the Kainantu group. Voorhoeve (1968) connected Asmat–Kamoro of the south-west of New Guinea with Awyu–Dumut and Ok and with several other groups in the south-central and central-interior regions. He named this extensive group, comprising about 70 languages, the Central and South New Guinea (CSNG) phylum. According to McElhanon and Voorhoeve (1970) the major subgroups of CSNG are as follows:

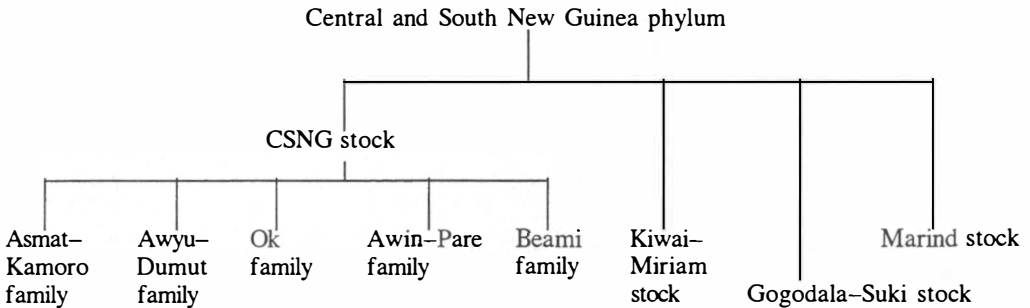
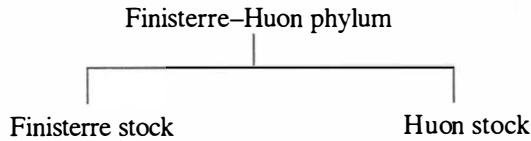


Figure 2: Some subgroups of the Central and South New Guinea phylum (adapted from Voorhoeve 1968; McElhanon & Voorhoeve 1970)

Researchers using lexicostatistical methods usually referred to a particular group as being a ‘family’, ‘stock’ or ‘phylum’ level group, according to the percentages of cognates linking its members. If a set of languages share cognate percentages higher than 28 per cent in basic vocabulary they comprise a family. Cognate percentages between 12 and 28 define a stock and agreements of between 5 and 12 per cent a phylum. The term ‘macro-phylum’ was applied to languages linked at between one and five per cent. The putative Trans New Guinea phylum consists of a number of different phyla linked at less than five per cent. It was therefore properly designated a macro-phylum; however, the ‘macro’ was usually dropped. Within some large groups the postulated hierarchy of subgroups showing cognate

percentages of between about five and 25 per cent were so numerous that terms for additional levels were introduced, e.g. 'micro-phylum', 'sub-phylum' and 'superstock'.

McElhanon (1967) defined a Finisterre–Huon phylum, also containing some 70 languages, on morphological as well as lexical grounds.



**Figure 3:** Putative subgroups of the Finisterre–Huon stock  
(after McElhanon 1967, 1975)

Z'graggen (1971) identified a sizeable group in the central and eastern parts of Madang province. He later extended this to include about 100 languages and named it the Madang–Adelbert Range sub-phylum (Z'graggen 1975). In the south-eastern part of Papua New Guinea there are a dozen or so well marked small families (Dutton 1971).

The term 'Trans New Guinea phylum' was introduced by McElhanon and Voorhoeve (1970) in a small book that linked the Finisterre–Huon (F–H) phylum with the Central and South New Guinea (CSNG) phylum. In support of this wider grouping they provided some 90 sets of 'interphylic' resemblant forms, all with meanings that qualify as 'basic' (e.g. body parts and kin terms). McElhanon and Voorhoeve further observed that some of these forms appeared to have cognates in several other Papuan groups, particularly the Binandere group, to the south-east of F–H, and in certain groups of Madang Province, to the west of F–H.

There ensued a period of intense excitement in the ranks of the ANU group as scholars searched for resemblances between the core TNG phylum groups and other Papuan groups. A greatly extended version of the TNG phylum (call it TNG II) was proposed in Wurm (ed. 1975) and mapped in Wurm and Hattori (1981–83). Except for the Bird's Head region, all the languages spoken along the 1,500 km cordillera that runs down the centre of New Guinea were included in TNG II. Nearly all the Papuan languages spoken south of the cordillera and many of those to the north were also assigned to TNG II, the chief exceptions being many small groups in the East Sepik and Sundaun Provinces and the western part of Madang Province of Papua New Guinea.

The list below set out most of the low-order subgroups of the TNG phylum, with abbreviations used in cognate sets to be cited below.<sup>2</sup> For convenience of locating these subgroups on the map, they are listed under eight regional headings. In most cases the regions do not correspond to known subgroups. The exceptions are Angan, Finisterre–Huon and (with one small anomaly) Madang.

<sup>2</sup> In identifying and mapping lower-order subgroups here and in the map, I largely follow Wurm and Hattori (1981–83). However, I have in some cases used different names for subgroups, where there seem to be good reasons to do so.

**Some subgroups of Trans New Guinea ordered by geographical regions**

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**Regions**

ANG (Angan)  
 CEN (Central New Guinea)  
 EHL (Eastern Highlands)  
 F-H (Finisterre–Huon)  
 GULF (Gulf)  
 SE (South-Eastern)  
 MAD (Madang Province)  
 NW (North-Western)  
 SW (South-Western)  
 TIM (Timor–Alor–Pantar)

GULF (GLF)  
 Eleman (?) (Ele)  
 Turama-Kikori (Tu–Ki)  
 Inland Gulf (IGf)  
 Kiwai family (Kiw)  
 Eastern Trans-Fly family (Tr-Fl)  
 Gogodala-Suki (Gog)

SOUTH-EASTERN (SE)  
 Binandere family (Bin) (includes  
 Guhu–Samane Isolate)

Dagan family (Dag)  
 Goilalan family (Goi)  
 Koiarian family (Koi)  
 Kwalean family (Kwl)  
 Mailuan family (Mlu)  
 Manubaran family (Mnb)  
 Yareban family (Yrb)

MADANG (MAD)  
**MADANG GROUP**

Kalam–Kobon family (Kal)  
 Rai family (Rai)  
 Mabuson family (Mab)  
 North Adelbert family (N Ad)  
 South Adelbert family (S Ad)  
 Yaganon stock (Yag)

NORTH-WESTERN (NW)

Kaure family (Kau)  
 Kwerba–Tor–Uria (Kwr)  
 Pauwasi family (Pau)  
 Senagi family (Sng)  
 Sentani family (Snt)  
 Nimboran family (Nim)  
 Tami (Tam) (= Border)  
 Mek (Mek) (= Goliath)  
 Dani family (Dni)  
 Dem isolate (Dem)  
 Wissel Lakes (Wis)  
 Mairasi–Tanah Merah (Ma–Ta)  
 W. Bomberai (W Bm)  
 South Bird’s Head (S Bi–Hd)

**Subgroups by region**

ANGAN (ANG)  
 Angan family (Ang)  
 CENTRAL (CEN)  
 Duna family isolate (Dun)  
 Lake Kutubu (Ktb)  
 Teberan–Pawaian (Te–Pa)  
 Bosavi (Bedamini) family (Bos)  
 East Strickland family (EStr)  
 Awin–Pa family (Aw–Pa)  
 Oksapmin family isolate (Oks)  
 Ok family (Ok)  
 Awyu–Dumut family (Aw–Du)  
 Kayagar family (Kay)  
 Asmat–Kamoro family (Asm)  
 EASTERN HIGHLANDS (EHL)  
 Kenati family isolate (Ken)  
 Kainantu family (Ktu)  
 Gorokan family (Gka)  
 Chimbu–Wahgi family (Ch–W)  
 Engan family (Eng)  
 Wiru family isolate (Wru)  
 FINISTERRE–HUON (F–H)  
 Warup family (War)  
 Gusap–Mot family (Gu–Mo)  
 Uruwa family (Uru)  
 Yupna family (Yup)  
 Wantoat (Wan)  
 Erap Family (Erp)  
 Eastern Huon family (EHu)  
 Western Huon family (WHu)  
 Kovai isolate (Kov)

*Continued over...*

## SOUTH-WESTERN (SW)

Morehead and Upper Maro Rivers  
(Md–Mo)

Mombum family (Mom)

Waia family level isolate (Wai)

Moraori family level isolate (Mor)

Yelmek–Maklew family (Ye–Ma)

## MARIND

Boazi family (Bzi)

Marind family (Mar)

Yaqay family (Yaq)

Kolopom family (Kol)

## TIMOR (TIM)

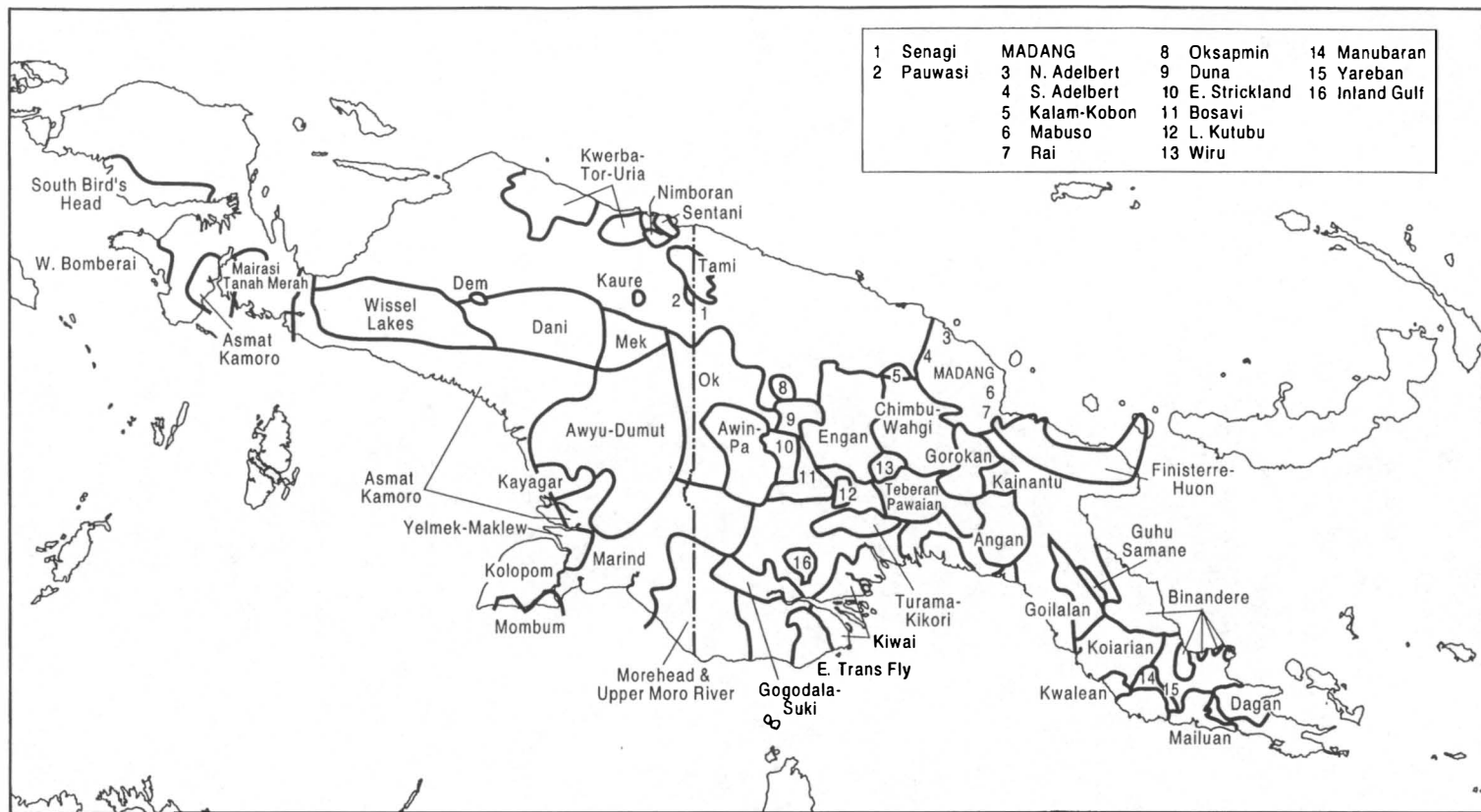
Timor–Alor–Pantar

However, three of the principal authors of the TNG phylum hypothesis placed on it the following major qualification:

the interrelationship of many of the [Trans New Guinea phylum] languages is, in a way, secondary or partial and fractional...The presence of the older, different languages upon which the [TNG phylum] languages appear to have been superimposed...is noticeable in the form of substrata of varying strength throughout the greater part of the [TNG phylum]. (Wurm, Voorhoeve and McElhanon 1975:300)

The TNG phylum hypothesis got a lukewarm reception from reviewers (Haiman 1979; Heeschen 1978; Lang 1976 and, later, Foley 1986) and indeed from two of the major contributors to the volume (McElhanon 1975; Z'graggen 1975). A major weakness in the case for the TNG group was that it rested largely on typological resemblances, and on a tenuous thread of lexical resemblances, in a linguistic area where languages have been borrowing from one another for thousands of years. The book does not cite pan-TNG agreements in the fine details of morphological paradigms. It does contain a chapter (Wurm 1975a) which reconstructs three (competing) sets of independent pronouns, though without a systematic treatment of the supporting evidence. Forms from one of these sets are undoubtedly widely reflected within TNG but the case for their antiquity was weakened by the author's argument that pronouns are rather freely borrowed across subgroup boundaries.

Nor was the TNG hypothesis supported by well-attested cognate sets, showing regular sound correspondences, which allow the phonological history of the family to be reconstructed. Among the chapters in *Papuan languages* there was one (Wurm 1975b) which discussed the application of the comparative method to the TNG phylum and proposed seven Proto Trans New Guinea (pTNG) lexical reconstructions. For five of these, sets of possible cognates from disparate subgroups were cited. Comparisons made in McElhanon and Voorhoeve (1970) formed the hard core of these sets but these core comparisons (themselves not without problems) were greatly extended to include highly divergent forms found in widely dispersed groups. Some of the reconstructed protoforms, designed to account for highly divergent forms but without a systematic account of sound correspondences, stretched credibility. For example, the reconstruction \*((C,K)O(K<sup>N</sup>(M)I)T<sup>(n)</sup>AT<sub>1</sub> 'bone' was proposed to allow the derivation of such contemporary forms as *kondo*, *karat*, *kiki*, *kaka*, (*vu*)*haari*, *taŋəle*, *hiau*, *diri*, *hɔrɔ*, *uti* and *kəl*, all meaning 'bone'. In the absence of a demonstration of regular sound correspondences the reconstructed formulae were judged by Haiman (1979:897) to be "so vague as to be worthless".



**Map:** Subgroups of the Trans New Guinea phylum

Haiman was positive about many aspects of *Papuan languages*, including some of its comparative historical sections dealing with lower-order groups. However, he was highly critical of those chapters of the book that are centrally concerned with making the case for the TNG hypothesis. While they acknowledged that the hypothesis may well be confirmed some day,<sup>3</sup> it is clear that Haiman and the other reviewers did not think it had been justified in *Papuan languages* or in other publications on the subject up to that time.

The conclusion that the TNG hypothesis, although promising, had not yet been convincingly demonstrated in *Papuan languages* was surely fair. But Haiman's remark that "the reconstruction of TNGP forms is not a useful task at this time" leaves us (it seems) with a paradox. If the most fundamental deficiency in the evidence for the TNG hypothesis was that the phonological history of the group had not been reconstructed, why should linguists postpone the attempt to reconstruct pTNG forms?

The answer lies in how one goes about the task of reconstructing protoforms. Although he does not phrase matters in precisely these terms, it is plain that Haiman thought that reconstruction using a 'top-down' strategy would not produce reliable results. Instead, comparativists would at this stage do better to concentrate on 'bottom-up' reconstruction. In 'top-down' reconstruction one arrives at reconstructions of the very earliest stage of a language family by comparing languages from distantly related branches, without having first reconstructed intermediate protolanguages, i.e. those ancestral to lower-order branches. By contrast, bottom-up reconstruction begins with the lowest-order protolanguages in a family, i.e. those ancestral to lower-order subgroups, and proceeds from there to high-order protolanguages, leading eventually to the primary ancestor of the entire family. In both cases one must try to establish regular sound correspondences and use these to reconstruct the proto-phonology. But those wishing to begin with a bottom-up strategy would argue that this method should yield more reliable reconstructions of proto-phonologies and protolexemes. In the first place, a set of closely related languages will show many more cognates than distantly related languages and will differ from one another in fewer sound changes, allowing fairly straightforward reconstruction of the immediate common ancestral language. Such reconstructions can then serve as a secure base for attempting reconstructions at the next level up, and so on.

In an earlier, sympathetically critical review of *Papuan languages*, Ranier Lang (1976:74) had taken a similar position.

...there is a crying need to do the hard work of looking for proven cognates based on solid reconstruction of proto-[sound]systems. Only three papers are devoted to this endeavor, and Professor Wurm, in the first of these, *attempts the near impossible by setting up a Proto-Trans New Guinea sound system from the lexical data of the individual daughter languages without the reconstruction of intermediate systems*. If we remember that there are 491 languages in the [TNG phylum] the absolutely daring nature of the enterprise becomes apparent at once. [My italics:AP]

Most experienced comparative linguists of my acquaintance do not advocate using one strategy before the other. They believe that, in principle, one should work in both directions at once in order to provide checks and balances. However, in the Papuan case, there were grounds for being pessimistic about the worth of attempting top-down reconstruction. A

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<sup>3</sup> Haiman (1979:899-901) put forward some arguments of his own that he felt supported the TNG hypothesis and later, in his dictionary of Hua (Haiman 1991), published a number of cognate sets representing various groups from the central Highlands and sometimes beyond.

comparativist newly entering TNG phylum comparative linguistics in 1975 would have encountered both good and bad news. The good news would have been that the phylum is very large – several hundred languages – and divides into dozens of branches that are only distantly related and are geographically widely separated. Potentially, then, there are a great many independent witnesses to give testimony on questions concerning the form of the common ancestor.

The first bit of bad news would have been that most of the languages were only sketchily recorded, lacking proper phonemic and grammatical analyses and represented only by brief word lists. A second piece of bad news, more serious in the long term, would have been that, in the few cases in which there were reasonably good dictionaries to compare, the number of obvious cognates common to geographically distant members of the phylum was very low – sometimes fewer than 10 and seldom as high as 20. One consequence of these low numbers is that, apart from a few highly recurrent phonemes, the sample of forms available in any one language to test hypotheses about sound correspondences is pitifully small. So by the mid 1970s only a few score potential cognates common to widely separated groups of TNG languages had been identified. Without a sufficient number of putative cognate sets, recurrent sound correspondences can't be tested for, and without such a foundation there is no way of evaluating speculative reconstructions.

### **1.3 Another try at top-down reconstruction**

When I first read Haiman's and Lang's reviews I thought a moratorium on top-down reconstruction, pending detailed work on lower order subgroups, was wise advice. At that time my knowledge of the Papuan comparative evidence was slight and I gave little thought to the subject for a good many years. Then something happened which changed my views.

In 1994 Malcolm Ross and I, with Meredith Osmond's assistance, began a comparative study of a large group of Papuan languages centred in Madang Province, using as our main source Z'graggen's invaluable word lists for the group he called 'Madang-Adelbert Range' (Z'graggen 1975, 1980a-d). We began by doing bottom-up reconstruction, concentrating on low- and middle-order subgroups. At the end of the year a letter from Leiden arrived inviting Ross and me to contribute papers to a festschrift for Bert Voorhoeve. The editors gave us just two weeks notice before their deadline.

Casting around for an appropriate topic I turned to the previously mentioned volume by McElhanon and Voorhoeve (1970). When I had casually perused this little book 20 years earlier many of the comparisons looked far-fetched. Now, reading it more closely and knowing rather more about sound changes in Papuan languages, I was powerfully struck by the number of plausible resemblances between the Finisterre-Huon and Central and South New Guinea groups. In addition, there were a fair number of resemblances to the Madang-Adelbert Range languages and to the one Papuan language I knew well, Kalam (spoken in the Schrader ranges on the border of three provinces: Madang, Enga and Central Highlands). Although there were huge problems with McElhanon and Voorhoeve's comparisons, not resolvable without knowing a good deal about the phonological history of each language, there was a solid nucleus of comparisons that looked pretty convincing. Significantly, almost all their putative cognate sets referred to body parts, kinship relations,

familiar animals and elements of the inanimate environment, the most stable parts of the vocabulary.<sup>4</sup>

For my contribution to the festschrift I hastily selected about 40 of the most promising sets of resemblant forms in McElhanon and Voorhoeve, added some additional forms, especially from Madang and Kalam, and then attempted a top-down reconstruction of pTNG phonology (Pawley 1995). This exercise convinced me that the data available in the 1970s were, in fact, sufficient to do useful top-down reconstruction. When placed in series and by subgroup, a set of forms such as *kii*, *kee*, *kai*, *kayi*, *kuwit*, *kuhit*, *kubit*, *kubam*, *gibadza*, *kofiri*, *kporu?*, *kopuru*, all meaning 'head', look as though they might well be derived by a series of natural sound changes from a single earlier form something like *\*kVmb(i, u)tu*. In fact, it did not take a great deal of effort to discern certain recurrent consonant and vowel correspondences between languages belonging to several diverse groups that had been assigned to the Trans New Guinea phylum. These correspondences served as a basis for reconstructing some of the phonemes and lexical forms of the common ancestor of these several groups.

The following set of consonant contrasts was proposed.

**Table 1:** Tentative list of pTNG consonant phonemes (Pawley 1995)

|                         | bilabial  | apical     | velar     |
|-------------------------|-----------|------------|-----------|
| oral obstruents         | <i>p</i>  | <i>t s</i> | <i>k</i>  |
| prenasalised obstruents | <i>mb</i> | <i>nd</i>  | <i>ŋg</i> |
| nasals                  | <i>m</i>  | <i>n</i>   | <i>ŋ</i>  |
| lateral                 |           | <i>l</i>   |           |
| semivowels              | <i>w</i>  | <i>y</i>   |           |

At least five vowels (*\*a*, *\*e*, *\*i*, *\*o*, *\*u*) were indicated by the evidence.

The reconstructed consonants and vowels in Table 1 were not meant to be an exhaustive list of the sets of distinct or partially distinct correspondences represented in the data. These symbols simply represent a minimal list of correspondence sets, which amount to a plausible phonological system.

pTNG syllables were reconstructed as having the shape (C)V, and in word-final position (C)VC. There were probably no phonemic consonant clusters within words, phonetic clusters of homorganic nasal + obstruent being interpreted as unit phonemes. Lexical bases (morphemes) could consist of one or more syllables, e.g. *\*na-* 'eat', *\*ke(nd,s)a* 'blood', *\*tutu(tu)ku* 'straight'.

<sup>4</sup> Within the broad domain of 'basic vocabulary' (e.g. the Swadesh lists of 200 and 100 basic concepts) there appears to be an inner core of word meanings that are particularly conservative. For some discussion of agreements between TNG and Austronesian languages in this respect, see Pawley (1998:678-680).



Ross's contribution was in the same spirit as mine. It catalogued widespread cognate sets for independent pronoun forms and reconstructed a set of five pTNG forms very similar to those arrived at (but not formally justified) by Voorhoeve (1975:449, fn.32) and Wurm, Voorhoeve and McElhanon (1975).

The 1995 papers represented only a modest advance on McElhanon and Voorhoeve's 1970 work. Neither Ross nor I included an explicit statement of the sound correspondences between the reconstructed system and the daughter languages, needed to firmly underpin the reconstructions. In this and certain other respects the treatments fell short of the methodological requirements summarised in the first paragraph of the present paper. The advance was that the proposed pTNG sound system and lexical units represented hypotheses that were both plausible and precise enough to be readily falsifiable.

As it happens, I do not believe there can be much dispute about the pTNG nasals, particularly \**m* and \**n*, and the vowels \**a*, \**i* and \**u*, which are continued without change in many forms in the daughter languages, e.g. \**ama* 'mother', \**amu* 'breast', \**kumV-* 'die', \**magV* 'compact round object: fruit, seed, egg, etc.', \**na-* 'eat', \**niman* 'louse', \**wani* 'name', \**takVn(V)* 'moon'. However, the case for the remaining consonant and vowel reconstructions was much less obvious from inspection of the cognate sets. Most problematic was the claim that there were two series of obstruents, one oral and one prenasalised.

#### 1.4 Further methodological concerns

A larger body of putative cognate sets has now been assembled, comprising about 160–170 sets represented in geographically disparate TNG groups (Pawley n.d.) and we will draw on this in the comparisons to be made below.

As a preliminary step in phonological reconstruction it is useful to compare types of sound systems across a range of TNG languages. While this exercise does not tell us precisely what type of system pTNG had, it gives a general idea of what to expect, and is likely to be useful when we try to figure out the direction and relative chronology of specific sound changes. A number of TNG languages are tonal, with considerable typological variety in the systems (Donohue 1997), but only segmental phonemes will be considered here.

Table 2: Segmental phonemes in some contemporary TNG languages

| Angaataha (Angan) |             |           |   | Baruya (Angan) |          |           |
|-------------------|-------------|-----------|---|----------------|----------|-----------|
| <i>m</i>          | <i>n</i>    | <i>ŋ</i>  |   | <i>m</i>       | <i>n</i> | <i>ŋ</i>  |
| <i>p</i>          | <i>t</i>    | <i>k</i>  | ? | <i>b</i>       | <i>d</i> | <i>g</i>  |
|                   | <i>s, r</i> |           |   | <i>p</i>       | <i>t</i> | <i>k</i>  |
| <i>w</i>          | <i>y</i>    |           |   | <i>l</i>       |          |           |
|                   |             |           |   | <i>w</i>       | <i>y</i> |           |
| <i>i</i>          | <i>ɨ</i>    | <i>u</i>  |   | <i>i</i>       | <i>ɨ</i> | <i>u</i>  |
| <i>e</i>          |             | <i>o</i>  |   | <i>e</i>       |          | <i>o:</i> |
|                   | <i>a</i>    | <i>aa</i> |   |                | <i>a</i> | <i>a:</i> |

Continued over...

**Finisterre–Huon**

McElhanon gives this as the typical Fi–Hu system:

|               |             |               |
|---------------|-------------|---------------|
| <i>m</i>      | <i>n</i>    | <i>ŋ</i>      |
| <i>b</i>      | <i>d</i>    | <i>g</i>      |
| <i>p</i>      | <i>t</i>    | <i>k</i>      |
| ( <i>gb</i> ) |             | ( <i>gw</i> ) |
| ( <i>kp</i> ) |             | ( <i>kw</i> ) |
| <i>f</i>      | <i>s, z</i> |               |
| <i>w</i>      | <i>y</i>    |               |

|          |          |          |
|----------|----------|----------|
| <i>i</i> |          | <i>u</i> |
| <i>e</i> |          | <i>o</i> |
| √        | <i>a</i> | <i>ɔ</i> |

**Kuman (Chimbu–Wahgi)**

|          |             |           |
|----------|-------------|-----------|
| <i>m</i> | <i>n</i>    |           |
| <i>b</i> | <i>d</i>    | <i>g</i>  |
| <i>p</i> | <i>t</i>    | <i>k</i>  |
|          | <i>s</i>    |           |
|          | <i>r, l</i> | <i>gl</i> |
| <i>w</i> | <i>y</i>    |           |

|          |          |          |
|----------|----------|----------|
| <i>i</i> |          | <i>u</i> |
| <i>e</i> |          | <i>o</i> |
|          | <i>a</i> |          |

**Wiru (Engan)**

|           |           |           |
|-----------|-----------|-----------|
| <i>m</i>  | <i>n</i>  |           |
| <i>mb</i> | <i>nd</i> | <i>ŋg</i> |
| <i>p</i>  | <i>t</i>  | <i>k</i>  |
|           | <i>l</i>  |           |
|           | <i>y</i>  |           |
|           | <i>w</i>  | <i>y</i>  |

|          |          |          |
|----------|----------|----------|
| <i>i</i> |          | <i>u</i> |
| <i>e</i> |          | <i>o</i> |
|          | <i>a</i> |          |

**Suroi (Madang)**

|           |               |           |
|-----------|---------------|-----------|
| <i>m</i>  | <i>n</i>      | <i>ŋ</i>  |
| <i>mb</i> | <i>nd ndz</i> | <i>ŋg</i> |
| <i>p</i>  | <i>t dz</i>   | <i>k</i>  |
| <i>f</i>  | <i>s</i>      |           |
|           | <i>l, r</i>   |           |
| <i>w</i>  | <i>y</i>      |           |

|          |  |           |
|----------|--|-----------|
| <i>i</i> |  | <i>u</i>  |
| <i>e</i> |  | <i>o</i>  |
| <i>a</i> |  | <i>aa</i> |

**Ku Waru (Chimbu–Wahgi)**

|           |            |           |           |
|-----------|------------|-----------|-----------|
| <i>m</i>  | <i>n</i>   | <i>ñ</i>  | <i>ŋ</i>  |
| <i>mb</i> | <i>nd</i>  | <i>ñj</i> | <i>ŋg</i> |
| <i>p</i>  | <i>t</i>   | <i>s</i>  | <i>k</i>  |
|           | <i>rtl</i> | <i>ly</i> | <i>gl</i> |
| <i>w</i>  | <i>y</i>   |           |           |

|          |          |          |
|----------|----------|----------|
| <i>i</i> |          | <i>u</i> |
| <i>e</i> |          | <i>o</i> |
|          | <i>a</i> |          |

**Awa (Kainantu, E. Hlds)**

|          |          |          |   |
|----------|----------|----------|---|
| <i>m</i> | <i>n</i> |          |   |
| <i>b</i> | <i>d</i> | <i>g</i> |   |
| <i>p</i> | <i>t</i> | <i>k</i> | ? |
|          | <i>s</i> |          |   |
| <i>w</i> | <i>y</i> |          |   |

|          |          |          |
|----------|----------|----------|
| <i>i</i> |          | <i>u</i> |
| <i>e</i> |          | <i>o</i> |
|          | <i>a</i> |          |

**Kalam (Madang)**

|           |           |           |           |
|-----------|-----------|-----------|-----------|
| <i>m</i>  | <i>n</i>  | <i>ñ</i>  | <i>ŋ</i>  |
| <i>mb</i> | <i>nd</i> | <i>ñj</i> | <i>ŋg</i> |
| <i>p</i>  | <i>t</i>  | <i>c</i>  | <i>k</i>  |
|           | <i>s</i>  |           |           |
|           | <i>l</i>  |           |           |

|          |          |          |
|----------|----------|----------|
| <i>i</i> |          | <i>u</i> |
| <i>e</i> |          | <i>o</i> |
|          | <i>a</i> |          |

(Kalam (i) is predictable. *mb*, *nd*, *ñj*, *ŋg* > *mp*, *nt*, *nc*, *ŋk* word-finally. They appear as *b*, *d*, *j*, *g* in orthography.)

**Boazi (Beset dial.) (Lake Murray)**

|           |           |           |           |
|-----------|-----------|-----------|-----------|
| <i>m</i>  | <i>n</i>  |           |           |
| <i>b</i>  | <i>d</i>  | <i>g</i>  |           |
| <i>mb</i> | <i>nd</i> | <i>ŋg</i> | <i>nq</i> |
| <i>p</i>  | <i>t</i>  | <i>k</i>  | <i>q</i>  |
| <i>f</i>  | <i>s</i>  |           |           |
| <i>v</i>  | <i>z</i>  | <i>ɣ</i>  |           |
|           | <i>l</i>  |           |           |

|          |          |          |
|----------|----------|----------|
| <i>i</i> |          | <i>u</i> |
| <i>e</i> |          | <i>o</i> |
| <i>ε</i> | <i>a</i> |          |

**Asmat**

|          |            |            |            |
|----------|------------|------------|------------|
| <i>m</i> | [m, mb, b] | <i>n</i>   | [n, nd, d] |
| <i>p</i> | [p, pw]    | <i>t</i>   | <i>k</i>   |
| <i>f</i> |            | <i>s,c</i> |            |
|          |            | <i>r</i>   |            |
| <i>w</i> |            | <i>y</i>   | [y, j]     |

|          |          |          |
|----------|----------|----------|
| <i>i</i> |          | <i>u</i> |
| <i>e</i> | ə        | <i>o</i> |
|          | <i>a</i> |          |

**Beami (Bosavi)**

|          |          |          |
|----------|----------|----------|
| <i>m</i> | <i>n</i> |          |
| <i>b</i> | <i>d</i> | <i>g</i> |
| <i>f</i> | <i>s</i> |          |
| <i>w</i> | <i>y</i> |          |

(all obstruents have voiced and voiceless allophones)

|          |          |          |
|----------|----------|----------|
| <i>i</i> |          | <i>u</i> |
| <i>e</i> |          | <i>o</i> |
| æ        | <i>a</i> |          |

**Dani (Wodo Valley dial.)**

|           |           |          |            |
|-----------|-----------|----------|------------|
| <i>m</i>  | <i>n</i>  |          |            |
| <i>mb</i> | <i>nd</i> | <i>g</i> | <i>ngw</i> |
| <i>p</i>  | <i>t</i>  | <i>k</i> | <i>kw</i>  |
| <i>B</i>  | <i>D</i>  |          |            |
|           | <i>l</i>  |          |            |
| <i>w</i>  | <i>y</i>  |          |            |

|          |          |          |
|----------|----------|----------|
| <i>i</i> |          | <i>u</i> |
| <i>I</i> |          | <i>U</i> |
| <i>e</i> | <i>a</i> | <i>o</i> |

**S. Kati (Ok)**

|          |          |          |
|----------|----------|----------|
| <i>m</i> | <i>n</i> | <i>ŋ</i> |
| <i>b</i> | <i>d</i> |          |
| <i>p</i> | <i>t</i> | <i>k</i> |
| <i>w</i> | <i>y</i> |          |

(*p* = [p,b] *t* = [t,d] *k* = [k,g])

|          |          |          |
|----------|----------|----------|
| <i>i</i> |          | <i>u</i> |
| <i>e</i> |          | <i>o</i> |
|          | <i>a</i> |          |

**Ekagi (Wissel Lakes)**

|          |          |            |
|----------|----------|------------|
| <i>m</i> | <i>n</i> |            |
| <i>b</i> | <i>d</i> | <i>g</i>   |
| <i>p</i> | <i>t</i> | <i>k</i>   |
| <i>w</i> | <i>y</i> |            |
|          | <i>k</i> | [x, k, kw] |

|          |          |          |
|----------|----------|----------|
| <i>i</i> |          | <i>u</i> |
| <i>e</i> |          | <i>o</i> |
|          | <i>a</i> |          |

(B and D represent voiced implosive stops)

Boazi is unusual in this sample in that it distinguishes five sets of obstruents. Most languages in the collection distinguish just two series, either prenasalised vs plain (non-prenasalised) or voiced vs voiceless, with contrasts at bilabial, apical and velar positions. (The final component of a prenasalised obstruent may in some contexts be voiceless.) Several languages have only one series of obstruent, in which case a given obstruent phoneme is likely to have both voiced and voiceless variants. The apical stop [t] and the flap [ɾ] or trill [r̄] are usually positional variants of the same phoneme. All languages in the sample have at least two nasals (bilabial and apical). Some also have a velar nasal but only two have a palatal nasal. Most languages have a single lateral. Members of the Chimbu–Wahgi family have two or three. Most languages are analysed as having two semivowels, [w] and [y]. Five- and six-vowel systems predominate but in a few groups more complex systems occur.

The typological evidence suggests that the common ancestor of the TNG languages probably had two series of obstruents contrasting in manner of articulation and that the basic

opposition was prenasalised vs oral. Some members of most subgroups of TNG show such a contrast. But typological agreements can never be more than suggestive. In order to attribute a contrast between two sounds *\*x* and *\*y* to the protolanguage of a group, we must be able to show that *x* and *y* remain distinct (have distinct reflexes) in at least some daughter languages in particular cognate sets.

## 2 Cognate sets reflecting pTNG obstruents

### 2.1 The two series of pTNG obstruents

Recurrent sound correspondences in about 100 cognate sets indicate that there were two series of pTNG obstruents, with matching points of articulation (bilabial, apical, velar). These two series are represented as *\*mb \*nd \*ŋg* and *\*p \*t \*k* respectively.

At this stage I am not greatly concerned with the precise phonetic realisations of these elements, other than the assumptions that (i) each was (invariably or sometimes) realised as an obstruent, (ii) *\*mb* and *\*p* were bilabials, *\*nd*, *\*t* and *\*s* were apicals and *\*ŋg* and *\*k* were velars. I believe the weight of the evidence quite strongly suggests that the basic manner contrast between obstruents at the same point of articulation was between presence and absence of a homorganic nasal onset to the obstruent but to demonstrate this point would require longer discussion than we can afford here.

In addition, an apical fricative and/or affricate, written *\*s*, is reconstructed. There is some slight evidence for a prenasalised counterpart, which might be written *\*nz*.

Now to the cognate sets. With each set some information is given to help the reader locate languages by region and subgroup. Thus, the sequence **MAD Rai** Danaru *kandi* indicates that the form *kandi* is found in the Danaru language, which belongs to the Rai subgroup, which is located in the Madang region. Unless otherwise noted, the gloss for each contemporary form in a cognate set is the same as that given for the reconstructed etymon. A hyphen before or after a form indicates that it normally occurs with a prefix or suffix respectively.

Witnesses sometimes disagree as to the exact form of particular etymon, i.e. the evidence for some part of the form does not conform to a single established set of sound correspondences. When witnesses disagree in this way the following conventions are followed to show ambiguity in a reconstruction. (C) or (V) indicates indeterminacy between several consonants or several vowels, respectively. (*x*, *y*) indicates indeterminacy between two elements, *x* and *y*; similarly (*x*, *y*, *z*) indicates a three-way ambiguity. (*x*) indicates indeterminacy between reconstructing *x* or reconstructing nothing. Portions of a word that are not cognate with the reconstruction in question are separated from the cognate morpheme either by square brackets, as e.g. *\*ambi* 'man' > Mareng *abe[era]* 'woman, wife', or in the case of affixes, by a hyphen.

The sets of putative cognates cited below are those which are represented in at least two different high-order subgroups and which contain reflexes of the obstruents. There are very few sets where all the reflexes of pTNG obstruents are completely regular. In making judgments on the cognation of resemblant forms it would be unwise to reject all apparently irregular forms that are not obviously the product of sporadic processes known to us from many other language families, such as assimilation, dissimilation, metathesis, lenition or analogical reformation of a member of a paradigmatic set. Certain types of sporadic changes are common in Papuan languages which might be called 'one-step feature shift'.

The pronunciation of a segment shifts from one phoneme to another, which differs from the first only in one distinctive feature. Furthermore, only certain pairs of features may be related in this way. For example, the following sorts of shifts recur:

**Table 3:** Some recurrent irregular sound shifts in TNG languages

|   |  |  |   |
|---|--|--|---|
| nasal to oral<br><i>m &gt; b &gt; p</i><br><i>n &gt; d &gt; t</i><br><i>ŋ &gt; g &gt; k</i> | oral to nasal<br><i>b &gt; m</i><br><i>d &gt; n</i><br><i>g &gt; ŋ</i> | apical stop to flap<br><i>p &gt; m</i> <i>t &gt; r</i><br><i>t &gt; n</i> <i>d &gt; r</i><br><i>k &gt; ŋ</i> |   |
| apical to velar<br><i>n &gt; ŋ</i>  | lateral to nasal<br><i>l &gt; n</i>                                    | nasal to lateral<br><i>n &gt; l</i>  |   |
| glide to fricative/affricate<br><i>y &gt; z, dz</i>   | apical stop to sibilant and vice versa<br><i>t &gt; s, s &gt; t</i>    |  |   |
| front to back<br><i>i &gt; u</i><br><i>e &gt; o</i>   | back to front<br><i>u &gt; i</i><br><i>o &gt; e</i>                    | high to mid<br><i>i &gt; e</i><br><i>u &gt; o</i>  | mid to high<br><i>e &gt; i</i><br><i>o &gt; u</i> |

## 2.2 Bilabial obstruents

### 2.2.1 Initial \*mb- vs \*p-

#### mb-

1. *\*mbalaŋ* ‘flame’ F–H *WHu* Selepet *balam* ‘flame, torch’, Nomu, Sialum *bolam*, Kinalakna *balam*, Hube *bilaŋ*, *EHu* Dedua *boran*, Sene *berɔ*, Kâte *bɔruŋ*, Mape *boruŋ*; **MAD** *Kal* Kalam *maŋlaŋ*, *maŋaŋ*, **Mab** Garuh *balamu* ‘light of fire’.

2. (a) *\*mbapa*, (b) *apa* ‘father’ SE *Mlu* Domu *baba*, *Yrb* Yareba *bába*, *Koi* Mt Koiari *baba*; **Bin** N. Baruga *afa*, Korafe *apa*; F–H *WHu* Nabak *bi.p*; **MAD** *Kal* Kalam *bapi*, *-ap*, Kobon *bap*, *-ap*, **Rai** Sausi *awi*, Arawum *-apa*, Kwato, Sumau *awa*, Lemio *bapa*, **Mab** Sihan *baba*, **NAd** Waskia *ba*, **SAd** Katiati *-βa*, Emerum *yaβaŋ*, **EHL** *Ktu* Waffa *[na]poova*, **Gka** Fore *[na]bawe*, **Ch–W** M. Wahgi *ap-* ‘mother’s brother’, **Eng** Kewa *aapa*, Mendi *ap*, Ipili *apa*, Huli *aba*; **CEN** *Ktb* Foe *abia*, Fasu *apa*, **Ok** Kati M *abe*; **GLF** *Kiw* Kiwai *baba*; **NW** *Wis* Ekagi *wawa*.

(a) and (b) may have been conditioned alternants, with (a) the independent form and (b) the inalienable (possessed) form.

3. *\*(mb,m)elak* (a) ‘lightning, lightning flash’ (N.), or ‘flash, lighten’ (V.) SE **Bin** Korafe *biria*; F–H *WHu* Selepet *belek*, *EHu* Kâte *boric* ‘glitter, flash of lightning, etc.’ (N.), *bɔbɔric* ‘lightning, brightness’; **MAD** **Rai** Arawum *mele[ŋe]-*, Bongu *mili[ŋ]*, Duduela *amili [fie-]*, Jilim *bile[n]-*, **Mab** Kare *pililia*, Bau *peri [flay-]* (V.), Sihan *amera [flay-]* (V.), Utu *ep bir-* (V.), **NAd** Mugil *meulik [em-]* (V.), Waskia *bilik[ma]*, Ulingan *[aperka] wilik*, Ukuriguma *bilika*, Hinihon *melelek [ewi-]* (V.), Parawen *milik[ei-]* (V.), **SAd** Moresada *mera-[tangu-]* (V.); **TIM** Blagar *merax*.

(b) 'light, brightness' (N.), 'be light (as of fire or sun) (V.)' MAD *Kal* Kalam *melk* (N.) 'light', *melk g-* 'be light', *Rai* Suroi *bulu*, Bongu *burug*, Arawum *mele*, *NAd* Mawak *maik*, *SAd* Moresada *merak*, Sileibi [*au*] *mira*, Osum *mira-*, Paynamar *mira*, Faita [*ni*] *mera*.

The change *\*mb* > *m*, or *\*m* > *mb* is found sporadically in some languages of both Finisterre–Huon and Madang groups. The same change recurs in reflexes of *\*mbalaj* 'flame'. That sets 1 and 3 are distinct is shown by contrasting pairs in several languages, e.g. Selepet *balam* 'flame', *belek* 'lightning', Kâte *bɔruŋ* 'flame', *bɔric* 'flash', Kalam *malaj* 'flame', *melk* 'light, brightness' However, for certain languages with only a single form glossed 'light (of fire)' there is uncertainty whether the form belongs to set 1 or to 3(b).

4. *\*mbilaj* 'tongue' F–H (certain languages reflect a compound *\*mele-mbilaj*, the reflex of *\*mele* being enclosed in square brackets) *WHu* Dedua *boraj-*, Nomu *bolam-*, Selepet [*ni*] *bilam-*, Hube *bilaj*, Mape *boruŋ-*, Momolili [*na*] *mbilaj-*; *Gu–Mo* Gira [*ma*] *pli*, *Uru* Kumdauron [*mo*] *mbir*, Sindamon [*mot*] *bir*, *Wan* Sasen [*ma*] *mbilɔ*, *Erp* Nimi [*mɛ:*] *mim*; MAD *Mab* Garuh *balamu*, Munit *beria-*, Amele *pelia-*, Gal *beri-*, *NAd* Mugil *mele?*, Waskia [*koa*] *mili*, Hinihon *minak*, Koguma *mer*, *SAd* Sileibi, Katiati, Pondoma *mit*; CEN *Ok* Telefol *fɔŋ*, Tifal *filaj*, Faiwol *falaŋ*, GLF *Gog* Gogodala [*mele*] *pila*. cf. also NW *Dni* Dani *bili[kagen]*.

5. *\*mbutu* 'wing' F–H *War* Degenan *pur*, *Gu–Mo* Ufim *wiri*, *Uru* Komutu *hit*, Sindamon *fit*, Sakam *pit*, *Erp* Sauk *fur*; EHL *Ch–W* M. Wahgi (Banz) *put[mbang]*, Ganja *put[bye]*; M. Wahgi *bur* [*ni-*] 'to fly'; CEN *Ok* Mianmin *borö*, Bimin *ber*, Kati N. *mburu*, Telefol *bál-*, Tifal, Faiwal *bal*; *Aw–Du* Wambon *mburui*; Yenimu *puru[kap]* 'wing'. cf. also MAD *NAd* Bilakura, Ukuriguma, Wanuma, Yaben *bu* 'wing', *SAd* Sileibi, Katiati *ambu*, Emerum *ambuŋ* 'wing'. cf. cognate set 12.

6. *\*mbutuC* 'fingernail' F–H *Uru* Som *pipit*, Era Nakama *fida*, *WHu* Timbe *pik*, Nabak *paruk*, Kate *butoŋ*; MAD (all metath.) *NAd* Abasakur *tapar*, *SAd* Sileibi *tipi*, Katiati *tɔmba*, Emerum *tɔpi*, Musak *dɔbu*, *Yag* Yabong *dibit*, Ganglau *sibi*; CEN *Bos* Bosavi *ifi*, *Ok* Mianmin *poroŋ*, Tifal *buloŋ*, Telefol *buluŋ*, Faiwol *buduŋ*, Bimin *buruŋ*, *Aw–Du* Kaeti *mbetit*, Wambon N. *bisit*, *Asm* Asmat *fit*, Sempan *fiti*, GLF *Kiw* Kiwai *pitu*; SW *Mar* Gawir *itir*.

7. *\*mbenga-masi* 'widow and orphan(s), nuclear family bereft of its male head' (most languages reflect only *\*mbenga*) SE *Bin* Zia *boga-masu*; F–H *EHu* Dedua [*wenec*] *begin*, Kâte *bekɔ* 'orphan', *mɔsiŋ* 'widow and orphans', Naga *begɔ*; MAD *Mab* Amele *beg-a-beg*, Nononob (Garuh) *beg-e-beg*; EHL *Gka* Hua (Yagaria dial.) *beku*, Gimi *meku* 'widow, deserted woman'.

### Initial *\*p-*

8. *\*panV* 'woman' MAD *Kal* (both 'girl') Kalam *pañ*, *pay*, Kobon *pay*, *Rai* Sinasauru *fen*, Sausi *šana*, Dumpu *fan*, *hena*, Kesawai *hena*, Kolom *pano*, Suroi *pinom*, Danaru *fen*, *Yag* Yabong *wɔne*; NW *Dem* Dem *pan*, *Wis* Wodani *pane*, Moni *pane*; TIM Bunak *fana*, *pana*, Oirata *panar* 'female animal'. cf. also CEN *Ok* Faiwol *wanaŋ*, Bimin *waneŋ*, Yonggom *wonoŋ*.

9. \**p(e,i)(e,i)o-* ‘sleep’ F–H *Erp* Finungwan *fir-*, Numanggang *fara-*, Nimi *pak-*, Wan Irumu *par-*, Leron *pek-*, *Gus* Ufim *etio-*, Rawa *wetɔ-*, *War* Morafa *per-*; CEN *Aw–Du* (in the following compounds (all meaning ‘sleep’) the bracketed element literally means ‘dream’ and the non-bracketed element, *fete-*, *fite-*, *iti-*, means ‘see’) (C.L. Voorhoeve pers. comm.) Syiaxha [*kono mayete*] *fete-*, Yenimu [*ayatu*] *fite-*, Kaeti [ö] *iti-* [*gio*], *Ok* Tifal [*wi*] *eto-*, *Asm* Kamoro *ete-*.

10. \**pinVm* ‘wind, breeze’ MAD *Kal* Kalam *pnm*, Kobon *pinöm*, *NAd* Mawak *upinam*, Hinihon *opi:nom*, CEN *Ok* Tifal, Faiwol, Bimin, Kawwol *inim*.

11. \**pu-* ‘go’ EHL *Ktu* Awa *puk-*, Tairora *bu-*, *Gka* Hua (Yagaria) *vu-*, Benabena *bu-*, *Ch–W* Chuave *fu-*, Kuman *pi-*, M. Wahgi *pu-*, Maring *pi-*, Ku Waru *pu-*, *Eng* Kewa *pu-*, Mendi *pe-*, Huli *pu-*, CEN *Ktb* Fasu *pu-*, Foe *ubu-*, *vi-*. This set is best attested in a section of the highlands of PNG between Kainantu and Lake Kutubu. But cf. also MAD *Mab* Mawan, Gal *bi-*, Baimak *vi-*, *NAd* Musar *bi-*, *SAd* Sileibi *pi-*, Ikundum *wi-*, Osum *we-* ‘come’.

12. \**pululu-* ‘to fly, flutter’ F–H *EHU* Kâte *fururuc*; MAD *Rai* Sausi *bududu*, Lemio *priri*, Duduela *jududu*, Danaru *bututu* [*no-*], *Mab* Amele *fulule?* ‘flap wings’, Sihan *furure*, Samosa *bututu* [*vo-*], *NAd* Ulingan *birin-*; *S. Adel* Wadaginam *pririti-*; EHL *Ktu* Tairora [*ata*] *barero-*, *Ktu* Waffa *fúrúru* [*tinoo*] ‘fluttering of wings or flame’; CEN *Ok* Bimin *bire une-*, Telefol *fúlúluú* (+ *V.*), *Aw–Du* Syiaxha *boro-*, Yenimu *buru-*, Wambon *ururuk ko-*, Kaeti *mberene go-*. cf. also SE *Yrb* Yareba *burára* ‘flapping’; EHL *Ch–W*. M. Wahgi *bur ni-*, TIM Blagar *iriri, alili*. cf. also set 5.

## 2.2.2 Medial \*-mb- vs \*-p-

### Medial \*-mb-

13. \**amba* ‘sibling’ (glosses for reflexes are of uncertain precision, often ‘sibling of same sex’, or ‘brother’) F–H *Gu–Mo* Ufim *apa*; MAD *Rai* Bongu, Kolom *aba* ‘sibling s.s.’, Suroi *apa* ‘sibling s.s.’, *Mab* Sihan *afa*, Garuh *awa, aha*, *NAd* Malas, Parawen *baba*, Mawak *apa*, Waskia *bawa*, Pay *bab, papa*, Ulingan *papa*, *Yag* Yabong *baba*; EHL *Ch–W* Narak *aba, abe* ‘sister’, Maring *aba-i* ‘his sister’, *abe-n* ‘your sister’, *Eng* Kewa *papa*; CEN *Ok* Telefol *baab*, Kati M *amban*. (Initial *b-* or *p-* in some reflexes was perhaps not part of the original root but an addition by analogy with other kin terms.)

14. \**ambi* ‘man’ (*mb* > *m* in some cases) SE *Koi* Managalasi *ema* ‘married man’, *Yrb* Yareba *éme*, *Bin* Binandere *embo*, Notu *embo*, Suena *ema*, Yekora *emba*, *Gu–Sa* Guhu-Samane *abi*; F–H *Erp* Gusan *ama*, Nuk *eme*, Nakana *me*, *WHu* Burum *ambi* ‘woman’, Selepet *ibi* ‘woman’, Nabak *imbi* ‘woman’; MAD *Kal* Kalam *b* [mbə], Kobon *bi*, *Rai* Urigina *wamp*, *SAd* Angaua *bi*; EHL *Ch–W* M. Wahgi *amb* ‘woman’, Nii *amb* ‘woman, wife’, Narak *ambo* ‘girl’, *ambi[neng]* ‘female animal’, Maring *abe[er]* ‘woman, wife, *abe-ni* ‘his wife’, *ambi-n* ‘your wife’; *Eng* Kyaka Enga *wambu* ‘person’; CEN *Ktb* Fasu *apia* ‘husband’, *Ok* Kati M. *ambii* ‘husband’, *Asm* *Asm mo* [bo] ‘husband’; NW *Dni* G. V. Dani *ap, Snt* Sentani *ambu-* ‘corpse’. cf. also SE *Dag* Sona *apana*.

15. \**imbi* ‘name’ SE *Koi* Mt Koiari *ivi*, *Mlu* Amau [*ine*] *ibi*, Domu *imu*, *Yrb* Yareba *ifu*; F–H *Gu–Mo* Ufim *obi*, *Erp* Sauk *yip*; MAD *Kal* Kalam *yb* [yímp], Kobon *hib*, *NAd*

Waskia *nip*, Pay *num*, *SAd* Emerum *imbi*; *EHL Ch-W* Kaugel *ibi*, Nii *embe*, Narak *yibi*, *Eng* Kewa *ibi*, Mendi *mbi*, Wiru *ibi[ni]*; *CEN Aw-Du* Wambon *ip*, Kaeti *üp*, Siyaxha *fi*; *Asm* Asmat *yipi*.

16. \**mbena* ‘arm, forearm’ *F-H WHu* Selepet *bot*, Nabak *bet*, *EHu* Kâte *me*; *MAD* Proto Madang \**kambena* shows addition of initial \**ka-*. *Rai* Rerau *kambiñ*, Urigina *kombe*, *Mab* Garuh *ebe*, Mosimo *abi*, *NAd* Ulingan *wapena*, Wanuma *uben*, *SAd* Osum *epina[mo]*, Emerum *human*; *CEN Ok* (all ‘forearm’) Telefol *ban*, Kati M *mben*, *Asm* Asmat *ban*; *GLF Kiw* Kerewo (Goaribari) *bena*.

17. \**kambu(s,t)(a,u)* ‘smoke’ *F-H* War Degenan *gäbi*, Asat *kigap*, Yup Nankina *kλbaat*; Kewieng *abu-[lak]*, *Erp* Gusan *gupe*, *WHu* Selepet *gɔwu* ‘soot, charcoal’, Ono *kopu*, Komba *kaβak*, Burum, Mindik *kλβiak*; *MAD Rai* Biyom *butu*, Jilim *kumbur*, *NAd* Waskia *bu:r*, Pay *kawus*, Ulingan *kabusa*, *SAd* Sileibi *amusu*, Emerum *mɔsv*; *CEN Ktb* Fasu *[ira] musu*, Ok Telefol *kutab* ‘ashes’ (metath.), Kati N. *amot-[tem]*, *Aw-Du* Yenimu *afuwo*. cf. also *EHL Gka* Fore *[kun]kawē* ‘smoke’, *Ktu* Waffa *kióosu* ‘smoke’. cf. also *F-H WHU* Tobo *kasak*, *EHu* Kate *hosɔk*, Mape *kosɔk*.

18. \**kumbutu* ‘wind, breeze’ *SE Koi* Barai *uburu*; *F-H Uru* Sakam *gupit*, *Erp* Sauk *gufut*; *MAD Rai* Usino *kibul*, *Mab* Sihan *uhe*, Garuh *wus*, *NAd* Koguman *ogobor*, *SAd* Musak *kɔburu*; Sileibi *kunumbu* (metath.); *EHL Ch-W* Narak *kopo*; *CEN Ktb* Foe *kuba*, *Aw-Du* Pisa *kifi*, *Asm* Kamoro *kimiri*. cf. also *SW Mar* Gawir *kiwar*.

19. \**ngambu* ‘fly (N.)’ *MAD Rai* Urigina *ngambu*, Usu *glβ*, Biyom *ngab*, *Mab* Sihan *guabur*, *NAd* Waskia *kubu]liñ*, *SAd* Sileibi *kunumbu* (metath.), Angaua *er-gomb*; *EHL Ch-W* Maring *gube*; *CEN Ktb* Fasu *kofo*; *NW Tam* Taikat *kaap*; *SW Bzi* Begua *ngambo*. cf. also *FH WHu* Selepet *hɔp* ‘housefly’ (\**k* > *h* irreg.); *MAD Kal* Kalam *kab[kol]* (\**ng* > *k* irreg.).

20. \**samb(V)* ‘cloud’ *F-H* (all ‘sky’) *WHu* Selepet *hibim*, Komba *subem*, *EHu* Kâte *sambañ*; *MAD Kal* Kalam *seb*, *Rai* Suroi *samba* ‘sky’, Pulabu *sabu*, Usu *hab*, *Mab* Kare *sa:mba*, Rapping *sap*, Garuh *hap*, Garus *sep*, *NAd* Hinihon *sepe[lak]*. cf. also *CEN Ok* Mianmin *ip*, Telefol *iib*, Kati M. *ambut*.

21. \**simbi* ‘excrement’ *F-H WHu* Selepet *tep* ‘stomach, intestines’, Nabak *tip* ‘guts, dung’; *MAD Kal* Kalam *sb* [sɪmp], Kobon *hib*; *Rai* Lemio *simp*, Pulabu *subu*, Rerau *sibi*, Biyom *siwi*, Tauya *sipi* ‘guts’, *Mab* Kare *si*, Garuh *bi*, *NAd* Waskia *iwi*, Parawen *ibi*, Malas *imbu*; *EHL Gka* Siane *sefe* ‘buttocks’, *Ch-W* Kaugel *sipi*; *CEN Ktb* Fasu *himu* ‘belly’, *Bos* Beami *simu* ‘belly’. cf. also *EHL Eng* Enga *sambalya* ‘guts’.

In TNG languages the same word often has the senses ‘guts’ and ‘excrement’. The same form sometimes means ‘buttocks, hindquarters’, though more often it is the first element of a compound with that meaning.

22. (a) \**tukumba(C)* ‘short’ *SE Koi* Managalasi *tuʔua*; *MAD Rai* Danaru *tugaφ*, Usino *tukau*, Arawum *tukupo*, *NAd* Waskia *tuku[nan]*, Amaimon *takwap*, Wanambe *tuku*, Bepour *suʔub*, Hinihon *tuhub*; *TIM* Blagar *tukan*.



(b) *\*k(a,u)tumba(C)* 'short' F-H *WHu* (irreg. *\*mb > m* or *ŋ*) Nabak *kutuməŋ*, Kube *hotoŋ*, Tobo *katoŋ*; MAD *Rai* (irreg. *\*mb > m* or *w*) Songum [*o*] *godembiŋ*, Usu *kotumos*, Kolom *katawaŋ*, *Mab* Kare *utupa*, Kamba *kutuf*, *NAd* Pila *koambu*, *SAd* Katiati *kurub*, Faita *kwambat*.

(c) *\*tumba(C)* 'short' SE *Mlu* Mailu *tupa*, *Bin* Binandere *tupo*; MAD *SAd* Emerum *tʷmbʷ*, Paynamar *rumba[tak]*; EHL *Gka* Isabi *simba*, *Ch-W* M. Wahgi *tumban*.

(d) *\*kumb(a,u)* 'short' MAD *Rai* Sumau *kubu[tomu]*, Urigina *kumb[*-ro:p*]*; EHL *Ktu* Tairora *kubu*, Waffa [*ká*] *kuma*; GLF *Kiw* Kiwai *kopu*.

Four similar reconstructed forms for 'short' are distinguished here. The chances are that all four come from a common prototype. If we take (a) to be the protoform, it can be seen that (b) differs from it principally in showing metathesis of the first and second consonants, (c) differs from it in losing the second syllable, and (d) differs in losing the first syllable. The syllable losses in (c) and (d) probably stemmed from loss of the syllable-initial consonant, resulting in a sequence of identical vowels *\*uu*, which reduced to a single vowel; but we cannot confirm this or alternative interpretations without a better understanding of the phonological histories of the various languages.

The reconstructions for 'short' show a remarkable resemblance to those given for 'long' *\*kuta(mb,p)u(C)* or *\*kutu(mb,p)pa(C)* (see set 28). There was probably some contamination between the forms for 'short' and 'long'. However, in contemporary languages that retain reflexes of both sets of protoforms the reflexes are clearly distinct. In the following pairs, the reflex for 'short' precedes that for 'long': F-H *WHu* Kube *hotoŋ*, vs *horua*, Tobo *katoŋ* vs *kərua*; MAD *Rai* Danaru *tugaʃ* vs *urubis*, Dumpu [*na*] *tubə* vs *urau*, Usino *tukau* vs *kuab*, *SAd* Katiati *kuruba* vs *ku.ta*, Paynamar *rumba[tak]* vs *wutibʷ [ra]*, Emerum *tʷmbʷ* vs *kutes*, *NAd* Bepour *suʔub* vs *horia*.

Medial *\*-p-*. See set 2 and the following:

23. *\*apus(i)* 'grandparent' MAD *Kal* Kalam *aps*, Kobon *apis* (both 'grandmother'); EHL *Eng* Enga *apusi* 'grandmother'. cf. also SE *Yrb* Yareba *abúa*, *Bin* Binandere *apie*; F-H *EHu* Kâte *apa* 'great grandparent, great grandchildren'; GLF *Gog* Gogodala *aba* 'grandfather'.

24. *\*apa[pa]ta* 'butterfly' MAD *Rai* Sinsauru *hahauli*, Asas *paɾli*, Tauya *apapare*, *Mabuso* Girawa *apapɾ*, Sihan *papɾit*, *SAd* Sileibi *apapara*, Katiati *apapura*, Faita *apapure*, Emerum *afafan*; CEN *Aw-Du* Proto Awyu *\*aparo*, Axu *apo*, Pisa *apero*, Syiaxa *apa*, Kaeti *apap*. cf. also SE *Gu-Sa* Guhu-Samane *qipopo*; F-H *WHu* Selepet *bubuleli*.

25. *\*(k,ŋg)a(nd,t)apu* 'bark, skin' SE *Dag* Sona *ʔetepa* 'bark'; F-H *Uru* Kumdauron *kətip*, Sindamon *gəɔp*, *Yup* Nokopo *kandap*, *Wan* Saseng *kɔɔp*, *Erp* Nakama *gerɔp*, Finungwan *gifiʔ*; MAD *Rai* Lemio *ger*, *Mab* Garuh *gara*, Sihan *kana*, *SAd* Musak *kərubu*, *tubu*; CEN *Bos* Beami *kadofo*, Bosavi *do:go:f* (metath.), Etoro *to:gof* (metath.), *EStr* Samo *kəɔfu*; *Ok* Telefol *kaal*, Kati M. *kat*, Upper Tedi *kad*, *Aw-Du* Kaeti *kota*, Wambon *kotay*; GLF *Kiw* Kiwai *apue*; NW *Wis* Ekagi *kado*. cf. also EHL *Gka* Fore *ariwe*, *Ch-W* Kuman *kindin*.

26. *\*mapVn* 'liver' (*\*p > m* by assim. in some cases) MAD *Rai* Yangulam *mamon* 'chest', *Kal* Kalam *mapn*, *NAd* (first four all 'heart') Pila *munuβ* (metath.), Malas *mamun*, Saki

*mumub*, Moere *mumun*, Mawak, Hinihon *men* 'lung', *SAd* Emerum *ma:βin* 'liver', Wadaginam *mapin[genamp]* 'liver', Katiati *ma.pun[gumba]* 'guts', Pondoma *mambuŋ* 'lung', *mamuŋ* 'liver', Sileibi *maβ* 'belly'; **EHL** *Gka* Agarabi *amaapón* 'liver'. cf. also **EHL** *Eng* Enga *puŋi*, Kewa *pu*; **CEN** *Ok* Telefol, Tifal, Mianmin *in* (\**p* > zero regular /#\_), *Aw-Du* Pisa *wun*, Yenimu *wu*.

### Indeterminate between \*-mb- and \*-p-

27. *\*(ka)t(a,u)(mb,p)u* 'ashes' **SE** *Koi* Koiari *utuvu*; **F-H** *EHu* Kâte *dzafe*, *Kov* Kovai *tep*; **MAD** *NAd* Pay *tawuna*, Tani *tabur*; **CEN** *Bos* Beami [*da*]subu, *Ok* Telefol *kutab*, Faiwol *kutub*, *E Str* Samo [*da*]subu, Bibo [*da*]suf, *Aw-Du* Kaeti *kotep*, Wambon *kosep*, **NW** *Sen* Duka-Ekor *karemp*; **GLF** *Kiw* Kiwai *tuwo*. cf. also **F-H** *WHu* Mindik, Burum *kau*, Selepet *kɔu*; **EHL** *Ktu* Waffa *káupa*; *Gka* Fore [*pa*]tawe.

28. *\*kuta(mb,p)u(C)* or *\*kutu(mb,p)pa(C)* 'long' **SE** *Bin* Mawai *gorebu*; **F-H** *WHu* Nomu *korep*, Ono *kiro*, Selepet *kɔlip*, Mindik, Burum *kɔrip[ŋi]*, Kube *horua*, Tobo *kɔrua*, Momolili *kɔrep*; **MAD** *Rai* Dumpu *urau*, Danaru *urubis*, Kesawai *orohoi*, Urigina *uruβa*, *Mab* Garuh *ila:p*, *NAd* Dimir *ku.ror*, Bepour *horia*, *SAd* Paynamar *wutibu[ra]*, Sileibi *kuta*, Emerum *kutes*; **CEN** *Ktb* Fasu *horopo*, *Ok* Kati M *kudub*, *Aw-Du* Kaeti *ŋguruop*, Wambon *ŋgurup*. cf. set 22 and associated discussion.

29. *\*kV(mb,p)(i,u)tu* 'head' **SE** *Yrb* Yareba *kofiri*, *Bin* Binandere *kopuru*, Notu *kopiri*, Yekora *gibadza*; **F-H** *Uru* Yawan *kuβit*, Sakam *kubir*, *EHu* Kâte *kpit[sec]*; **MAD** *Rai* Suroi *gabat*, *Mab* Yoidik *gaba-*, Bagupi [*mu*]gupa, Kare *kowo*; **EHL** *Ch-W* Golin *gibil*, Kuman *bire*; **CEN** *EStr* Samo *ukibi*, Bibo *ukib*; *Aw-Pa* Pa *keba*, *Asm* Asmat *kuwus*; **GLF** *Kiw* Wabuda *kepuru*, Kiwai *epuru*. cf. also **EHL** *Ktu* Waffa *kieéta*, **CEN** *Aw-Du* Kaeti *kembian*.

30. *\*si(mb,p)atV* 'saliva' **SE** *Koi* Mt Koiari *haba*; **F-H** *WHu* Hube *sife?*, Timbe *towut*, Momolili *dzupati*, Sialum *sawat*, Tobo *saβat*, Selepet *top*, *EHu* Dedua *sofo?*, Kâte *tofec*, *Mape* *tifa?*, *Yup* Nankina *tibwat*; **MAD** *Rai* Tauya *sipina*, Danaru *sebe*, *Mab* Sihan *sahara*, *SAd* Moresada *sembop*, Wadaginam *tsumbup*; **EHL** *Eng* Kewa *supi*, Enga *sipa[koli tasini-]* 'to spit', *sopo* [*kari-*] 'to spit'; **CEN** *Bos* Beami *tefo*, *Asm* Asmat [*me*]sep, Sempan [*ma*]hapi.

Compare also the following forms which point to a complex, probably verbal, form *\*kasi(mb,p)a(tV)* '? to spit'. **SE** *Bin* Binandere *kosiwa*, Korafe *kiva* (both 'saliva'); **F-H** *WHu* Momolili *dzɔtupa-* 'to spit'; **EHL** *Ch-W* M. Wahgi (Banz) *kundzip* 'to spit'; **CEN** *Aw-Du* Yenimu *xatipa* 'saliva', Syiaxha *xate* 'saliva'.

### 2.1.3 Final position

#### Final \*-p

31. *\*kend(o,u)p* 'fire' **F-H** *Erp* Mamaa *kadep*, Nimi *kɔɔɔp*, Sauk *kadip*, *Wan* Yagawak *kadap*, *WHu* Ono *gerep*, Burum *kɔɔɔp*, Komba *kɔɔɔp*, Selepet *kɔɔɔp*; **MAD** *NAd* Malas *andup*, Saki *uwab*, Tani *ewab*, *Mab* Kare *o.nda*, Sihan *da.ɣ*, Nake *a.rup*, Silopi, Utu *enap*, Yoidik *alah*, Kamba *kai*; **EHL** *Ch-W* Salt Yui *endo*, M. Wahgi *dop*, *Eng* Enga *endo*; **CEN**

*Aw-Du* Wambon *enop*. cf. also **SE** *Yrb* Yareba *iná*; **MAD** *NAd* Bilakura *kwalup*, Yarawata ?*walabu* 'firelight'.

### 2.3 Coronal obstruents

Contrast between three coronal obstruents, *\*nd*, *\*t* and *\*s*, is well attested in medial position, less so initially.

#### 2.3.1 Initial *\*nd*-, *\*t*-, *\*s*-

##### Initial *\*nd*-

32. *\*nd(a,e,i)*- 'burn' (intr.) **SE** *Koi* Koiari *ra*-; **F-H** *Gu-Mo* Rawa *te*-, *Uru* Mitmit *do*-, Som *si*-, *Erp* Gusan *se*-, Nakama *da*-, *EHu* Dedua *dze*-, Kâte *dza*-, Momare *da*-, *WHu* Selepet *si*-, Nabak *dzi*-; **EHL** *Ch-W* M. Wahgi *do*-; **CEN** *Bos* Beami *si*-, *EStr* Samo *si*-; *Aw-Pa* Pa *di*-; **NW** *Mek* Yale *de*-. cf. also **SE** *Bin* Binandere [*hebe*]-*sɛ*-.

33. *\*ndaŋgi*- or *ndiŋga*- 'tie' **SE** *Bin* Suena *di*-; **F-H** *WHu* Nomu *dzoko*-, Tobo *dziki*-, Nabak *dza*-; **MAD** *Mab* Samosa *diga*-, *NAd* Korak *taki*-, Waskia *tagi*-; **EHL** *Eng* Enga *lin*]*din*gi-; **CEN** *Bos* Beami *degi*-. cf. also **CEN** *EStr* Kubo *figa*-.

34. *\*nde*- 'speak, talk' **ANG** Kapau *ti*-; **F-H** *WHu* Selepet *de*-, Nabak *ze*-; **MAD** *Rai* Duduela *le*-, Rerau *la*-, Lemio *indi*-, *Mab* Bagupi *ra*[?*a*]-, Saruga *ra* [*a*]-, *NAd* Waskia *den* 'speech'; **EHL** *Ch-W* Kuman *di*-, *Eng* Enga *re*-, Kewa *la* 'talk'; **CEN** *Ktb* Foe *de*-, *EStr* Agala *to* 'speech'. cf. also **FH** *EH* Kâte *dɔŋ*, Tibe *den* 'speech'.

Initial *\*t*-. See set 97 and the following:

35. *\*takVn(V)* 'moon' **F-H** *Gu-Mo* (both irreg. *p* for *\*k*) Neko *tapiŋ*, Nekgini *tapuŋ*; **MAD** *Kal* Kalam *takn*, Kobon *rakön*, *Rai* Tauya *taʔo*, *NAd* Bunabun *tkun*, *SAd* Emerum *ta:kun*; **EHL** *Gka* Siane *ikana*, *Ch-W* Maring *takun*, Narak *take*ne, *tokene*, *Eng* Enga *kana*, *Wru* Wiru *tokene*; **GLF** *Kiw* Kiwai *sagana*. cf. also also **FH** (all meaning 'sun', all irreg. *w* for *\*t*, ? for *\*n*) *WHu* Burum, Mindik *weyan*, *EHu* Migabac *wegoʔ*, Momare *wegoʔ*, Mape E. *wegiʔ*.

36. *\*t(i,e)*- 'do, make' **MAD** *Rai* Duduleua, Kesawai, Sausi, Sumau *te*-, Rerau *ti*-; *NAd* (all as final verb in compounds) Mugil *-r*-, Kowaki *-r*-, Wanambre *ndi*-, *-r*-, *-t*-; *SAd* (all 'work') Ikundun *t*-; Moresada *tə*- 'make, work', Wadaginam *tɪ*-, Angaua *ra*-, *Yag* (all in compounds) Yabong, Ganglau *-ti*-, Saep *-te*-; **EHL** *Gka* Kamoro *ru*-, Benabena *ru*-, Siane *ro*-, *Kai* Usarufa *te*-; **Ch-W** Kuman *te*-, Golin, Salt Yui *di*-, M. Wahgi *do*-.

37. *\*tu* 'axe' **MAD** *Kal* Kalam *tu*, Kobon *ru*; **EHL** *Gka* Gende *tu*, Isabi *tu*, Fore *tune*, *Ch-W* Kuman *di*, Nii *tui*.

This set, confined to the Eastern Highlands and contiguous regions, may be a fairly recent diffusion; axe-heads quarried from a few places in the Highlands were widely traded.

38. (a) *\*tutu(tu)ku* 'straight' **F-H** *Uru* Som *ɬARARA*, *WHu* Kinalakna *tororogo*, Nomu *tororok*; **MAD** *Rai* Usu *tutu*gu, *Mab* Girawa *tuʔu*, Rapping *turuk*, Nake *turugu*.

(b) *\*tututu* 'straight' *SAd* Sileibi *туру-[simba]*, *Faita sururu*; *CEN Asm* Asmat *toror*; *GLF Gog* Gogodala *serere*. cf. also *SE Yrb* Yareba *roróú*.

39. *\*tV-* 'take' *F-H EHu* Sene *ta-*, *Kâte lo-*, *Naga lo-*; *MAD Kal* Kalam *d-* (irregular for expected *t-*), *Rai* Sausi, Arawum, *Urigina ta-*, *Dumpu ra-*, *Lemio t<sup>h</sup>a-*, *Duduela te-*, *Sumau*, *Rerau ti-*, *NAd* *Waskia to-*, *Korak to-*, *Pila tow-*, *Saki taw-*; *EHL Gka* *Hua*, *Siane*, *Benabena ri-*, *Kai Tairora ri-*; *CEN Aw-Du* *Pisa ra-*, *Syiaxha re-*. cf. also *EHL Ch-W* *Nii se-*, *si-* 'get, take', *M. Wahgi si-* 'get, take'.

40. *\*tVk-* 'cut, chop' *F-H WHu* *Burum ting-*; *MAD Kal* (both 'sever, pluck') *Kalam tk-*, *Kobon rik-*, *Mab* *Samosa tuge-*, *SAd* *Ikundun tag-*, *Wadaginam tay-*, *Moresada tayə* 'chop'; *EHL Ch-W* *M. Wahgi tuk-* 'chop', *Nii tuk-* 'chop firewood', *Kandawo tug-* 'butcher, cut up'. cf. also *F-H WHu* *Timbe tok-* 'break', *Selepet tok [yap]* 'break, snap, tear, cease', *EHu Kâte tac-* 'break off', *Naga tac-* 'break off'; *CEN Aw-Du* *Siyaxha*, *Yenimu*, *Pisa ru-*, *Axu rük-* 'cut'.

41. *\*tVkV(ti)* 'full (adj.)', 'fill (v.)' *F-H Yup* *Nokopo tok*, *Wan* *Wantoat ndok*, *Erp* *Sauk toko*; *MAD Rai* *Bongu*, *Songum tag-*, *Bom tug-*, *NAd* *Bilakura sikar*, *Yarawata dikar*, *SAd* *Pondoma tukuri-*, *Atemple tor-*, *Ikundun tuki*, *Musak tiki*, *Faita reki*; *CEN Aw-Du* *Yenimu toko*. cf. also *NW Mek* *Yale bodok*.

#### Indeterminate between *\*t-* and *\*nd-*

42. *\*(nd,t)ak(V)-* 'stand' *F-H WHu* *Nabak ta-*; *MAD Kal* *Kalam jak-*, *Rai* *Dumpu tegi-*, *Yag* *Yabong dik-*, *Saep dig-*; *EHL Eng* *Kewa reka*, *Mendi tikɔ-*; *CEN Ktb* *Fasu reke*, *Aw-Du* *Wambon re-*; *NW Mek* *Eipo tek[man-]* 'I stand', *Yale sek-*. cf. also *F-H EHu* *Kâte danɣu[ram-]*; *MAD Mab* *Rapting turug-*.

Initial *\*s-*. See sets 20, 21, 30 and the following:

43. *\*sa(ŋg,k)asiŋ* 'sand' *SE Yrb* *Abia sagai*, *Koi* *Mt Koiari esaga*; *Gu-Sa* *Guhu-Samane igasa*; *F-H Gu-Mo* *Nekgini sakari*, *Uru* *Som kasi]rok*, *WHu* *Kosorong sakasiŋ*, *Hube sakesa*, *Mindik sakosiŋ*, *Selepet sak*; *MAD* (all with loss of *\*sa-*) *Mab* *Kare e:sigi*, *Munit gisi:*, *Sihan esi?*, *Garuh ahi*, *SAd* *Sileibi ka:si:*, *Emerum ka:sij*; *CEN Ktb* *Fasu sakipu*.

44. *\*(s,t)i(s,t)i* 'tooth' *SE Bin* *Binandere ji*, *Kendata ti*; *F-H WHu* *Burum dzit*, *Hube dzir*, *Nabak dzer*; *CEN Asm* *Citak Asmat sisi*, *Kamoro titi*; *NW Mek* *Kosarek si*, *Yale si*.

45. *\*sa(ŋg,k)al* 'hand, arm' *F-H Yup* *Nokopo kisir* (metath.), *Wan* *Saseng kesil* (metath.), *Erp* *Sauk kel*; *CEN Ktb* *Fasu sikini*, *Ok* *Telefol sakaal*, *Faiwol sikaal*, *Mianmin sikir* 'leg'; *GLF Kiw* *Kiwai sairo*, *S. Kiwai* (*Turituri*) *saero*, *Wabuda sakiro* 'leg'. cf. also *SE Bin* *Kendata igeni* 'arm'; *MAD Kal* *Kobon agal* 'using the hands'; *EHL Ch-W* *M. Wahgi angel*, *Kandawo agle*, *Eng* *Enga sakae* 'right hand'.

#### Indeterminate between *\*nd-* and *\*s-*

46. *\*(nd,s)umu(n,t)(V)* 'hair' *F-H Uru* *Kumdauron dim-*, *Erp* *Nakama dumu-*, *WHu* *Timbe dumut-*, *Selepet somot-*, *EHu Kâte tsiminuŋ* 'stiff coarse hair'; *MAD NAd* *Pila umun*,

Saki *-dumu*, Waskia *mo:ne*, Pay *imun*, *SAd* Katiati, Emerum *mənʉ*; **GLF** *Kiw* Kiwai *muso* (metath.); **SW** *Mar* S. Boazi *izumu*, Yaqay *rumb*, *Kol* Kimaghama *muna*. cf. also **F-H** *EHu* Momare *dofo?*, Kâte *dzɔwɔ* 'body hair'; **EHL** *Eng* Engan *yomandi*.

### 2.3.2 Medial *\*-nd-*, *\*-t-*, *\*-s-*

**Medial *\*-nd-***. See sets 25, 31 and the following:

47. *\*mundu* 'nose' **SE** *Bin* Baruga, Binandere, Korafe *mendo*, Orokaiva *bende*; **F-H** (all showing metath.) *Gu-Mo* Ufim *umu*, Nahu *umi*, *Erp* Mamaa *timi*, Nakama *tima*; **MAD** *Rai* Usu *mutu*, *Mab* Munit, Sihan *mede*, *NAd* Waskia [*koa*]murū, *SAd* Sileibi *mundu[ma]*, Osum *mutu[gu]*; **EHL** *Gka* Fore *mone*; **CEN** *EStr* Samo, Bibo *mini*; *Ok* Telefol *mutu[um]*, Upper Tedi *midu*, *Asm* Kamoro *miri[mu]*, **GLF** *Kiw* Kiwai *modi*. cf. also **SE** *Koi* Mt Koiari *uri*.

48. *\*mundun* 'belly' (often also including 'internal organs') **SE** *Yrb* Yareba *múju* 'yolk'; **Bin** Korafe *munju* 'egg'; **F-H** *EHu* Kâte *munduj* 'inner yolk'; **MAD** *Kal* Kobon *mudun* 'belly'; *Rai* Biyom [*oko*]monde 'gut', Dumpu *munu* 'heart', *NAd* Malas *mutu-[kanəŋ]* 'heart', Yarawata *mumud-[ilam]* 'heart' (*ilama* 'guts'); **EHL** *Ktu* Waffa *mmuduuya* 'heart', *Ch-W* Kuman *munduna* 'general term for heart, lungs, liver etc.', M. Wahgi *mundun [mo-]* 'be pot-bellied', Nii *mund* 'insides', Maring *modu-[meng]* 'belly', *Eng* Enga *mona* 'heart'; **CEN** *Aw-Du* Yenimu *modu*; **NW** *Mek* Bime *mundu*, Kosarek *mon*. See also sets 53 and 89.

49. *\*inda* 'tree' **SE** *Dag* Daga *ira[rema]*, *Koi* Mt Koiari *idi*, Barai *idu*, Managalasi *ija*, Aomie *ije*, *Goi* Fuyuge *ije*, Kunimaipa *iti*; **Bin** Binandere *izi*, Notu *ri*, Orokaiva *zi*; **F-H** *Gu-Mo* Gira *da*, Ufim *de*, *WHu* Sialum *dze*, *EHu* Momare *dza?*; **EHL** *Ktu* Awa *irə*, *Ch-W* Kuman *endi*, M. Wahgi *ond*, *Eng* Enga *ita*, Huli *ira*; **CEN** *Ktb* Fasu, Foe *ira*, *Bos* Bosavi *de* 'fire', *Aw-Du* Siaxha, Yenimu *ji*, *Aw-Pa* Awin *de* 'fire', *Asm* C C Asmat *isa*; **GLF** *IGf* Minanibai *de*, *Kiw* S Kiwai *era*; **NW** *Dni* W Dani *idu*; **SW** *Mar* Boazi *te* 'fire', Yaqay *de* 'tree'; **TIM** Makasai *ata*, Oirata *ada*.

50. *\*kenda* 'heavy' **EHL** *Gka* Siane *kena*, Fore *kuntawe*, *Eng* Kewa *kedaa*, Enga *kenda*. (Confined to the EHL region.)

51. *\*kindil* 'root' **F-H** *WHu* Momolili *kindiri-*, Nabak *kindi-*, Timbe *kəndɔrɔ-*; **MAD** *Kal* Kalam *kdl*, Kobon *kidil*, *SAd* Sileibi *kindi*, Katiati *kundɔ*, Emerum *gəndrɔ*. Compare also *Rai* Bom *dirim*, *Mab* Raping *dili?*, Rempi *di:ri*, Garuh *diriu*, Kamba *dir*, which may be cognate with unexpected loss of first syllable.

52. *\*k(a,o)nd(a,o)(C)* 'leg' (prob. 'lower leg and foot') (*\*nd > b* in some cases) **SE** *Yrb* Yareba *góna* 'lower leg', *Kwl* Kwale *oda*; **F-H** *Yup* Nokopo *kuluŋa*, *Erp* Nakama *kada*, *Uru* Som *karana* 'hand/arm', *Wan* (both 'hand/arm') Awara, Wantoat *katak*; **MAD** *Rai* Rerau *kolom*, *Mab* Kare *a:ta*, *NAd* Ukuriguma *kwɔton*, *SAd* Angaua, Paynamir *andam*; **CEN** *Ktb* Fasu *korake*, *Ok* Kati M *kondo*, *Aw-Du* Pisa *kito*, Wambon S. *kodok*; *Aw-Pa* Awin *khatike*; **NW** *Snt* Sentani *oto*. cf. also **F-H** *WHu* Kosorong *kani*, Burum *kana*; **MAD** *NAd* Dimir *anjn*, Malas *ain*, Wanambre *ane*; *Yag* Ganglau *ani*, Yabong *eni*.

53. *\*mund-mangV* ‘heart’ MAD *Kal* Kalam *mud-magl*, *md-magi*, Kobon *mud-magö*, *NAd* Waskia *maŋa*; *Ch–W* M. Wahgi *mund muŋ*, Kaugel *mudu mogo*; *SW Mar* Marind *mudu-meng* ‘belly’.

This term appears to be a compound of *\*mundun* ‘heart, internal organs’ (set 48) and *\*mangV* ‘compact round object’ (set 86). See set 48 for additional reflexes of the compound.

**Medial \*-t-**. See sets 6, 18, 22, 23, 28, 30, 38, 44, 46, 74, 79 and the following:

54. *\*ata* ‘excrement’ *F–HEHu* Mape *ata*; *CEN Asm* Asmat *asa*; *TIM* Oirata *atu*, Blagar *as*.

55. *\*(a)tu-* ‘hit’ MAD *Rai* Sausi *ure-*, Danaru *oru-*, *Mab* Munit *uri-*, Bernal *ade*, Usebe *adi*, Baimak *atu-*, Gal *aru-*, *NAd* Dimir *ur-*, Malas *ur-*, Bepor *ar-*, Ukurigima, Amaimon *ari-*, *SAd* Osum [*moge*]rɤ-, Pondoma [*moge*]ti-, Atemptle [*we*]ru-, Angaua [*aŋku*] su-; *EHL Gka* Fore *aru-[tuwe]*; *Ch–W* M. Wahgi, Ganja, Nii *to-*.

56. *\*iti* ‘hair’ *SE Mlu* Domu *idi*, *Yrb* Yareba *iji*; *EHL Eng* Kewa *iri*, Enga *iti*, Mendi *iii*; *CEN Ktb* Fasu *iti*; *NW Dni* W Dani (*n*)*iti*.

57. *\*(ŋg,k)atuk* ‘knee’ *F–H Uru* Sindamon *gorug*, Worin *kɔndug*, *Yup* Domung *geruk*, *EHu* Momare [*fa*]kurun; MAD *Mab* Sihan *ka:t*, Bau, Gumalu *kati[ra]*, Yoidik *gata-[amak]*, Rempi *gata-[amuk]*, Utu *gete-*, Matepi *gate-*, *NAd* Amaimon *ge:ta*, Bunabun *gesa*, Yarawata *kata[ruo]*, Ukuriguma *gata[rik]*; *CEN Ok* Telefol *katuun*; *SW Mar* Boazi *katuk*. cf. also *CEN Ktb* Foe *gaxona*; *EHL Gka* Fore [*kun*]karawe; *NW Mek* Eipo *kutam*.

58. *\*kitu* ‘leg’ (poss. ‘calf’) *SE Dag* Gwedena *keru[(p)fu]*; MAD *NAd* Malas *kitu* ‘calf of leg’, *SAd* (all ‘calf’) Emerum *giti*, Pondoma *guntsu[ŋ]*, Atemptle *gizə*; *CEN Aw–Du* Axu *kito*. cf. also *F–H Erp* Nek *kisir*, Nuk *kesir*; *EHL Gka* Fore *agisawe*. Compare set 52.

59. *\*k(i,u)tuma* ‘night’ (first syllable lost in some cases) *SE Yrb* Yareba *dumu*, *Bin* Korafe *tumba*; MAD *Rai* Sinsauru *koti[ab]*, Usino *gituo*, *Mab* Rapring *tumag*, Isebe *tumug*, *NAd* Yaben *itumu*, *Yag* Ganglau *kudum*; *EHL Eng* Enga *kukuma* (*t > k* by assim.); *CEN Ok* Tifal *kutim* ‘morning’, *kutam[iib]* ‘night’, Telefol *kútím* ‘morning’, Kati M. *am kiti*, Oksapmin *huteema*, *Asm* Asmat *yiram*, Sempan *irama*; *NW Wis* Moni *timu* (first syllable lost).

60. *\*kvtak* ‘new’ *F–H Uru* Som *kwarak*, *Yup* Nokopo *kɔndak*, *WHu* Momolili *gəraŋ*, Nabak *arak[ŋeŋ]*, Selepet *irak*; Timbe *irak[ŋe]*; MAD *Rai* Suroi *kitek*, *Mab* Sihan *era?*, *NAd* Waskia *iti*, *SAd* Ikundun *utu-*; *EHL Ktu* Waffa *káraasa*; *CEN Ok* Kati M. *kudi*, Kati N. *kiri*, *Aw–Du* Wambon *ariok*; *NW Dni* W Dani *get*. cf. also *SE Gu–Sa* Guhu–Samane *usaqe*; *EHL Gka* Gimi *esa*.

61. *\*maŋgat(a)* ‘teeth, mouth’ *SE Mlu* Domu *ma?a* ‘mouth’; *F–H Gu–Mo* Ufim *maŋgo*, *Erp* Munkip *maŋ*; MAD (all ‘teeth’) *Kal* Kalam, Kobon *meg*, *Rai* Lemio *meg*, Usino *maga*; *CEN* (all ‘mouth’) *Bos* Bosavi *mego:f*, *EStr* Samo *magara*, *Ok* Kati M *maŋgot*, Bimin *maŋkat-[kun]* ‘chin’, Faiwol *makat-[kalim]* ‘whiskers’, *Aw–Du* Wambon *maŋgot*; *GLF Kiw* Kiwai *magata*, *Gog* Gogodala *magata* ‘teeth, mouth, jaw’.

62. *\*mVtVna* ‘head, forehead’ ANG Simbari *mintā*; F–H WHu Timbe *mete* ‘forehead’, EHu Kâte *mete* ‘forehead’; EHL Gka Siane *manena*, Eng Enga *matena*.

63. *\*(ŋg,k)atata* ‘dry’ SE Dag Daga *kararu[ani]*, Koi Mt Koiari *karika*, Koita *gogoto*; Bin Notu *yarasa*; F–H WHu Komba *ararəŋ*, Selepet *hərəŋ*, EHu Kate *kereŋ[ke]-*, Dedua *kereŋ-*; MAD Rai Lemio *kəsasa*, Mab Kare *garara[ma]*, Sihan *korore[an]*, Gumalu *gorote*; NAd Waskia *garagara*, Pay *okerer*, SAd Musak *kar[bi]*; CEN Aw–Du Syiixa *kerā*, Asm Asienara *tarara*, Asmat *soso*; NW Snt Demta *kakare*; GLF Ele Toaripi *arara*; TIM Oirata *tata*. cf. also SE Yrb Yareba *rarāra*; EHL Ktu Tairora *ahaara*, Gka Fore *aososo*.

64. *\*(ŋg,k)iti-mangV* ‘eye, eyeball’ SE Bin (all ‘eye’) Binandere *gisi moka*, Suena *giti mok*; FHEHu Dedua, Hube *kic*; CEN Aw–Du Pisa *kiri mogo* ‘eye’. cf. also SE Yrb Yareba *diti* ‘eye’; MAD (all ‘eye’) Kal Kalam [*wdn*] *magi*, Kobon *amgö*, SAd Emerum *ta:mga*; EHL Eng Kewa *ini*; CEN Aw–Du Wambon *kerop*.

The second element of this compound, *\*mangV* (represented in set 86), probably denoted round or compact objects. Its reflex in contemporary languages typically occurs in a number of nominal compounds. It may be that the first element, *\*(ŋg,k)iti*, denoted ‘eye’, and that the compound referred both to the eyeball and the eye in general (as, for example, the Kalam compound *wdn magi* (lit. ‘eye round-object’) does).

65. *\*wati* ‘fence’ MAD Kal Kalam *wati*; CEN Ok Faiwol *wati*.

#### Indeterminate between *\*-nd-* and *\*-t-*

66. *\*ka(nd,t)(e,i)[C]* ‘ear’ SE Dag Daga *ʔasi*; Koi Koita *korema*, Bin Yega *kari*; ANG Kamasa *kataʔa*, Kapau *qata*; F–H WHu Kosorong *kedzi*, Nomu *kedzap*, Komba *kesap*, Timbe, Selepet *əndop*, Ono *hadeʔ*, EHu Dedua *hedza-*, Kâte *hatseʔ-*, Mape *kadzeʔ-*; MAD SAd Sileibi *kinziŋa*, Emerum *ginsi*, Faita *kind*; EHL Ktu Awa *are*, Gka Isabi *gari*, Eng Kewa *kaale, kaane*, Enga *kare*; CEN Ok Bimin *karuun*, Mianmin *koron*, Upper Tedi *keda hol*, Kati M. *kende*; Aw–Du Kaeti *kere-[top]*, Aw–Pa Awin *kendəke*; GLF Kiw Is. Kiwai *gare*, Wai Waia *garo*.

67. *\*k(a,e)(nd,t)ak* ‘neck’ (prob. ‘throat’, not ‘nape’) F–H Uru Som *tek*, Wan Irumu *kətək*, Yagawak *katək*, Erp Mamaa *kode*, WHu Komba *godu*, Nabak *gandu*; MAD Rai Lemio *du:k*, Biyom *watek*, NAd Waskia [*do*] *kotak*, Amaimon *ketakwa*, Yarawata [*kuma*] *kwata*; CEN Ktb Foe *gariko*, Ok Telefol *ditak*, Kati M. *ketek*, Tifal *getek*, Faiwol *getak*. cf. also GLF Gog Suki *kuni*; SW Bzi Boazi *kone*. (Compare set 83. The Yarawata compound combines both terms.)

68. *ko(nd,t)aC* or *\*kwa(nd,t)aC* ‘bone’ (*\*nd* or *\*t* > *n* in some cases) SE Mlu Laua *gita*, Magi *kisa*, Koi Mt Koiari *ita*; Gu–Sa Guhu–Samane *gotta*; F–H Wan Awara *kwatəl*, Irumu *konzar*, Erp Guson *kodzar*, Nek *kwanda*, Sauk *kutul*, WHu Nabak *kasat*; MAD NAd Waskia *kutiŋ*, Yarawata *kwote*, Ukuriguma *koton*; EHL Eng Kewa *uni*, Enga *kuri*; CEN Dun Duna *kuni*, Bos Beami *koso*, Ok Telefol *kun*, Kati M *kondo*, Kati N. *kono*, Upper Tedi *kodo*, Ninggirum *kwoo*, Mianmin *onote*, Aw–Du Wambon *kondok [kerop]*; NW Pau Dubu *gwasro*; Tam Manem *kar*, Waris *kel*. cf. also Bin Binandere *undoru*, Korafe *etu*.

**Medial \*-s-**. See sets 7, 17, 23, 43 and the following:

69. *\*kasin* ‘mosquito’ SE *Koi* Barai *asi?inu*; MAD *Rai* Usino *ka:sin*, Jilim *kasin*, Rerau *kaseŋ*, *Mab* Girawa *a:si*, Munit *gahi*, Isebe *ihi*, *NAd* Amaimon, Malas *kasin*, Waskia *kasim*; EHL *Gka* Fore *kasine* ‘fly’; CEN *Bos* Bosavi *kiso*, *Aw-Du* Pisa *ise*, *Asm* Citak Asmat *isi*. cf. also F-H *EHu* Kâte *gisic* ‘insects’; EHL *Gka* Fore *iyesine* ‘mosquito’; CEN *Ok* Kati M *jaten* ‘mosquito’.

**Indeterminate between \*-nd- and \*-s-**

70. *\*ke(nd,s)a* ‘blood’ MAD *Rai* (all metathesis) Usu *asi*, Duduela *ejj*, Danaru *kandi*, Erima *gani*, *Mab* Sihan *eta*, Munit *eda*, *NAd* Amaimon *kese*, Yarawata *kada*, *SAd* Sileibi *kaja*; CEN *Ktb* Fasu [*kau*] *kesa*, *Aw-Du* Sawuy *esa:x*; *Asm* Asmat *es*, Asienara *eta*; *Kay* Kaygir *yes*; NW *Kwr* Mander *gesa*. cf. also *Ok* Telefol *isak*; NW *Kau* Kaure *katesa*.

### 2.3.3 Final \*-t

71. *\*-it* or *\*-il* ‘you/they dual (vb suffix)’ F-H *WHu* Burum *-it*, Selepet *-it*; MAD *Kal* Kalam *-it*, *-t*, Kobon *-il*, *-il*, *Mab* Utu *-vir*, Girawa *-er*, *-eir*, *NAd* Bunabun *-it*; *Rai* Biyom *ti*; EHL *Ch-W* (all dual suffix) Kaugel *-[b]jili*, Kuman *-[b]juri*, Salt-Yui *-[b]jil*; ANG *Baruya* *-ilo*.

## 2.4 Velar obstruents

### 2.4.1 Initial \*k- vs \*ŋg

**Initial \*ŋg-**. See sets 19, 57, 63, 64 and the following:

72. *\*ŋga(-)* ‘you (sg)’ F-H *Uru* *gΛ[k]*, *Yup* Domung *ga[k]*, *WHu* Selepet, Timbe *gɔ*, Nabak *gəŋ*, *EHu* Dedua *ge*, Kâte, Mape *go*; Kovai *go[k]*, *Sauk* *gΛ[k]*; EHL *Gka* Fore *ka[gewe]*, Gende *ka*, Fore *ka-* (Obj); CEN *Bos* Kaluli *go*, *Ok* Kati M. *ko*, Telefol *ka[b]-*, *Faiwal*, Tifal *ka[b]-*, *Aw-Du* Pisa *ga* (Obj/Gen), *ge* (Sub) *gu* (Obj), *gu[p]*, *Kaeti* *ŋgo*, *ŋgö[p]*, *Wambon* *ŋgu[p]*, *Kay* Kaugat *axa*, *Asm* Asmat *o*, *o-r*, *Aw-Pa* Pa *go*; NW *Wis* Ekagi *ka-* (Obj), *Moni* [*a]ga*, *Dni* W Dani *ka[t]*; GLF *IGf* Minanibai *ŋgo*.

In this reconstruction final *\*(-)* indicates that a suffix could be attached to the pronominal root, possibly to marking a case relation or another function. The final *-k* of many Finisterre–Huon forms can be analysed as a petrified suffix, as can the final *-b* or *-p* of some Ok and Awyu–Dumut languages. Many Madang languages also reflect a final *\*-k* in certain free pronoun forms. Compare sets 80 and 98.

73. *\*ŋg(a,u)mu* ‘eye’ SE *Goi* Fuyuge *imu*; MAD *Rai* Lemio [*a]ŋkam*, *Mab* Garuh *ame*, *SAd* Paynamar [*ami]ŋgami[ñu]*; EHL *Ktu* Gadsup [*o]kami*, *Ch-W* Kuman *gumu-[tino]*; NW *SBiHd* Duriankere *kabu*.

74. *\*ŋgiti* ‘laugh’ (This form may have been a nominal adjunct meaning ‘laugh, laughter’ occurring as the direct object of a generic verb stem, like its reflex in Sumau, Enga and Kewa, or it may have been a verb stem, like its reflex is several other languages) F-H *WHu* Selepet *giriŋ-*, *Komba* *girəŋ-*, *Timbe* *giriŋ*; MAD *Rai* Biyom *kir-*, *Tauya* *ita-*, *Duduela* *gisi*,



Rerau *siŋgi-* (metath.), Sumau *ite [woro-]*; *NAd* Waskia *gisi-*, Korak *gusi-*; **EHL Eng** Enga *giti [lenge]-*, Kewa *giri [ta-]*, Ipali *gitu*. cf. also **SE Bin** Binandere *iro [ari-]*, *iro [jirari-]*; *NAd* Kowaki *hira[m]*, Hinihon *ira[mos]-*, Mawak *ira[mi]-*, Wanambre *kira[may]-*, **SAd** Moresada *ira[m]*. The bracketed *-m* in the last set of comparisons may represent residue of an original final verb.

**Initial \*k-**. See sets 17, 18, 25, 27-29, 31, 50-52, 58-60, 63-64, 66-70 and the following:

**75. \*kak(i,u)- ‘carry on shoulder’** **SE Koi** Koita *ago-*; **F-H WHu** Selepet *kuku-*; **MAD Kal** Kalam *kak-*, **Rai** Sausi *kakau-*, Urigina *kuku-*, **Mab** Panim *kuku-*, Bagupi *kuki-*, Garuh *kuk-*, *NAd* Musar *kaki[m]-* ‘carry on back’, Abasakur *kaki-*, **SAd** Angaua *gagi-* ‘carry on back’; **EHL Ktu** Waffa *káákoo[noo]* ‘carrying (a child) on the back’; **CEN Ktb** Foe *gage-*, **Aw-Du** Pisa *kekuN-*. cf. also **F-H EHu** Kâte *kuku-* ‘neck’; **EHL Eng** Kewa *auu-*; **Ch-W** M. Wahgi *kau-*.

**76. \*kal(a,i)m ‘moon’** **MAD Rai** Songum *?elem*, **Mab** Rempi *kalam*, Garuh *kalam*, **NAd** Pila *kaleb*; **EHL Ch-W** Melpa *kalimp*, Nii *kalemp*; **CEN Ok** Telefol *kaliim*, Tifal *karim*, **Kay** Kaugat *ka?aram*, **Te-Pa** (both ‘star’) Sopese, Polopa *keleman*; **NW Pau** Dubu *wuluma*; **SW Ye-Ma** Yelmek *alemu* ‘sun’. cf. also **EHL Eng** Enga *limae*.

**77. \*kamb(a,u)na ‘stone’** **SE Mlu** Magi *gomana*, **Bin** Korafe *gamana*; **F-H EHu** Kâte *kpana*; **MAD Kal** Kalam *kab*, Kobon *kabö*, **Rai** Biyom *kombo[ro]*, Danaru *gwaib*, Urigina *goimbo*, Duduela *a:bu*; **EHL Ch-W** Kuman *kombu[go]*.

**78. \*ka(w)nan ‘spirit’** **F-H EHu** Kâte *hone*; **MAD Kal** Kalam *kawnan*, Kobon *ana*; **Rai** Lemio *khon*, Male *konon*; **EHL Gka** Fore *kinane*, **Ch-W** Kuman *kowan(a,e)*, M. Wahgi *kone*. cf. also **SE Koi** Managalasi *?avena* ‘shadow’; **EHL Eng** Enga *kauwa(ŋe)* ‘grandfather’.

**79. \*ketane ‘sun’** **NW Mek** Bime *getane*, Eipo *ketiŋe*, **Wis** Ekagi *tani* (first syllable lost); **SW Mar** Bian *ketane*, Marind *katane*. cf. also **SE Bin** Orokaiva *izi*, Baruga *iri*, **Gu-Sa** Guhu-Samane *ete*; **CEN Ok** Telefol *araan*, Kati M *aton*.

**80. \*ki(-) ‘you (pl)’** **F-H Wan** Awara *gi*; **CEN Bos** Bosavi *giyo*, **Ok** Kati M *ki[p]*, Telefol, Faiwol *i[b]*, Mianmin *i[p]*, **Aw-Du** Sawuy *gi[p]*; **NW Dni** W Dani *ki[t]*, **Wis** Ekagi *ikii*, Moni *igi*. Compare note after set 72.

**81. \*kinV(p)- ‘sleep/lie down’** **SE Mlu** Amau *i?ini*; **F-H WHu** Ono *kulu-*, **EHu** Sene *gone-*; **MAD Kal** Kalam *kn-*, **Rai** Suroi *kini-*, Rerau *kin-*, **Mab** Murupi *nigi-* (metath.), **NAd** Ulingan *ini-*, Bunabun *ini*, **SAd** Wadaginam *gini-*; **CEN** Kati M. *konob [iban?kem-]*, **Aw-Du** Axu *kunumi-*, Pisa *kunu [ri-]*, Sawuy *kene:p*, Wambon *kinum-*; **NW Wis** Wodani *uwu [umina-]*; **SW Mar** Yaqay *kindan [poen]* (\**nd* > *n*). cf. also **CEN Ok** Tifal *akaanun[emin]*, Wagarabai *awunen[pi-]*.

**82. \*kinV ‘shoulder’** **MAD Rai** Dumpu *kiñen*, **NAd** Kowaki, Musar *hena*, Wanambre *kena*; **CEN Ktb** Fasu *kinu*; Foe *gi*, **Ok** Mianmin *kwiŋ*, Faiwol *kiin*, Birmin *kiŋŋ-*, Telefol *tiŋ-*.

83. \**kuma(n,ŋ)*[V] ‘neck’ (prob. ‘nape’ not ‘throat’) (first syllable lost in some cases). cf. set 67. MAD *Kal* Kalam *koŋam*, Kobon *uŋam* (both metathesis), *Rai* *Urigina manu*, *NAd* (all ‘nape’) *Waskia komaj*, *Bunabun kuman*, *Parawen kumɔ:na*, *SAd* *Atemple kum* ‘nape’, *Emerum [sa]kum* ‘nape’; *Paynamar gamang*; *CEN Bos* *Bosavi mane* ‘back of neck’, *Ok* *Telefol kum* ‘left side of neck’, *Aw–Du* *Kaeti koman*; *NW Mek* *Yale kumkum*; *TIM* *Oirata mani*. cf. also *MAD Mab* *Murupi gumara*, *Samosa kamura*, *Mosimo kamuru*.

84. \**kumV-* ‘die’ *F–H WHu* *Mindik komu-*, *Burum kɔmu-*, *Selepet mu-* (first syllable lost), *EHu* *Kâte hamo-*; *MAD Kal* *Kalam kum-*, *Kobon um-*, *Rai* *Lemio kumo-*, *Rerau kum-*, *Duduela ume-*, *NAd* *Bunabun uma-*, *SAd* *Siliebi kumu-*, *Emerum kəm-*; *EHL Eng* *Kewa oma-*, *Enga kumi-*; *CEN Aw–Du* *Wambon kim-*; *TIM* *Oirata umu-*. cf. *TIM* *Blagar imina*.

85. \**ku(y)a* ‘cassowary’ *SE Yrb* *Yareba uyáú*, *Mnb* *Maria kuyau*, *Koi* *Mt Koiari ia*; *EHL Ktu* *Waffa kua[ayanna]*, *Ch–W* *Kuman kua* ‘bird’; *CEN Aw–Du* *Sawuy kuye*, *Kay* *Kaygir kue*; *NW Tam* *Awyi kuyi*, *Taikat kwiye*; *SW Yaq* *Yaqay kuyu*.

In the Madang group a number of languages have forms that are superficially similar to the above but are probably borrowings from an Oceanic language or languages: *MAD Rai* *Kolom kawar*, *Duduela keira*, *Mab* *Wamas kiwa:ri*, *Samosa kivari*, *Utu iwar*, *Kamba kiwar*; *NAd* *Ulingan kiya*; *Yag* *Saep kiwa*.

Indeterminate between initial \**k-* and \**ŋg-*. See sets 25, 57, 63, 64.

#### 2.4.2 Medial \**k-* vs \**ŋg-*

Medial\**ŋg-*. See sets 7, 33, 43, 45, 61 and the following:

86. \**maŋgV* ‘compact round object, e.g. fruit, seed, egg, kidney’ *SE Kwl* *Kwale maya*, *Yrb* *Yareba báka* (\**m* > *b*); *Bin* *Dogoro munŋu* ‘egg’; *ANG* *Ivori munŋe*; *MAD Kal* *Kalam magi*, *Kobon magö*, *Rai* *Usino maŋ* ‘seed’, *Mab* *Munit ma:g* ‘fruit, seed’, *NAd* *Ulingan make[na]*, *SAd* *Emerum ma:ŋgu* ‘egg’; *EHL Ch–W* *Kuman munŋo* ‘seed’, *Kaugel mogo*, *M. Wahgi muŋ* ‘fruit, nut, lump’; *CEN Ok* *Telefol maga[p]* ‘round object’, *Aw–Du* *Wambon mok* ‘seed’, *Pisa*, *Sawuy mugo* ‘egg’; *Asm* *Asmat moko-[per]* ‘navel’; *SW Mar* *Bian maga[f]*, *Yaq* *Yaqay moka* ‘egg’.

87. \**nVŋg-* ‘know, hear’ *F–H WHu* *Timbe nŋga-* ‘know, hear’, *Momolili niŋge-* ‘know, hear’, *Selepet nŋgɔ-* ‘know, hear, listen’; *Kov* *Kovai nag-* ‘see’; *MAD Kal* *Kalam ng-* (*Ti* dial.), *nŋ-* (*Ti* and *Etp* dial.) ‘see, hear, know’, *Kobon nŋ-* ‘see, hear, know’, *Rai* (all ‘see’) *Pulabu na-*, *Bongu ne-*, *Mab* *Garuh neg-* ‘watch’, *SAd* (all ‘see’) *Siliebi ŋg-*, *Katiati ŋgi-*, *Emerum iŋg-*, *Yag* *Saep ni-*; *NW Tam* *Waris nŋg-*, *Manem nonŋk-*. cf. also *F–H WHu* *Burum*, *Selepet*, *Timbe nek-* ‘he sees me’.

88. \**mVŋ(g)Vl-* ‘vomit’ (V.) (Possibly a sequence of noun ‘vomitus’ + verb.) *F–H WHu* *Timbe mugat* ‘be sick’, *Selepet mohat* ‘he vomits’ (\**ŋg* > *h* irreg.), *EHu* *Kâte maŋu-*; *MAD Rai* *Lemio ŋari-*, *NAd* *Amaimon miŋil-*, *Dimir miŋali-*, *SAd* *Emerum mi:ŋr-*, *Faita meŋr-*; *EHL Ch–W* *Kaugel meku-*, *M. Wahgi mek [si-]*, *Eng* *Kewa maaku [ra-]*, *Enga myuku [talyigi-]*.

**Medial \*-k-**. See sets 35, 38, 40, 42, 75 and the following:

89. *munaka* ‘egg’ SE *Koi* Koita *unika* ‘egg, kernel’, Aomie *un* (\**m* lost in both); MAD (initial or final syllable lost in some cases) *Rai* Usino *nag*, *Mab* Amele *na:k*, Gumalu *munau*, *NAd* Ulingan *muneka*, *SAd* (both ‘fruit’) Ikundun *munukwa*, Moresada *munuk*; EHL *Gka* Fore *amune*, Yagaria *muna*; CEN *Asm* C C Asmat *manaka* ‘eye’, N Asmat *manak*, *menek* ‘eye’; GLF *Ele* Purari *mun*. cf. set 81.

90. \**ok[V]* ‘water’ SE *Mlu* Domu *yaʔa*, *Yrb* Yareba *ogó*, Abia *yaʔa*; F–H *Yup* Nankina *ok* ‘river’; MAD *Rai* Sumau *yaki*, *NAd* Parawen *ɣaga*; CEN *Ok* Telefol *óók*, Kati M *ok*, *Aw–Du* Axu *oxo*, Kaeti, Wambon *ok*; *Kay* Kaugat *oxom*. cf. also SE *Bin* Binandere *ou*; F–H *WHu* Burum *ou*; *EHu* Dedua [*d*]oku, Mape *owu*. cf. also the following, which suggest \**no(kV)* or \**ni(kV)*: SE *Koi* Koiari *no*; *Bin* Aeka *na-[ko]*; FH *WHu* Nabak *ni*, *EHu* Dedua *ne*; MAD *Kal* Kalam *ñg* [nyɪŋk]; EHL *Ktu* Awa *no*, *Gka* Gende *nogoi*, Siane *no*, *Ch–W* Kaugel *no*, Kuman *nigl*.

91. \**yaka[i]* ‘bird’ SE *Koi* Managalasi *uka*; F–H *WHu* Nabak *aga*; MAD *Kal* Kalam *yakt*, Kobon *yawr*; EHL *Eng* Kewa *yaa*, Enga *yaka*; CEN *Ktb* Foe *ya*. cf. also MAD *Mab* Raptang *ai*, Garuh *ay*, *SAd* Katiati *kawa*, Faita *kapa*, *Yag* Yabong *kwe*; EHL *Ch–W* M. Wahgi *kai*, M. Wahgi (Banz) *ka*.

92. \**walaka* ‘testicles’ MAD *Kal* Kalam *walak*; EHL *Ch–W* Kuman *walka*, M. Wahgi *wałke*, Kaugel *glaka*. cf. also EHL *Gka* Fore *arokawe*, *Eng* Enga *lakapo*.

This set is well attested only in two TNG groups, geographically close: Kalam (of Madang) and Chimbu–Wahgi, and therefore may belong to a later stage of TNG.

**Indeterminate between medial \*-ɲg- and \*-k-**. See sets 43, 45 and the following:

93. \**la(ɲg,k)a* ‘ashes’ SE *Bin* Binandere [*aβa-*]raka ‘fire’; F–H *Yup* Kewieng [*abu-*]lak; EHL *Eng* Kewa *taga*, Enga *lyɲga*, *Wru* Wiru *laga*. cf. also CEN *Ok* Tifal [*as*]lak, Faiwol [*as*]laik ‘smoke’.

2.4.3 **Final \*-k**. See sets 3, 57, 60, 67 and the following:

94. \**muk[V]* ‘blue’ MAD *Kal* Kalam *muk*, Kobon *muk*; EHL *Ch–W* M. Wahgi *muk*, Kaugel *muku*. Same comment as for set 92.

95. \**muk* ‘milk’ FH *EHu* Kâte *moŋ* ‘milk, breast’; MAD *Kal* Kalam *muk* (Etp dial.), *mok* (Ti dial.), Kobon *mo*; CEN *Ok* Telefol *muúk*, Faiwol *múúk*, Kati M. *muk*.

96. \**muk* ‘brain’ SE *Koi* Mt Koiari *meuk* (+ ‘bone marrow’); MAD *Kal* Kalam *muk* (Etp dial.), *mok* (Ti dial.) (+ ‘bone marrow’), *SAd* Sileibi *miku*, Katiati *mekwi*, Musak *me:koŋ*. cf. also FH *EHu* Kâte *mokeru*.

97. \**tumuk* or \**kumut* ‘thunder’ (V.) MAD *Kal* Kalam *tumuk* (N.), *SAd* Sileibi *ima:g* (N.), Moresada [*imap*] *sumu-*, Ikundun *tumur* (N.); *Yag* Ganglau *sumuŋ* [*daŋ-*]; CEN *Ok*

Telefol *tumuun*, Tiofal *timan*, Bimin, Faiwol *kiman*, *Aw-Du* Wambon N. *kumut*. cf. also MAD *Sad* Emerum *tabra if-*.

98. \**ya(-)* 'he/she (free pron.)' SE *Koi* Mt Koiari *a[hu]*; F-H *Uru* Som *ea[k]*, *WHu* Nabak *a[k]*, Selepet *yo[k]*; EHL *Gka* Fore *a[gewe]*; *Ch-W* Kuman *ye*; CEN *Bos* Beami *ya*, *Ok* Kati M *ye, yu*, *Aw-Du* Pisa *e[ki]*, Wambon *ye, yu* (Obj), *ya(n)* (Gen), *Aw-Pa* Awin *yo, ya* (Gen), *Asm* Asmat *a* '3rd person pronoun' Compare note after set 72.

### 3 Discussion

#### 3.1 Reflexes of pTNG consonants and vowels in a sample of daughter languages

Outcomes of the seven reconstructed pTNG obstruents in a sample of eight daughter languages, drawn from different subgroups, are summarised below.

##### 1. Reflexes in Kalam (Kalam branch of Madang group)

Kalam maintains distinct reflexes of all seven obstruents.

\**mb* > *b* [mb] initially and medially: \**mbapa* 'father' > *bapi*, \**ambi* 'man' > *b*, \**sambV* 'cloud' > *seb*, \**imbi* 'name' > *yb*, \**kamb(a,u)na* 'stone' > *kab*, \**si(m,mb)u* 'guts' > *sb*

\**mb* > *m* in at least one case: \**mbalaŋ* 'flame' > *malan*, *manlan*. Note also \*(*mb,m*)*elak* 'light/lightning' > *melk* 'light'

\**p* > *p* initially and medially (realised as [ɸ] initially, [β] medially): \**panV* 'female' > *pañ*, \**apus(i)* 'grandparent' > *aps*, \**mapVn* 'liver' > *mapn*

\**nd* > *d* [nd] medially: \**mund-maŋgV* 'heart' > *mudmagi*, \**kindil* 'root' > *kdl*

\**t* > *t* initially and finally (realised as [t] initially, [r] elsewhere): \**takVn* 'moon' > *takn*, *tuk-* 'cut' > *tk-* 'sever', \**tu* 'axe' > *tu*, \**tumu* or *kumut* 'thunder' > *tumuk*, \**-it* '2/3 dual verbal suffix' > *-it*

\**t* > zero medially or finally in one case: \**maŋga* 'teeth' > *meg*

\**s* > *s* initially and medially: \**sabV* 'cloud' > *seb*, \**si(m,mb)u* 'guts' > *sb*, (?) \**su-* 'bite' > *su-*, \**apus(i)* 'grandparent' > \**aps* 'grandmother'

\**ŋg* > *g* [ŋg] medially: \**maŋgat(a)* 'teeth' > *meg*, \**maŋgV* 'round object' > *magi*. In one case \**g* has varying reflexes in different dialects of Kalam: \**nVŋg-* 'see' > *ng-*, *nŋ-* in Ti dialect, but *nŋ-* in Etp dialect.

\**k* > *k* in all positions (realised as [y] medially, [k] elsewhere): \**kamb(a,u)na* 'stone' > *kab*, \**ka(w)nan* 'shadow' > *kawnan*, \**kinV-* 'sleep' > *kn-*, \**kumV-* 'die' > *kum-*, \**kakV-* 'carry on shoulder' > *kak-*, \**muk* 'milk' > *muk* (Ti dial. *mok*), \**muk* 'brain' > *muk*, \**takVnV* 'moon' > *takn*, \**tuk-* 'cut' > *tk-* 'sever'

##### 2. Reflexes in Emerum (S. Adelbert Range branch of Madang group)

Emerum (alias Apali) retains distinct reflexes of all seven obstruents. Emerum has two sharply distinct dialects, Aci and Aki, which have divergent reflexes of several TNG

phonemes. Wade (n.d.) gives forms for both dialects whereas the forms in Z'raggen (1980d) are evidently from Aci alone. Data cited here are Aci.

\*mb > mb medially: \*imbi 'name' > imbi, \*(ka)tumba(C) 'short' > tʷnbʷ

\*mb > p medially: \*mbutuC 'fingernail' > tʷpi (metath.)

\*mb/p > mb medially: \*si(mb,p)atV 'saliva' > simbiŋ

\*mb > m medially: \*kambena 'arm, forearm' > human, \*kambu(s,t)(a,u) 'smoke' > misi

\*p > β medially: \*mapVn 'liver' > ma:βin, \*apa 'father' > yaβaŋ, \*apus(i) 'grandparent' > aβe 'grandmother'

\*p > f medially: \*apa(pa)ta 'butterfly' > afafaŋ

\*nd > ndr medially: \*kindil 'root' > gʷndrʷ

\*t > t initially, medially: \*takVn(V) 'moon' > ta:kun, \*(ka)tumba(C) 'short' > tʷnbʷ, \*mbutuC 'fingernail' > tʷpi (metath.), \*kitu 'leg' > giti, \*kutu(mb,p)(a,u)(C) 'long' > kutes, \*tumuk 'thunder' (V.) > tʷbra[if-]

\*nd/t > ns medially: \*ka(nd,t)(e,i)(C) 'ear' > ginsi

\*s > s initially, medially: \*si(mb,p)atV 'saliva' > simbiŋ, \*si(m,mb)u 'guts' > su, \*sa(ŋg,k)asiŋ 'sand' > ka:siiŋ

\*s/t medially > s: \*kambu(s,t)(a,u) 'smoke' > misi

\*ŋg > ŋg medially: \*mangV 'compact round object' > \*mangV > ma:ŋgi 'egg', \*nVŋg- 'know, hear' > iŋg- 'see'

\*ŋg > k medially: \*mangat(a) 'teeth' > miika

\*k > k initially, medially: \*kumV- 'die' > kʷm-, \*kuma(n,ŋ)(V) 'neck' > [sa]kum 'nape', \*takVn(V) 'moon' > ta:kun, \*mVkvM 'cheek' > mukum

### 3. Reflexes in M. Wahgi (Chimbu–Wahgi subgroup)

Middle Wahgi keeps separate reflexes of all seven obstruents.

\*mb > mb medially: \*ambi 'man' > amb 'woman', ambi- 'wife', \*imbi 'name' > embem. (cf. also \*mbutu 'wing' > bur ŋi- 'fly')

\*p > p medially: \*pu- 'go' > pu-, \*ap 'father' > apa- 'maternal uncle'

\*nd > nd initially and medially: \*mund-mangV 'heart' > mund-mung

\*t > t initially: \*tVk- 'cut' > tuk- 'chop'

\*ŋg > ŋg medially: \*mangV 'round object' > mung 'fruit, nut, lump', mungum 'kidney'

\*k > k medially and finally: \*tVk- 'cut' > tuk- 'chop'; \*muk 'blue' > muk; \*kakV- 'carry on shoulder' > (?) kau- 'carry on head or shoulder'

#### 4. Reflexes in Selepet (W. Huon branch of Finisterre–Huon group)

Selepet initial and medial reflexes of \*p remain uncertain; finally, \*p > p. Selepet keeps separate reflexes of the other obstruents in at least some positions. However, there are multiple reflexes of \*s and \*k with no known conditions.

\*mb > b initially and medially: \*mbalaŋ ‘flame’ > balam, \*(mb,m)elak ‘lightning’ > belek, \*mbilaŋ ‘tongue’ > [ni]bilim, \*imbi ‘name’ > Selepet ibi, \*kembena ‘arm’ > bot, \*sambV ‘cloud’ > (?) hibim ‘sky’

\*mb > w / \_u (problematic case): \*kambu(s,t)(a,u) ‘smoke’ > (?) gɔwu ‘soot, charcoal’

\*mb > p finally: \*simbi ‘excrement’ > tep- ‘stomach, intestines’, \*si(mb,p)atV ‘saliva’ > top

\*p > p finally: \*kend(o,u)p ‘fire’ > kolop

\*mb/p > p medially and finally: \*si(mb,p)atV ‘saliva’ > top, \*kutu(mb,p)(a,u)(C) ‘long’ > kalip

\*mb > w / \_u: \*kambu(s,t)(a,u) ‘smoke’ > (?) gɔwu ‘soot, charcoal’

\*nd > nd (1 case) or s (1 case) medially: \*nde- ‘speak’ > de-, \*nd(a,e)i- ‘burn’ > si-

\*t > t initially, > r medially: \*tVk- ‘cut’ > tok [yap] ‘snap, break’, \*kVtak ‘new’ > irak

\*s- > s initially (2 cases): \*sa(ŋg,k)asin ‘sand’ > sak, \*(s,nd)sumu(n,t)(V) ‘hair’ > somot

\*s- > t initially (2 cases): \*simbi ‘excrement’ > tep- ‘stomach, intestines’, \*si(mb,p)atV ‘saliva’ > top

\*s- > h initially (1): sambV ‘cloud’ > hibim ‘sky’

\*ŋg > g initially: \*ŋga ‘2nd singular’ > ga

\*k > k initially, medially, finally: \*kend(o,u)p ‘fire’ > kolop, \*kakV- ‘carry on shoulder’ > kaku-, \*kutu(mb,p)(a,u)(C) ‘long’ > kalip, \*[ka]t(a,u)(p,mb)u ‘ashes’ > kɔu, \*sa(ŋg,k)asin ‘sand’ > sak, \*ok[u] ‘water’ > gel-ok ‘rain’, \*kVtak ‘new’ > irak, \*tVk- ‘cut’ > tok [yap] ‘snap, break’

\*k > g initially (problematic case): \*kambu(s,t)(a,u) ‘smoke’ > (?) gɔwu ‘soot, charcoal’

\*k > zero initially (1 case): \*kVtak ‘new’ > irak

\*k- is lost in one case where an initial CV- syllable has disappeared: \*kumV- ‘die’ > mu- (other WHu languages retain the initial syllable, e.g. Mindik komu-)

#### 5. Reflexes in Kâte (E. Huon branch of Finisterre–Huon group)

Kâte keeps distinct reflexes of \*mb and \*p. Evidence concerning the other contrasts between prenasalised and oral obstruents is less clear but points to retention of contrast.

\*mb > b initially and medially: \*mbalaŋ ‘flame’ > bɔruŋ, \*(mb,m)elak ‘lightning’ > bɔri? ‘glitter, flash of lightning, etc.’, \*sambV ‘cloud’ > sambaŋ ‘sky’, \*mbutuC ‘fingernail’ > butoŋ, \*mbVŋga-masi ‘orphan’ > beko.

\*-mb- > -p- in two cases where initial \*kVmb > kp: \*kV(mb,p)(i,u)tu ‘head’ > kpit/se?, \*kamb(a,u)na ‘stone’ > kpana

\*mb > m in one case: \*mbena ‘arm’ > me

- \*p- > f initially: \*pululu 'fly (V.)' > fururu?  
 \*mb/p > f medially: \*si(mb,p)atV 'saliva' > tofec, \*[ka]t(a,u)(mb,p)u 'ashes' > dzafe
- \*nd > l initially, nd medially: \*(nd,t)a- 'take > lo-', \*mundun 'belly, internal organs' > mundun  
 'inner yolk of egg'
- \*t > t medially: \*kV(mb,p)(i,u)tu 'head' > kpit/se?, \*mbutuC 'fingernail' > butoŋ
- \*t > r medially (one problematic case): \*(ŋ g,k)atata 'dry' > (?) kereŋke-
- \*t > tz initially: \*[ka]t(a,u)(mb,p)u 'ashes' > dzafe
- \*s > s initially and medially: \*sambV 'cloud' > samban 'sky', \*masi 'widow' > masiŋ
- \*s- > t initially (1 case): \*si(mb,p)atV 'saliva' > tofe?
- \*ŋg > g initially: \*ŋga '2nd singular' > go
- \*ŋg > k medially: initially: \*mbVŋga-masi 'orphan' > beko
- \*k > k initially and medially: \*kamb(a,u)na 'stone' > kpana, \*kV(mb,p)(i,u)tu 'head' >  
 kpit[se?], \*(ŋ g,k)atata 'dry' > (?) kereŋke-
- \*k- > h initially in one case: \*kumV- 'die' > hamo-
- \*k > ? finally: \*(mb,m)elak 'lightning' > bori? 'glitter, flash of lightning, etc.'

## 6. Reflexes in Binandere (Binandere group)

For Binandere the data concerning reflexes of prenasalised versus oral pairs are too skimpy and inconsistent to be conclusive. However, there are some indications that a contrast is kept between each pair of obstruents.

- \*mb > b medially: \*ambi 'man' > embo
- \*mb/p > p medially: \*kV(mb,p)(i,u)tu 'head' > kopuru, \*(ka)tumba(C) 'short' > tupo
- \*nd- > s medially / \_i and possibly / \_e: \*(nd,t)(a,e)i - 'burn' > (?) hebe-se-
- \*nd > nd medially: \*mundu 'nose' > mendo
- \*t- > t initially, r medially: \*tukumba(C) 'short' > tupo, \*kwa(nd,t)a(l,n) 'bone' > undoru,  
 \*kV(mb,p)(i,u)tu 'head' > kopuru
- \*t > s medially / \_i: \*(ŋg,k)iti-mangV 'eye' > gisi moka
- \*nd/t > z medially: \*i(nd,t)a 'tree' > izi (but compare Notu ri)
- \*s/t > j initially and medially: \*(s,t)i(s,t)i 'tooth' > ji
- \*ŋg, k > g initially: \*(ŋg,k)iti-mangV 'eye' > gisi moka
- \*ŋg > k medially: \*(ŋg,k)iti-mangV 'eye' > gisi moka
- \*k > k initially and medially: \*kV(mb,p)(i,u)tu 'head' > kopuru, \*la(ŋg,k)a 'ashes' > [aβa]-  
 raka 'fire'
- \*k > zero initially: \*kwa(nd,t)a(l,n) 'bone' > undoru

### 7. Reflexes in Telefol (Ok branch of C. and S. NG group)

Telefol appears to merge \**nd* and \**t* and \**ŋg* and \**k*, respectively, but probably keeps separate reflexes of \**mb* vs \**p* and \**s* vs \**nd* and \**t*.

\**mb* > *f* initially: \**mbilan* 'tongue' > *foŋ* (Tifal *filan*)

\**mb* > *b* medially and finally: \**kambena* 'arm' > *ban* 'forearm', \**amba* 'sibling' > *baab*,  
\*(*ka*)*tambu* 'ashes' > *kutab*, \**sambV* 'cloud' > (?) *iib*

\*(*md/p*) > *f* initially: \**pululu-* 'fly' > *fúlúluú* (+ V.)

\**p* > zero initially: \**panV* 'woman' > (?) *unán*, \**pinim* 'wind' > *inim*

\**nd* > *t* medially: \**mundu* 'nose' > *mutuum*, \**ka(nd,t)uluk* 'knee' > *katuun*

\**t* > *t* initially and medially: \**tumuk* 'thunder' > *tumuun*, \**k(i,u)tuma* 'night' > *kutim*

\**nd/t* medially > *t*: \**ka(nd,t)(e,i)C* 'neck' > *ditak* (Faiwal *getak*)

\**s* > *s* initially: \**san* 'story, song' > *san* 'myth, story'

(?) \**s* > zero initially: \**sambV* 'cloud' > *iib*

\**ŋg* > *k* medially: \**mangV* 'round object' > *úún makáb* 'egg', \**mangat(a)* 'teeth, mouth' > Faiwal *makat-kalim* 'whiskers (chin-hair)'

\**k* > *k* initially, medially, finally: \**ka(nd,t)(e,i)C* 'neck' > *ditak* (Faiwal *getak*), \**kal(a,i)m* 'moon' > *kaliim*, \**kuma(n,ŋ)* 'neck' > *kum* 'left side of neck' \**kwa(nd,t)at* 'bone' > *kun*,  
\**muk* 'milk' > *múúk*

\**k* > *t* initially (1 case): \**kinV* 'shoulder' > *tij-*

\**k* > zero initially: \**ki* '2nd pers. pl.' > *ib*

\**ŋg/k* > *k* initially: \*(*ŋg,k*)*a(nd,t)apu* 'skin, bark' > *káál*

### 8. Reflexes in Asmat (Asmat branch of C. and S. NG group)

The Asmat sound system is analysed by Voorhoeve (1965) as having the following consonant phonemes: *p t c k f s m n w r j*. /*m*/ has allophones [b] initially, [mb] before a nasal and [m] elsewhere. /*n*/, likewise, has allophones [d] initially, [nd] before a nasal and [n] elsewhere. Asmat has distinct reflexes of \**ŋg* vs \**k*, and of \**s* vs \**t*, but the evidence concerning \**md* vs \**p*, and \**nd* vs \**t*, is inconclusive.

\**mb* > [b] initially: \*(*ka*)*mbena* 'arm' > *man* [ban]

\**mb* > *f* initially: \**mbutuC* 'fingernail' > *fit*

\**mb* > *p* medially: \**imbi* 'name' > *yipi*

(?) \**mb/p* > *p* initially: \**putulu-* 'fly (V.)' > (?) *pi-*, *mb/p* > [w] medially /*u\_u*:  
\**kV(mb,p)(i,u)tu* 'head' > *kuwus*

*mb/p* > *p* finally: \**si(mb,p)atV* 'saliva' > *me/sep*

\**nd/t* > *s* medially: \**i(nd,t)u* 'fire' > (Central Coast Asmat) *isi*

\**nd/s-* > *s*. \**ke(nd,s)a* 'blood' > *es*

\**t-* > *s* initially and medially: \*(*ŋg,k*)*atata* 'dry' > *soso*, \**kV(mb,p)utu* 'head' > *kuwus*, \**kasin* 'mosquito' > (Citak Asmat) *isi*



\**t* > *t* initially, *r* or *t* medially: \**tutu(tu)ku* 'straight' > *toror*, \**k(i,u)tuma* 'night' > *yiram*

\**s* > *s* medially: \**ata* 'excrement' > *asa*

\*(*s,t*) > *j* initially and medially: \*(*s,t*)*i(s,t)i* 'tooth' > *ji*

\**ŋg* > *k* medially: \**mangV* 'compact round object' > *moko-per* 'navel'

\**k* > zero initially and finally: \**k(i,u)tuma* 'night' > *yiram*, \**kasin* 'mosquito' > Central Asmat *isi*, \**ke(nd,s)a* 'blood' > *es*, \**ya[k]* '3rd singular pronoun' > *a*

### 3.2 Conclusions

My aim here has been to put forward a hypothesis about the nature of the pTNG obstruent system which can be tested by future work, and to bring together evidence that bears on the proposed distinctions. It would be unrealistic to expect a watertight case for the proposals made here. After all, it took the Indo-Europeanists 60 years, from Rask to Verner, and working with infinitely better data than we have, to sort out the Indo-European obstruents and their reflexes in the Germanic group, and Indo-Europeanists are still arguing about competing analyses.

Many of the individual lexical reconstructions are bound to need revision as more evidence comes to hand to fill in gaps in the pattern of sound correspondences or to help explain irregularities. Almost every cognate set in §2 shows irregularities in the pattern of sound correspondences, with some languages exhibiting unexpected reflexes of particular elements of the reconstructed form. In some cases, the disagreements among contemporary forms are such that it is impossible to choose between competing variant reconstructions. It is not possible here to discuss each cognate set in detail but it is plain that sporadic sound changes have occurred as the result of various factors, such as borrowing, analogy, assimilation, dissimilation and truncation. There are many cases of 'one-step feature shift', i.e. change in a single feature of manner or position of articulation.

Nevertheless, the combined weight of evidence supports the conclusion that in word-initial and word-medial position pTNG distinguished at least seven obstruent phonemes, with contrasts at three points of articulation (bilabial, coronal and velar) and in manner of articulation. In choosing to represent the obstruents by the symbols \**mb*, \**nd*, \**ŋg* and \**p*, \**t*, \**s*, \**k*, I favour the view that the essential 'manner contrast' was between prenasalised and oral obstruents. The phonetic values of some of these protophonemes were no doubt quite variable, as is the case for obstruents in many contemporary TNG languages. A detailed consideration of the phonetics of the reconstructed phonemes and their reflexes would require another paper.

Positing an eighth obstruent, a prenasalised counterpart of \**s*, might help to make sense of certain inconsistencies in the reflexes of \**s* and \**nd*. These inconsistencies can be seen by comparing sets 46 and 70 (for which we have reconstructed \**(nd,s)umu(n,t)(V)* 'hair' and \**ke(nd,s)a* 'blood', being unable to choose between \**nd* and \**s*), with sets 32-34, 43-45, 47-53, 66-68.

**(1) The frequency of phonemes**

There are considerable differences in the frequency of different obstruents, and classes of obstruents, in particular positions in the corpus of pTNG reconstructions. The differences are illustrated in Table 4.

'+' means that the figure probably should be higher because there are several cases where the final consonant is indeterminate between one or another oral obstruent.

In the reconstructions only oral obstruents occur word-finally. There are no final prenasalised consonants. Word-initially, and overall, *\*k* is the most frequent single obstruent, by a considerable margin. In initial position the next most frequent obstruents are *\*t*, *\*s*, *\*mb* *\*ŋg*, all at about the same level, followed by *\*p*, with *\*nd* the least frequent. *\*k* occurs much more often initially than medially. By contrast, *\*nd* and *\*t* strongly prefer medial position.

**Table 4:** Frequencies of pTNG obstruents

|                | Initial | Medial | Final | Total | Percentage initial |
|----------------|---------|--------|-------|-------|--------------------|
| <i>*k</i>      | 28      | 11     | 7+    | 46+   | 40.0               |
| <i>*t</i>      | 10      | 20     | 1+    | 27+   | 12.4               |
| <i>*s</i>      | 7       | 5      | 0     | 12    | 9.7                |
| <i>*mb</i>     | 7       | 9      | 0     | 16    | 9.7                |
| <i>*ŋg</i>     | 7       | 8      | 0     | 15    | 9.7                |
| <i>*p</i>      | 5       | 5      | 1+    | 11+   | 6.8                |
| <i>*nd</i>     | 3       | 9      | 0     | 12    | 4.2                |
| Indeterminates |         |        |       |       |                    |
| <i>*ŋg/k</i>   | 4       | 3      | 0     | 7     | 5.5                |
| <i>*nd/t</i>   | 1       | 3      | 0     | 5     | 2.7                |
| <i>*mb/p</i>   | 0       | 6      | 0     | 7     | 0.0                |
| <i>*nd/s</i>   | 0       | 1      | 0     | 1     | 0.0                |
| Totals         | 72      | 80     | 9     | 161   |                    |

It remains to be seen how far these variations in frequency approximate the true situation and how far they reflect biases in reconstruction procedures. Some clues may be found by examining phoneme frequencies in living TNG languages. In the contemporary languages some phonemes are much more used than others and not all consonants and vowels occur in the same range of positions in the word. An estimate of word-initial phonemes in the dictionaries of Kalam and Enga, for instance, shows a fairly similar profile for both languages. (The estimate was based on the number of columns taken up in the entire dictionary by word-initial obstruents. Estimates for medial and final positions in the word will differ significantly and for certain consonants.)

**Table 5:** Frequency of word-initial obstruents in Kalam and Enga

| Kalam    |            | Enga      |            |
|----------|------------|-----------|------------|
| Phoneme  | Percentage | Phoneme   | Percentage |
| <i>k</i> | 28.7       | <i>k</i>  | 36.8       |
| <i>s</i> | 16.8       | <i>t</i>  | 21.2       |
| <i>t</i> | 11.6       | <i>p</i>  | 19.4       |
| <i>p</i> | 10.7       | <i>s</i>  | 8.9        |
| <i>g</i> | 10.6       | <i>d</i>  | 5.1        |
| <i>b</i> | 8.8        | <i>b</i>  | 4.0        |
| <i>j</i> | 4.8        | <i>g</i>  | 4.0        |
| <i>c</i> | 4.3        | <i>ky</i> | 2.0        |
| <i>d</i> | 3.4        |           |            |

NOTE: The symbols *b*, *d* and *g* represent prenasalised obstruents in both languages. Enga /s/ is [ts] word-initially.

It can be seen that, word-initially, in Kalam and Enga *k* is by far the most common phoneme. Each of the oral obstruents *p*, *t*, *k* is more common than their prenasalised counterparts *b*, *d*, *g*, in both languages. In fact, *k* and *t* occur more than twice as often as *g* and *d* respectively in both languages, and in Enga this also holds for *p* vs *b*. That difference does not apply in the case of the Kalam palatals, where prenasalised *j* and oral *c* have similar frequencies; however, there are grounds for considering *s* as an oral counterpart of *j* in Kalam, and *s* is the second most common consonant.

The Kalam and Enga data agree with those for pTNG in at least three respects: word-initially (i) /*k*/ is by far the most common obstruent, (ii) /*nd*/ is the least frequent, (iii) \**t* and \**s* are the second most frequent, or are in the group of second most frequent obstruents.

**(2) Further thoughts on top-down reconstruction with sparse data**

After trying both bottom-up and top-down reconstruction on TNG languages, I am convinced that working at both levels simultaneously from the earliest stages of comparative study is the most fruitful strategy, even when the data are relatively sparse. While the lack of good dictionaries is a serious handicap in the search for cognates, lists of basic vocabulary are in fact sufficient for quite considerable progress to be made. In the case of TNG, most of the cognate sets represented across the family come from ‘basic’ vocabulary, namely terms for pronouns, body parts, kinship relations, prominent features of the inanimate environment (e.g. water, stone, sand, ashes, fire, cloud, moon, lightning), some ubiquitous animals (louse, mosquito, fly), and a few actions, processes and attributes (e.g. to fly, carry, sleep, die, be short, long, full). More serious than the lack of dictionaries, in the early stages, is the lack of good phonological analyses for languages with complex allophonic and morphophonemic systems.

There are a number of ways in which top-down reconstruction can help reconstruction at lower levels. One is in choosing between competing reconstructions of the phonological form or meaning of a lexical unit. One often finds that evidence internal to a subgroup is indeterminate between two or more reconstructions and in such cases external witnesses can often determine in favour of one of the two. A second key role of high-order reconstructions is to provide evidence for subgrouping by shared innovations. If it can be shown that a

certain phonological feature must be attributed to the highest-order protolanguage, such as a contrast between *\*mb* and *\*p*, or the occurrence of word-final consonants, then a loss of this feature in any daughter language is an innovation. If two or more daughter languages share the change, we have a shared innovation that is grounds for subgrouping. (Whether that particular innovation is strong or weak evidence depends on a range of other considerations.) The same applies to specific lexical forms. If it can be shown that a certain form–meaning pairing must be attributed to the highest-order protolanguage, any irregular reflex of the protoform, or any marked departure in meaning, counts as an innovation.

I could give a number of examples where top–down reconstruction has helped in understanding the history of the Madang languages. Most importantly, knowledge of pTNG forms allows us to recognise innovations defining a Madang subgroup, comprising over 100 languages, which in turn divides into a number of extremely diverse subgroups that lexicostatistically are related only at the stock or phylum level. The pTNG free-form singular pronouns can be reconstructed as *\*na* ‘first singular’, *\*ŋga* ‘second singular’ and *\*[y]a* ‘third singular’ (cf. sets 72 and 98).<sup>5</sup> These forms, with initial consonants *\*n*, *\*ŋg*, and *\*y* or zero, have been remarkably stable across TNG in general (Ross 1995). By contrast, the major Madang groups agree in reflecting a set of free-form singular pronouns, namely *\*ya(k)*, *\*na(k)*, *\*nu(k)*, with quite different initial consonants.

If top–down reconstruction had been pursued systematically two decades ago, following the promising start made by McElhanon and Voorhoeve (1970) and others in that same period, I believe that our understanding of the history of the TNG family would by now be a good deal more advanced than it is.<sup>6</sup> Having said that, we may look forward to the exciting prospect of new discoveries in a young field. In this respect, the state of Trans New Guinea historical linguistics can be compared with that of Indo-European in, say, 1820. If only Papuan historical linguistics could attract a tenth as many scholars as Indo-European did during the 19th century!

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<sup>5</sup> For the second singular pronoun Ross (1995) reconstructs pTNG *\*ka* rather than *\*ŋga*. I believe the balance of the evidence now favours the latter reconstruction.

<sup>6</sup> One might ask why the ANU researchers, having accomplished step (i) in the sequence needed to work out the phonological history of a language, had not pressed on to tackle steps (ii) and (iii). I think the answer, in the short term, is that they were in a hurry to complete the *Papuan languages* volume, and concentrated on quick and rough methods to draw conclusions about the extent of the TNG phylum. In the longer term, it seems to be a matter of shifting agendas. By 1975 several members of the research group had left the ANU and all of the core members of the ANU group had moved on to other projects.

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# 18 *Is there an East Papuan phylum?*

## *Evidence from pronouns*

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MALCOLM ROSS

### 1 Introduction

The existence of the East Papuan phylum was proposed by Wurm (1975b) as part of a massive project to classify the Papuan languages (Wurm 1975c).<sup>1</sup> The term ‘Papuan’ refers to those languages which are not Austronesian in the region which stretches from Timor and Alor in the west, through the island of New Guinea and the Solomon Islands, to the Reefs and Santa Cruz Islands in the east. The greatest concentration of Papuan languages is on the island of New Guinea, with a few immediately to the west on Timor, Alor, Pantar and Halmahera, and a much more scattered and spotty distribution to the east on New Britain, New Ireland, Bougainville, Rossel Island and a sprinkling across the Solomons.

No one has ever claimed that the Papuan languages constitute a genealogical unit. Wurm’s (1975c) classification has twelve phyletic groups of varying sizes and a number of unclassified languages, with the huge Trans New Guinea (TNG) phylum occupying much of mainland New Guinea.<sup>2</sup> Even so, many of the valleys to the north of the central divide, together with much of the north coast, are occupied by other phyletic groups, some of them very small (Wurm & Hattori 1981: Maps 1 and 5). Twenty-six Papuan languages are found on islands to the east and south-east of New Guinea. One, Kovai, on Umboi Island between New Guinea and New Britain, is clearly related to languages on the New Guinea mainland and is assigned to the TNG phylum. Wurm attributes the remaining twenty-five to his East Papuan

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<sup>2</sup> This version of the phylum was an expansion of the Trans New Guinea phylum first proposed by McElhanon and Voorhoeve (1970). For an overview of scholarship relating to the phylum, see Pawley (1995).

phylum. Below I report on an examination of the pronominal forms of nineteen of these languages for preliminary evidence of the integrity of the East Papuan phylum. This evidence is not forthcoming, but a number of interesting facts emerge, some of which suggest directions for future research.

Wurm's classification is based on percentages, in a modified 200-word Swadesh list, of cognates displaying regular sound correspondences (Wurm & McElhanon 1975:152). The following orders of groupings are recognised:

|                 |            | Examples in Table 1 |
|-----------------|------------|---------------------|
| same phylum     | 5–12%      |                     |
| same subphylum  | (see text) | A, B, C             |
| same superstock | (see text) |                     |
| same stock      | 12–20%     | 1, 2, 3 ...         |
| same family     | 20–28%     | a, b, c ...         |
| same subfamily  | 45–55%     | i, ii, iii ...      |
| same language   | 70–100%    |                     |

As this tabulation shows, the cut-off points for the different kinds of groups are approximate, in order to allow for situations where the members of an apparent grouping show a range of percentages. It can happen, for example, that all geographically adjacent pairs in a potential 'family' show cognate counts of around 45%, but non-adjacent pairs in the family drop as low as 20%. Wurm and McElhanon's flexible cut-offs are an attempt to tackle this practical snag.

Wurm and McElhanon also recognise the superstock and the subphylum. A superstock is a group of stocks within a phylum which have greater similarities with each other than with other stocks. A subphylum is a group of stocks or superstocks which displays distinct differences from other stocks or superstocks in the phylum.

Wurm's internal classification of the East Papuan phylum is set out in Table 1. The letters and numerals to the left indicate the order of each grouping in accordance with the key in the right-hand column of the tabulation above. The languages themselves are italicised. It would be slavish to show every order of grouping in every superstock of the classification, and Wurm does not do this. For example, Reefs (a language) would be the only member of the Reefs subfamily, one of two subfamilies which make up the Reef Islands–Santa Cruz family. This family, in its turn, would be the only member of stock of the same name, which would be the only member of a superstock and a subphylum of the same name.

A closer reading of Wurm (ed., 1975) suggests that the methodology underlying Wurm's classification is in two respects not quite as the account above might suggest. Firstly, confronted by the amazing variety of languages on the island of New Guinea, Wurm (1975a) weakened the definition of regular sound correspondences in the hope that ancient etymologies might more easily be recognised. Second, typological similarities among languages were used to bolster groupings based on cognate counts. This means that Wurm's groupings are not based on the canonical comparative method. If we attempt a count of groupings which, on inspection, appear to conform to the canons of the comparative method, then we arrive at something between 40 and 60 groups (cf. Foley 1986:13–14, 229–245).



**Table 1:** Internal subgrouping of Wurm's East Papuan phylum (after Wurm 1975b)

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A. YELE–SOLOMONS–NEW BRITAIN SUPERSTOCK

1. Yele-Solomons
  - (a) *Yele*
  - (b) Central Solomons
    - (i) *Bilua*
    - (ii) *Baniata*
    - (iii) *Lavukaleve*
    - (iv) *Savosavo*
2. New Britain
  - (a) *Anêm*
  - (b) *Ata* (= *Pele-Ata* = *Wasi*)
  - (c) *Kol*
  - (d) *Sulka*
  - (e) Baining–Taulil
    - (i) *Baining*
    - (ii) *Taulil*
    - (iii) *Butam*
  - (f) *Kuot* (= *Panaras*)

B. BOUGAINVILLE SUPERSTOCK

1. West Bougainville
  - (a) Rotokas
    - (i) *Rotokas*
    - (ii) *Eivo*
  - (b) *Konua*
  - (c) *Keriaka*
2. East Bougainville
  - (a) Nasioi
    - (i) *Nasioi*
    - (ii) *Nagovisi*
  - (b) Buin
    - (i) *Buin* (= *Telei*)
    - (ii) *Motuna* (= *Siwai*)

C. REEF ISLANDS–SANTA CRUZ FAMILY

- (i) *Reefs*
  - (ii) Santa Cruz
    - *Löndäi*
    - *Nea*
    - *Nanggu*
-

In fairness, however, it must be emphasised that the first step towards using the comparative method to establish genealogical groupings is not to work out sound correspondences and regular cognate sets, but to use diagnostic evidence to *propose* which groups of languages we might apply this process to (Nichols 1996:48ff.). Wurm and his colleagues went a long way in making a preliminary subgrouping proposal for the seven hundred or so Papuan languages. Clearly, the next research stage needs to be the establishment of Papuan groups by searching out form–meaning correspondences between languages such that form correspondences are based on regular sound correspondences and meaning correspondences allow only limited semantic latitude. A project whose goal is to make an inroad into this immense task is under way at the time of writing,<sup>3</sup> concentrating largely on the putative TNG phylum and groups within it. Pawley (1995, 1998) and Ross (1995) represent preliminary reports of this work.

Before I turn to the use of pronouns as diagnostic evidence of genealogical relationship, there is one more thing to note. Wurm uses typological (morphosyntactic) similarity as one ground for his proposed groupings. Recent years have seen a large expansion of work on linguistic areas (*Sprachbünde*), i.e. areas in which certain typological features dominate, and it is now widely accepted that typological similarity often reflects widespread bilingualism and not necessarily genealogical inheritance. Thus many of the languages of the putative TNG phylum display similar typological traits, but this may only tell us that their speakers have been in contact for a long time, not that they are necessarily descended from a single protolanguage. We will return to this matter below.

## 2 Using pronouns to propose genealogical groups

Before turning to the task of searching out form–meaning correspondences among a large number of languages or between languages whose relatedness is not obvious, it is necessary, as I noted above, to propose genealogical groups on the basis of diagnostic evidence. The property which defines diagnostic evidence is that “its probability of multiple independent occurrence among the world’s languages is so low that for practical purposes it can be regarded as unique and individual” (Nichols 1996:48). Nichols calls such evidence “individual-identifying evidence”.

Now, a 200-word lexicostatistical survey based on regular sound correspondences<sup>4</sup> and generating cognate percentages of, say, 25% or more will generally satisfy the individual-identifying criterion, as the probability of two languages independently having 50 words of basic vocabulary with parallel form–meaning pairings is minuscule, and the parallel must be attributed to shared inheritance (although this might possibly entail some historical circumstance other than direct genealogical inheritance, e.g. borrowing or creolisation). Wurm (ed., 1975) does not include the word lists on which the groupings of Papuan languages were based, but it does include, in Todd’s contribution, the 180-word lists which

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<sup>3</sup> The Papuan Linguistics Project is a collaboration between The University of Sydney, where the focus is on description, and The Australian National University, Canberra, where we are seeking to apply the comparative method rigorously to Papuan languages. The project began in 1994 and is directed by William Foley in Sydney, and by Andrew Pawley and Malcolm Ross in Canberra with the assistance of Meredith Osmond.

<sup>4</sup> In practice, lexicostatistical surveys are usually based on resemblant forms, not on regular sound correspondences.

she collected for the four languages of the Solomons family. Todd provides a clearly documented analysis of possible cognates, showing that some are borrowings from neighbouring Austronesian languages, that only three native items ('name', 'sit', 'tree') are candidates for cognacy across all four languages, and that in general cognates among the languages – and with them, sound correspondences – are difficult to establish. Clearly, the word lists do not provide individual-identifying evidence that the Solomons languages are a genealogical group. And if this group is called into doubt, so too are other groupings in Wurm's classification. I will return to the question of the Solomons family later on.

What is needed is a form of individual-identifying evidence which is applied with relative ease. The Indo-European family was proposed by Sir William Jones on the basis of cognate paradigms of grammatical morphemes in Sanskrit, Old Persian, Greek, Latin, Gothic and Celtic, and Nichols (1996) provides a mathematical demonstration of the individual-identifying status of such evidence. Although the structure of some languages (e.g. many in mainland Southeast Asia) constrains the use of this kind of evidence, this is not a problem with the majority of Papuan languages, which have paradigms of affixes and clitics as well as of free morphemes.

In Ross (1995) I sought diagnostic evidence for the TNG phylum and for some of its subgroups by examining pronoun paradigms.<sup>5</sup> My method was as follows. First, I tabulated both free and bound pronominal forms where these were available. Bound forms are possessor or object forms. Subject coreferencing in most TNG languages is performed by multiple paradigms of portmanteau suffixes which also indicate tense, aspect, mood, and whether the clause is sentence-medial or sentence-final. These suffixes are simply too complex to use for diagnostic purposes, and data on them is in any case often unavailable or incomplete. Second, for each lowest-level recognisable genealogical group, or 'family', on which Wurm (ed., 1975c) and Foley (1986) agree (as they usually do), I did a rough reconstruction of protoforms based on both bound and free forms in order to make my cognate decisions more explicit. In the majority of families, bound and free forms are obviously cognate with each other, and one can infer that the bound forms are the outcome of the cliticisation and affixation of earlier free forms. Often, free forms have additional material suffixed to them, and this was ignored for reconstructive purposes. Finally, from these family-level reconstructions, I tentatively reconstructed the following forms for an ancestor of numerous TNG languages: *\*na* '1SG', *\*ka* '2SG', *\*[y]a* '3SG', and, even more tentatively, the pronominal number markers *\*-gi* and/or *\*-ŋi* 'plural' and *\*-li* 'dual'. The results of this survey point quite strongly to a genealogical relationship among many of the families which Wurm groups in his TNG phylum, to certain subgroupings within that phylum, and to the exclusion for the present of certain families from the phylum. I write 'for the present', because my claim is only that the diagnostic evidence of pronominal forms does not support their inclusion: other evidence might one day do so. TNG subgroups whose languages reflect all three singular pronouns and TNG subgroups whose languages reflect two singular pronouns and/or number markers are shown on the map.

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<sup>5</sup> The use of pronouns as evidence of subgroups has generated considerable controversy recently. See especially Nichols and Peterson (1996) and Campbell (1997). However, the argument centres largely on Greenberg's (1987) use of first person forms containing *n* and second person containing *m* as evidence within his 'mass comparison' framework for setting up the giant Amerind group. Greenberg's methodology is quite different from that outlined here, has only marginal relevance to the present enterprise, and is beyond the scope of the present paper.

Note that the procedure described in the previous paragraph is only diagnostic. Reconstructions were used for the sake of explicitness and clarity, and will almost certainly need revision when systematic sound correspondences are worked out. When that is done, some forms to which I attributed cognacy may later prove not to be cognate, and vice versa. However, I was conservative in the assumptions I made about sound changes, and so I do not expect that the working out of correspondences will significantly affect my findings.

It is, I think, beyond reasonable doubt that the procedure just described has provided diagnostic evidence for the TNG phylum. Pawley (1995) tentatively reconstructed a minimum of thirteen protoconsonants reflected morpheme- and syllable-initially in TNG languages. Since morphemes could also be vowel-initial, I inferred that the protolanguage had fourteen possible syllable onsets and assumed that the probability of two languages having corresponding syllable onsets by chance in, say, the first person singular pronoun was  $1/14$ , or  $0.0714$ . The probability of them having corresponding onsets in both the first and second persons singular accordingly was  $1/14^2$ , or  $0.0051$ , and in all three persons singular  $1/14^3$ , or  $0.00036$ . Even this last figure,<sup>6</sup> between three and four in ten thousand, does not reach Nichols' (1996:49) individual-identifying threshold of  $\leq 0.00001$ , or one in a hundred thousand or less. However, Tables 1 and 2 of Ross (1995) include 92 languages in fifteen families which are claimed to reflect the reconstructed pronoun set, and the probability of fifteen families (let alone 92 languages) by chance having corresponding syllable onsets in all three singular pronouns is  $0.00036^{15}$ , i.e. hugely far beyond the individual-identifying threshold.

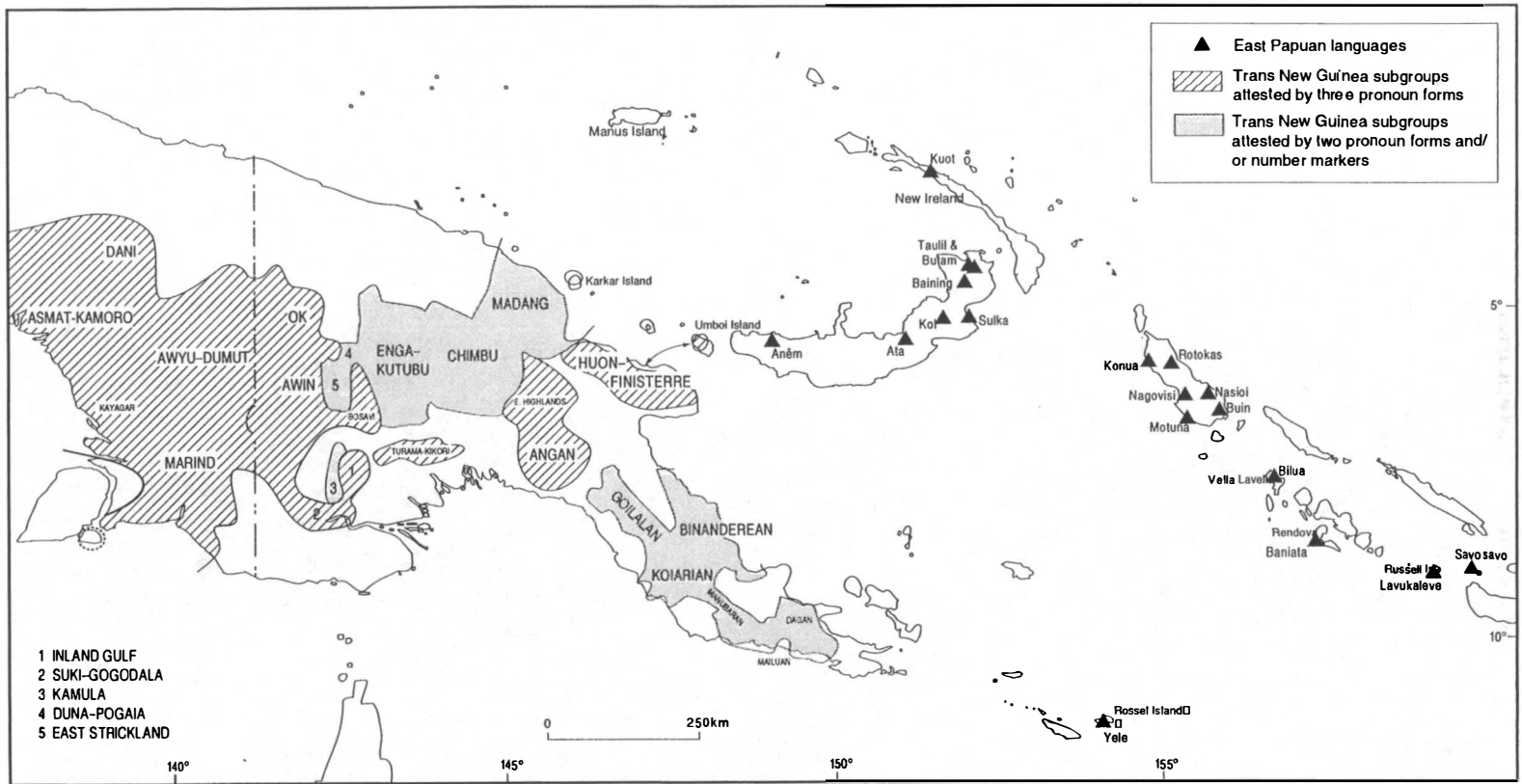
Below, I report on a small piece of research in which the same procedures were applied to data from nineteen languages of Wurm's East Papuan phylum. My findings are very different from those for the TNG phylum: the largest groups which emerge from this analysis have only four languages each. However, the probability that four languages might by chance share three pronoun forms with corresponding onsets is still safely low, at  $0.00036^3$  or  $0.00000000467$  (between four and five in ten thousand million). Indeed, if we take account of the fact that here we are dealing with more than three forms, and with their vowels as well as their consonants, the probability drops even further. But there is a possible problem. Campbell (1997:340) lists a number of known cases of pronominal borrowing. Although it is not common, and the likelihood of borrowing upsetting the diagnostic evidence for the TNG phylum is, for practical purposes, zero, it is possible that borrowing could upset pronominally based diagnostic evidence for groups of two, three or four languages. For this reason, we need to consider the likelihood of pronominal borrowing occurring in Papuan languages.

In general, the probability of a whole paradigm (or the majority of a paradigm) of pronouns being borrowed is very low, although I would not know how to put a figure on it. Pronominal borrowing appears to be quite rare around the world, and when it happens, it usually affects only one form.

Two kinds of circumstance in which this happens are well documented. In the first, exemplified by the well-known case of Indonesian *saya* 'I', borrowed from Sanskrit *sahaya* 'slave', we encounter a modification of the pronoun system to accommodate status distinctions. Note, however, that the source form was not a pronoun, i.e. this is a lexical, not a morphological, borrowing. Note, too, that the bound version of the Indonesian pronoun, the clitic *ku*, has not been affected by this borrowing. In other words, this process did not lead to the replacement of all Indonesian first person forms by the first person forms of another language.

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<sup>6</sup> There is a typing error in Ross (1995), where this figure is given as 0.026%, i.e. 0.00026.



Map: Trans New Guinea phylum subgroups and East Papuan languages

In the second kind of circumstance, phonological change leads to a loss of contrast between two pronouns, and speakers seek a way of restoring the contrast. In the early Middle English of the twelfth century, the Old English nominative form *hīe* ‘they’ was becoming indistinct from the nominative form *hē* ‘he’, and (presumably bilingual) speakers of East Midlands dialects bordering onto Viking territory replaced *hīe* with Old Norse *theirr* ‘they’, deleting the nominative inflection to give *thei*. Over the ensuing two hundred years, the other case forms were also replaced, Old English dative *hem* ‘them’ (phonetically close to dative *him* ‘him’) being supplanted by *them*, and Old English genitive *heora* ‘their’ by Old Norse *theirra* (Partridge 1966:710; Pinsker 1963:170-171; Brook 1958:125-128; Lass 1987:54).

Neither of these two kinds of pronominal borrowing leads to a situation where a complete paradigm is replaced, but full paradigmatic replacement does occur occasionally. Again, there are two identifiable circumstances. The first is represented by Copper Island Aleut, which uses Russian finite verb inflections in an otherwise largely Aleut matrix (Thomason & Kaufman 1988:233-238; Golovko 1994; Golovko & Vakhtin 1990). This lect seems to be a case of the rather rare process which Bakker (1994) calls “language intertwining”, whereby a new, small, isolated social group is created by intermarriage between a group of men and a group of women, and a fairly consistent mixture of the two lects arises.<sup>7</sup> The second circumstance occurs when speakers are bilingual in two structurally similar languages and cease to make a clear cognitive boundary between their grammars. Such a case is Meglenite Rumanian (spoken to the north of the Greek city of Salonika), where Bulgarian person/number suffixes replaced their Rumanian equivalents on the Meglenite verb (Weinreich 1963 [1953]:32; Thomason & Kaufman 1988:98).<sup>8</sup>

The question here is: Is pronominal borrowing likely to have occurred in the East Papuan languages? The answer seems to be that the probability is very low, and that even if it had occurred, we would have a reasonable chance of detecting it sooner or later. Since I am concerned here only with cognate paradigms as diagnostic evidence, not with single pronominal forms, the borrowing of a single pronoun is unlikely to affect my findings. The borrowing of a whole paradigm, however, is more problematic, but neither in the rare case of language intertwining nor in the case of bilingualism in structurally similar languages do we find cases where *all* pronominal paradigms have been replaced. Meglenite Rumanian, for example, took Bulgarian verbal affixes, but there is no report that other pronominal forms were borrowed. Relics of old pronominal forms have a remarkable habit of hanging on to life. When Old English *hem* was supplanted by *them*, its clitic form [əm] survived and is still used everywhere where English is spoken natively. Another change in early Middle English was that accusative pronoun forms were supplanted by the corresponding datives. Thus accusative *hine* ‘him’ was replaced by dative *him*—but a clitic reflex [ən] still hangs on in some dialects. It seems to me, therefore, that if there are sufficiently detailed data for the pronominal paradigms of the languages we are comparing, the probability that borrowing will undermine the resulting diagnoses is very small. (The problem in the present study is that material for some of the languages is not as detailed as I would wish.)

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<sup>7</sup> Another well-known and well-documented case of language intertwining is Michif (Thomason & Kaufman 1988:228-233; Bakker 1994), which mixes French and Cree: most nouns are French, verbs are almost all Cree, possessive pronouns are French, and so on.

<sup>8</sup> Sasse (1985) documents similar borrowing of morphological paradigms from Greek into Arvanitic (the Albanian dialects spoken in Greece).

### 3 Pronominal paradigms in 'East Papuan' languages

Table 2 sets out the conclusions of this survey, a pronominally based grouping of the nineteen 'East Papuan' languages I have examined (see map). This table differs from Table 1 in several ways. First, the highest order groups in Table 1 are taken to be related to each other within the East Papuan phylum, whereas the eight highest-order groups and languages in Table 2, i.e. Yele–West New Britain, Kol, Sulka, East New Britain, and so on, are not related to each other at all on the basis of the pronominal evidence. From this point on I will use the term *east Papuan* without inverted commas and with a lower-case initial to refer collectively to the languages under study, without any implication of genealogical relationship. Second, there is much less layering here than in Table 1. Indeed, the only group to show more than one level of internal subgrouping is Yele–West New Britain, which I will discuss below. Third, groupings are not marked with numbers or letters, since categories of Table 1 (stock, family, etc.) are defined by lexicostatistics, and these are not used here.

**Table 2:** 'East Papuan' language groupings based on pronominal data

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|   |
|---|
| Yele–West New Britain   |
| <i>Yele</i> (Henderson 1995)  |
| West New Britain  |
| <i>Anêm</i> (Thurston 1982; Thurston 1989)  |
| <i>Ata</i> (= <i>Pele-Ata</i> = <i>Wasi</i> ) (Hashimoto & Hashimoto 1991; author's fieldnotes) |
| <i>Kol</i> (author's fieldnotes)  |
| <i>Sulka</i> (Tharp 1996)   |
| East New Britain  |
| <i>Baining</i> (Parker 1977)  |
| <i>Taulil</i> (Lindrud & Nicholson n.d.; Laufer 1950; author's fieldnotes)                      |
| <i>Butam</i> (extinct) (Laufer 1959)  |
| <i>Kuot</i> (= <i>Panaras</i> ) (Lindström 1998; Chung & Chung 1996; author's fieldnotes)       |
| North Bougainville  |
| <i>Rotokas</i> (Firchow 1969)   |
| <i>Konua</i> (Müller 1954)  |
| South Bougainville  |
| <i>Nasioi</i> (Hurd & Hurd 1970; Müller 1955)   |
| <i>Nagovisi</i> (Decker 1981)   |
| <i>Buin</i> (= <i>Telei</i> ) (Griffin 1974)  |
| <i>Motuna</i> (= <i>Siwai</i> ) (Onishi 1998)   |
| Central Solomons  |
| <i>Bilua</i> (Obata 1998; Todd 1975)  |
| <i>Baniata</i> (Todd 1975)  |
| <i>Lavukaleve</i> (Angela Terrill, pers.comm.; Todd 1975)                                       |
| <i>Savosavo</i> (Todd 1975)   |

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Sources are those used in this paper. Where more than one source is cited, the first is the one from which all or most data were taken.

Keriaka and Eivo, both on Bougainville, are omitted because I had no data. The Reefs–Santa Cruz languages were omitted from the study because they clearly contain a mixture of Papuan and Austronesian elements. What kind of mixture this is (i.e. how it came into being) is unclear, and there has been little research into this topic since the publication of Lincoln (1978) and Wurm (1978). Whereas other east Papuan languages are usually assumed to be descended from languages spoken more or less *in situ* when Austronesian speakers arrived somewhere around 1500 B.C., archaeological evidence suggests that the ancestor of the Reefs–Santa Cruz languages was taken to their present location by seafaring Austronesian speakers. The Reefs–Santa Cruz pronouns are set out by Lincoln (1978:941) and display at least an Austronesian admixture. Their pronominal paradigms indicate that the Reefs–Santa Cruz group has at least as much internal unity as the groups listed in Table 2, and that they have no genealogical relationship to any other east Papuan group.

Table 2 also shows the sources of my data. As about half of these postdate Wurm (1975b), I have had access to a more detailed collection of data than he did.

The data on which Table 2 is based are set out in the Appendix, together with the reconstructions made in accordance with the methodology described above. In addition, the Appendix shows in many cases internal reconstructions made on the basis of two or more cognate paradigms within the same language. I will not give a detailed commentary on the data and reconstructions, as most of the details are given in the notes or can be inferred from an examination of the Appendix.

Table 2 contains few surprises. The observation that some pronominal forms in Anêm and Ata are similar was made by Thurston (1989). With better data, the cognacy of the bound sets (other than 1P forms) is now clear. Of the free forms, 2S Anêm *nin* and Ata *nini* are probably cognate, whilst, as often happens, the others are probably the result of innovations. The Anêm third person forms belong to a demonstrative set.

As the map shows, Yele is further than any other east Papuan language from an east Papuan neighbour. Todd (1975) tentatively suggested that it is related to the Solomons family (and Wurm incorporated this suggestion into his classification), but an examination of the Yele data in Henderson (1995) does not support this view. Instead, the apparent correspondence between Yele clitic and Anêm–Ata affixal forms in the three singular persons and 3P suggests a genealogical relationship between Yele and the West New Britain pair. It is also possible that 1P:EXC Yele *nmo/nmî* and Anêm *mîn* are cognate (Yele *nm* represents an apico-labial nasal unit phoneme, which may correspond with Anêm *m*).

Although I have incorporated the Yele–West New Britain grouping into Table 2, it is possible that these languages are simply more conservative than others and that the seeming cognacy represents shared retention of features lost in other east Papuan languages. A small piece of evidence pointing in this direction is found in the South Bougainville agent suffixes. These are unlike other South Bougainville forms for the same persons, and could therefore be relic forms. The comparison is as follows:

|                       | 1S          | 2S                | 3S          | 3P               |
|-----------------------|-------------|-------------------|-------------|------------------|
| Yele–West New Britain | * <i>a</i>  | * <i>nV</i>       | * <i>u</i>  | *( <i>i, e</i> ) |
| South Bougainville    | *- <i>a</i> | *-( <i>i, e</i> ) | *- <i>u</i> | –                |

If there is cognacy between the two sets of reconstructions, then it is only in 1S and 3S forms. However, both are vowels. There is a probability of 0.2 (assuming a five-vowel system) that a given vowel will appear in the same slot by chance in two languages, and, assuming that person forms will contrast, a probability of 0.25 that a different vowel will



appear in another slot by chance in the same two languages. This means that the probability of \*a and \*u corresponding here (as they do) by chance is  $0.2 \times 0.25$  or 0.005. This certainly does not reach the individual-identifying threshold of  $\leq 0.000\ 01$ , and so really tells us nothing.

Kol and Sulka appear to be isolates. However, our data for Kol are deficient. The possible correspondence between the Sulka possessor forms *kua-* 1S and *ka-* 3S and Baining *gua* 1S possessor and *ka* 3S free is tempting but not individual-identifying. It does suggest, however, that further work on Sulka, Baining and Taulil morphology might not come amiss.

Butam is an extinct language which was recognised by Laufer (1950, 1959) as being related to Taulil. Wurm recognised that there was a close link between Baining and Taulil–Butam but, to my knowledge, no supporting evidence for this link has been published previously.

Kuot, the only Papuan language on New Ireland, is on the present data an isolate.

Surprisingly, perhaps, the two groups recognised by Wurm on Bougainville seem to be unrelated to each other. Matthew Spriggs (pers. comm.) points out that there has been a good deal of recent population movement on Bougainville, and that, although the two groups appear contiguous on the map, they were probably separated in traditional times by a large area of volcanic activity.

In a sense, our findings with regard to the Solomons family have come full circle. Wurm (1975b) classified them as a single group, apparently on the basis of lexicostatistics (his grounds are not made explicit). Todd showed, however, that it was very difficult to recognise cognates across the four languages or even between pairs of languages, but recognised resemblances among the pronoun sets. Scholars working on these languages usually comment on the striking differences among them rather than on any family resemblance (Evelyn Todd, Kazuko Obata, Angela Terrill, pers. comm.). Yet when the pronoun forms are tabulated and reconstructions are made, their cognacy is fairly obvious. Even where there are competing 3S forms, competing reconstructions can also be made.

Finally, the data in the Appendix also tell us that none of the languages listed there belongs to the TNG phylum. Although not included here, I have also inspected pronouns for mainland phyla other than the TNG phylum. None of the forms shows a resemblance to any of those in the Appendix.

#### **4 Concluding thoughts**

Should we be disappointed by the fact that we find as many as eight east Papuan groups? I think not. They do not tell us much about genealogical relationships, but this in itself is significant, because it means that the patterning of pronominal evidence among east Papuan languages is very different from that on mainland New Guinea. Whereas the mainland patterning points clearly to the integrity of the TNG phylum, the patterning in the islands does not support an East Papuan phylum. This does not mean that such a phylum will not be demonstrated in the future, but it does suggest that if there is a genealogical relationship among the island languages, it may be of much greater time depth than that of the TNG phylum.

Archaeological evidence dates human habitation on New Britain and New Ireland to at least 35,000 years ago, on Buka (to the north of Bougainville) to at least 29,000 years ago (Spriggs 1997:47). However, we have little idea how mobile people in the islands were before

the Austronesians came about 3,500 years ago. We do know that New Britain, New Ireland and 'Greater Bougainville' were separate islands right the way through the Pleistocene, so the ancestors of speakers of east Papuan languages did not walk to the islands. Human habitation of the mainland goes back around 55,000 years or more (Spriggs 1997:39).

It is generally agreed that Austronesian speakers settled in the Bismarck Archipelago (New Britain, New Ireland and the Admiralties), and spread rather rapidly from there eastward and southward to populate the Pacific islands around 3,500 years ago. We can also now assume that before their arrival the area which Austronesian speakers occupied, as far east as the central Solomons, was previously peopled, perhaps rather thinly, by speakers of non-Austronesian languages. It is a reasonable inference that the east Papuan languages represent linguistic survivals from the pre-Austronesian period in a region in which most Papuan languages were subsequently displaced by Austronesian. On New Britain in particular there are a number of Austronesian languages which bear the typological marks of intense contact with (now dead?) Papuan languages, and whose vocabularies have high numbers of roots which are not of Austronesian origin. I have suggested elsewhere (Ross 1994) that Kuot's Austronesian neighbour, Madak, shows evidence of being the result of incomplete shift by its speakers from a Papuan language to an Austronesian one.

It is not possible to piece together much of what happened before the arrival of Austronesian speakers, and so we have no idea whether (any of) the east Papuan languages are descended from the language(s) of the first human arrivals in the region more than 35,000 years ago. From the difference in patterning between east Papuan and TNG languages, however, one can speculate that the expansion of the TNG phylum may be much more recent than the arrival of languages ancestral to those of the east Papuan region.

One piece of linguistic evidence suggests that east Papuan languages were in contact with one another in the pre-Austronesian era. Of the 19 languages studied here, only two, Yele and Sulka, do not make a gender distinction between masculine and feminine somewhere in their pronominal system. The only Austronesian languages with a gender system are some of the heavily papuanised languages of New Britain referred to above, and they evidently acquired their gender distinction from Papuan languages. We are driven therefore to the conclusion that the various groups of east Papuan languages, too widely scattered to have influenced each other in the last 3,500 years, retain their gender distinction from pre-Austronesian times. Caution is necessary here, however. This does not allow us to infer that the east Papuan languages are descended from a single ancestor. Gender is the kind of typological feature which is readily spread by bilingualism (as the New Britain Austronesian languages illustrate) and is typical of a linguistic area. What the shared occurrence of gender suggests, therefore, is that the east Papuan region was once a linguistic area characterised by the presence of gender. If this is true, then it is also reasonable to expect that further study of east Papuan languages may reveal other typological features which they share with each other but not with the Austronesian languages of the region.

# Appendix<sup>1</sup>

|                              | 1S                   | 2S           | 3S[M]     | 3S[F]     | 1P[EXC]         | 1P:INC        | 2P              | 3P             | 1D[EXC]        | 1D:INC | 2D          | 3D         |
|------------------------------|----------------------|--------------|-----------|-----------|-----------------|---------------|-----------------|----------------|----------------|--------|-------------|------------|
| <b>Yele–West New Britain</b> |                      |              |           |           |                 |               |                 |                |                |        |             |            |
|                              | <i>*a</i>            | <i>*nV</i>   | <i>*u</i> | –         | ...             | –             | ...             | <i>*(i, e)</i> | –              | –      | –           | –          |
| <b>Yele</b>                  | <i>*a, *nî</i>       | <i>nʷi</i>   | <i>*u</i> | –         | <i>*nmo</i>     | –             | <i>*nmʷe</i>    | <i>*ye</i>     | <i>*nʷe</i>    | –      | <i>*tpo</i> | <i>*ye</i> |
| free                         | nî                   | nʷi          | ∅         | –         | nmo             | –             | mnʷo            | ∅              | nʷo            | –      | tpū         | ∅          |
| subject                      | nî                   | nʷi          | ∅         | –         | nmî             | –             | nmʷi            | ∅              | nʷi            | –      | tpî         | ∅          |
| possessor                    | a                    | N-           | u         | –         | nmî             | –             | nmʷe            | yi             | nʷi            | –      | tpî         | yi         |
| ka source/goal               | a ka                 | ŋa           | u kʷo     | –         | nmo             | –             | nmʷe            | ye             | nʷe            | –      | tpo         | ye         |
| ŋə erg/exp/instr             | a ŋa                 | ŋa           | u ŋʷo     | –         | nmo             | –             | nmʷe            | yě             | nʷe            | –      | tpō         | yě         |
| object <sup>2</sup>          | nə                   | nʷi          | ∅         | –         | nmî             | –             | nmʷi            | ∅              | nʷi            | –      | tpî         | ∅          |
| <b>West New Britain</b>      |                      |              |           |           |                 |               |                 |                |                |        |             |            |
|                              | <i>*a</i>            | <i>*na</i>   | <i>*u</i> | <i>*i</i> | ...             | ...           | <i>*ŋa-</i>     | <i>*i</i>      |                |        |             |            |
| <b>Anêm<sup>3</sup></b>      | <i>*a(i)</i>         | <i>*(n)î</i> | <i>*u</i> | <i>*i</i> | <i>*(m)în</i>   | <i>*(m)iy</i> | <i>*ŋî-</i>     | <i>*i</i>      |                |        |             |            |
| free                         | ue                   | nin          | lêxa      | sêxa      | mîn             | miŋ           | ∅               | lêxa/sêxa      | – <sup>4</sup> | meak   | niak        | –          |
| subject                      | a-                   | ni-, nî-     | u-        | i-        | mi-, mî-        | –             | ŋi-, ŋî-        | i-             | –              | –      | –           | –          |
| poss, obj <sup>5</sup>       | -(a)i                | -î, -ir      | -u        | -îm       | -în             | -iy           | îŋ              | -î             | –              | –      | –           | –          |
|                              | -e                   | -ê, -er      | -o        | -êm       | -ên             | -ey           | êŋ              | -ê             | –              | –      | –           | –          |
|                              | -a                   | -îr          | -î        | -î        | -în             | -iy           | îŋ              | -i             | –              | –      | –           | –          |
|                              | -at                  | -ir          | -it, -il  | -it, -il  | -nit            | -nis          | -ŋît            | -it, -il       | –              | –      | –           | –          |
| <b>Ata</b>                   | <i>*a</i>            | <i>*na</i>   | <i>*u</i> | <i>*i</i> | <i>*ta, *yi</i> | ...           | <i>*ŋa, *ji</i> | <i>*i</i>      |                |        |             |            |
| free                         | eni                  | nini         | anu       | ane       | neyi            | ŋeŋe          | ŋiŋi            | aneʷi          | –              | –      | –           | –          |
| subject:IMPF                 | a-                   | na-          | u-        | i-        | ta-             | –             | ŋa-             | i-             | –              | –      | –           | –          |
| subject:PF                   | e-                   | ne-          | mu-       | mi-       | te-             | –             | ŋe-             | mi-            | –              | –      | –           | –          |
| possessor                    | -u, -IV <sup>6</sup> | -ne, -ni     | -u        | -(i)e     | -ʷ(i,e)         | -ŋe           | -ŋ(i,e)         | -ʷ(i,a)        | –              | –      | –           | –          |
| <b>Kol</b>                   |                      |              |           |           |                 |               |                 |                |                |        |             |            |
|                              | <i>*yo</i>           | <i>*ne</i>   | ...       | ...       | <i>*maŋ</i>     | <i>*naŋ</i>   | <i>*go</i>      | <i>*neŋ</i>    |                |        |             |            |
| free                         | yo                   | ne           | ni, mo    | no        | maŋ             | naŋ           | go              | neŋ            | –              | –      | –           | –          |
| possessor                    | yo                   | ne           | tenti     | rendi     | maŋ             | naŋ           | wago            | neŋ            | –              | –      | –           | –          |

|                               |               |               |                 |                      |                  |            |                |                     |                    |            |              |                            |
|-------------------------------|---------------|---------------|-----------------|----------------------|------------------|------------|----------------|---------------------|--------------------|------------|--------------|----------------------------|
| <b>Sulka</b>                  | <i>*ku</i>    | <i>*i</i>     | ...             | –                    | <i>*(ɲ,m)or</i>  | –          | <i>*mul</i>    | <i>*(ɲ,m)ar</i>     | <i>*mol</i>        | –          | <i>*mel</i>  | <i>*(ɲ,m)in</i>            |
| free                          | dok           | yin           | en              | –                    | mor              | –          | muk            | mar                 | muo                | –          | moi          | min                        |
| subject <sup>7</sup>          | ko-           | i-            | na-             | –                    | ɲ(r)o-           | –          | mu-            | ɲa-                 | mo-                | –          | me-          | ɲɲn-, mɲn-                 |
| possessor:KIN                 | ko-           | i-            | k-              | –                    | ɲor-             | –          | mu-            | ɲar-                | m(o)-              | –          | mi-          | ɲin-                       |
| possessor                     | kua-          | ila-          | ka-             | –                    | ɲu(r)a-          | –          | mula-          | ɲa-                 | ma-, mola-         | –          | me-, mela-   | ɲina-                      |
| <b>Baining/Taulil</b>         | <i>*ɲ(u)a</i> | <i>*ɲi(a)</i> | <i>*a</i>       | <i>*(i, e)</i>       | <i>*(d)udu</i>   | –          | <i>*ɲan(i)</i> | <i>*ta</i>          | <i>*((n, ɲ)un)</i> | –          | <i>*(y)u</i> | <i>*i</i>                  |
| <b>Baining</b>                | <i>*ɲua</i>   | <i>*ɲia</i>   | <i>*(k)a</i>    | ...                  | ...              | –          | ...            | ...                 | ...                | –          | ...          | ...                        |
| free                          | ɲua           | ɲia           | ka              | ki <sup>8</sup>      | uut              | –          | ɲen            | ta, ra <sup>9</sup> | uun                | –          | uin          | ian, iam                   |
| possessor                     | gua           | gia           | aa              | –                    | –                | –          | –              | –                   | –                  | –          | –            | –                          |
| <b>Taulil</b>                 | <i>*ɲa(ɲ)</i> | <i>*ɲi(ɲ)</i> | <i>*(v)a</i>    | <i>*(v)e</i>         | <i>*(d)udu</i>   | –          | <i>*ɲan</i>    | <i>*ta</i>          | <i>*(ɲ)un</i>      | –          | <i>*yu</i>   | <i>*i, *ip M, *vitam F</i> |
| free subject                  | ɲa            | ɲi            | aa              | e                    | daa              | –          | yaa            | taa                 | ɲu                 | –          | yu           | i, ip M, vitam F           |
| free object                   | ɲaɑɲ          | ɲiɲ           | aa              | e                    | undu             | –          | ɲan            | taa                 | ɲun                | –          | yu           | ip M, vitam F              |
| possessor                     | ɲa            | ɲi            | vaa             | ve                   | du               | –          | ina            | ina/ta              | ɲunu               | –          | yu           | ip M, ito F                |
| <b>Butam</b>                  | <i>*ɲa(ɲ)</i> | <i>*ɲi(ɲ)</i> | <i>*(v)a(t)</i> | <i>*(v)e(t)</i>      | <i>*(r)ur(u)</i> | –          | <i>*ɲan</i>    | <i>*ta</i>          | <i>*(n)un</i>      | –          | <i>*yu</i>   | <i>*ip</i>                 |
| free                          | ɲa            | ɲi            | a               | e                    | ur               | –          | ɲan            | ta, ra              | un                 | –          | yu           | ip                         |
| possessor                     | ɲaɲ           | ɲiɲ           | vat             | vet                  | (r)uru           | –          | ɲan            | (i)ra               | (n)un              | –          | ...          | ip                         |
| <b>Kuot</b>                   | <i>*tu</i>    | <i>*nu</i>    | <i>*i</i>       | <i>*u</i>            | <i>*pa</i>       | <i>*bu</i> | <i>*mi</i>     | <i>*mei</i>         | <i>*i</i>          | <i>*bi</i> | <i>*ma</i>   | <i>*li</i>                 |
|                               |               |               | <i>*uo</i>      | <i>*ie</i>           |                  |            |                |                     |                    |            |              |                            |
|                               |               |               | <i>*a</i>       | <i>*o</i>            |                  |            |                |                     |                    |            |              |                            |
|                               |               |               | <i>*a</i>       | <i>*i</i>            |                  |            |                |                     |                    |            |              |                            |
| free <sup>10</sup>            | turuo         | nunuo         | (ii)            | (uu)                 | pava             | bubuo      | mimi           | –                   | ii                 | bibi       | mame         | –                          |
| link <sup>11</sup>            | –             | –             | i-              | u-                   | –                | –          | –              | mi-                 | –                  | –          | –            | li                         |
| adjective                     | to- i         | no- i         | ʔ- i            | ʔ- u                 | pa- -m           | bu- -m     | mi- -m         | ʔ- -m               | i- -n              | bi- -n     | ma- -n       | ʔ- -n                      |
| subject II, III <sup>12</sup> | tu            | nu            | u               | i                    | pa               | bu         | mi             | me                  | i                  | bi         | ma           | li                         |
| subject I                     | tɲ            | nɲ            | oɲ              | ieɲ                  | paɲ              | buɲ        | miɲ            | meɲ                 | iɲ                 | biɲ        | maɲ          | liɲ                        |
| possessor:INAL                | tuo           | nuo           | a               | o                    | pa               | buo        | mi             | ma                  | i                  | bi         | me           | li(e)                      |
| object                        | to-           | no-           | a-              | o-, u- <sup>13</sup> | pa-              | bu-        | mi-            | ma-                 | i-                 | bi-        | me-          | li-                        |
| object                        | –             | –             | -a, -ɲ          | -o, -ɲ               | –                | –          | –              | -(a)m               | –                  | –          | –            | -(ɲ)an                     |
| possessor:AL:M <sup>14</sup>  | tuaɲ          | nuɑɲ          | aɲ              | iaɲ                  | paɲ              | buɑɲ       | miɲ            | meiaɲ               | iɲ                 | biɲ        | maɲ          | liaɲ                       |
| possessor:AL:F                | tɲ            | nɲ            | aɲ              | ieɲ                  | paɲ              | buɲ        | miɲ            | meioɲ               | iɲ                 | biɲ        | maɲ          | liɲ                        |

|                               | 1S             | 2S                             | 3S[M]        | 3S[F]      | 1P[EXC]         | 1P:INC        | 2P                | 3P                 | 1D[EXC]        | 1D:INC | 2D             | 3D                       |
|-------------------------------|----------------|--------------------------------|--------------|------------|-----------------|---------------|-------------------|--------------------|----------------|--------|----------------|--------------------------|
| <b>N. B'ville</b>             | <i>*a, *ra</i> | <i>*tu, *vi</i><br><i>*-ra</i> | <i>*ro</i>   | <i>*o</i>  | <i>*io</i>      | <i>*vio</i>   | <i>*ta, *visi</i> | <i>*a</i>          | <i>*ve</i>     | –      | <i>(*me)</i>   | <i>(*si), (*ri)</i>      |
| <b>Rotokas</b>                | <i>*a, *ra</i> | <i>*u, *vi</i><br><i>*-ra</i>  | <i>*ro</i>   | <i>*o</i>  | <i>*i(o)</i>    | <i>*vi(o)</i> | <i>*ta, *visi</i> | <i>*i, *a</i>      | <i>*a, *ve</i> | –      | <i>*si/ere</i> | <i>*si/ere</i>           |
| free<br>neuter                | ragai          | vi                             | rera<br>va   | oira       | igei            | vigei         | visi              | voea/vairo<br>vara | vegei          | –      | vei            | vaiterei/vairei<br>varei |
| subject:ITR                   | -ra            | -u                             | -ro          | -o         | -i(o)           | -vi(o)        | -ta               | -a                 | -a, -ve        | –      | -si/-ere       | -si/-ere                 |
| subject:TR                    | -a             | -ri                            | -re          | -e         | -i(o)           | -vi(o)        | -ta               | -i                 | -a, -ve        | –      | -si/-ere       | -si/-ere                 |
| possessor                     | oaa            | oara                           | oaro         | o          | oaio            | oavi          | oavisi            | oaive/oaē          | oave           | –      | oaesi/oaere    | oaesi/oaere              |
| <b>Konua</b>                  | <i>*a, *ra</i> | <i>*u, *bi</i><br><i>*-ra</i>  | <i>*ro</i>   | <i>*o</i>  | <i>*io</i>      | <i>*bio</i>   | <i>*ta, *bisi</i> | <i>*a</i>          | <i>*be</i>     | –      | <i>*me</i>     | <i>*ri</i>               |
| free                          | aga, aru       | bir(a, u)                      | ita          | ia         | ioka            | bioga         | sigā              | pirio/aipi         | peka           | –      | mega           | itarea,<br>rira/iritea   |
| subject                       | -ra            | -u                             | -ro          | -o         | ʔ <sup>15</sup> | –             | -ta               | -a                 | -p             | –      | -be            | -ri                      |
| possessor                     | -oa            | -ara                           | -oro         | -ʔo        | -obi            | –             | -obisi            | -oia               | –              | –      | –              | –                        |
| <b>S. B'ville</b>             | <i>*ni</i>     | <i>*da</i>                     | <i>*ba</i>   | –          | <i>*ni</i>      | –             | <i>*dai</i>       | <i>*bai</i>        | <i>*ne</i>     | –      | <i>*de</i>     | <i>*be</i>               |
| O                             | <i>*-m</i>     | <i>*-d</i>                     | <i>*-b</i>   |            |                 |               |                   |                    |                |        |                |                          |
| A                             | <i>*-a</i>     | <i>*-(i, e)</i>                | <i>*-u</i>   |            |                 |               |                   |                    |                |        |                |                          |
| <b>Nasioi</b>                 | <i>*ni</i>     | <i>*da</i>                     | <i>(*ba)</i> | ...        | <i>*ni</i>      | –             | <i>*di</i>        | <i>*bi</i>         | <i>*ne</i>     | –      | <i>*de</i>     | <i>*be</i>               |
| object (P)                    | <i>*-m-</i>    | <i>*-d-</i>                    | <i>*-b-</i>  |            |                 |               |                   |                    |                |        |                |                          |
| subject                       | <i>*-a</i>     | <i>*-e</i>                     | <i>*-u</i>   | –          |                 |               |                   |                    |                |        |                | <i>*ude</i>              |
| free                          | niŋ            | da                             | (D)          | (D)        | ni              | –             | di                | (D)                | ne             | –      | de             | (D)                      |
| subject                       | a(mp)          | e                              | u            | –          | ampi            | –             | edi               | av                 | ampe           | –      | ede            | ude                      |
| object                        | -m-            | -d-                            | -b-, ∅       | –          | -m-             | –             | -d-               | -b-, ∅             | -m-            | –      | -d-            | -b-, ∅                   |
| possessor                     | n-             | da-                            | ba-          | –          | ni-             | –             | di-               | bi-                | ne-            | –      | de-            | be-                      |
| <b>Nagovisi</b> <sup>16</sup> | <i>*ni</i>     | <i>*la</i>                     | <i>(*wa)</i> | ...        | <i>*ni</i>      | –             | <i>*li</i>        | <i>*vi</i>         | <i>*ne</i>     | –      | <i>*le</i>     | <i>*ve</i>               |
| subject (P)                   | <i>*-mo</i>    | <i>*-ro</i>                    | <i>*-vo</i>  |            |                 |               |                   |                    |                |        |                |                          |
| free                          | nii            | la                             | tee          | teŋ        | nii             | –             | lii               | tewöö              | nee            | –      | lee            | tei                      |
| subject (P) <sup>17</sup>     | -mo/-ob        | –                              | -ro/-e       | -(p,w)0/-o |                 |               |                   |                    |                |        |                |                          |
| possessor <sup>18</sup>       | ngo,nnV        | la, lö                         | wa, wö       | –          | ni(i)           | –             | li(i)             | vi(i)              | ne(e)          | –      | le(e)          | we(e)                    |

|                        | 1S                           | 2S             | 3S[M]                     | 3S[F]                         | 1P[EXC]           | 1P:INC      | 2P            | 3P               | 1D[EXC]      | 1D:INC     | 2D              | 3D                  |
|------------------------|------------------------------|----------------|---------------------------|-------------------------------|-------------------|-------------|---------------|------------------|--------------|------------|-----------------|---------------------|
| <b>Motuna</b>          | <i>*ni, *ŋo</i>              | <i>*ro</i>     | <i>*po</i>                | –                             | <i>*noni</i>      | <i>*ne</i>  | <i>*re</i>    | <i>*pe</i>       | –            | –          | –               | –                   |
| object (P)             | <i>*-m</i>                   | <i>*-r</i>     | ∅                         |                               |                   |             |               |                  |              |            |                 |                     |
| actor                  |                              | <i>*i</i>      | <i>*u</i>                 |                               |                   |             |               | <i>*wa</i>       |              |            |                 |                     |
| free                   | ni                           | ro             | (D)                       | –                             | noni              | nee         | ree           | (D)              | –            | –          | –               | –                   |
| emphatic <sup>19</sup> | ŋo-, no-                     | ro-            | po-                       | –                             | noni-             | nee-        | ree-          | pee-             | –            | –          | –               | –                   |
| actor                  | -oC                          | -i             | -u                        | –                             | -oC               | –           | -i            | -wa              | –            | –          | –               | –                   |
| object <sup>20</sup>   | -m                           | -r             | ∅                         | –                             | -mor              | -m          | -r            | ∅                | –            | –          | –               | –                   |
| possessor              | ŋo-                          | roko-          | poko-                     | –                             | noniko-           | neeko-      | reeko-        | peeko-           | –            | –          | –               | –                   |
| <b>Buin</b>            | <i>*n(e)</i>                 | <i>*ro</i>     | <i>*po</i>                | –                             | <i>*re</i>        | –           | <i>*rai</i>   | ...              | –            | –          | –               | –                   |
| object (P)             | <i>*-m</i>                   | <i>*-r</i>     | <i>*-p</i>                |                               |                   |             |               |                  |              |            |                 |                     |
| subject                | <i>*-o</i>                   | <i>*-i</i>     | <i>*-u</i>                |                               | <i>*-o</i>        |             | <i>*-i</i>    | <i>*-a</i>       | <i>*-oge</i> |            | <i>*-i</i>      | <i>*-u</i>          |
| free                   | nne                          | roo            | ia                        | ei                            | ree               | –           | rai           | igo/emi          | ree          | –          | rai             | (i)aro/ito          |
| neuter                 |                              |                |                           |                               |                   |             |               | ee, i            |              |            |                 | ee, i               |
| subject <sup>21</sup>  | -o                           | -e, -i         | -u                        | –                             | -o                | –           | -e, -i        | -a               | -oge         | –          | -e, -i          | -u                  |
| object (P)             | -m                           | -r, -n         | ? <sup>22</sup>           | -p                            | –                 | –           | –             | –                | –            | –          | –               | –                   |
| possessive             | n-                           | ro-            | po-                       | –                             | rii-              | –           | rai-          | pai-             | –            | –          | –               | –                   |
| <b>Solomons</b>        | <i>*ŋa, a</i><br><i>*-la</i> | <i>*ŋo, nu</i> | ...                       | <i>*vo, ko</i><br><i>*-ma</i> | <i>*((ŋ, v))e</i> | <i>*mai</i> | <i>*me</i>    | <i>*m(a, u)</i>  | <i>*ge</i>   | ...        | <i>*be</i>      | <i>*la(/*lo)</i>    |
| <b>Bilua</b>           | <i>*ŋa, a</i><br><i>*-la</i> | <i>*ŋo</i>     | <i>*vo</i><br><i>*-la</i> | <i>*ko</i><br><i>*-ma</i>     | <i>*ŋe</i>        | <i>*me</i>  | <i>*me</i>    | <i>*mu</i>       | <i>*ge</i>   | <i>*ge</i> | <i>*ge</i>      | <i>*go</i>          |
| free                   | aŋa                          | ŋo             | vo                        | ko                            | aŋe               | anime       | me            | se               | ege          | anige      | ge              | nioga               |
| subject                | a                            | ŋo             | o                         | ko                            | tje               | me          | me            | ke               | ge           | ge         | ge              | go                  |
| object                 | -l                           | -ŋ             | -v                        | -k                            | -ŋel              | -mel        | -mel          | -m               | -gel         | -gel       | -gel            | -k                  |
| agreement              | -lala                        | -(la)ŋa        | -la                       | -ma                           | -ŋela             | -mela       | -mela         | -mu              | -gela        | -gela      | -gela           | -nioga              |
| <b>Baniata</b>         | ...                          | <i>*no</i>     | <i>*zo</i>                | <i>*vo</i>                    | <i>*e</i>         | <i>*me</i>  | <i>*me-bV</i> | <i>*mɔ</i>       | <i>*ere</i>  | <i>*be</i> | <i>*bere</i>    | <i>*ra</i>          |
| free <sup>23</sup>     | <i>*-na</i>                  |                | <i>*-ra (a)</i>           | <i>*ma</i>                    |                   |             |               | <i>*-ma</i>      |              |            |                 |                     |
| trial                  |                              |                |                           |                               | e:bo              | memɔ        | mebo          | mɔ (nɔ)          | e:re/e:rebe  | be/bebe    | bere/<br>berebe | zere/robe<br>(rede) |
| object <sup>24</sup>   | -na                          | -na            | -ra (-a)                  | -va                           | e:benɔ            | menɔ        | mebeno        | nɔmɔ/numɔ (nafi) |              |            |                 |                     |
| agreement              | –                            | –              | -zo (-na)                 | -ma                           | -na               | -na         | -na           | -ma (-a)         | -na          | -na        | -na             | -ra (-a)            |
|                        | –                            | –              |                           |                               | –                 | –           | –             | -mɔ              | –            | –          | –               | –                   |

|                      | 1S                                      | 2S                                    | 3S[M]   | 3S[F]   | 1P[EXC]                    | 1P:INC                  | 2P                       | 3P                                     | 1D[EXC]                 | 1D:INC                  | 2D                       | 3D                             |
|----------------------|---|---------------------------------------|---|---|----------------------------|-------------------------|--------------------------|--|-------------------------|-------------------------|--------------------------|--------------------------------|
| <b>Lavukaleve</b>    | * <i>ʝa</i> , <i>a-</i><br>* <i>ʎa-</i> | * <i>ʝo</i> , <i>nu</i>               | * <i>a</i> , <i>-na</i><br>* <i>lo-</i> , <i>-m</i> | * <i>o</i> , <i>lo-</i><br>* <i>a-</i> , <i>o</i> | * <i>e</i><br>* <i>le-</i> | * <i>me</i>             | * <i>m(e, i)</i>         | * <i>ma</i> , <i>vo</i><br>- <i>va</i> | * <i>e-le</i>           | * <i>me-le</i>          | * <i>m(e, i)-le</i>      | * <i>ʎa/*lo</i>                |
| free subject         | <i>ʝai</i>                              | <i>inu</i>                            | (D)   | (D)   | <i>e</i>                   | <i>me</i>               | <i>imi</i>               | (D)                                    | <i>el</i>               | <i>mel</i>              | <i>imil</i>              | (D)                            |
| object <sup>26</sup> | <i>a-</i>                               | <i>ʝo-</i> , <i>ne-</i> <sup>25</sup> | <i>o-</i>   | <i>o-</i>   | <i>e-</i>                  | <i>me-</i>              | <i>me-</i>               | <i>ma-</i>                             | <i>le-</i>              | <i>me-</i>              | <i>mele-</i>             | <i>lo-</i>                     |
| possessive           | <i>ʝa-</i>                              | <i>ʝo-</i>                            | <i>a-</i> (e-)                                      | <i>o-</i>   | <i>e-</i>                  | <i>me-</i>              | <i>me-</i>               | <i>vo-</i>                             | <i>le-</i>              | <i>me-</i>              | <i>mele-</i>             | <i>ʎa-/lo-</i> (le)            |
| hab aux agr          | <i>ʝa-</i>                              | <i>ʝo-</i>                            | <i>o-</i>   | <i>o-</i>   | <i>e-</i>                  | <i>me-</i>              | <i>me-</i>               | <i>ma-</i>                             | <i>le-</i>              | <i>me-</i>              | <i>mele-</i>             | <i>lo-</i>                     |
| copula agr           | <i>la-</i>                              | <i>ʝo-</i>                            | <i>lo-</i>  | <i>lo-</i>  | <i>le-</i>                 | <i>me-</i>              | <i>me-</i>               | <i>ma-</i>                             | <i>le-</i>              | <i>me-</i>              | <i>mele-</i>             | <i>lo-</i>                     |
| verb agr             | - <i>ʝai</i>                            | - <i>nu</i>                           | - <i>n</i> (Ø)                                      | - <i>o</i>  | - <i>e</i>                 | - <i>me</i>             | - <i>mi</i>              | - <i>v</i>                             | - <i>el</i>             | - <i>mel</i>            | - <i>mil</i>             | - <i>nal/-ol</i> (-gel)        |
| demonst agr          | —                                       | —                                     | - <i>m</i> (Ø)                                      | - <i>a</i>  | —                          | —                       | —                        | - <i>v</i>                             | —                       | —                       | —                        | - <i>mal/-aol</i> (-gel)       |
| <b>Savosavo</b>      | * <i>ñi</i>                             | * <i>no</i>                           | * <i>lo</i><br>* <i>-va</i>                         | * <i>ko</i><br>* <i>-ma</i>                       | * <i>ve</i>                | * <i>mai</i>            | * <i>me</i>              | * <i>ze</i><br>* <i>-(me)ga</i>        | * <i>ge</i>             | * <i>mai</i>            | * <i>pe</i>              | * <i>to</i><br>* <i>(ge)lo</i> |
| free enclitic        | <i>añi</i><br><i>ñe</i>                 | <i>no</i><br><i>no</i>                | <i>lo</i><br><i>lo</i>                              | <i>ko</i><br><i>go</i>                            | <i>ave</i><br><i>ve</i>    | <i>mai</i><br><i>me</i> | <i>me</i><br><i>me</i>   | <i>ze(po)</i><br><i>ze</i>             | <i>age</i><br><i>ge</i> | <i>mai</i><br><i>me</i> | <i>pe</i><br><i>pe</i>   | <i>to</i><br><i>te</i>         |
| subject              | <i>ñ-</i>                               | <i>n-l-</i>                           | <i>k-</i>   | <i>v-</i>   | <i>m-</i>                  | <i>m-</i>               | ...                      | <i>g-</i>                              | <i>m-</i>               | <i>p-</i>               | <i>t-</i>                |                                |
| object               | - <i>ñi</i>                             | - <i>ni</i>                           | - <i>li</i>   | - <i>gi</i>                                       | - <i>viñi</i>              | - <i>miñi</i>           | - <i>mi</i>              | - <i>mi</i>                            | - <i>giñi</i>           | - <i>miñi</i>           | - <i>pi</i>              | - <i>ti</i>                    |
| object               | <i>ñ-</i>                               | <i>n-l-</i>                           | <i>k-</i>   | <i>ñ-</i>   | <i>ñ-</i>                  | <i>m-</i>               | <i>z-</i>                | <i>ñ-</i>                              | <i>ñ-</i>               | <i>p-</i>               | <i>t-</i>                |                                |
| auxiliary ag-        | —                                       | -( <i>v</i> ) <i>a</i>                | - <i>ma</i>   | —   | —                          | —                       | -( <i>me</i> ) <i>ga</i> | —                                      | —                       | —                       | -( <i>ge</i> ) <i>lo</i> |                                |

- 1 Forms separated by a slash are masculine/feminine. (D) indicates that there is no third person pronoun and that a demonstrative is used. (P) indicates that the set marks person only, not number.
- 2 Postnuclear object of punctiliar imperative with first or third person subject (Henderson 1995:38).
- 3 Thurston (1982) uses *î* and *ê* for back unrounded vowels corresponding in height to /i, u/ and /e, o/ respectively.
- 4 Corresponding trial forms are *mibik* 1INC:T and *bik* 2T. 1EXC:D and 3D pronouns are formed by adding *niak* to the plural, 1EXC:T and 3T by adding *bik* to the plural.
- 5 Anêm has noun and verb classes which are defined morphologically by the set of possessor/object suffixes which co-occur with them. Class membership is ultimately unpredictable, but some nouns occur with different sets of suffixes to express different possessive relationships (inalienable, edible, etc.), and the members of some of the morphologically defined classes display a rough semantic coherence.
- 6 Ata has noun classes which are defined morphologically by their possessive suffixes. The forms here are generalisations from these classes.
- 7 Inferred from the various subject/tense/aspect/mood portmanteau prefixes (Tharp 1996:91-93).
- 8 Neuter *gi*.
- 9 Non-human *ŋe(t)*.

- 10 Third person forms are demonstrative/locative elements. The parenthesised 3S forms occur occasionally.
- 11 Used with demonstratives, which also function as 3 pronouns, and with the linker *-la* which introduces an attribute in the noun phrase.
- 12 Both sets of subject markers are non-future subject forms. Singular future forms differ from non-future and for Subject II/III are *ta* 1S, *na* 2S, *a* 3S, for Subject I *taŋ* 1S, *naŋ* 2S, *aŋ* 3S.
- 13 These forms may also be prefixed to prepositions. The 3S:F forms *o-* and *u-* occur respectively as object and as prefix to prepositions.
- 14 F and M here refer to the gender of the possessum. The forms used with a non-singular possessum are formed from the masculine, P by replacing *-ŋ* with *-m*, D by replacing *-ŋ* with *-ŋan*. These forms and the object markers reflect *\*-ŋ* S, *\*-m* P, *\*-ŋan* D.
- 15 The form could not be segmented on the basis of the available data.
- 16 Adequate data for object suffixes are not available.
- 17 The forms here mark the person of the subject of stative experiencer/dynamic intransitive verbs. Adequate data for other subject suffixes are not available.
- 18 These forms coreference the possessor of a kin noun. Alienable possession is marked by the long forms of these pronouns, suffixed with *-kaŋ*, except for 1S *ŋgaŋ*.
- 19 Each of these forms is bound to *-kee* or *-keenari*.
- 20 SUBJ<sub>o</sub> is marked by a sequence of the object form and *-u* 3S:ACTOR, e.f. *-mu* 1S.SUBJ<sub>o</sub>.
- 21 The structure of the verb is usually: STEM + OBJECT + SUBJECT + NUMBER + TENSE/ASPECT. Number markers in transitives may refer to subject or to object. They are:  $\emptyset$  S, -N- P.
- 22 3 object marker is a consonant which varies accusativeording to verb class.
- 23 Also used for possessor. Forms separated by a slash are masculine/feminine. Parenthesised forms are neuter.
- 24 Parenthesised forms are neuter.
- 25 The 2S subject prefix is *ngo-* when it is the first prefix on the verb, *ne-* when it is the second.
- 26 Forms separated by a slash are masculine/feminine. Parenthesised forms are neuter.



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# 19 'Kevalikuliku': *earthquake magic from the Trobriand Islands (for unshakeables)*

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GUNTER SENFT

## 1 Introduction<sup>1</sup>

The Trobriand Islanders of Papua New Guinea have always been famous for being great magicians (see Malinowski 1922, 1935, 1974; Powell 1957, 1960; Senft 1985, 1997; Weiner 1976, 1983, 1988), and their fame has spread far beyond the borders of Milne Bay Province in Papua New Guinea. Until recently Trobriand Islanders used magical formulae with the firm conviction that they could thereby influence and control nature and life. They differentiated between various forms of magic, such as weather magic, black magic, healing magic, garden magic, fishing magic, dance magic, beauty magic, love magic, sailing and canoe magic, and magic against witches and sharks. There were specialists for certain kinds of magic, and all magic was regarded as personal property.

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<sup>1</sup> This paper is based on a total of 29 months' field research in the Trobriand Islands in 1982–83, 1989, and in each of the years 1992–97. I want to thank the German Research Society and the Max Planck Society for supporting my field research. I also want to thank the National Research Institute and the National and Provincial Governments of Papua New Guinea for their assistance with, and permission for, my research projects. I express my great gratitude to the people of the Trobriand Islands, especially to the inhabitants of Tauwema; I thank them for their hospitality, friendship, and patient cooperation over all the years.

I first met Tom Dutton on 1 December 1986 in Munich; he invited me and my family to stay in Canberra for a month as a visiting fellow at the then Research School of Pacific Studies in 1989, and ever since then our paths have crossed – we even tried our best once to clean up the kitchen of the ANU guest house in Port Moresby! I have always been deeply impressed by Tom's experience, expertise and knowledge with respect to the people of Papua New Guinea and their languages and cultures. It seems to me that nothing ever ruffles this experienced field researcher and linguist. Thus I would like to dedicate this paper on magic against earthquakes to him, who is for me (and certainly not only for me) one of the unshakeables.

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Andrew Pawley, Malcolm Ross and Darrell Tryon, eds *The boy from Bundaberg: studies in Melanesian Linguistics in honour of Tom Dutton*, 323–331. Canberra: Pacific Linguistics, 2001.

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On 12 September 1994 Mokeilobu, one of my consultants and a good friend from my early days of field research on the Trobriands, walked with me from Tauwema down the coast of Kaile'una Island to Giwa. On our way we met Kasiosi, who is the 'rowosi', the officiating garden magician of the Koma community (Senft 1997:373-378). He gave me some of his magic in 1989. We briefly talked with him about cultural changes in the Trobriands that obviously had resulted in the decline of the social role of traditional magicians and their formulae (see Senft 1992), and then we continued our walk. Some 20 minutes later, during a brief rest at the Koma-Giwa shore-line, Mokeilobu asked me to get out my tape-recorder and record a magical formula that he wanted to give me as a present, as a token of our long-lasting friendship and cooperation. Twelve years after our first contact Mokeilobu revealed that he was the Tauwema specialist for magic against earthquakes (four of which I have experienced during my stays in Tauwema).

In what follows I will present this formula, comment on it and briefly discuss the role of magical formulae as a form of ritual communication on the Trobriand Islands.

## 2 Mokeilobu's 'Kevalikuliku' magic

Before Mokeilobu recited the magic he gave me the following explanation:<sup>2</sup>

*Bakau pilatala megwa, Gunter, so bakau*

*ba-kau pila-tala megwa Gunterso ba-kau*

1.FUT-carry CPpart-one magic Gunter friend 1FUT

'I will carry (here: say)<sup>3</sup> a magical formula, Gunter (my) friend, I will carry (here: say)

*pilatala megwa, minakwa megwa bakau*

*pila-tala megwa mi-na-kwa megwa ba-kau*

CPpart-one magic DEM-DEM-CPthing magic 1.FUT-carry

a magical formula, this magical formula I will carry (here: say)

*kevalikuliku. Tutala kewosi kewosi, bayopi*

*kevalikuliku tuta-la kewosi kewosi ba-yopi*

earth-quake time-its singing singing 1.FUT-put.a.spell.on

earth-quake magic. (When it is) time f or reciting f or reciting (it), I will put a spell on

*tauya kena kupi bayopi kasesau*

*tauya kena kupi ba-yopi kasesau*

conch.shell or long.drum 1.FUT-put.a.spell.on big.long.drum

the conch shell or on the long drum, I will put a spell on the big long drum,

<sup>2</sup> The Kilivila orthography is based on Senft (1986:14-16). In the morpheme-interlinear transcription I am using the following abbreviations: CP – classificatory Particle (classifier); DEM – demonstrative; FUT – future; LOC – locative; PL – plural.

<sup>3</sup> The following phrases refer to activities of magicians:

*ekau* (short for: *ekauke'ula*) *megwa* s/he is carrying/saying magic

*epaisewa megwa* s/he is working/doing magic

*emegwa* s/he is doing magic

*emigai megwa* s/he is whispering magic

*eyopi* s/he puts a spell on (something/someone)

*bami... bamigai. Avetuta bitagina tauya*

*ba-mi... ba-migai avetuta bi-tagina tauya*  
 1.FUT-whi... 1.FUT-whisper.magic when 3.FUT-resound conch.shell  
 I will whi... I will whisper magic. When it will resound, the conch shell,

*tomwota gala tetala bisili o kaukweda bikam.*

*tomwota gala te-tala bi-sili o kaukweda bi-kam*  
 people not CPhuman-one 3.FUT-sit LOC veranda 3.FUT-eat  
 no person will sit on the veranda and eat.

*Uvasi makala siginagana bivesi,*

*uva-si makala siginagana bi-ve-si*  
 body-their like small.mosquitos 3.FUT-come.to-PL  
 They (their bodies) – like small mosquitos – will come,

*biseyalasi besobesa. E minikwa megwa*

*bi-seyala-si besobesa E mi-ni-kwa megwa*  
 3.FUT-walk.around-PL everywhere and DEM-DEM-CPthing magic  
 they will walk around everywhere. And this magical formula

*ekebiga makawala:*

*e-kebiga makawala:*  
 3-say like  
 he is saying as follows:'

After these introductory remarks Mokeilobu recited the formula. In these brief comments the magician explains that he performs the magic either with the help of a big long drum or with a conch-shell on which he recites his formula repeatedly. After these first recitings he will blow the conch or beat the drum. These actions have a double effect. The first one is explicitly described here: all of Mokeilobu's fellow villagers will become really concerned now; seized with fear they will leave their houses and run through the village – like mosquitos – having lost their bearings. While we translated the formula Mokeilobu mentioned the second function of blowing the conch or beating the drum: the sounds will address the earthquake and both support and increase the power of his magical words. While reciting – or rather whispering and murmuring – magical formulae, the magician's accentuation of words and phrases creates a special and characteristic rhythm. Short but clearly audible pauses which the magician makes while reciting the formulae can be interpreted as text formation signals. Malinowski (1935:213) and Weiner (1983:703) rightly praised the phonetic, rhythmic, alliterative, onomatopoeic and metaphorical effects, the various repetitions and the thus prosodically so specific characteristics of the language of magic. It is especially the phonetic, suprasegmental and poetic characteristics that mark the special status of magical formulae as a text category of its own. Moreover, although parts of these formulae represent a variety of Kilivila that is easy to understand for every Kilivila speaker, the formulae contain a number of so-called magical words and loan words from other Austronesian languages the meaning of which is unknown to the layman (and sometimes even to the magician); there are also many words and expressions the semantics of which are known only to the owners of these formulae. The Trobriand Islanders refer to the specific register for magic with the metalinguistic expression *biga megwa*, which can be glossed as '(the) language (of) magic' (see Senft 1997:370). Because of these specific features and

characteristics of the *biga megwa*, I have dispensed with a morpheme-interlinear translation of Mokeilobu's magical formula and present only the translation I did in cooperation with him. The formula runs as follows:

- 1 *Boliku, boliku, boliku – waga ugwawaga.*  
Tremor, tremor, tremor – canoes (with their) crews (will come).  
*Kaitotu kaitotu, kaitotu – ugwawaga, ugwawaga.*  
Surprise, surprise, surprise – the crews, the crews.  
*Gwasawa, gwasawa, gwasawa – ugwawage, gwasi – ugwawage.*  
Praise, praise, praise – the crews, praise – the crews.  
*Baliku, baliku, baliku – kalibulibu.*  
Tremor, tremor, tremor – boats (of the whites will come).
- 5 *Baliku, baliku, baliku – Kemyuva.*  
Tremor, tremor, tremor – (at) Omyuva village (on Woodlark Island).  
*Baliku, baliku, baliku – Kegumagawa*  
Tremor, tremor, tremor – (at) Gawa.  
*Baliku, baliku, baliku.*  
Tremor, tremor, tremor.  
*Baliku, baliku – Kegumaiwa.*  
Tremor, tremor, tremor – Iwa.  
*Baliku, baliku, baliku – Kemitava.*  
Tremor, tremor, tremor – Kitava.
- 10 *Baliku, baliku, baliku – Vayoya.*  
Tremor, tremor, tremor – (in) South-East.  
*Baliku, baliku – o bwalimila.*  
Tremor, tremor – in the South.  
*Baliku, baliku, baliku – o bomatu.*  
Tremor, tremor, tremor – in the West.  
*Baliku, baliku.*  
Tremor, tremor.  
*Baliku, baliku, baliku – o yavata*  
Tremor, tremor, tremor – in the North.
- 15 *Baliku, baliku – o kwebwaga.*  
Tremor, tremor – in the South-East.  
*Baliku, baliku, baliku, baliku.*  
Tremor, tremor, tremor, tremor.  
*Baliku, baliku, baliku – o taoli*  
Tremor, tremor, tremor – at the horizon.  
*Baliku, baliku, baliku, baliku – o popewa.*  
Tremor, tremor, tremor, tremor – in the rubbish from the deep sea.



*Baliku, baliku, baliku – vaga... vagolina*  
Tremor, tremor, tremor – (in the) big whi... big white waves.

20 *Baliku, baliku, baliku, baliku – vagana.*  
Tremor, tremor, tremor, tremor – (at the) beach front.

*Baliku, baliku, baliku.*  
Tremor, tremor, tremor.

*Baliku, baliku, baliku – o bukubaku*  
Tremor, tremor, tremor – in the village-centre.

*Baliku, baliku, baliku.*  
Tremor, tremor, tremor.

*Baliku, baliku – o kadumalaga*  
Tremor, tremor – at the main road of the village.

25 *Baliku, baliku, baliku.*  
Tremor, tremor, tremor.

*Boliku, boliku, boliku – waga ugwawaga.*  
Tremor, tremor, tremor – canoes (with their) crews (will come).

*Gwasawa, gwasawa, gwasi – ugwawaga, ugwawaga.*  
Praise, praise, praise – the crews, the crews.

*Ketotu, ketotu, ketotu – ugwawaga ugwawaga.*  
Surprise, surprise, surprise – the crews, the crews.

*Ugwawaga gala agu togigisa.*  
The crews (are) not my spectators.

30 *Agu togigisa nupiyagwa – galaga agu togigisa.*  
My spectators (have) small breasts – oh no, my spectators.

*Agu togigisa nu'ulavola –*  
My spectators (try to) enlarge their breasts holding them up in their hands –  
*gala agu togigisa gisi.*  
no, my spectators' sight.

*Agu togigisa mipipisi. (= nupipisi)*  
My spectators have small underdeveloped breasts.

*Igovasi, igovakesi kadumalaga.*  
They shout out of joy, they are noisy (on) the main road of the village.

35 *Ituvasi, ituvakesi bukubaku.*  
They shout 'ui', they shout 'ui' (in) the village-centre.

*Yam biligalagisasi, bogi bipuvalisi.*  
(During the) day they will celebrate, (during the) night they will sit together in circles.

*Bogi bipuvalisi, yam biligalagisasi.*  
(During the) night they will sit together in circles, (during the) day they will celebrate.

The formula begins with the repeated mentioning of the earthquake. In a kind of leitmotif the tremor is topicalised and addressed here – note that we find this kind of topicalisation and addressing of the tremor in 24 of the 37 lines of the formula.<sup>4</sup> In the first four lines the formula refers to canoes with their native crews and even to boats of white people who will be attracted by the force of the magic to the place where the magician recites it. These lines already present one of the results of the formula: it is so powerful that to the surprise of everyone it will save people who are at sea during an earthquake and might get in trouble if the quake also causes big waves. Line 3 also points out that these crews have to be praised because of their seamanship (and probably also for their confidence in the magician's power).

In lines 5 to 9 the repeated addressing of the quake goes with the names of four islands, Woodlark, Gawa and Iwa in the Marshall Bennett group, and Kitava, the easternmost of the Trobriand Islands. All these islands are south-east of Kiriwina and Kaile'una Island. It would be interesting to check whether there is any tectonic evidence indicating that earthquakes on the Trobriands originate in this area.

The next seven lines present the formula's leitmotif together with the mentioning of wind names that – so to speak – represent our compass directions. This part of the formula – interrupted (line 13) and finished (line 16) with the mentioning of the tremor first twice and then four times – emphasises that once there is an earthquake tremors are to be felt everywhere.<sup>5</sup> This topic is elaborated in the next nine lines. The quake comes from the horizon via the deep sea, it stirs up the deep sea and together with big waves it reaches the beach, the village centre, and the main road of the village. This description refers most probably to the gradually increasing intensity of tremors during an earthquake. The fright caused by the tremors advancing on the village(s) is emphasised in lines 21, 23, and 25 – where the formula's leitmotif is repeated again without any further reference to localities, directions or persons.

Lines 26 to 28 present an almost identical repetition of the first three lines – and a confirmation of the magician's and the formula's lifesaving and protecting powers.

From line 29 to the end the formula refers to spectators, the magician's fellow villagers, that observe (and also rely on) the magician's actions. After a repeated reference to the crews that managed to reach land during the earthquake, the formula mentions these spectators observing the magician. It is rather interesting to note that lines 30, 31, and 33 refer to the breasts of the spectators. All adjectives that are used here to describe the breasts refer only to the female breast – thus we can infer that these spectators are all females. In lines 30 and 33 the spectators' breasts are deplored (see the negative 'oh no' in line 30) as being 'small' and even 'underdeveloped'; however, line 31 points out that the women hold up their breasts trying to make them appear bigger, and now the 'no' in line 32 may indicate that the sight of these women presenting their breasts may cause pity or even fright. Such an interpretation agrees with ethological studies with respect to breast display as a female appeasement gesture or as an apotropaic gesture (Devereux 1981; Eibl-Eibesfeldt 1984; Eibl-Eibesfeldt & Sütterlin 1992). If this interpretation is right then we can assume that the female spectators and their breast display mentioned in the formula help either to appease or to frighten away the powers causing the earthquake. In line 33 Mokeilobu actually made a mistake (as he confessed

<sup>4</sup> Note that the expression '*boliku*' and its variant '*baliku*' is three times repeated in 16 lines, is repeated twice in lines 8, 13, 15 and 24, and four times in lines 16, 18, 20.

<sup>5</sup> For cardinal points and compass directions in Kilivila see Senft (1986:467).

during translating his magic): he produced 'mipipisi' for 'nupipisi', a mistake that would have doomed the formula to be useless. The power of the magic depends on the correct reciting of the formula: it will not have the desired effect if the magicians do not always recite it in the same unchanged wording in which it was passed to them by their first ancestors.

At the end of the formula lines 34 and 35 describe the joy of the women who realise that they are not harmed by the earthquake and lines 36 and 37 point out that all villagers will celebrate the end of the tremors day and night, night and day.

### 3 Magic as ritual communication

I have pointed out elsewhere (Senft 1997:388ff.) that magic is a cultural phenomenon that is extremely important for the Trobriand Islanders' *Weltanschauung*, that magical rites have to follow and obey clearly defined conventions and rules, and that the magical formulae, the central components of magic, are (or were) to be stereotypically recalled, remembered, and verbally reproduced by the acting magicians.

Many of the structural and stylistic components of Trobriand magic, and especially the claims that the formulae have to be stereotypically reproduced, remind us of the biological concept of ritualisation (Huxley 1966). However, before I discuss this aspect of Trobriand magic, I will first describe the speech situation in which magicians on the Trobriand Islands find themselves engaged.

According to Mokeilobu and all the other magicians that presented me with, or sold me, their formulae, magicians engage in a kind of conversation with their addressee(s). The addressees of their formulae are personalised and have to behave like partners in a conversation (see Senft 1985:88), at least they have to take over the function of listeners – because the power of the magical words just force them to do this. Thus, the interactants in the communicative situation of magic are the magicians who are addressing their 'vis-à-vis' verbally, and the addressees of the magical formulae who have to react non-verbally. To emphasise this *emic* view once more: the Trobriand magician talks to an addressee, the addressee listens and reacts, and therefore both are engaged in a special type of (verbal–non-verbal) conversation.

The addressee of Mokeilobu's formula is the earthquake. Although it hits the village it has to react as described (or prescribed) in the formula: it will neither damage the village nor harm the people in the village or at sea just because this formula says so and because its reference to the breast display of the female villagers will appease the earthquake or frighten it away.

It is taken for granted that "magical acts are ritual acts" (Tambiah 1985:60).<sup>6</sup> This brings us back to the concept of ritualisation mentioned above. A general definition of 'ritual' as "institutionalized, expressive action" (Werlen 1984:81) certainly encompasses Trobriand magic with its emphasis on speech-action, too. Like many other rituals Trobriand magic serves the function "to ritualize man's optimism, to enhance his faith in the victory of hope over fear" (Malinowski 1974:90), especially with respect to his fear of nature and its forces. If we thus take Trobriand magic as a form of ritual, is it also possible to characterise

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<sup>6</sup> For a critical discussion of Tambiah's position with respect to Trobriand magic and his remarks on Malinowski and Cassirer see Senft (1997:386ff.).

the verbal manifestations of this ritual – the magical formulae – as a form of ritual communication?

I have pointed out that the Trobriand Islanders take the interactions of the magicians with their addressees as a form of a special verbal–non-verbal conversation (see also Senft 1997). It is characteristic for discourse and communication on the Trobriands to use linguistic vagueness and ambiguity as a stylistic means to avoid possible distress, confrontation, or too much and too aggressive directness in everyday speech situations (see Senft 1991:237, 1997:389). However, magical formulae like the one presented here clearly contradict this observation. With their formulae Trobriand magicians explicitly want to force their will on their addressees – and sometimes even far-reaching requests are expressed verbally without any moderation. This sort of directness, which strips away the ambiguity and vagueness with which one can normally disguise one's own thoughts, is characteristic of a variety that the Trobriand Islanders call *biga pe'ula* 'heavy language' or *biga mokita* 'true, direct language' (Senft 1991; see also Weiner 1983:693, 696). The use of this variety, however, demands action that for either party involved in such a speech event may be dangerous or even fatal. But we have to keep in mind that magical formulae are regarded by the Trobriand Islanders as constituting a language variety in its own right, namely the *biga megwa*, the 'language of magic'. The explicit stylistic marking of the magical formulae as something extraordinary, the characteristic definition of the *biga megwa* variety is a means to signal the addressee that these speech acts are different from speech acts constituting general everyday speech situations, and that they will and inevitably must put a great strain on the communicative interaction between the magicians and the addressees of the magical formulae. Thus, the formal characteristics of magical formulae serve the function of a pronounced signal: by the means of the formal verbal domain the license is sought to strain the communicative interaction in the verbal domain with regard to contents. The *biga megwa* concept utilises this licence to relieve the tension in this critical situation of social interaction and to ward off any possible consequences of the strains that affect the communicative interaction which takes place in magic rituals – according to the Trobrianders' conviction, of course (see Senft 1991:244).

If we define 'ritual communication' as a type of strategic action that serves the functions of social bonding and of blocking aggression, and that can ban elements of danger which may affect the community's social harmony within the verbal domain just by verbalising these elements of danger more or less explicitly and by bringing them up for discussion (Senft 1991:246), then magical formulae certainly are a form of 'ritual communication'.

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# 20 *Subject agreement with Bilua infinitives*

EVELYN M. TODD

## 1 Introduction

Bilua is spoken on the island of Vella Lavella in the Western Province of the Solomon Islands.<sup>1</sup> There is a population of about 4,000 speakers, and the language is in reasonably healthy condition, although it is rivalled by Pidgin, as is the case in most other areas of Western Melanesia. Although Bilua may be related to other so-called Papuan-type languages of the Solomons – Savosavo, Baniata and Lavukaleve – even that relationship is only weakly supported,<sup>2</sup> and its classification within an even more inclusive East Papuan Phylum is probably premature. All that is reasonably clear is that Bilua is not Austronesian.

Because this language is not at all well known, some introductory information will be provided, but we shall focus in this paper on the relationship between certain verbs and their complement clauses in which the Bilua verb is in infinitival form, morphologically expressed in a final suffix *-o*. The underlying minimalist theoretical model guiding this description of Bilua verbs and their complements essentially follows Bowers (1993), a version of sentence structure in which the verb is base-generated under V(erb) but moved to a higher functional category Pr(edication), and the object of a verb is base-generated as [Spec, V], while the subject is base-generated as [Spec, Pr]. The indirect object and any complement clause are complements of V, while the direct object is not. Notions of checking are from the work of Chomsky (1995).<sup>3</sup>

1 This is a revised draft of a paper, 'Bilua verbs with infinitive complements', presented to the Australian Linguistic Society, Brisbane, July 1998.

2 The position of Bilua within a possible Solomon language family is discussed in Todd (1975).

3 The notion of checking is somewhat experimental. The essence is that words must be selected in certain positions according to sharing of features, e.g. a transitive verb in Bilua would have an object marker indicating the gender and number of its NP object.

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Bilua has no overt case, but in main clauses both subject (S) and object (O) agreement is morphologically marked within the verb complex, and nominals are masculine (M) or feminine/neuter (F) gender.<sup>4</sup> The basic word-order in sentences is SV/AVO, but other word orders are known including VAO, and other phrase structures are head-final, e.g. postpositional phrases.<sup>5</sup> A verb in a main clause typically consists of a subject-agreement prefix, optional aspect/mode markers<sup>6</sup> and other preverbal elements, then the verb consisting of verb root, object-agreement suffix (if transitive) and tense suffix, as in example (1). The tense suffix may be *-o* 'infinitive' in certain constructions.

- (1) *Vo ta o nozue-k-ala koa qotoma ju.*  
 he TOP S3SgF drink-O3SgF-Past that.F boiled.F water  
 'He drank that boiled water.'

A few verbs are object-agreement prefixing, as in example (2), the object prefix following the subject clitic and any optional aspect/mode marker.

- (2) *Uriavo nio a v-e-ala vo rusu.*  
 good Emph S1Sg O3SgM-see-Past Art.M boy  
 'It's a good thing I saw the boy.'

Because of the rich agreement in the verb, subject and object pronouns are subject to optional pro-drop. The subject in a basic sentence is followed by a topic particle *ta*, as in (1), the structure of which is shown in example (3). To satisfy checking requirements it is assumed that the Bilua transitive verb would move from its initial position in V, where it assigns a thematic role to its object, to Pr where it assigns a thematic role to the subject. The object DP moves from [Spec, V] to [Spec, Pr] where it checks object-agreement with the verb.<sup>7</sup> The verb checks tense, without moving to T, which is the location of the subject-agreement clitic.<sup>8</sup> It may be assumed that the topic marker expresses a functional head, Top(ic) that is higher than T. The subject therefore moves from its initial position in [Spec, Pr], via [Spec, T], where it checks subject-agreement with the clitic in T. Finally the subject moves to [Spec, Top]. Other details of checking will not concern us here.

<sup>4</sup> The marked gender is masculine, while the default gender is feminine.

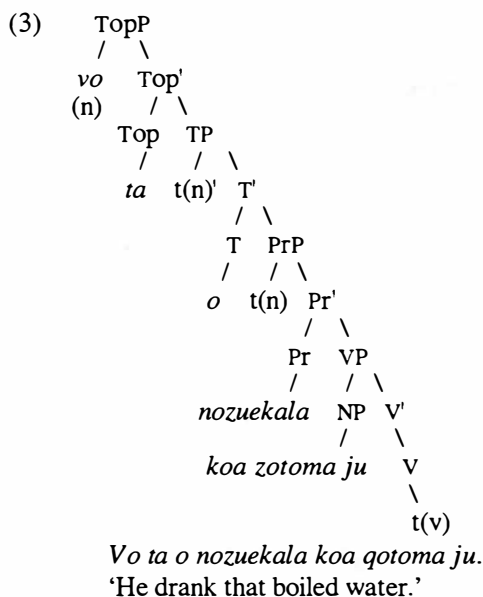
<sup>5</sup> For simplicity I shall simply refer to A(gent) as S(ubject) in the following discussion, as the essential difference is between these and O(bject). A list of the abbreviations used in this paper is given in the Appendix.

<sup>6</sup> I treat these elements as particles to which a preceding subject-agreement particle will cliticise, when present.

<sup>7</sup> To be consistent, I follow Bowers (1997) who treats case and agreement checking separately, with object-agreement checked in the domain of Pr, and subject-agreement in the domain of T. Agreement is checked between a head and its Spec(ifier), so the object and subject DPs also move to higher positions. Instead of using the notion of Agr(eement) functional heads, multiple Specs are allowed.

<sup>8</sup> There are several other elements of the verb complex that may occur between the subject-agreement clitic and the inflected verb (see above) suggesting that the verb does not move to T.





Preverbal verb-like forms also occur in Bilua. Comparable to prepositional verbs in Oceanic languages, these are valency-increasing elements that occur with a following verb forming a complex verb. Any subject-agreement prefix will precede, and the preverb also has an object-agreement prefix, which indicates an indirect object when there is also a transitive verb with a direct object. These valency-increasing preverbs occur with a following intransitive verb or with a transitive verb that has object-agreement suffixing. Although these preverbs may occur with normal verbs, they most commonly occur with verbs that require a preverb, as in example (4).<sup>9</sup>

- (4) *Vo ta o k-ai niani-a anime-ko vekala.*  
 he TOP S3SgM O3SgF-AI know-Pres our-F language  
 'He knows our language.'

In this sentence Bilua *-ai niania-* 'know' is an indivisible combination. For purposes of this paper I will not explore the structure of complex predicates such as these, and simply treat the preverb-verb sequence like a simple verb. In fact I will leave aside an analysis of the derivation of the verb complex between the subject-agreement clitic and the verb.

Many complement and adjunct clauses in Bilua are introduced by a particle *tu* 'to, in order to, so that'. This is temptingly similar to the homophonous English word, which is usually considered in complement clauses to be under the functional head T(ense), as a non-finite indicator. However, in Bilua there is a non-finite tense suffix *-o*, at the end of verbs, that is more likely to serve this function. It is probable that *tu* is some sort of C(omplementiser), but it is at any rate

<sup>9</sup> Some written materials in Bilua show subject-agreement particles prefixed to the object-agreement prefixes of the preverbs, but I have chosen not to do this. It is true that they are phonologically cliticised to the following word, at least before a consonant, but not prefixed.

under a higher functional head than T, and probably higher than Top.<sup>10</sup> Whatever this head may be, it is no barrier to control of the complement subject by the subject or object of the matrix clause, as will be demonstrated in the following discussion.

## 2 Subject-control verbs

One class of verbs in Bilua consists of the subject-control verbs, which occur with complement clauses in which the subject is the same as that of the associated matrix verb. Semantically this class of verbs includes modals, but there are several differences in the syntactic behaviour of these verbs. A common feature, however, is that there is no overt subject in the complement clause, so that we may assume a null pronoun PRO since the subject is understood to be the same as the subject of the matrix verb. As is commonly the case cross-linguistically, there is no overt subject-agreement morphology on a complement verb with a subject-controlled PRO subject, i.e. the complement verb is characterised by 'unagreement', lacking the subject-agreement that would be present if that verb were in some other kind of clause, with a subject other than PRO. This unagreement may be considered as part of the lexical specification of the matrix verb, i.e. it has a selectional feature requiring that the complement clause have null subject-agreement [-AgrS] as well as [-Tense].

The verbs *tanit-*, *danit* 'begin', and *toqor-*, *doqor-* 'stop'<sup>11</sup> may require complement clauses without *tu*:<sup>12</sup>

- (5) *Voa meqora ta o ta tanit-a PRO zial-o.*  
 that child TOP S3SgM Asp begin-Past cry-INF  
 'That child began to cry.'
- (6) *Niokerunio ngo danit-e PRO pesi-o.*  
 when Emph S2Sg begin-Past talk-INF  
 'When did you begin to talk?'

<sup>10</sup> Examples in the texts are rare, but this order is illustrated in the following (which may be a deviant sentence with a discontinuity after *tu*):

*A matu madoe-k-otu anga ta kala niuniu a daiv-o.*  
 S.1Sg must try-it-INF to I TOP a fish S1Sg catch-INF  
 'Therefore I must try to catch a fish.'

<sup>11</sup> Some words alternate between a voiceless stop initially and a prenasalised voiced stop. The latter is selected by certain subject-agreement clitics which have a nasal consonant, real or latent: *a-* '1Sg', *ngo-* '2Sg', *qo-* '3Du', and *me-* '2Pl, 1Pl'.

<sup>12</sup> In my older (1970s) data none of these verbs was found with *tu* introducing the complement. When I checked recently (1998) with a bilingual consultant he was not prepared to reject sentences with *tu* included. Both of the examples (5)–(6) have the matrix verb in past tense. Kazuko Obata has suggested (pers.comm., Oct. 1998) that *tu* may be associated with irrealis, as she has found that *tu* must always occur when the matrix verb is in the future. My data does not agree (see (7) above). The function of *tu* is a matter for ongoing research.

- (7) *Sipole nio a be toqor-ou PRO iruruput-o.*  
 soon Emph S1Sg Asp stop-Fut work-INF  
 'Soon I will stop working.'

The verb *ubait-* 'be late' may also be of this type, though it is found with an infinitival complement only in example (8).

- (8) *Sokeru ngo m-el-ou keru ngo lolo poso ta*  
 if S2Sg O3Pl-see-Fut if P2Sg friend Pl TOP  
*pui ngo ubait.ou PRO m-ati pesi-o.*  
 not S2Sg late.Fut O3Sg-with talk-INF  
 'If you see your friends, don't talk to them too long.'

Other intransitive modals include *rove-* 'can, be able' and *lupaov-* 'refuse', which have complement clauses both with and without *tu* (examples (9)–(12)).<sup>13</sup>

- (9) *Anga ta a rove-a tu PRO viq-o ko bolo poso.*  
 I TOP S1Sg able-Pres TU hear-INF Art.F pig Pl  
 'I can hear the pigs.'
- (10) *Esa pui o pa roveov-ou<sup>14</sup> PRO pesi-o ako*  
 maybe not S3Sg Asp can-Fut talk-INF so  
*vo-ko qonaqona ta potu sole.*  
 his-F throat TOP sore because  
 'Maybe he can't talk because his throat is sore.'
- (11) *Ko ta ko ta lupaov-ou tu PRO iruruput-o lea.*  
 she TOP S3SgF Asp refuse-Fut TU work-INF tomorrow  
 'She will refuse to work tomorrow.'
- (12) *Se ta ke ta lupaov-a PRO tauve-l-o.*  
 they TOP S3Pl Asp refuse-Pres help-O1Sg-INF  
 'They refused to help me.'

<sup>13</sup> A generalised valency-adding preverb *-a* may occur with the verb *lupaov-*, and this preverb has object-agreement marking which cross-references with the object-agreement marking on the following verb.

*Anga-ko meqora poso kama taku ta*  
 my-F child Pl some time TOP  
*ke ta l-a lupaov-a tu PRO tauve-l-o anga.*  
 S3Pl Asp O1Sg-A refuse-Pres TU help-O1Sg-INF me  
 'My children sometimes refuse to help me.'

This phenomenon is not common and it is not certain how significant it may be syntactically.

<sup>14</sup> Some verb roots are modified before different tense suffixes.

There are at least three transitive verbs that exhibit subject control of complement clauses, the simple verbs *pai-*, *bai-* 'finish',<sup>15</sup> *madoe-* 'test, try', and the preverb-verb complex *-ai zari-*, *-a zari-* 'want, like'.<sup>16</sup> These verbs take complement clauses both with and without *tu* as shown in examples (13)–(18).

- (13) *Ko pai-k-ou PRO pei-k-o ko niru ti*  
 S3SgF finish-O3SgF-Fut grate-O3SgF-INF Art.F coconut when  
*ko zuzue-k-ou.*  
 S3SgF squeeze-O3SgF-Fut  
 'When she finishes grating the coconut, she will squeeze it.'
- (14) *A bai-k-a PRO vuat-o erisanga.*  
 S1Sg finish-O3SgF-Pres eat-INF now  
 'I am finished eating now.'
- (15) *Aniqe ta qe madoe-k-ou tu PRO tai-k-o kubo ninuu.*  
 we.Du TOP 1PIIncDu try-O3SgF-Fut TU catch-O3SgF-INF many fish  
 'We will try to catch many fish.'
- (16) *Sole a madoe-k.a PRO k.ai pesi.o komia vekala*  
 so S1Sg try-O3SgF-Pres O3SgF.AI speak-INF that language  
*melai matu tapata ko l-ai ev-a.*  
 but too difficult S3SgF O1Sg-AI be-Pres  
 'I have been trying to learn that language but I find it too difficult  
 (lit. it is too difficult for me).'
- (17) *Vo ta o k-a zari-a*  
 he TOP S3SgM O3SgF-A want-Pres  
*tu PRO k-ai niani-o anime-ko vekala.*  
 TU O3SgF-AI learn-INF our-F language  
 'He wants to learn our language.'
- (18) *Anga ta pui a PRO q-a zari.a kil-o.*  
 I TOP not S1Sg O3SgF-A want-Pres come-INF  
 'I don't want to come.'

A complement clause with these verbs is analysed here as an object of the matrix verb.<sup>17</sup> This clause acts as if it has the 'default' phi-features <3SgF> which it is suggested account for the

15 I have recorded the verb *pai-*, *bai-* only with a following *-k* which I originally considered part of the verb stem, but Kazuko Obata (pers. comm. October 1998) notes the existence of an intransitive verb *pait-* 'finish', so this suggests that the *-k* is actually an object-agreement suffix, as I have treated it here.

16 Both forms of preverb *-a* and *-ai* occur with *zaria* in the data, and for our purposes will be treated as equivalent until demonstrated otherwise. Elsewhere, as Obata (1998) demonstrates, they have different meanings.

17 Presumably the clause could also be in complement position with an empty object position.

object agreement on the matrix verb.<sup>18</sup> The subject of the matrix clause is the closest available noun phrase to control the PRO subject of the complement clause. This accounts for the observed facts, since there is no subject agreement on the complement verb, as is expected to be the case with infinitives of subject-control verbs, but the subject is nevertheless understood to be the same as that of the matrix clause.<sup>19</sup>

### 3 Object-control verbs

Object-control verbs are always transitive, and the complement clauses associated with them have a null subject, presumably PRO, which is controlled by the object of the matrix verb. As with most subject-control verbs, the complement clauses may or may not be introduced by *tu*, though the use of *tu* is predominant with object-control verbs. What seems to be quite different though, is that the subject agreement on complement clauses is not ordinarily omitted either.<sup>20</sup> This requires an explanation not yet developed, to account for why there is 'unagreement' when the complement verb has a subject-controlled PRO, but agreement when it has an object-controlled PRO. It does not seem plausible to attribute 'unagreement' simply to the PRO subject itself. As is the case with subject-control complements, the PRO could facilitate the 'recovery' of the  $\phi$ -features of the object in the matrix clause. The most straightforward explanation seems to be that these object-control verbs are specified in the lexicon to select complements that have subject-agreement [+AgrS], as well as [-Tense].<sup>21</sup>

<sup>18</sup> In an earlier analysis I introduced an expletive *pro* as object with default features to account for the object-agreement morphology of the verb, using notions from the discussion of expletive arguments discussed by Chomsky (1995). To have a *pro<sub>expl</sub>* in [Spec,V] would require a stipulation that it could not be a controller of the PRO subject of the complement clause, or some other rule with the same effect. Since the clause is in the same position as a nominal object would be, this may be an unnecessary complication. Maybe the head of the clause, whether T or something higher, has a feature that would match (and therefore 'check') the default object-agreement of the verb, in line with more recent ideas about agreement proposed by Chomsky (1998).

<sup>19</sup> Exceptionally, the sentence example in footnote 10 above exhibits subject agreement in a clause that is a complement to one of the transitive modal verbs. But in that example there is also a topicalised subject pronoun rather than PRO in the complement clause, another anomaly. It is possible that this sentence is not well-formed. A different reason might be the fact that it has a pronominal in a topicalised position, and this may affect the subject-marking on the following verb.

<sup>20</sup> A very few examples occur in the data where there is no subject-agreement in the complement verb after an object-control verb, as in the following:

*Ko-vo mama t o kaiti-k-a tu PRO rae-v-o voa maba.*  
 her-M father TOP S3SgM forbid-O3SgF-a TU marry-O3SgM-INF that man  
 'Her father forbid her to marry that man.'

<sup>21</sup> A similar proposal is offered by Raposo (1987) to account, in part, for the subject-agreement on infinitive verbs in European Portuguese.

I am excluding from this discussion sentences in which there are complement clauses associated with expletive subjects because these have non-verbal predicates such as *tapata* 'difficult', *olu* 'easy', and *kutumana* 'dark' which do not carry tense information. These also lack subject-agreement inflection with the complement infinitive verb where there is an indefinite null *pro<sub>arb</sub>* subject of that complement, but otherwise the infinitive complement has subject agreement.

Most of the object-control verbs have to do with expressing statements or commands, e.g. *bazu-* 'tell', *pase-*, *base-* 'ask, request', *kaiti-*, *qaiti-*, 'forbid' and *zariev-* 'allow, let, permit' in the following examples.

- (19) *Anga ta a bazue-v-ala vo.*  
 I TOP S1Sg tell-O3SgM-Past him  
*tu PRO o l-a k-ov-o ko ju.*  
 TU S3SgM O1Sg-A O3SgF-get-INF Art water  
 'I told him to get water for me.'
- (20) *Anga ta a base-k-ala ko tu PRO ko tauve-mel-o.*  
 I TOP S1Sg ask-O3SgF-Past her TU S3SgF help-O1Pl.INF  
 'I asked her to help us.'
- (21) *Ko ta ko kaiti-m-a meqora poso*  
 she TOP S3SgF forbid-O3Pl-Pres child Pl  
*tu PRO ke zura-o nioro kale*  
 TU S3pl play-INF rain in  
 'She forbid the children to play in the rain.'
- (22) *Pui zarie-m-o se tu PRO ke el-o engea sase.*  
 not allow-O3Pl-IMP them TU S3Pl live-INF us with  
 'Don't let them come to live with us.'

Most of our present data has overt subject agreement. As expected, though, overt subjects are subject to pro-drop in the complement clause.

#### 4 Raising verbs

The analysis of Bilua has not yet revealed any clear instances of verbs which involve raising-to-object. One possible example exists, the verb complex *-a zari-*, *-ai zari-* 'want', which occurs with complement clauses that have a different subject from that of the matrix verb. This could also conceivably be an example of an object-control verb, though it seems semantically unlikely. This complex predicate can occur with a nominal object as in example (23), but in (24) it seems that the complement clause does not have a PRO subject.

- (23) *Anga ta a ng-a zari-a.*  
 I TOP S1Sg O2Sg-A like-Pres  
 'I like you.'
- (24) *Anga ta a ng-a zari-a pro tu t ngo eraeraov-ou.*  
 I TOP S1Sg O2Sg-A want-Pres (you) TU 2Sg confess-Fut  
 'I want you to confess.'

It is proposed that (24) be considered an example of raising. Although there is no overt pronominal subject of the complement verb, and no overt pronominal object of the matrix verb, because pro-drop is common in this language it is assumed that there is a null pronoun *pro* with

<2Sg> phi-features base-generated in the subject position [Spec, Pr] of the complement clause, and it accounts for the subject agreement of the verb in that clause. This *pro* is raised (leaving a trace *t*) to the [Spec, V] object position of the matrix clause, where it accounts for the object agreement on the preverb. This phenomenon is E(xceptional) O(bject) M(arking), the equivalent in an object-agreement language to the E(xceptional) C(ase) M(arking) of a case-marked language.<sup>22</sup>

The complement clauses with this verb complex are like those of object-raising verbs, in which *tu* and subject-agreement marking are normal in the complement verb. In this way it is possible to distinguish (25) from (26) even though the matrix verbs are the same.

(25) *Anga ta a q-a zari-a PRO kil-o.*  
 I TOP S1Sg O3SgF-A want-Pres go-INF  
 'I want to go.'

(26) *Anga ta a q-a zari-a pro tu t ko kil-o.*  
 I TOP S1Sg O3SgF-A want-Pres (her) TU S3SgF go-INF  
 'I want her to go.'

As a subject-control verb complex in (25) the object-agreement marking on the preverb refers to a clause as object, but in (26) it is a raising verb and the object-agreement marking on the preverb refers to the subject of the complement clause. If the raising verb allowed deletion of 'unagreement', especially if *tu* were also omitted (as it may be) it would be the same as (25), creating ambiguity. It is of course possible that this may happen on occasion, but the distinctive treatment of the subject-agreement seems to be important in the raising construction.

## 5 Conclusion

The data presented show that both subject-control and object-control verbs occur in Bilua and that there is a significant difference in their complements. Although both may occur with or without the introductory particle *tu*, this particle is normally present with the object-control verb complements. Even more important is the 'unagreement' exhibited only in the case of subject-control verbs, where the subject agreement is omitted in the complement verb. Although it seemed that this might reflect the lack of agreement with a complement subject PRO, the presence of subject agreement in the verbs of object-control complements requires explanation because it is normal for infinitives to lack subject agreement in most languages. Therefore it seems likely that the two kinds of control verbs have a selectional feature in the lexicon which determines that subject-control verbs require a [-AgrS] complement and object-control verbs require [+AgrS]. Data from a single possible raising verb, which has features similar to object-control verbs, and also requiring a complement with [+AgrS], has demonstrated the significance of subject agreement in raising complements to disambiguate certain constructions.

<sup>22</sup> Exceptional object-agreement marking (EOM) has been observed by the author in several other languages unrelated to Bilua, where a common feature is the presence of object-agreement inflection. This does not preclude the co-occurrence of the ECM construction, if one assumes covert case would be present in a language that has no overt case.

Finally it has been noted that in Bilua, an object-agreement marking language, there may be an EOM construction involving object agreement of a matrix verb with a raised complement subject, treated exceptionally as if it were the object of the matrix verb.

## Appendix

### 1. Abbreviations

#### Person

|   |        |
|---|--------|
| 1 | first  |
| 2 | second |
| 3 | third  |

#### Heads

|     |                   |
|-----|-------------------|
| V   | Verb              |
| T   | Tense             |
| Pr  | Predication       |
| Top | Topic (or TOP)    |
| C   | Complementiser    |
| DP  | Determiner phrase |

#### Tenses

##### Past

|      |            |
|------|------------|
| Pres | Present    |
| Fut  | Future     |
| INF  | non-finite |
| IMP  | imperative |

|   |           |
|---|-----------|
| A | Agent     |
| S | Subject   |
| O | Object    |
| P | Possessor |

|   |       |
|---|-------|
| t | trace |
| n | noun  |
| v | verb  |

|    |          |
|----|----------|
| Sg | Singular |
| Du | Dual     |
| Pl | Plural   |

|     |                           |
|-----|---------------------------|
| Asp | Aspect (undifferentiated) |
| Emp | Emphatic particle         |
| Art | Article                   |

|   |                 |
|---|-----------------|
| F | Feminine/Neuter |
| M | Masculine       |

### 2. Orthographic Notes

*b, d, j, q* are prenasalised voiced stops.

*ng* is a velar nasal, usually written with an underlined *n* in contemporary Bilua.

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# 21 *Ngatikese Men's Language*

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DARRELL TRYON

## 1 Introduction<sup>1</sup>

Ngatikese Men's Language, also known as Ngatikese Pidgin, is spoken on the island of Ngatik, the main island in the Sapwuahfik Atoll, situated about 90 miles south-west of Ponape (Pohnpei) in the Caroline Islands of Micronesia. This rather unusual pidgin owes its origin to a series of bloodthirsty events which took place on Ponape and on its near neighbour, the Sapwuafik atoll, in the years 1836–37 (see Maps 1 and 2).

Hezel (1983:121) records that in 1836 relations between the Ponapean chiefs and the resident European beachcombers and omnipresent visiting whalers were no longer cordial, basically as a result of their lack of respect for local Ponapean custom.

In 1836 the London whaleship *Falcon* ran aground as it attempted to leave Madolenihmw harbour on Ponape. The stranded seamen set up camp on a small island nearby, taking off their whale oil and stores. Captain Hingston caught a group of Ponapeans trying to make off with the topsail of the *Falcon*, flew into a rage and struck their leader, the *nahnawa* of Madolenihmw. This led to a declaration of war, the *nahnawa* announcing that he would exterminate every foreigner in the Ponape area. The crewmen of the *Falcon* managed to get word to other ships in port to come to their assistance, which was agreed on condition that they hand over their cargo of whale oil as payment. The ships involved were the *Avon*, the *Unity* and the *Lambton*, which was commanded by Captain 'Bloody' Hart. A force of 40 seamen, together with the Europeans living ashore and some 400 Ponapean allies, combined to attack the *nahnawa* and his followers. They easily outgunned their opposition, inflicted heavy casualties and captured the *nahnawa*, who was hanged from the yardarm of the *Lambton* by Captain Hart, the self-appointed leader of the Europeans.

Hart had other scores to settle. Just prior to the Ponape incident, he and his crew had been attacked by a large band of armed men on Ngatik, where they had gone to trade for fine

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<sup>1</sup> This paper is dedicated to Tom Dutton, a friend and distinguished pidgin and creole specialist in the Research School of Pacific and Asian Studies at The Australian National University, whose writings and seminars have done much to enrich the field. An earlier version of the paper was presented at the Fourth International Conference on Oceanic Linguistics, Niue, 5–9 July 1999.

turtle shell. The *Lambton* managed to escape without loss of life, yet Hart vowed vengeance and, in 1837, almost a year after the *Falcon* incident, he took aboard several Europeans and twenty Ponapeans, all armed, and headed for Ngatik. They went ashore and killed everyone they encountered. In all Hart and the landing party from the *Lambton* killed every adult man on the island. The only males to escape had put to sea at the beginning of the slaughter. The Englishmen spared the women (those who had not killed themselves) and their infant children and installed an Irishman, Paddy Gorman, as chief of Ngatik in return for a regular supply of turtle shell. Captain Hart and the *Lambton* sailed away from Ngatik leaving a few of the Europeans and the twenty Ponapeans ashore to collect shell and to provide solace to the widowed Ngatikese women. Descendants of this community form the major part of the present day Ngatik population.

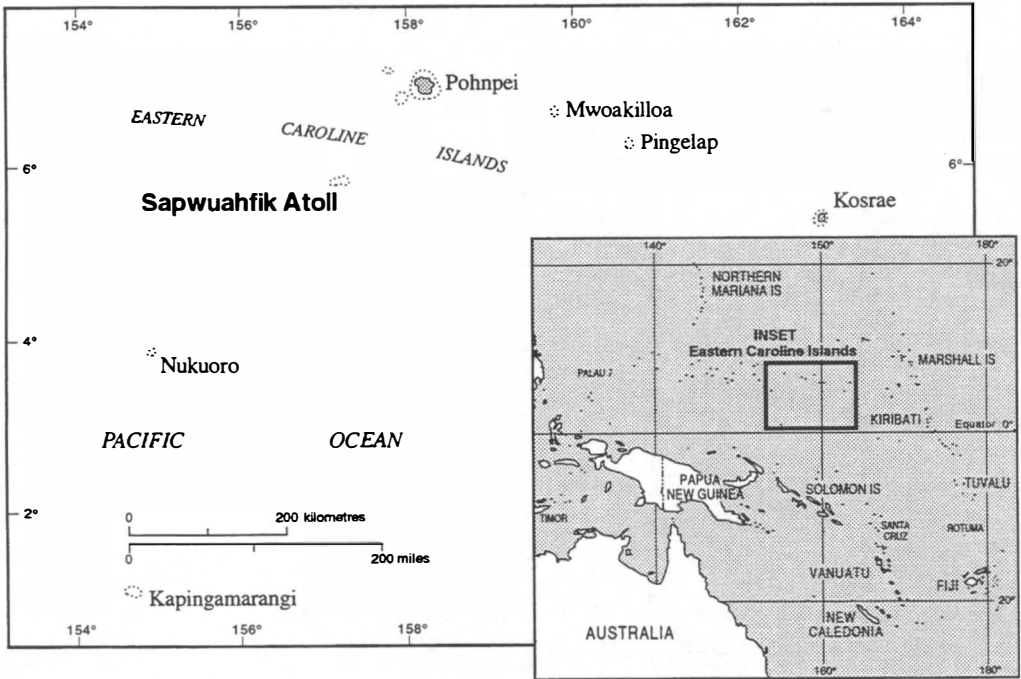
What developed linguistically from this situation was a rather odd pidgin language, derived from the South Seas Jargon/Pidgin of the 1830s, spoken by those engaged in maritime activities in the Pacific, and the Ngatik dialect of Ponapean, the standard language of Ngatik since time immemorial. This language is known today as the Ngatikese Men's Language or Ngatikese Pidgin. It contains a large number of English-derived lexical items and morphosyntactic elements, together with a very considerable Ngatikese element, which is indeed the dominant element in this pidgin language. What is striking about the English-derived elements is that they include a number of features which are characteristic of the New South Wales pidgin of the 1820s and 1830s (Troy 1995; see §3 below).

Fieldwork on Ponape was undertaken in July 1997 as part of a broader study on the origins and development of Pacific pidgins (Tryon & Charpentier, in prep.). In the course of this fieldwork, my chief consultant, Remikio Frank, informed me that Pidgin, as he calls it, is commonly used by the male population of Ngatik today, especially when they are engaged in communal activities such as fishing, and house- or boat-building. Ngatik has a population of some 500 people today. Previous ethnographic and historical studies of Ngatik include Poyer (1992) and McClintok (1994). Kenneth Regh, an expert on Ponapean, kindly made available his field notes and assisted with interviews, together with Damian Sohl, Director of Education for Ponape (Pohnpei).

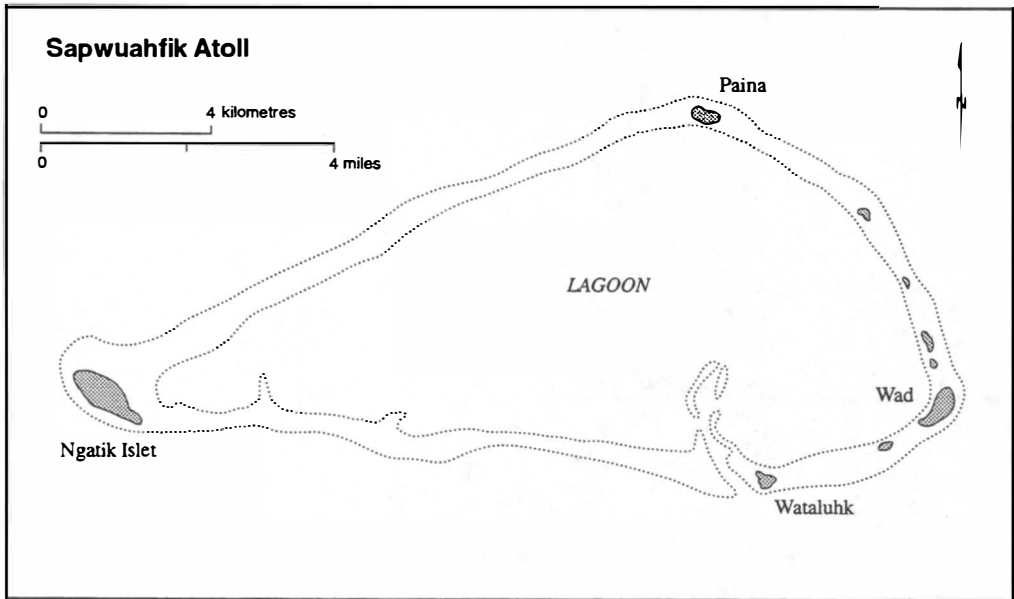
## 2 Ngatikese Pidgin morphosyntax

Ngatikese Pidgin is an unusual Pacific pidgin in many ways. As noted above, it cannot really be described as an English-based pidgin in that the majority of its lexicon is drawn from Ngatikese, a very close relative of Ponapean, a Nuclear Micronesian language, spoken on the Sapwuahfik Atoll of which Ngatik Island is the main landmass. However, there is still a considerable proportion of English-derived vocabulary and a large number of morphosyntactic markers which characterise other Pacific English-based pidgins. Many of the constructions employed are found in the very early English-based pidgin spoken in New South Wales in the 1820s and 1830s (Troy 1995), but which no longer figure in 20th century pidgin languages of Melanesia. Most noticeable in Ngatikese Pidgin is the absence of the ubiquitous *long* and *blong*, the high frequency relators which are an integral part of all other English-based Pacific pidgins today.

What follows is a brief account of Ngatikese Pidgin morphology and syntax, followed by two short illustrative Ngatikese Pidgin texts.



Map 1: Eastern Caroline Islands



Map 2: Sapwuahfik Atoll

## 2.1 Ngatikese/Ponapean pronouns

Because there appears to be some mixing of Ngatikese Pidgin and normal Ngatikese lexemes and grammatical functors, reflected in the texts below, both the Pidgin and the regular Ngatikese/Ponapean pronoun forms are given in full.<sup>2</sup>

**Table 1:** Ngatikese/Ponapean pronouns

|           | INDEP            | SUBJ            | OBJ             | POSS          |
|-----------|------------------|-----------------|-----------------|---------------|
| 1S        | <i>ngehi</i>     | <i>i</i>        | <i>-ie</i>      | <i>-i, Ø</i>  |
| 2S        | <i>kowe/koh</i>  | <i>ke</i>       | <i>-uhk</i>     | <i>-mw</i>    |
| 3S        | <i>ih</i>        | <i>e</i>        | <i>-Ø</i>       | <i>-Ø</i>     |
| 1DL.PLEXC | <i>kiht</i>      | <i>se</i>       | <i>-kit</i>     | <i>-t</i>     |
| 1DL.INC   | <i>kita</i>      | <i>kita</i>     | <i>-kita</i>    | <i>-ta</i>    |
| 2DL       | <i>kumwa</i>     | <i>kumwa-</i>   | <i>kumwa-</i>   | <i>-mwa</i>   |
| 3DL       | <i>ira/ihr</i>   | <i>ira</i>      | <i>-ira</i>     | <i>-ra</i>    |
| 1PL.INC   | <i>kitail</i>    | <i>kitail</i>   | <i>-kitail</i>  | <i>-tail</i>  |
| 2PL       | <i>kumwail</i>   | <i>kumwail</i>  | <i>-kumwail</i> | <i>-mwail</i> |
| 3PL       | <i>irail/ihr</i> | <i>irail/re</i> | <i>-irail</i>   | <i>-rail</i>  |

**Table 2:** Ngatikese Pidgin pronouns

|           |                               |                     |                    |                   |
|-----------|-------------------------------|---------------------|--------------------|-------------------|
| 1S        | <i><b>m</b><sup>3</sup></i>   | <i><b>ai</b></i>    | <i><b>-mi</b></i>  | <i><b>mai</b></i> |
| 2S        | <i><b>yu</b></i>              | <i><b>yu</b></i>    | <i><b>-iuk</b></i> | <i><b>yu</b></i>  |
| 3S        | <i><b>ih</b></i>              | <i><b>ih</b></i>    | <i><b>-im</b></i>  | <i><b>hi</b></i>  |
| 1DL.PLEXC | <i><b>mehn</b></i>            | <i><b>mehn</b></i>  |                    |                   |
| 1DL.INC   | <i><b>yumih</b></i>           | <i><b>yumih</b></i> |                    |                   |
| 2DL       | <i><b>ohlou</b></i>           | <i><b>ohlou</b></i> |                    |                   |
| 3DL       | <i><b>rhe</b><sup>4</sup></i> | <i><b>rhe</b></i>   |                    |                   |
| 1PL.INC   | <i><b>mehn</b></i>            | <i><b>mehn</b></i>  |                    |                   |
| 2PL       | <i><b>ohlou</b></i>           | <i><b>ohlou</b></i> |                    |                   |
| 3PL       | <i><b>rhe</b></i>             | <i><b>rhe</b></i>   |                    |                   |

<sup>2</sup> In standard Ponapean orthography, followed here, /h/ following a vowel indicates a long vowel.

<sup>3</sup> English-derived lexemes appear in **bold** throughout the text, to contrast with the Ngatikese Ponapean content.

<sup>4</sup> In Ngatikese Pidgin, orthographic *rh* = [x].

The Ngatikese pronouns distinguish four series: independent, subject, object and possessive forms, and three numbers: singular, plural and dual. A peculiarity of the system is the merging of first person plural and dual forms (*mehn*). The Ngatikese Pidgin pronominal system mirrors the normal Ngatikese language in all respects, apart from the fact that the inclusive/exclusive distinction is lost with plurals (*mehn/mehn*) as opposed to *kita/kiht*. In addition the plural/dual distinction is lost with the exception of *yumih* (1DL.INC) which contrasts with *mehn* (1DL/PL).

Examples:<sup>5</sup>

INDEP: *Mehn kan-la wan big kiti.*  
 1PLE.EXC eat-DIR ART big dog  
 'We're eating a big dog.'

SUBJ: *Yumih kon ko tumoro.*  
 1DL INC FUT go tomorrow  
 'We two are going to go tomorrow.'

OBJ: *Ai kon kama-iuk.*  
 1S FUT hit-2S  
 'I'm going to hit you.'

POSS: *Wat hi nihm?*  
 what 3S name  
 'What is his/her name?'

## 2.2 Nouns and noun phrases

Ngatikese Pidgin nouns are often English-derived, although there is a surprisingly high proportion of Ngatikese-derived vocabulary. For example:

|              |          |                 |              |
|--------------|----------|-----------------|--------------|
| <i>kiti</i>  | 'dog'    | <i>nihm</i>     | 'name'       |
| <i>boe</i>   | 'boy'    | <i>ohlmehn</i>  | 'old man'    |
| <i>deke</i>  | 'island' | <i>tipakerh</i> | 'tobacco'    |
| <i>rein</i>  | 'rain'   | <i>mahi</i>     | 'breadfruit' |
| <i>malek</i> | 'fowl'   | <i>women</i>    | 'woman'      |

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5 The following abbreviations are used in this paper:

|      |                  |        |              |      |                   |
|------|------------------|--------|--------------|------|-------------------|
| ABIL | abilitative      | EXC    | exclusive    | OBJ  | object            |
| ART  | article          | FUT    | future       | PERF | perfective        |
| CA   | completed action | HAB    | habitual     | PL   | plural            |
| CAUS | causative        | IMPERS | impersonal   | PM   | predicate marker  |
| CL   | classifier       | INC    | inclusive    | POSS | possessive        |
| COND | conditional      | INCHO  | inchoative   | REL  | relative          |
| DEIC | deictic          | INDEP  | independent  | S    | singular          |
| DEM  | demonstrative    | INST   | instrumental | STAT | stative           |
| DIR  | directional      | LOC    | locative     | SUBJ | subject           |
| DL   | dual             | NEG    | negative     | TM   | transitive marker |

### 2.3 Noun modifiers

Noun modifiers in Ngatikese Pidgin include demonstratives, possessives, adjectives and numerals/quantifiers. Where they co-occur, they observe the following order:

|                 |                 |             |      |
|-----------------|-----------------|-------------|------|
| Demonstrative + | Quantifier +    | Adjective + | NOUN |
| Possessive      | Numeral/Article |             |      |

(a) Demonstratives: *tat* 'this, that'

Like many other Pacific pidgins, Ngatikese Pidgin does not normally distinguish between proximate and distant with demonstratives. Thus:

|                       |                     |
|-----------------------|---------------------|
| <i>tat boe</i>        | 'that boy'          |
| <i>tat men</i>        | 'this man'          |
| <i>insaed tat aos</i> | 'inside that house' |

(b) Possessives

|                 |            |
|-----------------|------------|
| <i>hi nihm</i>  | 'his name' |
| <i>mai nihm</i> | 'my name'  |

(c) Numerals/Quantifiers:

|    |                |      |                |
|----|----------------|------|----------------|
| 1  | <i>wan/ehu</i> | 20   | <i>twante</i>  |
| 2  | <i>tuh</i>     | 30   | <i>terte</i>   |
| 3  | <i>trih</i>    | 40   | <i>fohte</i>   |
| 4  | <i>foh</i>     | 50   | <i>fefte</i>   |
| 5  | <i>faif</i>    | 60   | <i>siskste</i> |
| 6  | <i>siks</i>    | 70   | <i>sefinte</i> |
| 7  | <i>sefin</i>   | 80   | <i>eite</i>    |
| 8  | <i>eiht</i>    | 90   | <i>nainte</i>  |
| 9  | <i>nain</i>    | 100  | <i>antet</i>   |
| 10 | <i>ten</i>     | 1000 | <i>tausin</i>  |

|               |                |
|---------------|----------------|
| <i>fest</i>   | 'first'        |
| <i>seken</i>  | 'second'       |
| <i>ohl</i>    | 'all'          |
| <i>planti</i> | 'many, plenty' |

Examples:

|                        |                             |
|------------------------|-----------------------------|
| <i>wan pohpohd</i>     | 'one married couple'        |
| <i>tuh taim</i>        | 'twice'                     |
| <i>ohl kiht kon ko</i> | 'all of us are going to go' |



(d) Adjectives:

|                 |             |
|-----------------|-------------|
| <i>nokuht</i>   | 'bad'       |
| <i>natakain</i> | 'different' |
| <i>kreisi</i>   | 'crazy'     |
| <i>big</i>      | 'big'       |
| <i>eve</i>      | 'heavy'     |
| <i>ohl</i>      | 'old'       |

Examples:

|                           |                           |
|---------------------------|---------------------------|
| <i>tat fela ih nokuht</i> | 'that fellow is no good'. |
| <i>wan big kiti</i>       | 'a big dog'               |

## 2.4 Verb phrase

The Ngatikese Pidgin verb phrase has the following structure:

Subject + PM(*ih*) + Verb-TM + Object

The standard Pacific pidgin predicate marker (*ih*) occurs only when the subject is a third person pronoun or a singular noun. In other environments it is dropped. *Ih* is in fact the third person singular pronoun both in Ngatikese Pidgin and coincidentally in the Ngatikese dialect of Ponapean.

Examples:

*Tat serhpein ih mimi nin tat lepinpik-o.*  
 DEM girl PM stay LOC DEM sand.cay-DEIC  
 'That girl stayed on that sand-bar.'

*Tat men i tat women tel ne-rha serhpein-o tat*  
 DEM man and DEM woman tell CL-3DL daughter-DEIC that

*irha kon ko laid.*  
 3DL FUT go fishing  
 'That man and woman told their daughter that they were going fishing.'

*Pos ih dohn laik saming...*  
 COND PM does.not like something  
 'If he doesn't like something...'

(a) Tense:

Future tense is generally indicated by *kon (ko)* + Verb; *bwambwai* ('soon'), is sometimes used in the same context, as in the following examples:

*Mehn kon tek-it, bwambwai ih kotou.*  
 1PL.EXC FUT take-it soon 3S rain  
 'We'll take it; it's going to rain soon.'

*Irha kon ko laid.*  
 3PL FUT go fishing  
 'They are going to go fishing.'

*Mehn kon finis tumoro.*  
 1PL.EXC FUT finish tomorrow  
 'We will finish tomorrow.'

The standard Ngatikese Ponapean future marker *nehn* is also found occasionally, as in:

*Irha nehn wa-di-do.*  
 2DL FUT bring-back-DEIC  
 'They will bring it back.'

Past/Present tense are unmarked in Ngatikese Pidgin, as in the following:

*Wan lahp-o ih pwa-ng wan lahp-o.*  
 one friend-DEIC 3S say-DIR one friend-DEIC  
 'One man said to the other'

*Mehn kan-la wan big kiti.*  
 1PL.EXC eat-DIR ART big dog  
 'We ate a big dog.'

(b) A habitual is indicated by *kin*, as in many other Pacific pidgins.

*Meik ih kin tuh samding laik wan kreisi men.*  
 CAUS 3S HAB do thing like ART crazy man  
 'It makes him act like a crazy person.'

(c) Negation is most commonly indicated by *neve*, although *nading* is also used, as in the following examples:

*Ihr neve kih-da et kehpwē.*  
 3PL NEG unload-up 1PL things  
 'They didn't unload our things.'

*Ihr neve opin as.*  
 3PL NEG open hatch  
 'They didn't open the hatch.'

*Re neve kak pihrh.*  
 3DL NEG ABIL fly  
 'They cannot fly.'

*Dene nading iet sompihrh.*  
 it.is.said not yet plane  
 'It is said that there were no planes then.'

(d) Transitivity is irregularly marked. When it is marked, the transitive markers are either *-it* or *-im*. Thus:

*Ih teik tat koknet wawa-la oh vain wan lepinpik.*  
 3S take DEM coconut carry-away and find ART sandbank.  
 'She took the coconut away and found a sandbank.'

*Mehn kon teik-it.*  
 1PL.EXC FUT take-it  
 'We'll take it.'

*Ih teik-it awei.*  
 3S take-TM away  
 'He took it away.'

*Ih hit-im mi.*  
 3S hit-TM 3S  
 'He hit me.'

*Ih hit-im it.*  
 3S hit-TM 3S  
 'He hit it.'

(e) A causative is indicated by *meik ih*, as in the following:

*Ai meik ih soldia wok in rod.*  
 1S CAUS 3S soldier walk LOC road  
 'I made the soldier walk on the road.'

*Meik ih kin tuh samding laik wan kreisi men.*  
 CAUS 3S HAB do thing like ART crazy man  
 'It makes him act like a crazy person.'

(f) A desiderative is indicated by *wan/laik* + verb, as in:

*Yu wan go?* 'Do you want to go?'  
*Yu laik go?* 'Would you like to go?'  
*Pos yu laik mi kam to taon.* 'If you want me to come to town.'

(g) Conditional is indicated by *pos* preceding the conditional clause, as in:

*Pos ih dohn laik samding...*  
 COND PM does.not like something  
 'If he doesn't like something...'

*Pos yu kam...*  
 'If you come...'

(h) Relative Clauses are introduced by the relativisers *tat* or *me*. *Me* is the standard Ngatikese Ponapean relativiser, while *tat* is English-derived. For example:

*Tat men i tat women tel ne-rha serhpein-o tat irha*  
 DEM man and DEM woman tell CL-3DL daughter-DEIC that 3DL  
*kon ko laid.*  
 FUT go fishing  
 'That man and woman told their daughter that they were going fishing.'

*Ih tat ering tat wiada tat deke nihm Paina.*  
 3S DEM coconut REL form DEM island name Paina  
 'It is that coconut which forms that island of Paina.'

*Mahsmahs ket wan pohpoh me nainiki wan serhpein.*  
 Long.ago was ART couple REL have ART daughter  
 'Long ago there was a couple who had a daughter.'

...*piht me irha kon palang-wei pahn ketpin.*  
 pandanus REL 3DL FUT dry-out LOC sun  
 '...pandanus which they are going to dry out in the sun.'

(i) An impersonal construction is indicated by *men*, corresponding to commonly encountered Pacific pidgin *man*, as subject, as in:

*In Ngatik men wok had.*  
 LOCNgatik IMPERS work hard  
 'In Ngatik people work hard'.

## 2.5 Interrogatives

|                 |                         |
|-----------------|-------------------------|
| <i>u?</i>       | 'who?'                  |
| <i>weh?</i>     | 'where?'                |
| <i>wat?</i>     | 'what?'                 |
| <i>hames?</i>   | 'how much?' 'how many?' |
| <i>wasmada?</i> | 'how?' 'how come?'      |

Examples:

|                            |                                |
|----------------------------|--------------------------------|
| <i>u teik tat bot?</i>     | 'Who took that boat?'          |
| <i>weh tat kiti?</i>       | 'Where's that dog?'            |
| <i>wat yu se?</i>          | 'What did you say?'            |
| <i>hames paon yu want?</i> | 'How many pounds do you want?' |

## 2.6 Locatives

Remarkably, the ubiquitous Pacific pidgin locative *long* is absent from Ngatikese pidgin, replaced by other English-derived locatives, as for example:

|                       |                 |
|-----------------------|-----------------|
| <i>insaed tat aos</i> | 'in that house' |
| <i>in Ngatik</i>      | 'in Ngatik'     |
| <i>kam to taon</i>    | 'come to town'  |

## 2.7 Time

Common time adverbs include the following:

|                 |                       |
|-----------------|-----------------------|
| <i>bwambwai</i> | 'soon, in the future' |
| <i>mahsmahs</i> | 'long ago'            |
| <i>longtaim</i> | 'long ago'            |
| <i>wan teh</i>  | 'one day'             |

## 2.8 Greetings

Common greeting are:

|                      |              |
|----------------------|--------------|
| <i>menseng mwahu</i> | good morning |
| <i>pwong mwahu</i>   | good night   |
| <i>pwai simis</i>    | By Jimmy!    |
| <i>pwai kale</i>     | By golly!    |

## 2.9 Non-verbal sentences

The following are examples of non-verbal sentences:

(a) Equationals:

*Tat ker ih nihm Limenarhleng.*  
 DEM girl 3S.POSS name Limenarhleng  
 'That girl's name is/was Limenarhleng.'

*Mai nihm Remikio.*  
 1S.POSS name Remikio  
 'My name is Remikio.'

(b) Statives: *ket* (corresponding to common Pacific pidgin *i gat*)

*Mahsmahs ket wan pohpohd.*  
 long.ago STAT ART couple  
 'Long ago there was a married couple.'

## 3 Ngatikese Pidgin and Pacific pidgins

As stated above, Ngatikese Pidgin cannot really be described as an English-based pidgin in that English contributes less than half of its lexicon and morphosyntactic markers. Indeed, there is a great deal of mixing of Ngatikese Pidgin and Ngatikese Ponapean in the data collected. Thus, the same speaker may use both Pidgin and Ponapean forms for the same taxon. For example:

|           |  |
|-----------|--|
| 'rain'    | <i>rein</i> (Eng. 'rain'); <i>kotou</i> (PON)        |
| 'hit'     | <i>hitim</i> (Eng. 'hit'); <i>kama</i> (PON)         |
| 'coconut' | <i>koknet</i> (Eng. 'coconut'); <i>ehring</i> (PON)  |
| FUT       | <i>kon (ko)</i> (Eng. 'going go'); <i>nehn</i> (PON) |
| REL       | <i>tat</i> (Eng. 'that'); <i>me</i> (PON)            |

This may simply reflect a situation in which Ngatikese Pidgin is not in regular use, leading to code mixing due to imperfect recall of the Pidgin forms. On the other hand it may be a regular feature of the language as the Ngatikese Pidgin pronominal system is obviously English-based with singular pronouns (including possessives), while with plurals and duals the Ngatikese Ponapean forms predominate, for example: *mehn* 1D/PL.EXC, *re* 3DL/PL. In fact

the only non-singular English-derived pronominal forms are: *yumih* (Eng. 'you and me'), 1DL.INC and *ohlou* (Eng. 'all of you') 2DL/PL.

Ngatikese Pidgin is unintelligible to other Pacific pidgin speakers without a knowledge of Ponapean, so significant is the role and proportion of Ngatikese Ponapean morphosyntactic markers and lexicon. Most striking is the absence of the relators *long* and *blong*, and the suffix *-fela* with pronominal forms. On the other hand, fundamental Pacific pidgin items such as *olsem*, *tumahs* and *bwambwai* are commonly encountered.

A number of features of Ngatikese Pidgin bear striking similarities to early New South Wales Pidgin (Troy 1995). Most striking are the possessives (e.g. *hi nihm* 'his name', as opposed to, for example, Bislama *nem blong em*), and the future tense introduced by *kon ko*, as opposed to *bambai*, which retains its 19th century meaning of 'soon, presently'. Also striking is the use of the transitive marker *-it*, as in *teikit* 'take', which co-occurs with *-im*, as it does in the New South Wales pidgin of the 1820s and 1830s. Given the fact that Ngatikese Pidgin has its origins in an event which took place in 1837, and that Ngatik (Sapwuahfik) has had little contact with other Pacific islands since the demise of the whaling trade, as opposed to the constant contacts with Sydney during the early years (Tryon & Charpentier, in prep.), it is perhaps not too surprising that some features of Ngatikese Pidgin mirror features of the long-extinct New South Wales Pidgin.

#### 4 Ngatikese Pidgin texts

##### Text 1: The origin of Paina Island

*Mahsmahs ket wan pohpohd me nainiki*  
 Long.ago there.was a couple REL have  
 Once upon a time there was a couple who had

*wan serhpein. Ih neim Limenarhleng. Tat*  
 a daughter 3S name Limenarhleng that  
 a daughter called Limenarhleng. That

*ker ih-te ne-rha serhpein. Wan teh*  
 girl 3S-only CL-3DL daughter. One day  
 girl was their only daughter. One day

*tat men i tat women tel ne-rha serhpein-o*  
 that man and that woman tell CL-3DL daughter-DEM  
 that man and woman (that couple) told their daughter

*tat irha kon ko laid oh tat serhpein en ahpw*  
 that 3DL FUT go fishing and that daughter too really  
 that they were going to go fishing and that the daughter should

*kilang piht me irha kon palang-wei pahn*  
 observe pandanus REL 3DL FUT dry-out in  
 look after the pandanus that they were drying in the

*ketpin. Irha ov en ih prokap wete. Tat serhpein*  
 sun 3DL off and 3S break.up weather that girl  
 sun. They went off and the weather became inclement. The daughter

*ih vikit wat irha pwang-o, en piht kau ih wet*  
 3S forget what 3DL say-DEM and pandanus DEM 3S wet  
 forgot what they told her, and the pandanus became wet.

*Tat pohpwohd ih pwur, en ket mat iang ne-rha*  
 That couple 3S return and get mad with CL-3DL  
 The couple returned and became angry with their

*serhpein-o oh irha kaus-la. Tat serhpein erhi ko we.*  
 daughter-DEM and 3DL banish-away that girl thus go away  
 daughter and banished her. So the daughter went away.

*Ih sapal-sang Ngetik, ih kohkoh-da-la nan sehd oh*  
 3S walk-from Ngatik 3S go-up-away through lagoon and  
 She walked away from Ngatik, went on up through the lagoon and

*ih vain wan ering. Ih teik tat koknet wawa-la*  
 3S find a ripe.coconut 3S take that coconut carry-away  
 she found a ripe coconut. She took the coconut with her

*oh vain wan lepinpik. Ih teik tat ering ih*  
 and find a sandbar 3S take that coconut 3S  
 and (then) she discovered a sandbar. She took the ripe coconut and

*saripidi. Tat serhpein ih mimi nan tat*  
 bury.it that girl 3S stay on that  
 buried it. The girl remained on that

*lepinpik-o. Tat ering ih wes. Ih tat ering*  
 sandbar-DEM that coconut 3S sprout 3S that coconut  
 sandbar. The ripe coconut sprouted. It was that ripe coconut

*tat wiahda tat deke nihm Paina.*  
 that form that island name Paina  
 which formed the island of Paina.'

## Text 2: The flying men of Ngatik

*Longtaim tu lahp, tu lahp irha pilahn-da*  
 Long.ago two friends two friends 3DL plan-INCHO  
 'Long ago two friends planned to

*irha kon ko Pohnpei. Irha kon ko al sika,*  
 3DL FUT go Ponape 3DL FUT go get tobacco  
 go to Ponape. They were going to go and get some tobacco.

*Irha pilahn-da irha kon pihrh dahdo Pohnpei;*  
 3DL plan-INCHO 3DL FUT fly up.to Ponape  
 They planned to fly up to Ponape;

*ansou-o dene nading iet sompihrh, rhe neve*  
 time-DEM it.said not yet aeroplane 3DL NEG  
 at that time they say that there no planes yet, they could not

*kak pihrh, irh rhe pilahn-da me rhe kon*  
 can fly 3DL 3DL plan-INCHO REL 3DL FUT  
 fly, they planned to

*koh-dala Pohnpei pwain-da kene-rha tipakerh.*  
 come-there Ponape find-PERF CL-3DL tobacco  
 come here to Ponape to get their tobacco.

*irha pwur-di-do wa-di-do kene-rha tipakerh, irha*  
 3DL return-CA-DEIC carry-CA-DEIC CL-3DL tobacco 3DL  
 They would then bring their tobacco back (home)

*koh-do net-ki ale-ki, ne-rha; irha kon oni teik*  
 come-DEIC sell-INST barter-INST CL-3DL 3DL FUT only take  
 and come and sell it, barter it; they would only take

*malek en pwihk ime; irha kon teik-ki tipakerh*  
 chicken and pig only 3DL FUT take-INST tobacco  
 fowls and pigs for it; they were going to take the tobacco

*me irha nehn wa-di-do. Irha ko dou-da nan wan*  
 REL 3DL FUT carry-CA-DEIC 3DL go climb-up in a  
 that they would bring back home. They went and climbed up a

*mahi. wan lahp-o ih pwa-ng wan lahp-o: yu*  
 breadfruit one friend-DEM 3S say-to one friend-DEM 2S  
 breadfruit tree. One man said to the other: "You

*kon weit, ai kon pihrh-da-la lel Pohnpei, mahs*  
 FUT wait 1S FUT fly-up-there to Ponape first  
 wait, I am going to fly up to Ponape, but first of all

*i nen pil mahs raon pohn Ngatik tu taim.*  
 1S FUT also first go.around over Ngatik two times  
 I am going to fly around over Ngatik twice.

*Ih ai kon raon-do, te kita kon wia*  
 then 1S FUT round-DIR then 1DL FUT do  
 I will go around and then we are going to make

*wan pihpihrh-la karhos ie. E lahp-o*  
 a fly-there together DIR one friend-DEM  
 a flight there together. One man,

*lahp-o ie mwomwon pihrh, ih samp en lus*  
 friend-DEM DIR try.to fly 3S jump and jump  
 that first man attempted to fly; he jumped and

*e pah pwupw-di nan tepin tat mahi;*  
 3S sudden fall-down to base that breadfruit  
 he fell straight down to the bottom of the breadfruit tree;

*ih la e rheirhei-peseng lipwongmas.*  
 3S go 3S pallid-DIR unconscious  
 he went all white; he was unconscious.'



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# 22 *Proto Awyu-Dumut phonology II*

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C.L. VOORHOEVE

## 1 Introduction

The Awyu–Dumut family of languages is a group of closely related languages extending over a large part of the lowlands of south-east Irian Jaya (see map). There are seven known member languages: Syiaxa/Yenimu,<sup>1</sup> Axu, Pisa, Kaeti, Yonggom-Wambon, Digul-Wambon, and Kombai. The closest relatives of the Awyu–Dumut family seem to be two small neighbouring languages, Sawuy in the west and Korowai in the north. All other languages surrounding them – those of the Asmat, Ok, Marind and Kayagar families – are at best only distantly related.

The first to make a study of languages of the Awyu–Dumut family was the Dutch Roman Catholic missionary P. Drabbe who, between 1950 and 1959, published grammatical sketches of various lengths on Syiaxa, Pisa, Axu, Kaeti and Yonggom-Wambon<sup>2</sup> (Drabbe 1950, 1957, 1959). Because of the numerous lexical and grammatical similarities between them, Drabbe considered them to be dialects of one language, which he labelled the Awyu language.

Drabbe's data formed the input to one of the earliest applications of the method of comparative linguistics to Papuan languages, Alan Healey's (1970) *Proto-Awyu-Dumut phonology*, published in a festschrift for Arthur Capell. In this article Healey argued that Drabbe's "Awyu dialects" are in fact closely related languages which fall into two groups, labelled by him the Awyu and Dumut groups. His Awyu group comprised at least three languages: Syiaxa, Pisa and Axu.<sup>3</sup> The Dumut group had at least two members: Kaeti and

- 
- 1 The name refers to the two almost identical dialects which make up this language. In the remainder of this article I shall simply refer to it as Syiaxa. The letter *x* stands for a velar fricative which is voiced intervocalically and unvoiced in other positions.
  - 2 Called Wambon by Drabbe. Yonggom-Wambon is the name used by L. de Vries (1989) to distinguish it from its northern neighbour Digul-Wambon.
  - 3 Healey included two more languages in this group: Airo–Sumaxage and Kotogüt. Airo–Sumaxage, spoken to the south-west of Pisa in the Peru River area, is reported to be an Awyu language by Gajdusek (in: Simmons et al. 1967). Actual language data however were and still are not available so we do not know whether we have to do with a dialect of Pisa or a separate member of the Awyu group. The inclusion of Kotogüt seems to rest on a

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Canberra: Pacific Linguistics, 2000.

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Yonggom-Wambon.<sup>4</sup> He further reconstructed the phonologies of Proto Awyu, Proto Dumut and their mother language Proto Awyu–Dumut as well as a large number of vocabulary items in the three protolanguages. His main data base was the 430-item comparative word list which Drabbe (1959) added to his study of Kaeti and Yonggom-Wambon.<sup>5</sup>

After Healey's article nothing new appeared on the Awyu–Dumut languages until almost 20 years later. Fieldwork conducted by L. and R. de Vries in the upper Digul area between 1983 and 1989 resulted in short grammars of Digul-Wambon and Kombai (de Vries 1989) and a morphology of Digul-Wambon (de Vries & de Vries 1992). De Vries' work shows that Digul-Wambon belongs to the Dumut group of languages. The position of Kombai within the family is still uncertain. Lexicostatistical evidence suggests it could be included in the Dumut group, as is shown in Table 1:

**Table 1:** Lexicostatistical evidence for the subgrouping of the Awyu–Dumut language family

|    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|
| Pi | 52 |    |    |    |    |    |
| Ax | 55 | 68 |    |    |    |    |
| Ka | 32 | 33 | 33 |    |    |    |
| Wy | 32 | 35 | 34 | 62 |    |    |
| Wd | 34 | 36 | 34 | 51 | 50 |    |
| Kb | 30 | 32 | 30 | 40 | 38 | 36 |
|    | Sy | Pi | Ax | Ka | Wy | Wd |

Sy = Syiaxa, Pi = Pisa, Ax = Axu, Ka = Kaeti, Wy = Yonggom-Wambon,  
Wd = Digul-Wambon, Kb = Kombai

However, there is no clear phonological or lexical evidence which supports this. For the time being therefore it will be classified as a separate member of the family. The internal structure of the Awyu–Dumut family is then as follows:

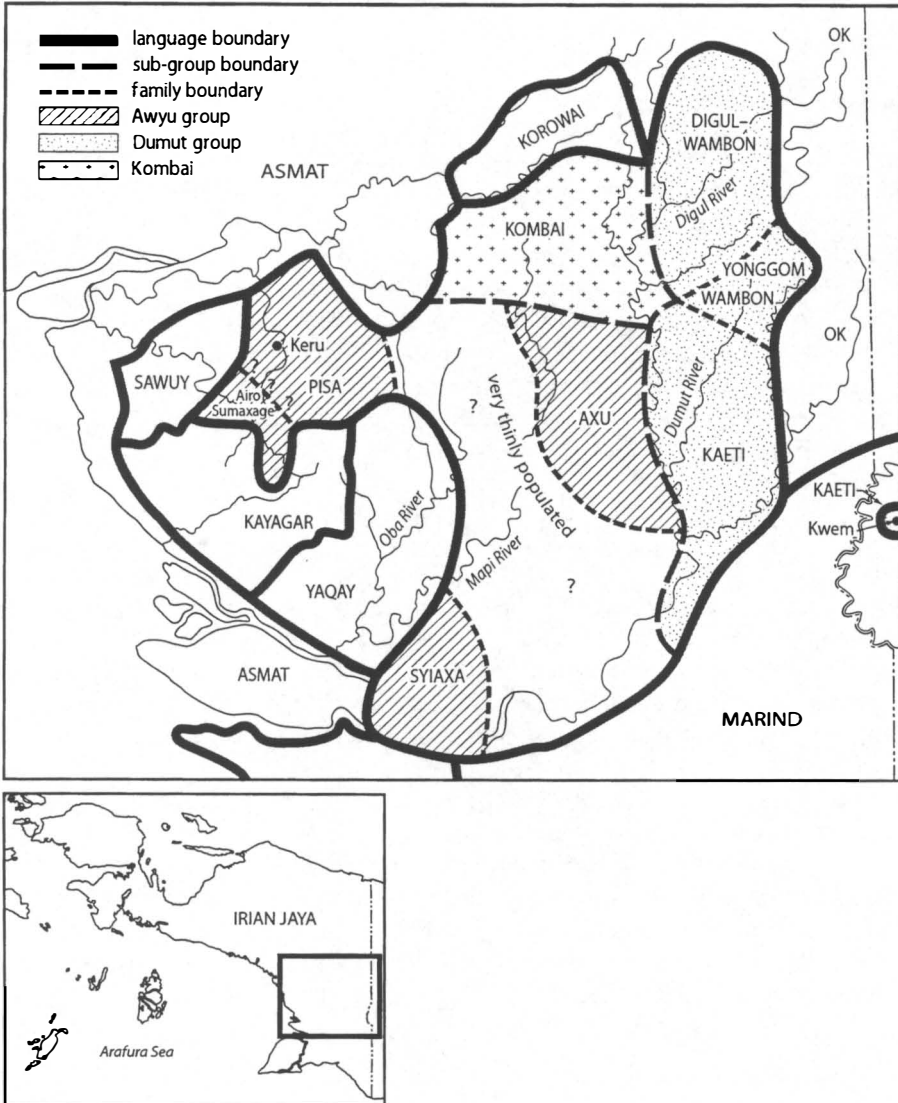
**Table 2:** The internal structure of the Awyu–Dumut Family

| Awyu group | Dumut group    | Isolate |
|------------|----------------|---------|
| Syiaxa     | Kaeti          | Kombai  |
| Pisa       | Yonggom-Wambon |         |
| Axu        | Digul-Wambon   |         |

misinterpretation of a short reference to it in Drabbe (1959) who mentions it as the name used by the Kaeti speakers for the languages spoken to the north of them, i.e. Yonggom-Wambon and Dumut-Wambon.

- 4 Healey included a third language, Wanggom, in this group on the basis of a reference to it in Drabbe (1959:5). Recent research by de Vries has identified Wanggom as a dialect of Kombai (de Vries 1989:4). In addition Healey used two word lists taken in Kwem village, a Kaeti speaking enclave across the border with Papua New Guinea. One of these was collected by the present author.
- 5 In addition Healey used two word lists taken in Kwem village, a Kaeti-speaking enclave across the border with Papua New Guinea. One of these was collected by the present author.

The present paper takes a second look at Proto Awyu–Dumut phonology, taking into account the new data which have become available. While in this respect its scope is wider than that of Healey’s article, it is narrower in that it focuses on the consonants only, and no attempt is made to present a list of all possible vocabulary reconstructions. It further offers a picture of the Proto Awyu–Dumut consonant system which differs in detail from the one drawn up by Healey.



**Map:** The Awyu–Dumut language family and surrounding languages

In the following, first the consonants of Proto Awyu will be reconstructed (§2); next come the Proto Dumut consonants (§3). The reconstructed consonants of Proto Awyu and Proto Dumut plus the consonants of Kombai form the input for the reconstruction of Proto Awyu–Dumut consonants (§4). It should be noted that the label Proto Awyu–Dumut is used here for the mother language of the whole Awyu–Dumut family, not just of the Awyu and Dumut groups. In §5, a selected corpus of comparative data is given, with footnotes, and is followed by a list of bibliographical references.

## 2 The Awyu Group

### 2.1 Overview

The Awyu Group has at least three member languages: Syiaxa, Axu,<sup>6</sup> and Pisa. As mentioned above, Airo-Sumaxage is a possible fourth member but data in this language are lacking.

Axu, Pisa and Syiaxa all have the phonemes /p, t, k, b, d, g, f, s, x, m, n, w, y; i, u, e, o, a/.<sup>7</sup> In addition, Syiaxa and Pisa have a phoneme /r/, and Axu and Pisa have a high rounded front vowel /i/. In Pisa and Axu no consonants except /n/ occur in word-final position. This holds for the great majority of Syiaxa vocabulary as well, but in this language a few instances of word-final /t, k, s/ and /m/ do occur. So far no comparative evidence has come up to suggest that Syiaxa has retained consonants in word-final position that were lost in the other two languages. However, as we shall see below, it has retained a few previously word-final consonants as medial consonants by adding a vowel to them (see §5: 8, 41, 47).

### 2.2 The Proto Awyu consonants

In the following, Proto Awyu (PA) consonants will be reconstructed on the basis of their reflexes in the daughter languages. Syiaxa will usually be represented by the Syiaxa dialect except when the proper reflex is not found in this dialect but in Yenimu (see footnote 1). In the same way, Pisa will be represented by the variant noted down by Drabbe, but occasionally data collected by the present author in the Pisa-speaking village of Keru will be used to complement those of Drabbe.

A protoconsonant is considered established if there are at least three valid sets of correspondences to support it. If supported by only two sets, or one, the reconstruction is tentative. To illustrate the sound correspondences presented below a selected part of the data base is given in the comparative word list in §5. The bracketed cross-references after each set of correspondences refer to the numbered items in this list. Language names are abbreviated as follows: Ax = Axu, Pi = Pisa, Sy = Syiaxa, PA = Proto Awyu. I, M, F stand for word-initial, word-medial and word-final position.

<sup>6</sup> In older literature the name *Jair* is sometimes used.

<sup>7</sup> In Syiaxa and Axu word-initial voiced stops have a prenasalised allophone when the preceding word ends in a vowel. /s/ has an alveopalatal allophone [s] preceding high front vowels and an affricate allophone [tʃ] in word-initial position. Both allophones are rare. /x/ is voiced intervocally in Axu and Syiaxa. Axu, Pisa /n/ in word-final position is realised as nasalisation of the preceding vowel ([ã] = /an/); /r/ is a flap except in the Yenimu dialect of Syiaxa, where it has flapped and lateral allophones.

- |    |          |          |          |               |                            |
|----|----------|----------|----------|---------------|----------------------------|
|    | Ax       | Pi       | Sy       |               |                            |
| 1. | <i>p</i> | <i>p</i> | <i>p</i> | PA * <i>p</i> | I [21,60,71,79]; M [13,52] |

Only two sets with medial /p/ have been noted.

- |    |          |          |          |               |                                    |
|----|----------|----------|----------|---------------|------------------------------------|
|    | Ax       | Pi       | Sy       |               |                                    |
| 2. | <i>t</i> | <i>t</i> | <i>t</i> | PA * <i>t</i> | I [2,22,51]; M [43,66,78]          |
|    | <i>s</i> | <i>s</i> | <i>t</i> |               | I [3,31,59,72]; M [5,19,62,87,101] |

The first set is found preceding /a/, /o/; the second set precedes any of the other vowels.

- |     |          |          |          |               |  |
|-----|----------|----------|----------|---------------|--|
| 3.  | Ax       | Pi       | Sy       | PA * <i>k</i> | I [16,26,27,36,41,43,63,83,106]<br>M [16,57,86,99] |
|     | <i>k</i> | <i>k</i> | <i>k</i> |               |  |
| 4.  | Ax       | Pi       | Sy       | PA * <i>b</i> | I [1,7,17,42,80,81]; M [48,50,90]                  |
|     | <i>b</i> | <i>b</i> | <i>b</i> |               |  |
| 5.  | Ax       | Pi       | Sy       | PA * <i>d</i> | I [11,49,50,77]; M [1,11,46,63,76,93]              |
|     | <i>d</i> | <i>d</i> | <i>d</i> |               |  |
| 6.  | Ax       | Pi       | Sy       | PA * <i>g</i> | I [6,61,108]; M [2,7,17,28,72,80,98,105]           |
|     | <i>g</i> | <i>g</i> | <i>g</i> |               |  |
| 7.  | Ax       | Pi       | Sy       | PA * <i>f</i> | I [69,78,85]; M [15,24,106]                        |
|     | <i>f</i> | <i>f</i> | <i>f</i> |               |  |
| 8.  | Ax       | Pi       | Sy       | PA * <i>s</i> | I [30,36,67]; M [25,71,96]                         |
|     | <i>s</i> | <i>s</i> | <i>s</i> |               |  |
| 9.  | Ax       | Pi       | Sy       | PA * <i>x</i> | I [20,48,62,66,82,103]; M [9,12,17,32,40,92,104]   |
|     | <i>x</i> | <i>x</i> | <i>x</i> |               |  |
| 10. | Ax       | Pi       | Sy       | PA * <i>m</i> | I [17,29,34,47,93,102]; M [55,79,95,96,99]         |
|     | <i>m</i> | <i>m</i> | <i>m</i> |               |  |
| 11. | Ax       | Pi       | Sy       | PA * <i>n</i> | I [54,65,94,105]; M [67,75,83]                     |
|     | <i>n</i> | <i>n</i> | <i>n</i> |               | F [6,9,10,15,16,24,26,33,39,48,62,107]             |
|     | <i>n</i> | <i>n</i> | <i>∅</i> |               |  |

Word-final /n/ in Ax and Pi occurs as a nasal consonant only in certain phonological environments: when the next word begins with a vowel, [n] occurs; when the next word begins with a voiced stop the nasal is homorganic with the following consonant: (*n#d*, *m#b*, *ŋ#g*). When followed by a pause it is realised as nasalisation of the preceding vowel. Thus, [gō] = /gon/ etc.

- |     |          |          |          |               |  |
|-----|----------|----------|----------|---------------|--|
| 12. | Ax       | Pi       | Sy       | PA * <i>r</i> | I [9,11,14,24,44,58,84,100,107];<br>M [22,31,36,42,97] |
|     | <i>∅</i> | <i>r</i> | <i>r</i> |               |  |
| 13. | Ax       | Pi       | Sy       | PA * <i>w</i> | I [55,57,65,76,87,90]; M [8]                           |
|     | <i>w</i> | <i>w</i> | <i>w</i> |               |  |
| 14. | Ax       | Pi       | Sy       | PA * <i>y</i> | I [4,8,12,15,39,92,95,101]                             |
|     | <i>y</i> | <i>y</i> | <i>y</i> |               |  |

The only case of medial \**y* is in a probable loan word [21].

### 2.3 Summary

Proto Awyu had 14 consonant phonemes:

|           |           |           |
|-----------|-----------|-----------|
| <i>*p</i> | <i>*t</i> | <i>*k</i> |
| <i>*b</i> | <i>*d</i> | <i>*g</i> |
| <i>*f</i> | <i>*s</i> | <i>*x</i> |
| <i>*m</i> | <i>*n</i> |           |
|           | <i>*r</i> |           |
| <i>*w</i> | <i>*y</i> |           |

No consonants other than /n/ occurred in word-final position; the evidence for medial /w/ and /y/ is scanty.

## 3 The Dumut Group

### 3.1 Overview

There are three Dumut<sup>8</sup> languages: Digul-Wambon, Yonggom-Wambon, and Kaeti. They all have the phonemes /p, t, k, b, d, g, m, n, r, w, y; a, e, i, o, u/. In addition, Digul-Wambon and Yonggom-Wambon have /s/, Digul-Wambon has /v, x, h and j/ and Kaeti a sixth vowel /ü/.<sup>9</sup>

/p/ occurs in word-medial and word-final position in Digul-Wambon but is restricted to word-final position in Yonggom-Wambon and Kaeti. /t, k, m, n/ occur in all positions; the other consonants do not occur word-finally. Of these, /h/ and /j/ are restricted to word-initial position and /x/ occurs only word-medially.

### 3.2 The Proto Dumut consonants

In the sets of correspondences presented below, Kaeti and Yonggom-Wambon are represented by the varieties described by Drabbe except for a few cases in which gaps in the Kaeti data were filled by Kwem data collected by myself. The Digul-Wambon data are from de Vries (1989) and de Vries and de Vries-Wiersma (1992 and pers. comm.)<sup>10</sup> The language names have been abbreviated as follows: Wd = Digul-Wambon; Wy = Yonggom-Wambon; Ka = Kaeti.

8 The name Dumut was chosen by Healey because the speakers of Kaeti and Yonggom-Wambon live on the Dumut River, also known as the Mandobo. I have taken the group name Dumut to include Digul-Wambon as well.

9 The voiceless stops /p, t, k/ are unreleased in word-final position preceding a pause. Between vowels, /k/ is voiced. The voiced stops are always prenasalised. /r/ is a flap; in Digul-Wambon it alternates freely with an alveolar lateral [l]. /s/ in word-initial position is a voiceless alveolar affricate [tʰs] in Digul-Wambon (and occasionally in Yonggom-Wambon and Kaeti as well), otherwise it is a voiceless alveolar fricative. /v/ is a voiced bilabial fricative, /j/ a voiced palato-alveolar affricate, /x/ a voiced velar fricative [g] and /h/ a voiceless glottal fricative. /ü/ finally is a rounded high front vowel.

10 I am much indebted to Lourens de Vries for providing me with a lot of lexical data which have not been included in his published work.



|    | Wd       | Wy       | Ka       |    |            |   |
|----|----------|----------|----------|----|------------|---|
| 1. | <i>p</i> | <i>p</i> | <i>p</i> | PD | * <i>p</i> | F [2,31,36,44,45,50,51,54,62,91,92, 105,108]<br>I [69,78,85,98]<br>M [15,106] |
|    | <i>h</i> | <i>∅</i> | <i>∅</i> |    |            |   |
|    | <i>w</i> | <i>w</i> | <i>∅</i> |    |            |   |

The sets for I and M positions correspond to /f/ in the Awyu languages and Kombai. In one unexplained case the Ka reflex of initial \**p* is /w/.<sup>11</sup> Ka *wado*, Wy *adoy* (Sy *fodo*) 'bird of paradise'. Medial /*p*/ in Wd seems to be a new introduction and the result of morphophonemic processes which postdate the PD stage. Possibly loaning played a role as well.<sup>12</sup>

|    | Wd       | Wy       | Ka       |    |            |  |
|----|----------|----------|----------|----|------------|--|
| 2. | <i>t</i> | <i>t</i> | <i>t</i> | PD | * <i>t</i> | I [2,19,51,79]; M [78,82]; F [4,7,12,20,41,61,<br>68,82,90,97]<br>I [3,31,59,75]; M [68] |
|    | <i>s</i> | <i>t</i> | <i>t</i> |    |            |  |

The two series appear to be in complementary distribution: \**t* > Wd /*s*/ before a front vowel (/i, e/).

|    | Wd       | Wy       | Ka       |    |            |  |
|----|----------|----------|----------|----|------------|--|
| 3. | <i>k</i> | <i>k</i> | <i>k</i> | PD | * <i>k</i> | I [20,26,36,43,63,82,83,97,103,106]<br>F [46,58,75,104]<br>M [9,45,57,58,64] |
|    | <i>x</i> | <i>k</i> | <i>k</i> |    |            |  |

|    | Wd       | Wy       | Ka       |    |            |                      |
|----|----------|----------|----------|----|------------|----------------------|
| 4. | <i>b</i> | <i>b</i> | <i>b</i> | PD | * <i>b</i> | I [21,68,81]; M [90] |

In the data on hand there are only two sets with Wd /*b*/ in medial position.

|    | Wd       | Wy       | Ka       |    |            |  |
|----|----------|----------|----------|----|------------|--|
| 5. | <i>d</i> | <i>d</i> | <i>d</i> | PD | * <i>d</i> | I [46,49,50,77]; M [34,43,63]          |
|    |          |          |          |    |            |  |
| 6. | <i>g</i> | <i>g</i> | <i>g</i> | PD | * <i>g</i> | I [6,60,61,108]; M [2,28,66,72,98,105] |
|    |          |          |          |    |            |  |
| 7. | <i>s</i> | <i>s</i> | <i>t</i> | PD | * <i>s</i> | I [22,27,30,89,96]                     |

There is some external evidence for PD \**s* in word-medial position; see §4.2, set 7.

|    | Wd       | Wy       | Ka       |    |            |   |
|----|----------|----------|----------|----|------------|---|
| 8. | <i>m</i> | <i>m</i> | <i>m</i> | PD | * <i>m</i> | I [7,29,50,52,66,74,94]; M [52,96,97, 99]; F [6,10] <sup>13</sup> |
|    |          |          |          |    |            |   |
| 9. | <i>n</i> | <i>n</i> | <i>n</i> | PD | * <i>n</i> | I [12,54,65,105]; M [33,83,94]; F [21, 39,52,59,95,107]           |

<sup>11</sup> Ka *werik* 'ladder' corresponding with Sy *furi*, Pi *afiri* and Ax *fike* < \**firike* seems to be a loan word.

<sup>12</sup> Two instances of intervocalic /*p*/, one in Wy and one in Ka, occur in suspected loans. Wy *sapuk* 'tobacco' is an obvious loan; Ka *apap* 'butterfly' could be a loan from one of the Awyu group languages since Wy and Kb have forms with /*w*/: Wy *awo-buruy*, Kb *awayo*.

<sup>13</sup> A correspondence set /*m* : *m* : *n*/ can be found in [24, 26 and 79]. It concerns here a verb stem-final consonant which, at least in Kaeti, is always followed by an affix. The appearance of *n* in the Kaeti forms is due to Drabbe's decision to give in his word list the 'primary stems' of the Kaeti verbs in which the /*n*/ seems to be an artefact of his analysis. The 'secondary stems' have /*m*/ instead of /*n*/ . It should be noted that in Kaeti word-final /*m*/ and /*n*/ sometimes alternate (Drabbe 1959:5).

|     | Wd       | Wy       | Ka       |               |   |   |
|-----|----------|----------|----------|---------------|---|---|
| 10. | <i>l</i> | <i>r</i> | <i>r</i> | PD * <i>r</i> | I | [8,24,40,44,47,58,88,91,107];<br>M [19,22,31,36,42,50,59,60,95] |

|     | Wd       | Wy       | Ka         |               |   |                        |
|-----|----------|----------|------------|---------------|---|------------------------|
| 11. | <i>w</i> | <i>w</i> | <i>w,∅</i> | PD * <i>w</i> | I | [34,57,64,90]; M [106] |

There are only two sets supporting PD \**w* in medial position, 'wind' [106]<sup>14</sup> and 'white': Wd *kowalop*, Ka *koat* (+ Kb *xuwaru*). Word-initially both Ka /*w*/ and Ka ∅ were noted.

|     | Wd         | Wy       | Ka         |               |   |               |
|-----|------------|----------|------------|---------------|---|---------------|
| 12. | <i>y,∅</i> | <i>y</i> | <i>y,∅</i> | PD * <i>y</i> | I | [4,14,92,101] |

The little evidence there is suggests that PD \**y* was dropped before a front vowel in Wd and Ka.

### 3.3 Residual problems

So far it has not been possible to establish with certainty the provenance of Wd /*v*/ and /*j*/.

Digul-Wambon /*v*/:

There is a possibility that PD \**p* had fricative allophones in initial and medial position and that they are reflected by /*v*/ in Wd and ∅ in Ka – data in Wy are lacking. Facts supporting this view are (1) the complementary distribution of Wn /*v*/ and PD \**p*; (2) Wd final /*p*/ > /*v*/ if it becomes intervocalic as a result of affixation or compounding.<sup>15</sup> The comparative evidence however points in another direction: the possibility that /*v*/ has been introduced in loan words from Kombai:

Wd *javet* : Kb *rafe* 'upper arm'; Wd *avop* : Kb *yafo* 'who'; Wd *valim* : Kb *fale* 'curved, crooked'. Comparative evidence involving other languages of the Awyu–Dumut Family is lacking. If new evidence is found which establishes Wd /*v*/ as a reflex of PD \**p*, then PD \**f* will have to be posited on the basis of the correspondence sets for I and M in §3.2, No.1.

Digul-Wambon /*j*/:

There are only two cognate sets featuring Wd /*j*/: Wd *jat* : Wy *rat* : Ka *orat* (: Sy *ara*) 'light, not dark'; Wn *junop* : Ws *yun* : Ka *orün* (: PA \**ruN*, Kb *lü*) 'ulcer'[100]. In the latter set Ws *yun* could be a loan from its eastern neighbour Kati (a Lowland-Ok language) which has *yin*. They suggest a PD \**j* and a PAD \**j* which merged with \**r* in all daughter languages except Wd.

<sup>14</sup> Note that Ka *kiow* could have come from *kiwoy* by metathesis of /*w*/ and /*y*/.

<sup>15</sup> In Wy and Ka however the morphophonemic alternation is between /*p*/ and /*w*/ and this, together with the near-complementary distribution of /*w*/ and /*p*/ in those languages, was for Healey sufficient reason to seriously consider the possibility of PD \**p* having reflexes /*w*/ and /*p*/ in Wy and Ka (Healey 1970:999, 1009).

### 3.4 Summary

Proto Dumut seems to have had at least 12 consonant phonemes:

|    |    |       |    |
|----|----|-------|----|
| *p | *t |       | *k |
| *b | *d | *(j?) | *g |
| *m | *n |       |    |
|    | *s |       |    |
|    | *r |       |    |
| *w | *y |       |    |

\*p, \*t, \*k, \*m and \*n occurred in all positions, the voiceless stops being unreleased in final position. Initially and medially \*p probably was a bilabial fricative. The voiced stops, /s/ and \*r did not occur word-finally; \*b, \*d and \*g were prenasalised. \*w and \*y seem to have been restricted to word-initial position. Whether or not \*j was part of the PD consonant inventory is still unclear.

## 4 Proto Awyu–Dumut

### 4.1 Introduction

As mentioned in §1 it is assumed that PAD had three daughter languages, PA, PD and the precursor of present-day Kombai. Before the consonant correspondences between these languages can be presented, an overview must be given of the phoneme inventory of Kombai.

Kombai has at least 12 consonant phonemes:<sup>16</sup> /b, d, g, j, m, n, f, x, l, r/<sup>17</sup> and /y/, and seven vowels: /a, e, i, ü, u, w/ and /o/.<sup>18</sup> In an earlier stage Kombai allowed at least /f, x, l, m/ and /n/ in word-final position. In present-day Kombai this is no longer the case, but the former final consonants reappear when words receive an affix.<sup>19</sup> In unaffixed words a trace of final /m/ and /n/ is left in nasalisation of the final vowel.<sup>20</sup>

### 4.2 The Proto Awyu–Dumut consonants

|    | Kb  | PD | PA |   |
|----|-----|----|----|---|
| 1. | f   | *p | *f | PAD *p I [69,78,98], M [15,106]           |
|    | ø/f | *p | ø  | F [31,36,44,50,51,53,54,55,91,92,105,108] |

<sup>16</sup> De Vries includes three more consonants in his description of Kombai phonology: two labialised velars, /gw/ and /xw/, and /h/ which he classifies as a semivowel, but the phonetic equivalent of which is unclear. There are no comparative data on /xw/ and /h/, but there is one instance of Kb /gw/ : Ka /gw/ : Ax, Pi, Sy /w/ that could point to the presence of labialised velar consonants in PAD (see §5, 87).

<sup>17</sup> /b, d/ and /g/ are prenasalised; /f/ is a bilabial fricative with voiced and unvoiced allophones, and /x/ a velar fricative with voiced and unvoiced allophones.

<sup>18</sup> /ü/ is a rounded high-front vowel, /u/ an unrounded high-back vowel.

<sup>19</sup> Perhaps under other circumstances as well, but de Vries' treatment of this aspect of Kombai grammar is very sketchy and no more can be said about it here.

<sup>20</sup> For instance, *e* 'bird', *momo* 'uncle', *la* 'wife' when in certain syntactic constructions they receive a "connective" vowel (de Vries 1989:134, 135) > *el-o*, *momof-o*, *lan-o*. Nasalisation of final vowels as a result of the loss of a final nasal is also found in the languages of the Awyu group; see §2.2, set 11.

PA \**p* appears to have been an innovation, as words in the Awyu languages containing its reflex do not have cognates outside the Awyu group.

- |    |          |            |                       |                |   |
|----|----------|------------|-----------------------|----------------|---|
|    | Kb       | PD         | PA                    |                |   |
| 2. | <i>r</i> | * <i>t</i> | * <i>t</i>            | PAD * <i>t</i> | I [2,3,31,51,59,72], M [3,48,62,78,87,101]  |
|    | ∅/l      | * <i>t</i> | ∅                     |                | F [3,4,20,41,49,61,72,82,90,98]             |
|    | Kb       | PD         | PA                    |                |   |
| 3. | <i>x</i> | * <i>k</i> | * <i>k</i> , <i>x</i> | PAD * <i>k</i> | I [20,26,36,41,48,62,63,82,83, 97,103,106], |
|    |          |            |                       |                | M [9,17,40,57,58]                           |
|    | ∅/x      | * <i>k</i> | ∅                     |                | F [46,58,75,86,104]                         |

In PA, the reflex of PAD \**k* is \**k* if it preceded /i, e, u, ü/ and \**x* if it was followed by /a, o/. The consonants /x/ and /k/ must have been in complementary distribution in PA before they became separate phonemes by the introduction of /k/ and /x/ in environments in which they contrast.<sup>21</sup>

- |    |          |            |            |                |   |
|----|----------|------------|------------|----------------|---|
|    | Kb       | PD         | PA         |                |   |
| 4. | <i>b</i> | * <i>b</i> | * <i>b</i> | PAD * <i>b</i> | I [18,21,42,53,80,81], M [35,48,90]       |
|    | Kb       | PD         | PA         |                |   |
| 5. | <i>d</i> | * <i>d</i> | * <i>d</i> | PAD * <i>d</i> | I [49,50,77], M [23,33,46,63]             |
|    | Kb       | PD         | PA         |                |   |
| 6. | <i>g</i> | * <i>g</i> | * <i>g</i> | PAD * <i>g</i> | I [6,56,61,108], M [2,28,70,72,80,98,105] |
|    | Kb       | PD         | PA         |                |   |
| 7. | <i>r</i> | * <i>s</i> | * <i>s</i> | PAD * <i>s</i> | I [30,89,96]; (M)                         |

Only one case of possible evidence for medial \**s* was found: Wy *asak*, PA \**aseka* 'thin'. Additional evidence for initial \**s* is Kb *rino*, Ka (Kwem) *tino*, PA \**sina* 'ashes'.

- |    |          |            |            |                |                                |
|----|----------|------------|------------|----------------|--------------------------------|
|    | Kb       | PD         | PA         |                |                                |
| 8. | <i>m</i> | * <i>m</i> | * <i>m</i> | PAD * <i>m</i> | I [17,29,102], M [26,50,96,97] |
|    | ~/m      | * <i>m</i> | * <i>n</i> |                | F [6,10,24,62,83]              |
|    | Kb       | PD         | PA         |                |                                |
| 9. | <i>n</i> | * <i>n</i> | * <i>n</i> | PAD * <i>n</i> | I [54,65,105], M [33,83,94]    |
|    | ~/n      | * <i>n</i> | * <i>n</i> |                | F [2,15,39,47,48,107]          |

In PA, word-final \**m* and \**n* of PAD merged into one, PA \**n*.

- |     |          |            |            |                |                             |
|-----|----------|------------|------------|----------------|-----------------------------|
|     | Kb       | PD         | PA         |                |                             |
| 10. | <i>l</i> | * <i>r</i> | * <i>r</i> | PAD * <i>r</i> | I [9,24,44,47,58,84,91,107] |
|     | <i>r</i> | * <i>r</i> | * <i>r</i> |                | M [22,31,36,42,86]          |

But: Kb *mali*, Pi (Keru) *mari* 'descend'. The three cases of Kb /r/ (31,36,86) all have /r/ followed by a back vowel (/o, u/). This suggests that the following vowel is the conditioning factor here.

<sup>21</sup> Healey (1970:1000,1001) noted that final PAD \**k* > PA \*∅ except in verb stems where it was retained. All PA daughter languages except Axu would have lost this stem-final *k*; PD would have lost final PAD \**k* in verb stems. I have serious doubts about his analysis of Axu "stem-final *k*" as part of the verb stem. To go into detail falls outside the scope of this paper.

|     | Kb | PD | PA |        |           |
|-----|----|----|----|--------|-----------|
| 11. | w  | *w | *w | PAD *w | I [57,90] |
|     | f  | *w | ?  |        | I [1,34]  |

In [1,34] Kb  $\emptyset$  is followed by /i/; there are no cognates in the Awyu group.

|     | Kb | PD | PA |        |                 |
|-----|----|----|----|--------|-----------------|
| 12. | yf | *y | *y | PAD *y | I [4,15,92,101] |

The only case of PAD \*y > Kb  $\emptyset$  is preceding a front vowel, just like PD \*y >  $\emptyset$  in Wd and Ka, see §3.2, set 12.

### 4.3 Summary

Twelve consonants can be reconstructed for PAD:

|    |    |    |
|----|----|----|
| *p | *t | *k |
| *b | *d | *g |
|    | *s |    |
| *m | *n |    |
|    | *r |    |
| *w | *y |    |

PAD \*p was an unreleased stop in word-final position; intervocalically it was a voiced bilabial fricative and word-initially it may have been a voiceless bilabial fricative or affricate. In Kombai and in the languages of the Awyu group it shifted to a fricative or was dropped; in the Dumut languages it shifted to w or h, or was dropped, in initial and medial positions.

PAD \*t has been attested in all positions. Probably it was in morphophonemic alternation with \*r, as it still is in the languages of the Dumut Group. In Kb it shifted to a flap or lateral, or was dropped. In the Awyu Group final \*t has been dropped. When preceding a high or front vowel PAD \*t probably had a fricative or affricate allophone which was passed on to PA and PD and finally merged with /s/ in Wd, Ax and Pi.

PAD \*k has been attested in all positions. It must have had a fricative allophone [x] at least when followed by /a/ or /o/. In PA this [x] attained phonemic status by spreading to other vocalic environments and the introduction of a new /k/ before /a/ and /o/. The same phonemic split occurred in Wn; there /x/ seems to have spread to all vocalic environments in medial position, attaining phonemic status before it spread to initial position.

PAD \*b, \*d and \*g, attested in initial and medial position, were prenasalised voiced stops, as they still are in Kombai and in the Dumut languages. In PA and its daughter languages the prenasalisation disappeared except in certain phonological environments (e.g. initial /b, d, g/ > /mb, nd, ng/ when preceded by a word-final vowel).

PAD \*s is well attested in initial position only. The change of \*s to /t/ in Kaeti suggests that PAD, PD initial \*s was an affricate [tʰ].<sup>22</sup>

<sup>22</sup> There is one case of what looks like a medial /s/:/t/ correspondence: Ws *kosep*, Ka *kotep* 'ashes' from an earlier \**kosep*. However there is comparative evidence in the Ok languages that Wy and Ka (or their immediate ancestor) borrowed the word from one of them, cf. Ngalum *kutep* 'fireplace', Telefol *kutap*, Faiwol *kutup* 'ashes'.

PAD \**m* is attested in all positions. In PA it merged with \**n* in word-final position although a few traces of it remain in the daughter languages in those cases in which a final consonant received an epenthetic vowel or was reinterpreted as medial, e.g. Ax *kinumi*- 'to sleep' < *kinum i*- [83]. The PD daughter languages retained /*m*/ in final position but in Ka there are some cases of alternation of final /*m*/ and /*n*/ (Healey 1970:1 005). In Kombai, word-final /*m*/ was replaced by nasalisation of the preceding vowel.

PAD \**n* is attested in all positions. In PA it was dropped in certain phonological environments (see §2.2, set 11), leaving a trace in the nasalisation of the vowel that preceded it. In Kombai, word-final /*n*/ was dropped altogether and the preceding vowel was nasalised.

PAD \**r*, attested in initial and medial position, may have had both flapped and lateral allophones as in its daughter language Wd. In Kombai, its reflex is a lateral; in the other Awyu–Dumut languages it is a flapped/ *r*/.

PAD \**w* and \**y* are attested in initial position only.

## 5 Comparative word list

In this list only cognate forms are given which underlie the sets of correspondences presented in §§2–4. A dash signals a non-cognate form; a question mark stands for a gap in the data; a blank indicates that no protoform can be reconstructed on the evidence.

Reconstructed forms are given for PA, PD and PAD. They are the forms reconstructed by Healey, with some minor changes in the consonants and, additionally, in the vowels if the new data seem to warrant such a change. Forms between brackets are not Healey's reconstructions but tentative reconstructions added on the basis of new data.

|     | 1.<br>arm <sup>23</sup> | 2.<br>armpit               | 3.<br>banana              | 4.<br>bird              | 5.<br>bite        | 6.<br>blood              |
|-----|-------------------------|----------------------------|---------------------------|-------------------------|-------------------|--------------------------|
| Ax  | <i>bedo</i>             | <i>togon</i>               | <i>sü</i>                 | <i>ii</i> <sup>24</sup> | <i>asi-</i>       | <i>gon</i>               |
| Pi  | <i>bida</i>             | <i>toxon</i> <sup>25</sup> | <i>su</i>                 | <i>yi</i>               | <i>asi-</i>       | <i>gon</i>               |
| Sy  | <i>bedo</i>             | <i>togo</i>                | <i>tu</i>                 | <i>yi</i>               | <i>ati-</i>       | <i>gon</i> <sup>26</sup> |
| Ka  | <i>it</i>               | <i>tagon-top</i>           | <i>tyut</i> <sup>27</sup> | <i>et</i>               | –                 | <i>gom</i>               |
| Wy  | <i>wit</i>              | <i>tago-top</i>            | <i>tiit</i>               | <i>yet</i>              | <i>atigo-</i>     | <i>gom</i>               |
| Wd  | –                       | –                          | <i>sit</i>                | <i>et</i>               | –                 | <i>gom</i>               |
| Kb  | <i>it</i>               | –                          | <i>rül</i>                | <i>el</i>               | –                 | –                        |
| PA  | * <i>bedo</i>           | * <i>togon</i>             | * <i>tu</i>               | * <i>yi</i>             | * <i>ati-</i>     | * <i>gon</i>             |
| PD  | * <i>wit</i>            | * <i>taagon</i>            | *( <i>tyut</i> )          | * <i>yet</i>            | * <i>ati(go)-</i> | * <i>gom</i>             |
| PAD | *( <i>wit</i> )         | * <i>togon</i>             | *( <i>tyut</i> )          | * <i>yet</i>            | * <i>ati-</i>     | * <i>gom</i>             |

<sup>23</sup> Glossed 'arm, hand' by Drabbe; Kb *it* is glossed 'hand'.

<sup>24</sup> *ii*: Drabbe's notation. Possibly a long vowel.

<sup>25</sup> The expected form is *togon*; in Keru the form *togo-di* was noted. In Wy and Wd the form is compounded with *top* 'hole'.

<sup>26</sup> One of the few words in Sy with a final nasal vowel.

<sup>27</sup> *tyut* was noted in Kwem village.

|     | 7.<br>bone                 | 8.<br>breadfruit           | 9.<br>break <sup>28</sup> | 10.<br>breast <sup>29</sup> | 11.<br>bring     | 12.<br>brother <sup>30</sup> |
|-----|----------------------------|----------------------------|---------------------------|-----------------------------|------------------|------------------------------|
| Ax  | <i>bigi</i>                | –                          | <i>axa fün-</i>           | <i>on</i>                   | <i>ade da-</i>   | <i>yoxo</i>                  |
| Pi  | <i>bagi</i>                | <i>yawo</i>                | <i>axa fun-</i>           | <i>on</i>                   | <i>radi de-</i>  | –                            |
| Sy  | <i>boge</i>                | <i>yuato</i> <sup>31</sup> | <i>raxa fu-</i>           | <i>ome</i>                  | <i>redmo de-</i> | <i>yaxa</i>                  |
| Ka  | <i>mirap</i> <sup>32</sup> | <i>raot</i>                | <i>rakamo-</i>            | <i>am</i>                   | –                | <i>anet</i>                  |
| Wy  | <i>mit</i>                 | <i>rawot</i>               | <i>rakaede-</i>           | <i>om</i>                   | <i>rap me-</i>   | <i>net</i>                   |
| Wd  | <i>mit</i>                 | ?                          | –                         | <i>om</i>                   | ?                | <i>net</i>                   |
| Kb  | –                          | <i>aluwo</i>               | –                         | <i>am</i>                   | <i>lefa me-</i>  | <i>nai</i>                   |
| PA  | <i>*bogi</i>               | <i>*yowot</i>              | <i>*raxafün-</i>          | <i>*om</i>                  | <i>*radi de-</i> | <i>*yaxo</i>                 |
| PD  | <i>*mit</i>                | <i>*rawot</i>              | <i>(*raka)</i>            | <i>*om</i>                  |                  | <i>*net</i>                  |
| PAD |                            | <i>*rawot</i>              | <i>(*raka)</i>            | <i>*am</i>                  | <i>(*rep me)</i> | <i>(*nait)</i>               |

|     | 13.<br>butterfly | 14<br>call    | 15.<br>canoe    | 16.<br>carry <sup>33</sup> | 17.<br>cheek     | 18.<br>chest   |
|-----|------------------|---------------|-----------------|----------------------------|------------------|----------------|
| Ax  | <i>apo</i>       | –             | <i>yofün</i>    | <i>kekun-</i>              | <i>moxo pe</i>   | <i>be-same</i> |
| Pi  | <i>apero</i>     | <i>ri-</i>    | <i>yefun</i>    | <i>kekun-</i>              | <i>moxo bagi</i> | <i>bie</i>     |
| Sy  | <i>apa</i>       | <i>ri-</i>    | –               | <i>akeku-</i>              | <i>moxo boge</i> | –              |
| Ka  | <i>apap</i>      | <i>yo-</i>    | <i>yoün</i>     | –                          | <i>amoka</i>     | <i>be-man</i>  |
| Wy  | –                | <i>yo-</i>    | –               | –                          | –                | <i>be-mit</i>  |
| Wd  | ?                | <i>yo-</i>    | –               | –                          | –                | ?              |
| Kb  | –                | <i>ya-</i>    | <i>yafu</i>     | –                          | ?                | <i>bema</i>    |
| PA  | <i>*aparo</i>    | <i>*ri-</i>   | <i>*yofün</i>   | <i>*kekun-</i>             | <i>*moxo</i>     | <i>(*bie)</i>  |
| PD  |                  | <i>*yo-</i>   | <i>(*yopün)</i> |                            |                  | <i>(*be)</i>   |
| PAD |                  | <i>(*yo-)</i> | <i>(*yopün)</i> |                            | <i>(*moka)</i>   | <i>(*be)</i>   |

28 'to break wood'. The expected Pisa form is *raxa*.

29 'woman's breast'. For Sy *ome* see note 31.

30 'elder brother'.

31 In *yuato*, like in *ome* [10], *kete* [41] and *moxo* [47] Syiixa seems to have retained an original final consonant by adding an epenthetic vowel.

32 Ka *mirap*: /t/ > /ɾ/ is a common morphophonemic change in the Dumut languages.

33 'carry on the shoulder'.

|     | 19.<br>climb   | 20.<br>cloud, sky          | 21.<br>coconut <sup>34</sup> | 22.<br>cold               | 23.<br>cook    | 24.<br>cry       |
|-----|----------------|----------------------------|------------------------------|---------------------------|----------------|------------------|
| Ax  | <i>osu-</i>    | <i>xuito</i>               | <i>peyo</i>                  | <i>tü</i>                 | –              | <i>ifi on-</i>   |
| Pi  | <i>su-</i>     | <i>xou</i>                 | <i>peyo</i>                  | <i>taru</i>               | <i>du-</i>     | <i>ife ru-</i>   |
| Sy  | <i>oto-</i>    | <i>xotu</i>                | <i>payo</i>                  | <i>toru</i>               | <i>nu-</i>     | <i>e fe ro-</i>  |
| Ka  | <i>törö-</i>   | <i>kut</i>                 | <i>bian</i>                  | <i>toru</i> <sup>35</sup> | <i>odü-</i>    | <i>run-</i>      |
| Wy  | <i>turu-</i>   | <i>kumut</i> <sup>36</sup> | <i>bian</i>                  | <i>saruy</i>              | <i>udo-</i>    | <i>rom-</i>      |
| Wd  | <i>matulo-</i> | <i>kut</i>                 | –                            | <i>salon</i>              | <i>nanu-</i>   | <i>lomo-</i>     |
| Kb  | –              | <i>ramoxöü</i>             | <i>biyo</i>                  | –                         | <i>adü-</i>    | –                |
| PA  | <i>*otu-</i>   | <i>*xuito</i>              | <i>*pæyo</i>                 | <i>*toru</i>              |                | <i>*efe ron-</i> |
| PD  | <i>*törö</i>   | <i>(*kut)</i>              | <i>*bian</i>                 | <i>(*toruy)</i>           | <i>*udü-</i>   | <i>*rom-</i>     |
| PAD |                | <i>(*koüt)</i>             | <i>(*biyon)</i>              | <i>*torüy</i>             | <i>(*audu)</i> | <i>*rom-</i>     |

|     | 25.<br>dark <sup>37</sup> | 26.<br>die   | 27.<br>dig               | 28.<br>dog   | 29.<br>drink | 30.<br>dry     |
|-----|---------------------------|--------------|--------------------------|--------------|--------------|----------------|
| Ax  | <i>asü</i>                | <i>kün-</i>  | <i>küo-</i>              | <i>yagi</i>  | <i>mi-</i>   | <i>so</i>      |
| Pi  | <i>asu</i>                | <i>kun-</i>  | <i>ko-</i>               | <i>agi</i>   | <i>mi-</i>   | <i>se</i>      |
| Sy  | <i>asu</i>                | <i>ku-</i>   | <i>ku-</i> <sup>38</sup> | –            | <i>mi-</i>   | <i>so</i>      |
| Ka  | –                         | <i>kün-</i>  | <i>to-</i>               | <i>aga</i>   | <i>mi-</i>   | <i>(tomap)</i> |
| Wy  | –                         | <i>kim-</i>  | <i>so-</i>               | <i>agai</i>  | <i>mi-</i>   | –              |
| Wd  | –                         | <i>kim-</i>  | <i>aso-</i>              | <i>agai</i>  | <i>ami-</i>  | <i>sok</i>     |
| Kb  | –                         | <i>xumo-</i> | <i>xüone-</i>            | –            | <i>mi-</i>   | <i>roxe</i>    |
| PA  | <i>*asü</i>               | <i>*kün-</i> | <i>*küo-</i>             | <i>*yagi</i> | <i>*mi-</i>  | <i>*so</i>     |
| PD  |                           | <i>*küm-</i> | <i>*so-</i>              | <i>*agai</i> | <i>*mi-</i>  | <i>(*sok)</i>  |
| PAD |                           | <i>*küm-</i> | <i>(*küo-)</i>           | <i>*agai</i> | <i>*mi-</i>  | <i>(*soke)</i> |

34 *Peyo, payo* in the Awyu languages could reflect a PA loan from a Marind language, cf. Yaqay *payo*, and the eastern neighbours of Marind: Moraori *poyo*, Yey *po*.

35 Form noted in Kwem village. One would expect the Wy and Wd forms to have initial /t/ instead of /s/.

36 See 'thunder' [97].

37 Also: 'night'.

38 Yenimu dialect: *kuo-*.



|     | 31.<br>ear                  | 32.<br>earth               | 33.<br>eat                   | 34.<br>egg <sup>39</sup> | 35.<br>elbow        | 36.<br>eye               |
|-----|-----------------------------|----------------------------|------------------------------|--------------------------|---------------------|--------------------------|
| Ax  | <i>suketo</i> <sup>40</sup> | <i>soxo</i> <sup>41</sup>  | <i>en-</i>                   | <i>mügo</i>              | –                   | <i>kio</i> <sup>42</sup> |
| Pi  | <i>surun</i> <sup>43</sup>  | <i>soxo</i>                | <i>nin/ade</i> <sup>44</sup> | <i>mugo</i>              | –                   | <i>kiri</i>              |
| Sy  | <i>turu</i>                 | <i>soxo</i>                | <i>e-</i>                    | –                        | –                   | <i>kerop</i>             |
| Ka  | <i>keretop</i>              | <i>itop</i>                | <i>*/ade-</i>                | <i>wedin</i>             | <i>i-gabun</i>      | <i>kerop</i>             |
| Wy  | <i>turutop</i>              | <i>itiwa</i> <sup>45</sup> | <i>en-</i>                   | –                        | <i>wi-gabin</i>     | <i>kerop</i>             |
| Wd  | <i>silutop</i>              | <i>ip</i>                  | <i>en/ade-</i>               | <i>wadin</i>             | –                   | <i>kelop</i>             |
| Kb  | <i>ruro</i>                 | <i>i</i>                   | <i>en/ade-</i>               | <i>idi</i>               | <i>i-gabii</i>      | <i>xoro</i>              |
| PA  | <i>*turun</i>               | <i>*soxo</i>               | <i>*en/ade-</i>              | <i>*mugo</i>             |                     | <i>*kerop</i>            |
| PD  | <i>*turutop</i>             | <i>*itiip</i>              | <i>*en/ade-</i>              | <i>(*wadin)</i>          | <i>(*wi-gabiin)</i> | <i>*kerop</i>            |
| PAD | <i>*turun</i>               | <i>(*ip)</i>               | <i>*en/ade-</i>              | <i>(*waidin)</i>         | <i>(*wi-gabiin)</i> | <i>*kerop</i>            |

|     | 37.<br>faeces           | 38.<br>father | 39.<br>fire   | 40.<br>fish   | 41.<br>flower             | 42.<br>fly       |
|-----|-------------------------|---------------|---------------|---------------|---------------------------|------------------|
| Ax  | <i>o</i>                | <i>eto</i>    | <i>yan</i>    | <i>axe</i>    | <i>ki</i>                 | <i>bun xo-</i>   |
| Pi  | <i>o</i>                | <i>bo</i>     | <i>yin</i>    | <i>axae</i>   | <i>ki</i>                 | <i>burun-</i>    |
| Sy  | <i>or</i> <sup>46</sup> | –             | <i>yido</i>   | <i>axae</i>   | <i>kete</i> <sup>47</sup> | <i>boro-</i>     |
| Ka  | <i>a</i>                | <i>eti</i>    | <i>in</i>     | <i>roka</i>   | <i>ket</i>                | <i>berena-</i>   |
| Wy  | <i>oy</i>               | <i>ati</i>    | <i>enop</i>   | <i>rakae</i>  | <i>ket</i>                | –                |
| Wd  | <i>?</i>                | <i>bap</i>    | <i>enop</i>   | <i>laxai</i>  | –                         | <i>bulup-</i>    |
| Kb  | <i>a</i>                | <i>are</i>    | <i>e</i>      | –             | <i>xe</i>                 |                  |
| PA  | <i>*or</i>              |               | <i>*yin</i>   | <i>*axae</i>  | <i>*ket</i>               | <i>*burun-</i>   |
| PD  | <i>*oy</i>              | <i>(*ati)</i> | <i>(*yen)</i> | <i>*rokae</i> | <i>*ket</i>               |                  |
| PAD | <i>*or</i>              | <i>(*ati)</i> | <i>*yin</i>   | <i>*rokai</i> | <i>*ket</i>               | <i>(*burun-)</i> |

<sup>39</sup> The forms in Ax and Pi have probable cognates in the Marind languages: Marind *magaf*, Yaqay *moqa*; those in the Dumut languages and Kombai link up with forms found in the Ok languages: *un*, *win*, *windi*.

<sup>40</sup> *suketo*: a compound of *su* < *\*turu* 'ear', *ke* < *kere* ('ear'? see the Ka form), and *to* < *\*top* 'hole', also found in the Ka, Wy and Wd forms.

<sup>41</sup> Axu and Syiixa also have the forms *mokan* and *moka* which almost certainly are loans from Marind languages, cf. Marind *makan*, Yaqay *moqon* 'earth, soil'.

<sup>42</sup> The full forms in Axu and Pisa are *kio-mogo*, *kiri-mogo*, i.e. they are compounds containing a second constituent *mogo* 'egg'.

<sup>43</sup> In the Keru variant of Pisa I noted the forms *surun* and *surum*, both with a final nasal consonant.

<sup>44</sup> Auyu verbs often have two to four suppletive stems which are tense/mood-linked. *ade-* ([ande]), noted in Keru, Kwem, Digul- Wambon and Kombai, is a future tense stem. Other stem forms noted are Kwem *ana*, Wd *na-*, Kb *na-* (imperative stem) and Kb *ne-*.

<sup>45</sup> The Kwem variant of Kaeti has *etiwa* 'earth', but *iwa* (< *ip+a*) in the utterance *mene iwa* 'this is earth'. The forms *etiwa*, *itiwa* therefore appear to be (old) compounds containing an unidentified constituent *et*, *it* also found in *itop*.

<sup>46</sup> An isolated case of final /r/ in Syiixa.

<sup>47</sup> See note 31.

|     | 43.<br>foot     | 44.<br>fruit | 45.<br>garden | 46.<br>give      | 47.<br>hair <sup>48</sup> | 48.<br>head    |
|-----|-----------------|--------------|---------------|------------------|---------------------------|----------------|
| Ax  | <i>kito</i>     | –            | –             | <i>edeox-</i>    | <i>mu</i>                 | <i>xaban</i>   |
| Pi  | <i>kito</i>     | <i>ro</i>    | –             | <i>edo-</i>      | <i>ron</i>                | <i>xaiban</i>  |
| Sy  | <i>kitu</i>     | <i>ro</i>    | –             | <i>ede-</i>      | <i>moxo</i>               | <i>xeiba</i>   |
| Ka  | <i>kodok</i>    | <i>rop</i>   | <i>yoküp</i>  | <i>dik-</i>      | <i>ron</i>                | <i>kebian</i>  |
| Wy  | <i>kodok</i>    | <i>rop</i>   | <i>yakip</i>  | –                | <i>ron</i>                | –              |
| Wd  | –               | <i>lop</i>   | <i>laxop</i>  | <i>dak-</i>      | <i>lon, muk</i>           | –              |
| Kb  | <i>xudo</i>     | –            | –             | <i>adia-</i>     | <i>xalo</i>               | <i>xabian</i>  |
| PA  | <i>*kito</i>    | <i>*ro</i>   |               | <i>*ede-</i>     | <i>*mox/mux</i>           | <i>*xaiban</i> |
| PD  | <i>*kodok</i>   | <i>*rop</i>  | <i>*yaküp</i> | <i>(*diak-)</i>  | <i>*ron, muk</i>          | <i>*kabian</i> |
| PAD | <i>(*kudok)</i> | <i>*rop</i>  |               | <i>(*adiak-)</i> | <i>*ron, muk</i>          | <i>*kaiban</i> |

|     | 49.<br>hear  | 50.<br>heart <sup>49</sup> | 51.<br>hole | 52.<br>hot      | 53.<br>house <sup>50</sup>   | 54.<br>I    |
|-----|--------------|----------------------------|-------------|-----------------|------------------------------|-------------|
| Ax  | <i>da-</i>   | <i>dübo</i>                | <i>to</i>   | <i>apufo</i>    | <i>busü</i>                  | <i>nu</i>   |
| Pi  | <i>da-</i>   | <i>duburo</i>              | <i>to</i>   | <i>apasio</i>   | <i>afaxain</i> <sup>51</sup> | <i>nu</i>   |
| Sy  | <i>da-</i>   | <i>dibo</i>                | <i>to</i>   | <i>apato</i>    | <i>afoxei</i>                | <i>no</i>   |
| Ka  | <i>dot-</i>  | <i>dümarop</i>             | <i>top</i>  | –               | <i>bütüp</i>                 | <i>nöp</i>  |
| Wy  | <i>dat-</i>  | <i>dimdop</i>              | <i>top</i>  | <i>mamin</i>    | <i>bitip</i>                 | <i>nup</i>  |
| Wd  | <i>dat-</i>  | <i>dimlop</i>              | <i>top</i>  | <i>mamin</i>    | <i>ap</i>                    | <i>nuk</i>  |
| Kb  | –            | <i>dümo</i>                | <i>rof</i>  | <i>mamü</i>     | <i>af</i>                    | <i>nuf</i>  |
| PA  | <i>*da-</i>  | <i>*düburo</i>             | <i>*to</i>  | <i>*apat</i>    | <i>(*afoxain)</i>            | <i>*nu</i>  |
| PD  | <i>*dat-</i> | <i>*dümarop</i>            | <i>*top</i> | <i>*mamin</i>   | <i>*ap</i>                   | <i>*nup</i> |
| PAD | <i>*dat-</i> | <i>*dümorop</i>            | <i>*top</i> | <i>(*mamün)</i> | <i>*ap</i>                   | <i>*nup</i> |

48 The forms of the *\*ron* and *\*muk* sets can mean 'hair' as well as 'leaves'. In Kb, *lo* is compounded with a morpheme meaning 'skin'. In Wd, *lon* is combined with 'head' to signify 'hair of the head'; *muk* means 'body hair'. In the Sawuy language the cognate form *mox* means 'leaf'.

49 In several languages the word for 'heart' is a compound with 'egg' as its second constituent. Dumut *\*m* : Awyu *\*b* is irregular.

50 There seem to have been two words for 'house', *\*ap* and *\*xaim*, the latter referring more specifically to houses built in trees (as in Korowai which has both forms: *op*, *xaim*). In Ax and Pi the two words have formed one compound with the general meaning 'house'. In Sawuy, the cognate form *aboxaim* now means 'village'. The forms *bitip*, *bütüp* and *busü* seem to be a local innovation which spread from Axu to Ka, Wy or vice versa.

51 Form noted in Keru; the Pisa form noted by Drabbe is *xain*.

|     | 55.<br>inside   | 56.<br>jaw      | 57.<br>knife <sup>52</sup> | 58.<br>language           | 59.<br>leech  | 60.<br>long                 |
|-----|-----------------|-----------------|----------------------------|---------------------------|---------------|-----------------------------|
| Ax  | <i>womu</i>     | –               | <i>woki</i>                | <i>u</i>                  | <i>sisi</i>   | <i>pi</i>                   |
| Pi  | <i>womu</i>     | –               | <i>waki</i>                | <i>ru</i>                 | –             | –                           |
| Sy  | <i>wumu</i>     | <i>gado</i>     | –                          | <i>roxo</i> <sup>53</sup> | <i>tese</i>   | <i>pere</i>                 |
| Ka  | <i>karup</i>    | <i>gadöm</i>    | <i>weki</i>                | <i>arek</i>               | <i>teren</i>  | <i>guruop</i> <sup>54</sup> |
| Wy  | <i>kop</i>      | –               | <i>waki</i>                | <i>ruk</i>                | <i>teren</i>  | <i>gurup</i>                |
| Wd  | –               | –               | <i>waxi</i>                | <i>luk, loxo</i>          | <i>selen</i>  | –                           |
| Kb  | <i>xalu</i>     | <i>gadu</i>     | <i>waxi</i>                | <i>lu</i>                 | –             | –                           |
| PA  | <i>*womu</i>    |                 | <i>*waki</i>               | <i>*ru, roxo</i>          | <i>*tese</i>  | <i>*pere</i>                |
| PD  | <i>(*karup)</i> |                 | <i>*waki</i>               | <i>*ruk, roko</i>         | <i>*teren</i> | <i>*guruap</i>              |
| PAD | <i>(*karup)</i> | <i>(*gadam)</i> | <i>*waki</i>               | <i>*ruk, roko</i>         |               |                             |

|     | 61.<br>louse    | 62.<br>man, male              | 63.<br>meat    | 64.<br>moon     | 65.<br>mother  | 66.<br>mouth  |
|-----|-----------------|-------------------------------|----------------|-----------------|----------------|---------------|
| Ax  | <i>agu</i>      | <i>xo basin</i> <sup>55</sup> | <i>kudu</i>    | –               | –              | <i>xato</i>   |
| Pi  | <i>ago, agu</i> | <i>xo bisin</i>               | <i>kadu</i>    | –               | <i>ni,wani</i> | <i>xate</i>   |
| Sy  | <i>go, gu</i>   | <i>xo butu</i>                | <i>kodo</i>    | –               | <i>wini</i>    | <i>xateto</i> |
| Ka  | <i>gut</i>      | <i>küap</i>                   | <i>kadö</i>    | <i>oko</i>      | <i>nou</i>     | <i>magot</i>  |
| Wy  | <i>gut</i>      | <i>ko batim</i>               | –              | <i>wokoi</i>    | <i>noi</i>     | <i>magot</i>  |
| Wd  | <i>gut</i>      | <i>kap</i>                    | <i>kadu</i>    | <i>waxot</i>    | <i>ni</i>      | –             |
| Kb  | <i>gu</i>       | <i>xof</i>                    | <i>xudo</i>    | –               | <i>ni</i>      | <i>mogoro</i> |
| PA  | <i>*agu</i>     | <i>*xo batin</i>              | <i>*kodu</i>   |                 | <i>*ni</i>     | <i>*xate</i>  |
| PD  | <i>*gut</i>     | <i>*koap batim</i>            | <i>(*kadö)</i> | <i>*wakot</i>   | <i>*noi</i>    | <i>*magot</i> |
| PAD | <i>*gut</i>     | <i>*koap batim</i>            | <i>*kodö</i>   | <i>(*wakot)</i> | <i>*noi</i>    | <i>*magot</i> |

<sup>52</sup> 'Bamboo knife' as well as 'kind of bamboo of which knives are made'.

<sup>53</sup> Two stems are involved, derived from PAD *\*ruk* and *\*roko*. In present-day Wd they are suppletive stems of the verb 'to speak'. In other languages this link does not exist and either one or the other means 'word, voice, language'.

<sup>54</sup> Kwem: *goro-ap*.

<sup>55</sup> *Xo* and its cognates mean 'person, people', while *basin* etc. means 'male'.

|     | 67.<br>mucus    | 68.<br>nail    | 69.<br>name  | 70.<br>nose       | 71.<br>old <sup>56</sup>  | 72.<br>penis   |
|-----|-----------------|----------------|--------------|-------------------|---------------------------|----------------|
| Ax  | <i>sinifo</i>   | –              | <i>fī</i>    | –                 | <i>posii</i>              | <i>segi</i>    |
| Pi  | <i>sinifo</i>   | –              | <i>fī</i>    | –                 | <i>pasi</i> <sup>57</sup> | <i>sigi</i>    |
| Sy  | <i>sinifu</i>   | –              | <i>fī</i>    | –                 | <i>pusu</i> <sup>58</sup> | <i>tege</i>    |
| Ka  | –               | <i>betit</i>   | <i>üip</i>   | <i>togut</i>      | –                         | <i>teget</i>   |
| Wy  | –               | –              | <i>ip</i>    | <i>togot</i>      | –                         | <i>teget</i>   |
| Wd  | ?               | <i>bisit</i>   | <i>hit</i>   | –                 | –                         | ?              |
| Kb  | ?               | –              | <i>fī</i>    | <i>ragu</i>       | –                         | <i>rege</i>    |
| PA  | * <i>sinifo</i> |                | * <i>fī</i>  |                   | * <i>patii</i>            | * <i>tege</i>  |
| PD  |                 | * <i>betit</i> | * <i>fip</i> | * <i>togut</i>    |                           | * <i>teget</i> |
| PAD |                 |                | * <i>pip</i> | (* <i>togut</i> ) |                           | * <i>teget</i> |

|     | 73.<br>put down               | 74.<br>rain       | 75.<br>rattan   | 76.<br>river <sup>59</sup> | 77.<br>sago      | 78.<br>see, look    |
|-----|-------------------------------|-------------------|-----------------|----------------------------|------------------|---------------------|
| Ax  | –                             | <i>a</i>          | –               | <i>widi</i>                | <i>dü</i>        | <i>eteox-</i>       |
| Pi  | ?                             | <i>a</i>          | –               | <i>wadi</i>                | <i>du</i>        | <i>feto-</i>        |
| Sy  | <i>fe-/foro</i> <sup>60</sup> | <i>a</i>          | –               | –                          | <i>du/do</i>     | <i>fete-</i>        |
| Ka  | ?                             | <i>mürüp</i>      | <i>tik</i>      | –                          | <i>du</i>        | <i>itigo-</i>       |
| Wy  | ?                             | <i>mirip</i>      | <i>tik</i>      | –                          | <i>dun</i>       | <i>eto-</i>         |
| Wd  | <i>halo</i>                   | –                 | <i>sik</i>      | –                          | <i>du</i>        | <i>hetak-</i>       |
| Kb  | <i>fa-</i>                    | <i>mulü</i>       | <i>ri</i>       | <i>wodei</i>               | <i>doiü</i>      | <i>fera-</i>        |
| PA  |                               | * <i>a</i>        |                 | * <i>wadi</i>              | (* <i>doiü</i> ) | * <i>feteox-</i>    |
| PD  |                               | * <i>mürüp</i>    | * <i>tik</i>    |                            | * <i>du(n)</i>   | (* <i>petaok-</i> ) |
| PAD | * <i>pa/*paro-</i>            | (* <i>mürüp</i> ) | (* <i>tik</i> ) | (* <i>wadei</i> )          | (* <i>doiü</i> ) | (* <i>peta-</i> )   |

56 Old, of objects.

57 Keru variant.

58 Yenimu dialect: *patu*.

59 Sy, Ka, Wy and Wd have one word for 'river' and 'water', see 104.

60 *foro-* is the future tense stem.

|     | 79.<br>shoot   | 80.<br>short   | 81.<br>sit  | 82.<br>skin               | 83.<br>sleep <sup>61</sup> | 84.<br>lie down          |
|-----|----------------|----------------|-------------|---------------------------|----------------------------|--------------------------|
| Ax  | –              | <i>bago</i>    | <i>ba-</i>  | <i>xa</i>                 | <i>kunumi-</i>             | <i>i-</i>                |
| Pi  | <i>pemo-</i>   | <i>bogo</i>    | <i>ba-</i>  | <i>xa</i>                 | <i>kunun</i>               | <i>ri-</i>               |
| Sy  | <i>piemo-</i>  | <i>bogedi</i>  | <i>bo-</i>  | <i>xa</i>                 | <i>kono</i>                | <i>re-</i>               |
| Ka  | <i>teen-</i>   | –              | <i>ba-</i>  | <i>kota</i> <sup>62</sup> | <i>kinum</i>               | <i>ran-</i>              |
| Wy  | <i>taem-</i>   | –              | <i>ba-</i>  | <i>kotae</i>              | <i>kinum</i>               | <i>yan</i> <sup>63</sup> |
| Wd  | <i>tamja-</i>  | –              | <i>ba-</i>  | <i>kat</i> <sup>64</sup>  | <i>kinum</i>               | <i>la/le-</i>            |
| Kb  | –              | <i>bogo</i>    | <i>ba-</i>  | <i>xa</i>                 | <i>xunu</i>                | <i>lei-</i>              |
| PA  | <i>*piemo-</i> |                | <i>*ba-</i> | <i>*xa</i>                | <i>*kunun</i>              | <i>*re-</i>              |
| PD  | <i>*taem-</i>  |                | <i>*ba-</i> | <i>*katay</i>             | <i>*kinum</i>              | <i>*ra(n)/re-</i>        |
| PAD |                | <i>(*bogo)</i> | <i>*ba</i>  | <i>*kat</i>               | <i>*kunum</i>              | <i>(*rei-)</i>           |

|     | 85.<br>smell     | 86.<br>smoke    | 87.<br>snake    | 88.<br>stand     | 89.<br>sun      | 90.<br>tail                |
|-----|------------------|-----------------|-----------------|------------------|-----------------|----------------------------|
| Ax  | <i>fumi-</i>     | <i>iiku</i>     | <i>wisi</i>     | <i>e-</i>        | –               | <i>wobugo</i>              |
| Pi  | <i>fimi-</i>     | <i>aku</i>      | <i>wasi</i>     | –                | –               | <i>wobu</i>                |
| Sy  | <i>fugu</i>      | <i>oru</i>      | <i>wuti</i>     | <i>e-</i>        | <i>sera</i>     | <i>wobii</i> <sup>65</sup> |
| Ka  | <i>umo-</i>      | <i>oruk</i>     | <i>gweti</i>    | <i>ri-</i>       | <i>teat</i>     | <i>wobit</i>               |
| Wy  | <i>ipmo-</i>     | <i>uruk</i>     | –               | <i>re-</i>       | <i>sat</i>      | <i>wabit</i>               |
| Wd  | <i>hip-</i>      | <i>iruk</i>     | –               | <i>la/lo-</i>    | <i>sat</i>      | <i>wabit</i>               |
| Kb  | ?                | <i>emaru</i>    | <i>gwari</i>    | <i>le/la-</i>    | <i>rei</i>      | –                          |
| PA  | <i>*fumi-</i>    | <i>(*aruku)</i> | <i>*wati</i>    | <i>*e-</i>       |                 | <i>*wobu</i>               |
| PD  | <i>*püpmo-</i>   | <i>*uruk</i>    | <i>(*gwati)</i> | <i>(*re/ra-)</i> | <i>*sat</i>     | <i>*wabit</i>              |
| PAD | <i>(*püpmo-)</i> | <i>(*aruk)</i>  | <i>(*gwati)</i> | <i>(*re/ra-)</i> | <i>(*seyat)</i> | <i>*wabiit</i>             |

<sup>61</sup> These forms in fact mean 'asleep, sleeping' and are always followed by a verb meaning 'lie down'; see 84.

<sup>62</sup> 'skin, bark'.

<sup>63</sup> The expected form is *ran*; see also 95, 100.

<sup>64</sup> But *kotai* 'bark'.

<sup>65</sup> Yenimu dialect.

|     | 91.<br>take  | 92.<br>they      | 93.<br>thigh    | 94.<br>this    | 95.<br>thorn  | 96.<br>throw <sup>66</sup> |
|-----|--------------|------------------|-----------------|----------------|---------------|----------------------------|
| Ax  | <i>a-</i>    | <i>yoxo</i>      | <i>midi</i>     | <i>nego</i>    | <i>yomo</i>   | <i>kusumu-</i>             |
| Pi  | <i>ra-</i>   | <i>yoxo</i>      | <i>midin</i>    | <i>nego</i>    | <i>yamo</i>   | <i>kosomo-</i>             |
| Sy  | <i>re-</i>   | <i>yoxo</i>      | <i>midi</i>     | <i>nerē</i>    | <i>yomo</i>   | <i>rasomo-</i>             |
| Ka  | –            | <i>yegip</i>     | –               | <i>mene</i>    | <i>orün</i>   | –                          |
| Wy  | <i>rap-</i>  | <i>yagup</i>     | –               | <i>mene</i>    | <i>arin</i>   | <i>somo-</i>               |
| Wd  | <i>lap-</i>  | <i>jaxop</i>     | –               | –              | <i>alin</i>   | <i>samo-</i>               |
| Kb  | –            | <i>ya</i>        | ?               | <i>mene</i>    | ?             | –                          |
| PA  | <i>*ra-</i>  | <i>*yoxo</i>     | <i>*midi(n)</i> | <i>*ne(go)</i> | <i>*yomo</i>  | <i>*sumu-</i>              |
| PD  | <i>*rap-</i> |                  |                 | <i>*mene</i>   | <i>*ariün</i> | <i>(*samo-)</i>            |
| PAD | <i>*rap-</i> | <i>(*ya-kop)</i> |                 | <i>(*mene)</i> |               | <i>*somo-</i>              |

|     | 97.<br>thunder           | 98.<br>tongue   | 99.<br>two                 | 100.<br>ulcer            | 101.<br>urine             | 102.<br>vein |
|-----|--------------------------|-----------------|----------------------------|--------------------------|---------------------------|--------------|
| Ax  | <i>xu</i>                | <i>fage</i>     | <i>okuomu</i>              | <i>üne</i>               | <i>isi</i>                | <i>me</i>    |
| Pi  | <i>xou</i> <sup>67</sup> | <i>fage</i>     | <i>kuruman</i>             | <i>rü</i>                | <i>yi</i>                 | <i>mi</i>    |
| Sy  | <i>xoru</i>              | <i>fage</i>     | <i>okomo</i>               | <i>run</i>               | <i>yiti</i>               | <i>me</i>    |
| Ka  | <i>komöt</i>             | <i>ogat</i>     | <i>rumo</i>                | <i>orün</i>              | <i>erok</i> <sup>68</sup> | <i>temet</i> |
| Wy  | <i>kumut</i>             | –               | <i>irumo</i> <sup>69</sup> | <i>yün</i> <sup>70</sup> | <i>yetok</i>              | <i>met</i>   |
| Wd  | <i>kumut, kut</i>        | <i>hat-gat</i>  | <i>ilumo</i>               | ?                        | ?                         | ?            |
| Kb  | <i>xumu</i>              | <i>faga</i>     | –                          | <i>lü</i>                | ?                         | ?            |
| PA  | <i>*xoru</i>             | <i>*fage</i>    | <i>*okorumon</i>           | <i>*rün</i>              | <i>*yit</i>               | <i>*me</i>   |
| PD  | <i>*kumöt</i>            | <i>(*pagat)</i> | <i>*irumon</i>             | <i>*rün</i>              | <i>*yet-ok</i>            | <i>*met</i>  |
| PAD | <i>(*kumöt)</i>          | <i>*pogat</i>   | <i>*-rumon</i>             | <i>*rün</i>              | <i>*yet</i>               | <i>*met</i>  |

<sup>66</sup> 'throw away'. The forms in the Awyu group languages are bi-morphemic: *ku-sumu*, *ko-somo*, *ra-somo*. Compare the partly cognate form in Asmat: *wi-asom* 'throw-away'.

<sup>67</sup> Expected: *xoru*; see §2.2, set 12.

<sup>68</sup> *Erok*, and Wy *yetok*, are compounds in which the second constituent is 'water', see 104.

<sup>69</sup> But in the Kwem variant: *ruma*.

<sup>70</sup> Expected: *run*. The form *yün* could be a loan from the eastern neighbour (Kati, of the Ok Family) which has *yin*, and *ying*.

|     | 103.<br>walk    | 104.<br>water | 105.<br>we     | 106.<br>wind              | 107.<br>woman           | 108.<br>you (sg.) |
|-----|-----------------|---------------|----------------|---------------------------|-------------------------|-------------------|
| Ax  | <i>xo-</i>      | <i>oxo</i>    | <i>nügu</i>    | <i>kifi</i>               | <i>an</i>               | <i>gu</i>         |
| Pi  | <i>xo-</i>      | –             | <i>nugu</i>    | <i>kifi</i> <sup>71</sup> | <i>ran</i>              | <i>gu</i>         |
| Sy  | <i>xo-</i>      | <i>oxo</i>    | <i>nogo</i>    | <i>kifi</i>               | <i>ra</i> <sup>72</sup> | <i>go</i>         |
| Ka  | <i>ko-</i>      | <i>ok</i>     | <i>nogüp</i>   | <i>kiow</i>               | <i>ran</i>              | <i>göp</i>        |
| Wy  | <i>ko-</i>      | <i>ok</i>     | <i>nagup</i>   | <i>kiwuy</i>              | <i>ran</i>              | <i>gup</i>        |
| Wd  | <i>ko/ka-</i>   | <i>ok</i>     | <i>noxop</i>   | <i>kiwin</i>              | <i>lan</i>              | <i>gup</i>        |
| Kb  | <i>xa-</i>      | <i>ox</i>     | <i>nagu</i>    | <i>xifei</i>              | <i>lan</i>              | <i>gu</i>         |
| PA  | * <i>xo-</i>    | * <i>oxo</i>  | * <i>nugu</i>  | * <i>kifi</i>             | * <i>ran</i>            | * <i>gu</i>       |
| PD  | * <i>ko/ka-</i> | * <i>ok</i>   | * <i>nagüp</i> | * <i>kiwuy</i>            | * <i>ran</i>            | * <i>gup</i>      |
| PAD | * <i>ko/ka-</i> | * <i>ok</i>   | * <i>nogüp</i> | * <i>kipuy</i>            | * <i>ran</i>            | * <i>gup</i>      |

## References

### Abbreviations:

- AJPA* American Journal of Physical Anthropology N.S.  
*BKI* Bijdragen tot de Taal-, Land- en Volkenkunde  
*KITLV* Koninklijk Instituut voor taal-, land- en volkenkunde, Leiden  
*VKI* Verhandelingen van het Koninklijk Instituut voor taal-, land- en Volkenkunde

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<sup>71</sup> In the Keru variant: *kefey*.

<sup>72</sup> Glossed 'wife' in Drabbe.





# 23 *Language endangerment in the insular Greater Pacific area, and the New Guinea area in particular*

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STEPHEN A. WURM

## 1 Introductory remarks

In order to fully appreciate the special nature of language endangerment in much of the Pacific area, and New Guinea in particular, it may be necessary first to discuss some aspects of language endangerment in general, and the role therein of bi- and multilingualism.

The endangerment of languages is a worldwide phenomenon which affects about half of the 6,000 or so languages on the globe. One of the main reasons lies in the beliefs and attitudes of, and influence from, culturally, economically and politically dominant speakers of large metropolitan languages, and also of some other large languages. These factors may not necessarily result by themselves in the threatening and endangerment of other, smaller languages spoken by minorities or others thus affected. However, a decisive factor in their endangerment is the fact that most of the mainly monolingual speakers of large metropolitan languages such as English, French, Spanish, Russian, Chinese, Japanese, Italian, and also of some less important languages, firmly believe, and often succeed in persuading speakers of minority languages who are in their cultural, economic and political orbit, that the mastery of a dominant language must automatically lead to the giving up and eventual loss of the minority language by its speakers. Being themselves very largely monolingual and usually ignorant of the world situation of monolingualism, and the widespread presence of bi- and multilingualism and its inherent intellectual, emotional and social advantages as outlined below, speakers of dominant languages believe monolingualism to be the norm amongst the speakers of the different languages of the world, and to be a state to be striven for and achieved everywhere. However, in reality, bi- and multilingualism can be observed to be very widespread in the world if the number of **languages**, not of their **speakers**, is taken into

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account. With a very large number of languages, predominantly small ones, but also with many not-so-small ones, there are at least a number of their speakers who have a command of one or more other languages in addition to their own.

Political and especially economic factors contribute strongly to the desire of speakers of minority languages or other languages to acquire a good mastery of the dominant language of the country or area in which they live. The crucial point in this is that this does not necessarily have to result in their despising their own language and giving it up, though the policies and/or the 'public opinion' of the speakers of the dominant language suggest to them, unfortunately often successfully, that this is the correct thing to do. In fact, however, bi- and multilingualism from the earliest childhood onwards is the best situation for speakers of minority languages and of other languages of secondary importance, who, for historical or political reasons, find themselves in the realm or orbit of speakers of a dominant language. This would result in their keeping their own language and acquiring a perfect, native speakers' command of the dominant language, and perhaps of one or more additional languages.

Why should this be so? There are a number of reasons.

Every language is a symbol of ethnic identity for its speakers, which they hold dear, and which gives them the feeling of possessing something additional to what the usually monolingual speakers of the dominant languages have. This strong attachment to non-dominant languages by their speakers has, in the light of the increasingly positive attitudes towards them in many areas in recent years and decades, led to the preservation and reinvigorating of several languages in danger of disappearing, such as Romansch in Switzerland, Guarani in Paraguay, Ainu in Japan, Australian Aboriginal languages, Hawaiian and Maori, and even to the revival of languages long dead, such as Hebrew, and several Aboriginal languages in Australia.

Each language reflects a unique world view and culture complex and is the means of expression of the intangible cultural heritage of a people. With the disappearance of such a language, an irreplaceable unit in our knowledge and understanding of human thought and world view has been lost forever, resulting in a reduction of the sum total of the reservoir of human knowledge as expressible through language, and of the usually rich oral literature and mythology of which that language was the instrument of expression.

Also, it may be pointed out that many people are very concerned about animal (and plant) species being threatened by extinction, but are quite unconcerned about the possible extinction of a vast number of languages of the world, though languages are the most precious part of the intangible culture of man. They do not realise that maintaining non-dominant and minority languages preserves linguistic and in part cultural diversity which is just as important as maintaining the physical biodiversity in the world which many people clamour for nowadays.

In addition, there are intellectual, emotional and social advantages of bi- and multilinguals over monolinguals as follows (Wurm 1997:40):

- such individuals have access to a much wider volume of information and knowledge than monolinguals, have a larger volume of knowledge (both language-oriented and other) in their minds, understand differing semantic associations better, and being used to switching languages and thought patterns, have more flexible minds;
- they are less rigid in their attitudes and have a tendency to be more tolerant of (i.e. less hostile and on the defensive against) the unknown than monolinguals, more inclined

to regard manifestations of other cultures by individuals as acceptable and to be respected, though they may be different from their own;

- their thought patterns and world view are more balanced because they are familiar with different, often somewhat contradictory concepts. They have greater ability than monolinguals to learn something entirely new and to fit into novel situations without trauma, and to understand different sides of a problem.

At the same time, it is imperative for speakers of minority languages who live in the orbit of a dominant culture and language to possess a full knowledge of both, so that they can fully participate in the cultural, linguistic and in consequence economic, life of the dominant language speakers. Clearly, the answer to this duality of requirements is full bilingualism, i.e. they would be in continued possession of their own original language, with at least traces of their own original culture of which both are of great importance to their self-respect and the maintenance of their ethnic identity. This could be achieved through actively maintaining, fostering and later enlarging very young children's already existing knowledge of their minority language mother tongue.

The impact of dominant, very largely metropolitan, cultures and languages, with their cultural, economic and political influence on speakers of other languages and their language use, has been devastating in many parts of the world, and has resulted in the extinction of many such languages, or in their now being in danger of disappearing. Typical of this have been the USA and Canada with the worst records of all, Australia with a very bad past record, and also Latin America, Siberia and Europe. At the same time, in many parts of these areas, ethnic revivalism with concomitant reinvigoration and maintenance of endangered languages, and even revival of very seriously endangered, moribund or even extinct languages, has taken place and is gathering momentum.

## **2 Language endangerment in the insular Greater Pacific area**

In this article, the 'insular Greater Pacific area' is to be understood as comprising Polynesia, Micronesia, Insular Melanesia, the New Guinea mainland with the large islands adjacent to it including the Halmaheras, the other parts of Indonesia (Maluku, Nusa Tenggara, Sulawesi, Borneo, Java and Bali, Sumatra), Australia, New Zealand, Hawaii, the Philippines, Taiwan, and Japan, with the smaller islands adjacent to the larger ones included in all these areas. The island worlds of the northern parts of the Pacific are not included here (e.g. the Aleutians, the near-coastal islands of Alaska and the Canadian coast). Of the insular Greater Pacific areas included here, Australia had, until a few decades ago, the worst record for language endangerment and extinction along the lines mentioned in §1. New Zealand was bad a long time ago, but very much improved its record quite some time ago. Japan was bad, but its record very much improved a few years ago. The same is true for Hawaii. Taiwan was quite bad, but has been improving its record during recent years. New Caledonia was bad, but has been improving. French Polynesia was better, and has improved considerably on that lately. In all these cases, it was a large European – or in the case of Taiwan and Japan, an Asian metropolitan – language and its speakers with their attitudes and policies as touched upon in §1 that were to blame. In the Philippines, Tagalog has played the part of a large metropolitan language, but with very much less overwhelming effects than has been the case with English, French, Chinese and Japanese in the areas in their orbit as mentioned above. The same can be said of Indonesian except for the small languages of Irian Jaya, and some other regional parts of Indonesia.

In the other parts of the insular Greater Pacific area, language endangerment has, at least until very recently, been on a very much lower level than almost anywhere else in the world. The reason for this has been threefold.

- (a) There have been very small sedentary populations of monolingual speakers of large metropolitan languages in those areas, though their cultural influence has been quite strong in some regions (e.g. Papua New Guinea, the Solomon Islands) even after those areas achieved political independence. The attitudes, often translated into language policies, of some of the small, but powerful local elites tended sometimes to constitute a continuation of those of the former monolingual colonial masters to the detriment of the local language situation (as is the case in some former British and French colonies in Africa), though this is now waning.
- (b) The widespread bi- and multilingualism in these areas has acted as a buffer against the massive loss of local languages under the pressure of a large metropolitan or other widespread dominant language, which is so commonly found in other parts of the world. This 'endemic' bi- and multilingualism allows people to learn a dominant language as an other language and add it to their linguistic repertoire without losing their own language as a result. The widespread bi- and multilingualism in the Philippines and in parts of Indonesia is also the reason why pressure, from the dominant language Tagalog in the former and Indonesian in the latter, upon local languages has a much less destructive effect on them than such pressure has in many areas outside the insular Greater Pacific area, though in Irian Jaya its effect is on the increase.
- (c) In much of the overall area, and especially in Papua New Guinea and Irian Jaya, persons have had a very strong sense of, and pride in, their ethnic identity, for which their local language has been an important symbol, a factor which has at least until recently strongly militated against their falling into disuse.

### **3 Language endangerment in the New Guinea area in particular**

The New Guinea area comprises the New Guinea mainland and the adjacent large islands and island groups of New Britain, New Ireland, the Admiralty Islands, Bougainville in the east and the islands adjacent to the western end of the Bird's Head, and also the Halmaheras, and is politically divided between Papua New Guinea in the east and Indonesian Irian Jaya with its abovementioned neighbouring island groups in the west.

#### **3.1 Papua New Guinea**

Papua New Guinea (with perhaps 850 languages today) is a special case in having a very large lingua franca, now its national language, in Tok Pisin (formerly known as New Guinea Pidgin), an English-based expanded pidgin language which from its early beginnings was much more an inter-native lingua franca than a European-native means of intercommunication. Tok Pisin developed its own Melanesian-Austronesian based structure of considerable complexity which was not properly mastered by most of the European 'speakers' of it, especially not by native English speakers who used to regard it as a debased form of English. Millions of Papua New Guineans, certainly much more than half the entire

population, are familiar with Tok Pisin as a second language, and it is the main general contact language in the country, increasingly overshadowing other small local lingue franche. It has been creolised to a very limited extent, predominantly in the cities and larger towns, where children of mixed marriages where Tok Pisin is the language of the family learn it as their first language. The number of such first language speakers may be 30,000–40,000, with quite a few of them also knowing a local language. Most Papua New Guineans have been regarding Tok Pisin as the main symbol of their national identity, which goes hand in hand with their local languages being the symbols of their local identities. This constitutes a very powerful bulwark against English becoming a common language in Papua New Guinea. It is still very largely a business language of members of the highly educated elite who outside their official activities, and increasingly also during these activities, talk Tok Pisin to each other. English may be known to about 150,000–200,000 New Guineans, with varying degrees of proficiency. There is also another large lingua franca, Hiri Motu (formerly called Police Motu), which is a pidginised version of the Austronesian Motu language of the Port Moresby area. Its importance is receding strongly before Tok Pisin – the number of its speakers, which was estimated to be about the same as those of English some years ago, is now falling. Nevertheless, it is another obstacle to the spread of English in daily life. It has hardly been creolised.

Until perhaps a couple of decades or even less ago, Papua New Guinea could be regarded as the area least affected by language endangerment among all those areas in the world which contained very many small local languages. Unfortunately, this happy situation began to change then, and has deteriorated more rapidly during the last few years. There are a number of reasons for this.

- (a) One very important reason for language endangerment in Papua New Guinea has been the greatly increasing mobility of the population of the country. This has weakened the formerly very strong awareness and pride of Papua New Guineans of their local identity as symbolised by their local languages. Also, it resulted in many young men, and also some young women, leaving their small isolated village speech communities and moving to the cities and other centres in search of economic and other advantages. In those centres, they married partners from language backgrounds other than their own, with the language of the family usually becoming Tok Pisin or sometimes the language of one of the partners. The children usually learnt only the particular family language, with this leading to the reduction of the number of speakers – often very few anyway – of one of the local languages involved in this situation. Young women left behind in the emigrating young men's speech community married speakers of other languages from neighbouring villages and speech communities. With their often moving to their other-language partners' villages and speech communities, their children and often the women themselves tended to give preference to the husbands' language, which led to the gradual disappearance of the young women's original languages in this situation. The older persons stayed behind in the original village, as the remainder of the original speech community. With their aging, the language moved into the status of endangered, on its way to moribund and finally extinct.
- (b) Another very important result of the increasing mobility of the population is the rapidly rising frequency of intermarriage between speakers of many different languages in more and more parts of Papua New Guinea, without the migration of one or both partners to urban centres. In these cases, one of the two partners moves into a new language environment, often into one which was not included in a traditional

bilingualism pattern. That partner could, in the light of what has been said above under (a), acquire a knowledge of the language of her or his partner's language community, but her or his original language may fall into disuse due to her or his individual linguistic isolation. Even if it is at least in part passed on to her or his offspring, it will gradually fade away for lack of active use. In the traditional setting, active (or passive) bilingualism, even with two or more different languages in a single multilingual village, is culturally based and regulated and therefore stable and continuing, whereas in the novel situations resulting from individual instances of intermarriage, this is no longer the case. This leads to a weakening of traditional bi- and multilingualism, unless the intermarriage pattern brings into a community a fair number of immigrant marriage partners with one and the same original language background, in which case their bilingualism is likely to be maintained. However, with the increasing frequency and randomness of intermarriage between partners of different language backgrounds, such situations for the maintenance of bilingualism are becoming fewer, and also favour the increasing use of Tok Pisin as the language of families which puts the original languages of the parents into the background, especially with their offspring.

- (c) Another reason for the looming endangerment of local languages in Papua New Guinea is the increasing importance and scope of electronic media, especially the radio. Television and video also have more and more impact in four big centres (Port Moresby, Lae, Goroka and Rabaul). The languages used in these, apart from English (especially on TV and videos), are very few: Tok Pisin, Hiri Motu, and several large languages such as Medlpa, Enga, Mid Wahgi, Kuman, Golin, Gahuku and Kamano–Kafe in the Highlands; Toaripi and Kamea in the Gulf Province; Orokaiva and Ewage in the Northern Province; Kuanua in the East New Britain Province, Kâte and Yabim in the Morobe Province; as well as some regional languages in the Highlands broadcast from Kundiawa (Simbu Province) and Mendi (Southern Highlands Province) (Mühlhäusler, Philpott & Trew 1996:1415). The Kundu or Provincial 'Grassroots' Service of the National Broadcasting Commission of Papua New Guinea broadcasts also occasionally in a limited number of other local languages from its provincial radio stations. All in all, a still very limited number of languages are used in addition to English, Tok Pisin and Hiri Motu. This means that, with the great popularity of electronic media entertainment in Papua New Guinea, economic and technical pressure has enhanced the status and use of a few languages resulting in an erosion of previously more egalitarian forms of intercultural communication, thus reducing the domains of, and the respect for, the many other local languages in the eyes of their speakers and of outsiders. This especially tends to influence the very young speakers in their attitudes towards their own languages, and makes them prefer Tok Pisin to them. However, there is a problem with the Tok Pisin used in many broadcasts: the broadcasters prefer to use urban Tok Pisin which is rather different from the rural Tok Pisin used everywhere outside the main centres (most of Papua New Guinea is rural). In urban Tok Pisin, there are many expressions and urban thought processes unintelligible to speakers of rural Tok Pisin who are the great majority, which means that usually a portion of a Tok Pisin broadcast is lost on them.
- (d) Educational policies have had much to do with the maintenance or endangerment of local languages. Decades ago, up to the fifties, local languages and mission and church *lingue franche* were more extensively used in elementary education than in later years where language in education policies of the Australian administration tended to swing in the direction of English being used more and more in education, to the detriment of local

languages, with the use of Tok Pisin in education being particularly heavily frowned upon. These policies were largely taken over by the Papua New Guinea administration after the independence of the country in 1975. The concentration on English in education, favoured by the small English-educated elite, was not very successful, and recourse had to be had to Tok Pisin and Hiri Motu as well as local languages in order to bridge communication gaps between English-speaking expatriate teachers and pupils. At the same time, the Summer Institute of Linguistics (SIL), with its headquarters at Ukarumpa in the Eastern Highlands Province, successfully advanced literacy in a large number of local languages, along with producing a very large quantity of literacy materials and health and other practical manuals in such languages, which by now are well over 100, thus counteracting the deleterious effects of the educational policies of the country. Towards the second half of the 1980s, the educational policies of Papua New Guinea started to shift towards the aims of strengthening traditional cultures and values, and raising the literacy levels in the local languages, Tok Pisin and Hiri Motu, or English. In this, the SIL has played, and continues to play, a crucial role in the production of vernacular resource booklets for use in the elementary classes in this national educational structure. This new policy has led to the establishment of an increasing number of provincial vernacular preparatory schools in most of the provinces of Papua New Guinea which by the end of 1991 numbered 94, with programmes in about 21 languages. In seven provinces, the language of instruction was Tok Pisin only. In two provinces (Manus and West New Britain) no schools had been established by 1991 (Mühlhäusler, Philpott & Trew 1996:1441). This was a modest beginning to effective elementary teaching in local languages, and quickly resulted in cases of reverse language shift. The paucity of resources and oscillations in policies did not allow this project to advance strongly. However, on 24 September 1997, coinciding with the beginning of the Second International Conference on New Guinea Languages and Linguistics in Goroka, the Papua New Guinea government declared all local languages official languages of the country that could be used in basic elementary education along with Tok Pisin, Hiri Motu and English. This was a positive and useful decision for the slowing down of language endangerment in Papua New Guinea, but the question of an effective implementation of this policy, at least for a good number of local languages, remains unresolved.

In any case, a strong increase in the number of provincial vernacular preparatory schools and of the languages covered by them would be a first important step. The number of local languages is very large, around 750. If strongly aberrant dialects are regarded as separate communalects or languages for the purpose of effective teaching in them, this number goes up to over 800 (Grimes 1996). Producing even simple manuals and teaching materials including literacy materials for all of them is an impossible task and unsurmountable obstacle, especially when taking into account the financial and trained manpower limitations under which Papua New Guinea is labouring. It is true that, thanks to the efforts of the SIL, there are such materials available in well over 100 Papua New Guinean languages and their number could perhaps be increased to about 200 in a reasonable time, but even this would cover only about one quarter of the languages in question, if current teaching practices are to be employed.

This raises an important question: what is the purpose of education in a large number of different languages in a linguistically complex country such as Papua New Guinea? It seems that at the very bottom at the beginning of the educational ladder, with very young children,

its purpose would be to make the children aware, and to let them partake in, useful new general knowledge of value to them in their cultural and regional lives. This could be given to them in all their languages, as will be outlined below. The next step, is to acquaint children with the concept of writing, and make them literate in a selected (better said 'manageable') number of languages for which teaching and literacy materials are available. Many children whose language backgrounds are different from these selected languages, with their mother tongues mostly small to very small languages, may be, at least to some extent, familiar with one or the other of these selected languages. Also, some teaching of and in Tok Pisin or Hiri Motu may be brought in at the end of this second stage, taking into account that many children who are at that level will have at least some knowledge of one or the other of these two lingue franche. Tok Pisin, as the national language of the country, should in every case be emphasised and literacy in it achieved as far as possible. The next step, in which the aim is overwhelmingly subject-oriented education, should make use of Tok Pisin, with perhaps large languages which are also used in electronic media, resorted to as well as may be appropriate. Some English teaching may be brought into it at the final stage in appropriate cases. The final stage, for those pupils who wish to proceed to higher education and professionalism, should be of English, and in English.

To come back to the abovementioned very first step in education: a method could be used for this which appears to have been used in bygone days in several places in the world in the preparation of young people for initiation or in general, for later life, in areas where several different languages were spoken in the same speech community. Even though there would have been active or passive multilingualism in such communities, large parts of the oral preparation for initiation were provided in one language, perhaps the largest language, or that of the culturally dominant group. However, every day the various language groups separated. Each of those groups in which the mother tongue of the initiands or pupils was not the one used generally was spoken to by a knowledgeable older member of their speech community, who for a span of time told them about matters relating to their initiation, and also about traditions, mythology, skills and activities, and other matters deemed to be important, in the language of their particular language community. There is some anecdotal evidence of this in remarks made to the present writer by very old informants in various parts of the world, such as Aboriginal Australia, relating to the early part of the twentieth century when groups speaking several different languages tended to live together. Such situations are likely to have existed also in Papua New Guinea, South America, Siberia and elsewhere. It is very interesting to note that similar methods of basic oral orientation of children and young persons are beginning to be resorted to again now in places with more than one language in Siberia, South America and probably in some areas in Africa. This method could very well be introduced in Papua New Guinea at the bottom rung of the educational ladder (see above) with the added advantage that it would contribute materially to the maintenance of small languages, and to raising the respect for them in the eyes of the children. For instance, in a provincial vernacular preparatory school at which children of a number of different language backgrounds are enrolled, the language of instruction and literacy teaching for a given group of children (as per step two of the educational ladder as mentioned above), would be in a certain selected local language, with five other languages represented in the group. Every day, the children having these different mother tongues could separate into five small groups in different places, perhaps outside, with a knowledgeable old man of their speech community talking to them for an hour or so in their language about the past of their community and tribe, their mythology, customs, art, skills, and about important things for



them such as hygiene, health and gardening. Such a person may not necessarily have to be paid for this, though he should receive some sort of recognition, perhaps in the form of occasional gifts, because many a one would do it out of his desire for the children of his speech community to keep their language, tradition and awareness of their culture. Such an approach would require that government policy support traditional values and cultures, the idea of strengthening traditional cultural features and values, and favour the maintenance and preservation of small languages. It may be pointed out that this sort of bottom-rung education is exclusively oral, because apart from it being impracticable to teach literacy to speakers of every language in Papua New Guinea as has been pointed out above, literacy in a small language with 80 to perhaps 200 or so speakers is of little value to their speakers, who would in any event become literate in another, large local language which they know, and probably also in Tok Pisin.

To be able to assess the number, status and circumstances of endangered languages in Papua New Guinea and Irian Jaya, a project was started at the above-mentioned conference held in Goroka in September 1997 by the present writer in collaboration with members of the Cenderawasih University in Jayapura (see below) and Professor Otto Nekitel, Mr Dicks Thomas MA, Mr Sakarepe Kamene MA, Mr Russel Soaba MA and Mr Biama Kanasa MA of the Language and Literature Department of the University of Papua New Guinea. These will also obtain information on language endangerment in Papua New Guinea from the national NGO (non-governmental organisations) network in the course of 1998, and also through the distribution of questionnaires to about 250 Foundation Year students. Other sources available to the present writer were also consulted, and Grimes (1996) also proved useful, as well as Wurm and Hattori (1981–83), Wurm (1982), and Wurm, Mühlhäusler, Tryon, eds (1996).

The preliminary results of this collaboration showed that 63 languages in Papua New Guinea had been affected by endangerment at some level, or were extinct. In addition, close to 180 languages have small to very small numbers of speakers (usually below 300, commonly between 100 and 200 or even less), some of which are likely candidates for endangerment and may well be found to be so affected as the project progresses.

Five or six levels of endangerment are usually distinguished in classifying endangered languages by their status: (1) **potentially endangered language** (symbol  $\Delta$ ): less than half of the children do not know or use the language any more, the remaining ones still use it; (2) **language with unwilling children (and some adult) speakers** (symbol  $\nabla$ ): about a quarter of the children still know the language, but prefer to speak another language, with this reluctance to speak their language being shared by many parents; (3) **endangered language** (symbol **O**): very few or no children speakers, with the youngest speakers usually being young adults; (4) **seriously endangered language** (symbol  $\bullet$ ): the youngest speakers are past middle age; (5) **moribund language** (symbol  $\oplus$ ): only a handful of very old speakers are left; (6) **extinct language** (symbol  $+$ ): there are no speakers left.

In some instances, the slide from a healthy state of a language to endangerment and extinction can be very rapid. In Papua New Guinea, there are only two such striking instances, i.e. Yarawi (Yekora dialect?) which in 1981 was reported to have several hundred speakers but has now been reported by Nekitel as being moribund as at the end of 1997; Karore, reported by the SIL in 1995 as having 500–600 speakers, has been reported by Kamene and Biama as extinct at the end of 1997, but this case requires re-examination – it may be a case of mistaken identity.

In the listing given below, **A** = Austronesian; **P** = Papuan. Names in parentheses are common alternative names; speaker numbers are added, sometimes present estimates based on earlier reported numbers. **CP** = Central Pr[ovince]; **EHP** = Eastern Highlands Pr; **ENB** = East New Britain Pr; **EP** = Enga Pr; **ESP** = Eastern Sepik Pr; **GP** = Gulf Pr; **MDP** = Madang Pr; **MLB** = Milne Bay Pr; **MNP** = Manus Pr; **MOR** = Morobe Pr; **NIR** = New Ireland Pr; **NSL** = North Solomons Pr; **OP** = Oro Pr; **SDP** = Sundaun (West Sepik) Pr; **SHP** = Southern Highlands Pr; **SIP** = Simbu (Chimbu) Pr; **WHP** = Western Highlands Pr; **WNB** = West New Britain Pr; **WP** = Western Pr.

### List of Papua New Guinean languages in danger of disappearing:

#### Potentially endangered (9):

|                      |         |     |
|----------------------|---------|-----|
| Gapun (Taiap)        | P 90    | ESP |
| Kaki Ae (Raepa Tati) | P 310   | GP  |
| Koiari               | P 1,800 | CP  |
| Koita (Koitabu)      | P 3,000 | CP  |
| Murik                | P 1,400 | ESP |
| Mussau               | A 4,000 | NIR |
| Sare                 | P 500?  | ESP |
| Taulil               | P 800   | ENB |
| Yimas                | P 300   | ESP |

#### Unwilling speakers (1):

|                         |        |     |
|-------------------------|--------|-----|
| Abu' (Mountain) Arapesh | P 4000 | ESP |
|-------------------------|--------|-----|

#### Endangered (24):

|                      |       |     |
|----------------------|-------|-----|
| Ak                   | P 80  | SDP |
| Amto                 | P 200 | SDP |
| Anuki (Gabobora)     | A 500 | MLB |
| Arawum               | P 75  | MDP |
| Ari                  | P 80  | WP  |
| Bagupi               | P 60  | MDP |
| Bepour               | P 50  | MDP |
| Bulgebi              | P 52  | MDP |
| Dorro (Mari)         | P 80  | WP  |
| Duranmin (Suarmin)   | P 100 | SDP |
| Faita                | P 57  | MDP |
| Mindiri              | A 90  | MDP |
| Moere                | P 56  | MDP |
| Mosimo               | P 58  | MDP |
| Musan (Musian)       | P 75  | SDP |
| Musom                | A 219 | MOR |
| Papi                 | P 75  | SDP |
| Rema (Bothar, Tonda) | P 68  | WP  |
| Samosa               | P 94  | MDP |
| Som                  | P 80  | MOR |
| Sumariup             | P 80  | ESP |
| Tais (Dorro dialect) | P 60  | WP  |
| Uya (Sausi dialect)  | P 93  | MDP |
| Yapunda              | P 69  | SDP |

#### Seriously endangered (6):

|               |      |     |
|---------------|------|-----|
| Bilakura      | P 35 | MDP |
| Dumun         | P 42 | MDP |
| Kowaki        | P 31 | MDP |
| Mowak         | P 30 | MDP |
| Tench (Tenis) | A 20 | NIR |
| Turaka        | P 30 | MLB |

#### Moribund (9):

|                          |       |                   |
|--------------------------|-------|-------------------|
| Abaga                    | P 5   | EHP               |
| Gorovu                   | P 20  | ESP               |
| Kamasa                   | P 10  | MOR               |
| Kawacha                  | P 15  | MOR               |
| Makolkol                 | P 2?  | ENB<br>(Extinct?) |
| Sene                     | P 2?  | MOR<br>(Extinct?) |
| Susuami                  | P 10? | MOR               |
| Taap (Wantoat dialect?)  | P 10  | MOR               |
| Yarawi (Yekora dialect?) | P 1   | MOR               |

#### Extinct (14):

|           |   |     |
|-----------|---|-----|
| Aribwatsa | A | MOR |
| Bina      | A | CP  |
| Butam     | P | ENB |
| Guramalum | A | NIR |
| Hermit    | A | MNP |
| Kaniet    | A | MNP |
| Karami    | P | GP  |
| Karore?   | A | WNB |
| Laua      | P | CP  |
| Mahigi    | P | GP  |
| Mulaha    | P | CP  |
| Ouma      | A | CP  |
| Uruava    | A | NSL |
| Yoba      | P | CP  |

In addition to these, there are eight Papuan-based pidgin languages, discovered in the early nineties in the interior of the East Sepik Province (William 1996), two Papuan-based trade languages formerly used between the Motu people of the Port Moresby area and communities in the Gulf Province, three pidgin trade languages based on the Austronesian Mekeo language in the western near-coastal part of the Central Province, and a German creole in the East New Britain Province. All of these are either moribund or extinct, but more study is needed on the first batch of eight. They would bring the total of endangered languages of Papua New Guinea to 77, but they have not been taken into account here. They will be included in the more detailed work foreshadowed at the end of this article.

### **3.2 Irian Jaya**

In Irian Jaya, the language endangerment situation is in some ways more like that prevalent in situations elsewhere in the world in which large metropolitan languages spoken by mostly monolingual speakers exert great pressure on largely small minority languages in their orbit, and are aided in this by certain rigid governmental and administrative language policies. The dominant language is in this case Indonesian which, in contrast to large European and other metropolitan languages, was not the mother tongue of any of the inhabitants of Indonesia, though by now it is the first language of more than six million young members of the Indonesian population. In Irian Jaya, the number of Indonesian speakers from outside Irian Jaya was comparatively very small in the early years of Indonesian administration, much like that of expatriate English speakers in Papua New Guinea. However, the Indonesian transmigration policy from overpopulated areas such as Java to underpopulated ones brought to Irian Jaya very large numbers of speakers of mainly Western Austronesian languages whose common language was Indonesian. Also, the strict language policies introduced favoured the use of Indonesian as the official language mainly in and around the centres, and gradually also elsewhere. In contrast to Papua New Guinea with Tok Pisin, there was no very widespread local lingua franca in existence, though there were a considerable number of local trade languages and *lingue franche*. Village Malay was spoken in more accessible areas as a language of intercultural communication, and the former Dutch administration used a form of Malay very similar to Indonesian as the administrative language. Both had relatively little impact, but their earlier use facilitated the transition to, and the spreading of, Indonesian as the official and administrative language, and as the language of education in most areas. The effect of this on the status and use of many of the local languages has been quite significant. The large local languages, a few of which have tens of thousands of speakers, or in two cases over or well over 100,000, have been able to offer resistance to the pressure from Indonesian. This has also been facilitated by the fact that they are located in the central highlands of Irian Jaya, where Indonesian influence is weaker than in some other areas, and the strong ethnic identity feelings of their speakers and their pride in their languages have helped them too. Smaller languages have suffered much more, and quite a few show signs of endangerment, especially languages spoken close to major centres such as Jayapura and Manokwari, though their speakers are more bi- and multilingual than the speakers of the large languages, and have also strong feelings of ethnic identity and pride in their languages. However, the pressures on them from Indonesian and the language policies are very strong. Some of these languages are trade languages and local *lingue franche* which are receding before Indonesian. Local reasons for

language endangerment which are current in Papua New Guinea such as intermarriage, have less impact in Indonesia, but migration to the centres, the impact of the Indonesian-language electronic media, and that of Indonesian-language education (though the SIL has prepared simple manuals and teaching materials including literacy materials also in a number of Irian Jaya languages), are all causes of endangerment of local languages in Irian Jaya.

Information on language endangerment in Irian Jaya has, in the framework of the New Guinea area endangered languages information project mentioned in §3.1, been provided by Theodorus Purba of the FKIP of Cendrawasih University in Jayapura, by members of the ISIR (Irian Jaya Studies) Programme, and the Projects Division, Department of Languages and Cultures of Southeast Asia and Oceania of Leiden University, and also by Mark Donohue, who was attached for a period to the Department of Linguistics in the Research School of Pacific and Asian Studies of The Australian National University in Canberra, and has extensive first-hand knowledge of the endangered language situation in some parts of Irian Jaya. Again, Grimes (1996) and the other sources mentioned in §3.1 before the listing of languages proved useful.

The number of local languages in Irian Jaya is over 250. The preliminary information at hand shows that 43 languages are affected by language endangerment, or are extinct. In addition, over 70 languages have small to very small numbers of speakers (usually below 400, down to below 100) many of which are, as is the case in Papua New Guinea with such languages, very likely to become endangered in Indonesia.

The slide from a healthy state of a language to endangerment and extinction tends to be more rapid in Irian Jaya than is usual in Papua New Guinea. For instance, Kwerisa, reported in 1993 to have 55 speakers past middle age, is listed by Purba as having only 15 today. Tobati, which in 1975 had 2,400 speakers, is given by Purba as having about 100 today, with all of them over 50 years old. Usku, which in 1991 had 150 speakers, is listed by him as having 20 today. Similarly, Dou (or Doutai) has dropped from 335 speakers in 1993 to 70 today (though the figure of 335 may well have included one or several of the other dialects of Turu of which Dou is one). A special case is Biak. It is the native language of the inhabitants of Biak and Numfor islands, north of Cenderawasih Bay, supposed to have 40,000 speakers. It has also been a widespread lingua franca with thousands of second-language speakers; some recent estimates put the total speaker numbers at close to 100,000, which seems to be overestimated. At the same time, according to the views of educated native Biak speakers who have academic linguistic training, the intercultural communication functions of the language are being rapidly superseded by Indonesian, and many Biak-speaking children prefer Indonesian and are forgetting their language.

In the following listing of Irian Jaya languages in danger of disappearing, Lf = lingua franca, trade language. For geographical names, the traditional ones have been largely used (the contemporary Indonesian ones may not be known to readers in other parts of the world where up-to-date maps of Irian Jaya may be hard to find).

**List of Irian Jaya languages in danger of disappearing:**

**Potentially endangered (15):**

|                                |               |  |
|--------------------------------|---------------|--|
| Arguni                         | A 250         | North-west Bomberai Peninsula  |
| Biak                           | A 40,000      | Lf to 100,000? (see above)   |
| Bedoanas                       | A 250         | North-west coast, Bomberai   |
| Damal (dialect of<br>Uhunduni) | P 4,000–5,000 | Lf – Central Highlands   |
| Demisa                         | P 500         | Lf – east coast Cenderawasih Bay and interior  |
| Erokwanas                      | A 250         | North-west Bomberai coast  |
| Fayu                           | P 400         | Lf – Western Lakes Plain – West of the Fou and<br>Dou River juncture, close to central range,<br>north-west of the Wano language |
| Isirawa (Saberu)               | P 2,000       | Lf – Western central north coast, west of<br>Sarmi town  |
| Itik                           | P 100         | Central north coast area, inland east of<br>Tor River  |
| Kowiai (Koiwai, Kaiwai)        | A 600         | Lf – Southwest coast opposite Bomberai<br>Peninsula, and on islands in the bay   |
| Momuna (Somahai)               | P 2,000       | Lf – Lowlands just south of main ranges, at<br>Eilanden (Catalina) River   |
| Onin                           | A 600         | North-west Bomberai Peninsula  |
| Ormu                           | A 500         | 25 km west of Jayapura, north coast  |
| Taikat (Arso)                  | P 600         | 25 km south of Jayapura  |
| Wano                           | P 3,500       | Lf – Central Highlands on upper Rouffaer<br>(Yamo) River   |

**Endangered (10):**

|  |        |   |
|--|--------|---|
| Borai  | P 100  | South of Manokwari, Bird's Head                                     |
| Dou (Doutai, Dou-Fou,<br>Taori, dialect of Turu) | P 70   | Western Lake Plain, upper Rouffaer River                            |
| Iresim   | A 100  | Southernmost part of Cenderawasih Bay                               |
| Kapori   | P 60   | North bank of the upper Idenburg River                              |
| Karas  | P 100? | On Karas Island in Sepora Bay, Western<br>Bomberai Peninsula        |
| Keder  | P 200  | Western central north coast, east of Tor River<br>mouth             |
| Kofei (dialect of Barapasi<br>or Baropasi)       | P 100  | About the middle of the eastern side of<br>Cenderawasih Bay, inland |
| Marengi (Marengge)                               | P 47?  | Inland from central north coast                                     |
| Moraori  | P 50   | South coast border area east of Merauke                             |
| Sause  | P 300  | North-east Irian Jaya, south of Lereh town                          |

**Seriously endangered (12):**

|            |   |   |
|------------|---|---|
| Bonerif    | P 4 or some<br>more (Purba<br>reports 40) | Central north coast area, inland, east of<br>the upper Tor River                    |
| Duriankere | P 100                                     | On a small island in the Raja Ampat Islands,<br>off the west end of the Bird's Head |
| Foya       | P 50?                                     | Upper Tor River area  |
| Kayupulau  | A 50                                      | On islands in Jayapura harbour  |

|                         |       |   |
|-------------------------|-------|---|
| Kwerisa (Taogwe)        | P 15  | Central Lakes Plain, lower Rouffaer River   |
| Liki (dialect of Sobei) | A 25  | On an island off the western central north coast                                      |
| Mander                  | P 20  | Western north coast area, inland, on the Bu River, a tributary of the upper Tor River |
| Massep                  | P 40  | North coast, east of Mamberamo River mouth  |
| Mor                     | P 60  | North-west Bomberai Peninsula coast at Binturi Bay                                    |
| Tobati                  | A 100 | South-east of Jayapura, close to it   |
| Usku                    | P 20  | South of Jayapura, 40km from it   |
| Yoki                    | P 40  | North-west coast, east of Mamberori River mouth                                       |

**Moribund (5):**

|        |            |  |
|--------|------------|--|
| Dusner | A 6        | West coast of Cenderawasih Bay, in Wandamen Bay. May be extinct now.               |
| Kembra | P 30       | East of the Sogber River, close to the border, far inland                          |
| Saponi | P under 10 | Inland from the central east coast of Cenderawasih Bay                             |
| Tandia | A 2        | Inland, south of Wandamen Bay, west coast of Cendarawasih Bay. May be extinct now. |
| Woria  | A 12       | Inland from central east coast of Cenderawasih Bay                                 |

**Extinct (1):**

|       |   |   |
|-------|---|---|
| Mapia | A | On Mapia Island, far to the north of Eastern Bird's Head. Westernmost Micronesian language, superseded by Biak. |
|-------|---|---|

A yet unpublished map of the languages in danger in the insular Greater Pacific area has been produced by the present writer, and work by him on the production of a detailed atlas of these languages, with relevant text materials, is in progress.

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# 24 *On interclausal reference in Kewa*

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APOI YARAPEA

## 1 Introduction

The main purpose of this paper is to propose new switch-reference markers for Kewa, particularly those of East Kewa.<sup>1,2</sup> Franklin (1971, 1983) describes Kewa as having a switch-reference system,<sup>3</sup> comparable to those in other Papuan languages (cf. Roberts 1997). Franklin (1983) describes coreference and switch-reference markers of Kewa. He states that reference is marked in coordinate medial clauses only, as in examples (1) and (2) below, taken from Franklin (1983:40).

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<sup>1</sup> An earlier draft of this paper was presented at the Second International conference on New Guinea languages and linguistics at Goroka in Papua New Guinea on the 26th September 1997. My thanks are due to members of my supervisory panel, Professor Andrew Pawley and Dr Tom Dutton, for their comments on various drafts of this paper. I am grateful to Dr Karl Franklin for his comments on an earlier version and for his intellectual support. However, Dr Franklin may not agree entirely with the proposals presented here and I take responsibility for weaknesses that may remain.

<sup>2</sup> Kewa language is spoken by over 60,000 speakers in Ialibu, Pangia, Kagua, Erave, Poroma and Mendi districts of the Southern Highlands Province of Papua New Guinea. Kewa belongs to the Trans New Guinea Phylum (TNGP), West-Central (Engan) Family, and Angal-Kewa Subfamily (SIL data base, Ukarumpa, PNG). It shares some of the main features of TNGP languages. It has SOV word order, serial verbs, and medial clauses. Dr Karl Franklin and his wife Joyce Franklin have researched the language since 1958 and published extensively in linguistic, anthropological and literacy fields. Karl Franklin's publications include a grammar (1971) and a dictionary (1978). The author's study of East Kewa – his mother-tongue dialect – commenced in 1991 with a MPhil dissertation submitted to the University of Sydney in 1992. Currently he is undertaking PhD research on morphosyntax and discourse features of Kewa, in the Research School of Pacific and Asian Studies, The Australian National University.

<sup>3</sup> The term 'switch-reference' was coined by Jacobsen (Roberts 1997:103). Matthews (1997:365) defines switch-reference as a grammatical system in which a marker indicates whether a subject or other argument of a following verb has or has not the same referent as that of the verb preceding. Haiman and Munro (1983) define switch-reference as an inflectional category of the verb, which indicates whether or not its subject is identical with the subject of some other verb.

- (1) *Ni piru-a na-wa.*  
 I sit-SEQ:SS eat-NP:1SG<sup>4</sup>  
 'I sat down and ate.'
- (2) *Ne ripina-ina-loa ni ta-lua.*  
 you grab-2SG:DS-SEQ I hit-FU:1SG  
 'You grab him and then I'll hit him.'

Both (1) and (2) have coordinate medial reference-marking clauses. In (1) the suffix *-a* 'SEQ:SS' (West Kewa) or *-ma* 'SEQ:SS' (East Kewa) marks coreference, i.e. the subject NP of the medial clause is the same (SS) as that of the final clause. Note that there is no subject agreement suffix marker. In (2) the pronominal subject agreement suffix *-ina* '2SG' is described as a switch-reference marker, i.e. the subject NP of the medial clause is different (DS) from that of the final clause. In this paper it will be argued that the pronominal subject agreement suffix of the subjunctive clause<sup>5</sup> is not a switch-reference marker. Instead the sequential marker *-loa* 'SEQ:DS' (West Kewa) or *-loma* 'SEQ:DS' (East Kewa) is the switch-reference marker.

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<sup>4</sup> Abbreviations used in the paper:

|                |   |           |   |
|----------------|---|-----------|---|
| 1              | first person                            | IRR       | irrealis verb (mood)  |
| 2              | second person                           | JUSS      | jussive mood  |
| 3              | third person                            | NEG       | negation marker   |
| AGN            | agentive case                           | NOM       | nominaliser   |
| ASP            | aspect                                  | NP        | near past tense   |
| AUG            | augment form                            | OBJ       | object relation   |
| BEN            | benefaction                             | PERM      | permissive mood   |
| CF             | contrastive focus                       | PL        | plural  |
| COMP           | complementiser                          | POS       | possessor   |
| COMPL          | completive aspect                       | PR        | present   |
| DESI           | desiderative modality                   | RP        | remote past tense   |
| DL             | dual                                    | S         | subject   |
| DS             | different subject (switch of reference) | SEQ       | sequential relation   |
| DUR            | durative relation                       | SG        | singular  |
| EMPH           | emphatic assertion                      | SIM       | simultaneous temporal relation                                      |
| excl.          | exclusive of addressee                  | SS        | same subject (coreference)  |
| EXHORT         | exhortative mood                        | SURP      | surprise assertion  |
| FU             | future tense                            | TOP       | topicaliser   |
| HRS            | hearsay evidential                      | tr./trans | transitive verb   |
| IMPER          | imperative clause                       | V         | verb  |
| incl.          | inclusive of addressee                  | VAD       | validated assertion or assertion<br>validated as a true proposition |
| intr./intrans. | intransitive verb                       |           |   |

<sup>5</sup> In Kewa a subjunctive clause has a medial non-finite verb which is suffixed by subject-agreement suffixes. The use of the subjunctive clause in Kewa is not like the use of subjunctive in European languages (see Haiman 1987:361; Matthews 1997:365) where they are used to express uncertain statements or the speaker's lack of commitment to the truth of what s/he is reporting. It occurs as complement clauses of reported speech as in English (see Hurford 1994). As an independent mood clause, it encodes obligative and permission modes, as in Upper Asaro (see Strange 1973), and is used to impose obligation (as in the sense of Sweetser 1990) based on inferential knowledge or self-ascribed knowledge of the speaker (see Peacocke 1997) of the need or necessity to realise the action by the subject (actor) of the subjunctive clause.

## 2 Previous work on interclausal reference in Kewa

Franklin (1971, 1983) describes medial clauses and suffixes that mark coreference and change of reference in Kewa. Tables 1 and 2 present Franklin's same-subject (SS) and different-subject (DS) suffixes that monitor interclausal reference in two dialects of Kewa.

**Table 1:** Coreference markers in Kewa (Franklin 1983:42)

|       | Paradigm: SS Suffixes |            |               |                   |
|-------|-----------------------|------------|---------------|-------------------|
|       | WEST Kewa             |            | EAST Kewa     |                   |
|       | -BEN                  | +BEN       | -BEN          | +BEN <sup>6</sup> |
| SEQ   | (V)- <i>a</i>         | <i>wa</i>  | (V) <i>ma</i> | <i>oma</i>        |
| SIM   |                       |            |               |                   |
| unit  | V                     | <i>aa</i>  | V             | <i>au</i>         |
| split | <i>ri</i>             | <i>ama</i> | <i>ri</i>     | <i>ara</i>        |

**Table 2:** Switch-reference markers in Kewa (Franklin 1983:44)

|    | Paradigm: DS Suffixes |                           |                           |
|----|-----------------------|---------------------------|---------------------------|
|    | Singular              | Dual                      | Plural                    |
| 1. | <i>no</i>             | <i>pana</i>               | <i>mana</i>               |
| 2. | <i>ina</i>            | ( <i>li</i> ) <i>pina</i> | ( <i>li</i> ) <i>mina</i> |
| 3. | (V) <i>na</i>         | (V) <i>na</i>             | (V) <i>na</i>             |

Franklin (1983:40-41) lists the following characteristics of medial and final verbs in Kewa which are common to many Papuan languages (Longacre 1985; Haiman 1987; Roberts 1997):

- (a) person, number, and tense are always marked on the final verb;
- (b) temporal and logical relationship between clauses is always marked on the medial verb;
- (c) switch-reference is always marked on the medial verb;
- (d) reference chains may be interrupted by particles which specify distinct interclausal relationships such as reason–result, thesis–antithesis, and cause–effect;
- (e) medial verbs combine with deictic forms to link sentences in discourse.

He (1983:41) distinguishes medial coordinate and subordinate clauses:

Medial verbs are, in an intuitive sense, *dependent* on the following verb (this is the meaning of properties (b) and (c): but they are not *subordinate*, and the relationship between medial and the following clause is generally one of coordination. The term subordinate is reserved for medial verbs occurring with one of the diacritic particles [subordinating conjunctions] of (d)

<sup>6</sup> Benefaction is a distinct grammatical category marked invariably by the morpheme *-a* in East Kewa. It is not part of the switch-reference monitoring morphology, therefore falls outside the scope of this paper.

In this paper we will propose the following revisions of Franklin's account of medial clause and reference marking in Kewa:

1. Adverbial subordinate non-finite medial clauses are morphologically distinct from adverbial subordinate non-final finite clauses.
2. Adverbial subordinate non-finite medial clauses are morphologically distinct from coordinate medial non-finite clauses.
3. The subjunctive is an independent mood clause and does not exist only to mark switch-reference. Thus subject-agreement suffixes of the subjunctive clauses are not switch-reference markers.

### 3 Subordinate and coordinate medial clauses of Kewa

Generally, any clause in a sentence which is not a final main clause is a non-final or a medial clause. It modifies the main clause unless it is in an addition relation with the main clause. We distinguish non-finite and finite non-final clauses and further distinguish subordinate and coordinate medial clauses. The following examples illustrate these differences.

- (3) *Naaki ipu-la-da ni pu-lu.*  
 boy come-PR:3SG-because I go-PR:1SG  
 'Because the boy is coming, I am going.'
- (4) *Nogo agale la-ri epa-a.*  
 girl talk say-SIM:SS come-NP:3SG  
 'As the girl was talking, she came.'
- (5) *Ali ipu-ma pua-a.*  
 man come-SEQ:SS go-NP:3SG  
 'The man came and went.'
- (6) *Winya pe-na-loma nogo epa-a.*  
 man go-3SG-SEQ:DS girl come-NP:3SG  
 'The woman had gone and the girl came.'
- (7) *Ipu-luaa-no pua-a.*  
 come-DUR:DS-1SG go-NP:3SG  
 'While I was coming, he went.'

Sentence (3) has a finite adverbial subordinate medial clause whose subject NP has a disjoint reference from the subject NP of the main clause. Sentence (4) has a non-finite adverbial subordinate medial clause whose subject NP is coreferential with the subject NP of the final clause. Sentence (5) has a non-finite coordinate medial clause marked for coreference with the subject NP of the final clause. Sentence (6) has a non-finite coordinate medial clause marked for switch-reference with the subject NP of the final clause. The switch-reference marker is the sequential different subject marker *-loma* and not the subject agreement suffix *-na* '3SG'. Sentence (7) has an adverbial subordinate non-finite clause which is marked for change of reference by the durative different subject marker *-luaa*.

We make the following points:

1. Only medial non-finite clauses mark coreference or change of reference.
2. Non-final finite adverbial subordinate clauses are irrelevant as they are not marked by switch-reference monitoring morphology.
3. Both non-finite subordinate and coordinate medial clauses are marked by reference monitoring morphology. A simultaneous temporal marker marks a medial clause as an adverbial subordinate<sup>7</sup> medial clause and a sequential temporal marker marks a medial clause as a coordinate medial clause.
4. Final clauses are marked for tense, subject agreement and mode. Absolutive tense and mode (both modality and speech act) may never be marked on non-finite medial clauses marking switch reference; they are dependent on the final clauses for these categories.

#### 4 Subject agreement suffixes of Kewa

In order to establish coreference and switch-reference markers of Kewa, and to make the point that subjunctive clause subject-agreement suffixes are not switch-reference markers, we contrast subject-agreement suffixes of Kewa mood clauses.

##### 4.1 Mood clauses of Kewa

Kewa has three grammatical mood clauses – the declarative, the imperative and the subjunctive. Tables 3, 4 and 5 present the subject-agreement suffixes of these mood clauses in East Kewa.

**Table 3:** Subject suffixes in the declarative mood

| Person/number | Present | Near Past | Remote Past | Future | Habitual |
|---------------|---------|-----------|-------------|--------|----------|
| 1 SG          | -lo     | -wa       | -ka         | -lua   | -e       |
| 2SG           | -le     | -e        | -si         | -li    | -le      |
| 3SG           | -la     | -a        | -sa         | -lia   | -a       |
| 1 DL          | -lepa   | -pa       | -sipa       | -lipa  | -pa      |
| 2/3 DL        | -lepe   | -pa       | -sipi       | -lipi  | -pe      |
| 1 PL          | -lema   | -ma       | -sima       | -lima  | -ma      |
| 2/3 PL        | -leme   | -me       | -simi       | -limi  | -me      |

The declarative predicate has subject suffixes in first, second and third persons. These suffixes have singular, dual and plural forms which vary with tense and occur as portmanteau (or fused) tense-subject-number suffixes.

<sup>7</sup> In Papuan linguistics 'clause chaining' involving medial verbs is generally considered a case of coordination (e.g. Reesink 1983:226; Franklin 1971, 1983). In Kewa simultaneous medial clauses are adverbial clauses which express presupposition and simultaneous and durative temporal relation. They modify the final clause. The morpheme *-ri ~ re ~ ra* which marks coreference is a topic marker which also marks subordinate conditional clauses. Only the medial non-finite clause marked by a sequential relation marker *-ma* occurs in a linear addition relation. No presupposition is expressed by coordinate medial clauses.

**Table 4:** Subject suffixes in the imperative mood

| Immediate imperative  | Non-immediate imperative  | Negative imperative   |
|---|---|---|
| Singular:<br>Verb (stem)                                      | Singular:<br><i>V-pe</i>  | Singular:<br><i>na- 'NEG'V-pe</i>   |
| Non-singular:<br><i>V-lepa</i> (tr.)<br><i>V-lupa</i> (intr.) | Non-singular:<br><i>V-lepape</i> (tr.)<br><i>V-lupape</i> (intr.) | Non-singular:<br><i>na- 'NEG'V-lepape</i> (tr.)<br><i>na- 'NEG'V-lupape</i> (intr.) |

The imperative verb has second person subject suffixes which contrast singular and non-singular. The non-singular subject suffixes are marked.

**Table 5:** Subject suffixes in the subjunctive mood

| Number   | First person   | Second person   | Third person |
|----------|--|---|--------------|
| Singular | <i>V-no</i>  | <i>V-ina</i>  | <i>V-na</i>  |
| Dual     | <i>V-pono</i>  | <i>V-lipina</i>   | <i>V-na</i>  |
| Plural   | <i>V-mono</i>  | <i>V-limina</i><br><i>V-mena</i> , only with the verb <i>te</i><br>'to say/tell' in the irrealis mood | <i>V-na</i>  |
|          | Inclusive:<br><b>dual:</b><br><i>V-pona</i> '1SG+2SG'<br><b>plural:</b><br><i>V-mina</i> '1+2PL' |   |              |

The subjunctive verb subject suffixes are in first, second and third persons. Only the first and second person have singular, dual and plural suffixes, whereas the third person makes no number distinction. Free pronouns as subject NPs must occur to indicate number in the clause when third persons are subjects.

Note that imperative and the subjunctive clauses have irrealis mood, i.e. both express events to be realised after the speech moment and they lack tense marking. The declarative and the subjunctive are similar in that they are both statements.

## 4.2 Coreference and switch-reference markers of Kewa

As the subjunctive mood clause exits as an independent mood clause, which is marked for speech-act categories like the declarative and the imperative, we suggest that the subject-agreement suffixes are not switch-reference markers. Instead we propose sequential, simultaneous and durative markers as coreference and switch-reference markers. Table 6 presents East Kewa reference markers.

Table 6: Reference markers of East Kewa

| Same subject (coreference)   | Different subject (switch reference)   |
|--|--|
| Non-finite coordinate medial declarative clause:<br><i>-ma</i> 'SEQ:SS'  | Non-finite coordinate medial subjunctive clause:<br><i>-loma</i> 'SEQ:DS' (human subject)<br><i>-loma</i> 'SEQ:SS' (inanimate subject)   |
| Declarative non-finite subordinate medial clause:<br><i>-ri</i> 'SIM:SS'<br><i>-luara</i> 'SIM:SS' (intrans. motion verbs)<br><i>-loara</i> 'SIM:SS' (trans. motion verbs)<br><i>-lupiri</i> 'SIM:SS' (intrans. non-motion verbs)<br><i>-lopiri</i> 'SIM:SS' (trans. non-motion verbs) | Subjunctive non-finite subordinate medial clauses:<br><i>-luaa</i> 'DUR:DS' (intrans. motion verbs)<br><i>-loaa</i> 'DUR:DS' (trans. motion verbs)<br><i>-lupisa</i> 'DUR:DS' (intrans. non-motion verbs)<br><i>-loписа</i> 'DUR:DS' (trans. non-motion verbs) |

A declarative clause is used as a medial for marking a coreferential relation between two clauses. The final clause may be a declarative, an imperative or a subjunctive clause. For example, sentences (8) and (11) have declarative final clauses, sentences (9) and (12) have non-immediate imperative final clauses, and sentences (10) and (13) have subjunctive final clauses.

- (8) *Rai mu-ma pa-li.*  
 axe get-SEQ:SS go-FU:2SG  
 'You will get the axe and go.'
- (9) *Rai mu-ma po-pe.*  
 axe get-SEQ:SS go-IMPER  
 '(You) get the axe and go (non-immediate command).'
- (10) *Rai mu-ma pa-ina.*  
 axe get-SEQ:SS go-2SG  
 'After you get the axe, you should go.'
- (11) *Ada pu-luara rai gi-a.*  
 house go-SIM:SS axe give-NP:3SG  
 'While s/he was going home, s/he gave me the axe.'
- (12) *Wepo la-ri po-pe.*  
 whistle say-SIM:SS go-IMPER  
 'As you whistle, go.'
- (13) *Eda na-ri po-no.*  
 food eat-SIM:SS go-1SG  
 'While I am eating food, I should go.'

Sentences (8)–(10) are coordinate sentences characterised by their medial clauses being marked by the sequential coreference marker *-ma* 'SEQ:SS', and sentences (11)–(13) are adverbial sentences characterised by their medial clauses being marked by simultaneous SS marker *-luara* 'SIM:SS' and simultaneous SS marker *-ri* 'SIM:SS'.

A subjunctive clause is employed syntactically as a medial clause for marking a change of reference between two clauses. The final clause may be a declarative (14), an imperative (15) or a subjunctive clause (16).

- (14) *Rai mea-ina-loma epa-wa.*  
axe get-2SG-SEQ:DS come-NP:1SG  
'You had got the axe and I come.'
- (15) *Ada pu-luaa-na tya-pe.*  
house go-DUR:DS-3SG hit-IMPER  
'While s/he is going home, (you sg.) hit someone.'
- (16) *Rai mea-loaa-no pa-ina.*  
axe get-DUR:DS-1SG go-2SG  
'While I am getting the axe, you should go.'

Sentence (14) is a coordinate sentence characterised by the sequential different subject marker *-loma* 'SEQ:DS', and sentences (15) and (16) are adverbial sentences characterised by the durative markers *-luaa* and *-loaa*.

It is important to note that when the subjunctive clause is syntactically employed medially to mark switch-reference the semantic obligative or permission mode (depending on pragmatic context) encoded by the subjunctive mood clause is neutralised. When the subjunctive clause occurs as a final clause or as an adverbial subordinate clause without the switch-reference morphology, it encodes obligative or permission mode (see §5 for a detailed discussion of the syntactic and semantic functions of the subjunctive clause).

#### 4.2.1 *Subject-agreement markers are not switch-reference markers*

In this section we demonstrate that subject-agreement markers of the subjunctive clause are not switch-reference markers. We have a perfect example in (17) of the subjunctive clause in a thought-reporting clause where there is no change of reference.

- (17) *Ni po-no kone sa-lo.*  
I go-1SG thought put-NP:1SG  
'I think "I have to/should go".' (lit. 'I am putting thought "I have to go"'.')

Example (18), from Franklin (1983:46), is a West Kewa example of a change of reference between the subject NP of the reported clause which functions as an object complement and the subject NP of the reporting clause. Franklin claims that the subjunctive clause subject-agreement suffix is the switch-reference marker in (18).

- (18) *Go-a lo-a-re go-re*  
that-and utter-SEQ:SS-TOP that-TOP  
'*sukulu gima-ina* *si-mi-de.*  
school leave-2SG utter-RP.3PL-COMPL  
'Having said that, they said "You should leave school".'

There is no switch-reference marking in (18). The reported clause is a subjunctive clause. This example contradicts Franklin's implicit claim that linear adjacency of a subjunctive clause and a non-subjunctive clause is a case of coordination involving switch-reference marking. He states (Franklin 1983:45) "since switch-reference is not normally marked between a



complement clause and a superordinate clause, this is a remarkable fact: but it is generally the case that the complement of a verb of quotation is treated in this way". Another problem of treating the independent subjunctive clause as a medial coordinate clause is demonstrated in Franklin given below as example (19).

- (19) *Ne sapi na-ina gia-no.*  
 you sweet.potato eat-2SG give-1SG  
 'You should eat sweet potato, and I give it to you.'  
 ['You have to eat sweet potato, (so) I have to give it to you.'  
 OR: 'Can I give you sweet potato to eat?' (if there is a question intonation)]

This author's translation is in the square brackets. Again there is no switch-reference marker. The two clauses are simply two independent subjunctive clauses in juxtaposition, and therefore linked by inference. Franklin interprets (19) as a coordinate construction, but suggests that the whole construction be treated as a subjunctive in the absence of a final finite clause.

We have so far claimed that the switch-reference marker is the sequential DS marker *-loma*, which marks the subjunctive clause occurring medially in a coordinate sentence. This claim needs to be qualified by illustrating cases where *-loma* does not mark a change of reference. Consider the examples below.

- (20) *Ne-me repona wi-na lo-ma pua-wa.*  
 I-AGN wood leave-it say-SEQ:SS go-NP:1SG  
 'I said, "wood has to stay" and went.'
- (21) *Ne-me repona wi-na-loma pua-wa.*  
 I-AGN wood leave-it-SEQ:SS go-NP:1SG  
 'I left the wood and went.'
- (22) *Ipu-me repona wi-na-loma pua-a.*  
 he-AGN wood leave-3SG-SEQ:SS go-NP:3SG  
 'He left the wood and went.'

Example (20) presents a well-formed coordinate sentence where the non-final clause has an embedded object complement clause, but it is semantically odd as speakers do not often speak to themselves. Here the medial subjunctive clause has an inanimate subject NP which fills the object complement slot of a coordinate medial verb *lo* 'to say'. One way of raising the underlying subject of the subjunctive clause to a surface subject NP is to reanalyse the medial coordinate verb *lo-ma* 'say-SEQ' as a coordinating suffix *-loma* 'SEQ:SS', as in (21) and (22), and a switch-reference marker *-loma* 'SEQ:DS', as in (23). This is what is likely to have happened diachronically.<sup>8</sup> The reanalysis of medial verbs as conjunctions is pervasive in Kewa. Another example is *go-a* (West Kewa) or *gu-ma* having done that then' (East Kewa) in sentence (18) above.

Notice that in examples (21) and (22) there is no switch-reference marking despite the marking of the medial clause by the sequential and coordination marker *-loma*. The explanation for this fact is that switch-reference monitors only topical animate referents, prototypically human referents, as in examples (23)–(25).

<sup>8</sup> This process of clause reduction and reanalysis is hypothesised by Haiman (1987) to be responsible for medial verb creation in many Papuan languages.

- (23) *Ipu eda ne-na-loma epa-me.*  
 s/he food eat-3SG-SEQ:DS come-NP:3PL  
 'S/he had eaten food, and they came.'
- (24) *Ipu-luaa-na pua-wa.*  
 come-DUR:DS-3SG go-NP:1SG  
 'While s/he was coming, I went.'
- (25) *Agale la-lopisa-ina pa-simi.*  
 agale say-DUR:DS-2SG go-RP:3PL  
 'While you were talking, they went.'

As in examples (23)–(25) the presence of sequential and simultaneous relation or switch-reference markers neutralises the deontic modality of the subjunctive clause and it becomes employed syntactically as a medial reference-marking clause. Note that (23) is not a case of sloppy coreference, because s/he is excluded from the third person plural 'they'.

In sum we have demonstrated coreference and switch-reference marking in both subordinate adverbial and coordinate medial clauses. The markers also encode semantic categories of aspect (sequential–completive aspect and simultaneous and durative–imperfective and durative aspects, and relative tenses). Table 7 summarises the proposed coreference and switch-reference markers for two dialects of Kewa.

**Table 7:** Coreference (SS) and switch-reference (DS) markers of Kewa

| East Kewa  | West Kewa  |
|--|--|
| <i>-ma</i> 'SEQ:SS'  | <i>-a</i> 'SEQ:SS'   |
| <i>-loma</i> 'SEQ:SS' (inanimate NP in the subjunctive)  | <i>-loa</i> 'SEQ:SS' (inanimate NP in the subjunctive)   |
| <i>-loma</i> 'SEQ:DS' (human (animate) NP) in the subjunctive medial clause  | <i>-loa</i> 'SEQ:DS' (human (animate) NP) in the subjunctive medial clause   |
| Non-subjunctive subordinate medial clause temporal markers:<br><i>-ri</i> 'SIM:SS'<br><i>-luara</i> 'SIM:SS' (intrans. motion verbs)<br><i>-loara</i> 'SIM:SS' (trans. motion verbs)<br><i>-lupiri</i> 'SIM:SS' (intrans. non-motion verbs)<br><i>-lopiri</i> 'SIM:SS' (trans. non-motion verbs) | Non-subjunctive subordinate medial clause temporal markers:<br><i>-ri</i> 'SIM:SS'   |
| Subjunctive subordinate medial clauses temporal markers:<br><i>-luaa</i> 'DUR:DS' (intrans. motion verbs)<br><i>-loaa</i> 'DUR:DS' (trans. motion verbs)<br><i>-lupisa</i> 'DUR:DS' (intrans. non-motion verbs)<br><i>-lopisa</i> 'DUR:DS' (trans. non-motion verbs)                             | *Durative markers for West Kewa are not clear from Franklin (1983) but we can expect to find East Kewa equivalents in West Kewa. |

Kewa has a canonical switch-reference system, one which meets the following formal and functional conditions (cf. Stirling 1993:6-7):

(1) The Locality Condition

The switch-reference relation holds between just two clauses. The relation between the marked and the controlling clause is a local one, i.e. the clauses are linearly adjacent.

(2) The Dependency Condition

The medial clause marking switch-reference is dependent on the final clause for absolutive tense and mood.

(3) The Realisation Condition

Switch-reference is marked by contrastive suffixation on the verb of the dependent clause. The normal order of the two clauses is marked clause followed by the controlling clause.

(4) The Subject Condition

Switch-reference monitors surface syntactic subject of the marked and controlling clause.

(5) The Functional Condition

Switch-reference signals obligatory co/disjoint reference between the subject NPs.

## 5 Syntactic and semantic functions of the subjunctive mood clause

In languages that have subjunctive mood it occurs syntactically in subordinate contexts, expressing irrealis mood (Saeed 1997:129; Haiman 1987). In this section we will look at the main syntactic and semantic functions of the subjunctive mood clause in Kewa.

### 5.1 Syntactic functions

The main syntactic functions of the subjunctive clause are as object complements of reported clauses, adverbial clauses and medial switch-reference marking clauses. Each of these uses is exemplified with excerpts of natural discourse in examples (26)–(44) below.

#### 5.1.1 Object complement function

The subjunctive mood clause occurs in reported speech as the object complement clause of the reporting clause. The main verb of reporting is *la* ‘to say/talk’ or its irrealis forms *te/to*. Also a thought is expressed as a reported thought by the mental verb *kone sa* ‘to think’.

From text about a bride-price negotiation

- (26) *Ni epa-ya-la-me-ai-ri go-ai kama la-mina*  
 I come-call-say-NP:3PL-NOM-TOP this-NOM only say-1PL

*loma la-me-pa?*

COMP say-NP:3PL-or?

‘As for your calling me, did you say that we should talk only about this (matter)?’

From text about negotiating a pig sale

- (27) *Ipu abola kala-pona loma la-lo-pe.*  
 he first give-1DL COMP say-PR:1SG-EMPH  
 'I am saying that we should give it (money) to him first.'

From text about a truck dispute

- (28) ...*Semesi-mi pea-mina la-a-da la-le-pa lu-ka?*  
 James-AGN do-1PL say-NP:3SG-COMP say-PR:2SG-or? say-RP:1SG  
 'I said, "Did James say that we should do it"?"

From text about a truck dispute

- (29) ...*go agale kama paga-mono ta-pa la-lo-pe.*  
 that talk only hear-1PL say-1DL say-PR:1SG-EMPH  
 'I am saying, "You two talk, we must hear it".'

- (30) *Kare warua-pe ada meda pea-mina li-sa.*  
 car make-IRR house one:INDEF do-1PL say-RP:3SG  
 'He said, "We should build a workshop for fixing cars".'

From text about Kasa's pig

- (31) *Ne-me go la-lo-ai abola le-na kone sa-lo.*  
 I-AGN that say-PR:1SG-NOM first say-3SG thought put-PR:1SG  
 'I think, "It (tape recorder) should play back (lit. say) the one I am saying first".'

As in (26) and (27), the medial clause *lo-ma* 'say-SEQ' functions as a complementiser *loma* 'that' when it is followed by a clause, especially one with a reporting verb. It is not a switch-reference marker because the subjunctive clause expresses modality.

### 5.1.2 Subordinate adverbial function

Subjunctive adverbial subordinate clauses also encode deontic modality. The following examples provide evidence for this point.

From text about a truck dispute

- (32) *Dia-le te-mena, te-me-dare te-mena.*  
 no-so say-2PL say-FU:2PL-if say-2PL  
 'No, so you should talk about it, if you will talk about it, you should talk about it.'

In example (32) there are two sentences in apposition. Each sentence has a subjunctive final clause. The subject agreement suffix *-mena* '2PL' occurs when the verb *te* 'to say' has irrealis status (subjunctive or future tense). The subjunctive encodes the actor's obligation, which may be imposed by the speaker, to realise an event rather than expressing a non-commitment.

From text about a bride-price negotiation

- (33)a. ...*seteke deke ta-mina-loma epa-wa.*  
 statutory declaration hit-1PL-and.so come-NP:1SG  
 '...we should write a statutory declaration and [that's why] so I came.'

- b. ...seteke deke ta-mina-lo-ma epa-wa.  
 statutory declaration hit-1PL-DESI-and come-NP:1SG  
 ‘...I want us to write a statutory declaration and [that’s why] I came.’

Utterance (30) may be analysed as (33)a where there is a causal relation between the subjunctive and the final declarative clause or as (33)b where *-lo* functions as a desiderative mode marker and *-ma* ‘and’ links the clauses sequentially. In both cases there is no prototypical switch-reference because the subjunctive clauses encode modality.

From text about a bride-price negotiation

- (34) *Baradi parasi sa-mina-ya-da epa-ma.*  
 bride price put-1PL-be:DESI-because come-NP:1PL  
 ‘Because we want us (incl.) to fix [put] bride price, we came.’

From text about Kasa’s pig

- (35) *Abi-ri tukiloko pea-a-na-le po-no.*  
 now-TOP 2.o’clock do-NP:it-INF-so go-1SG  
 ‘It is two o’clock, so I should/must go.’

The adverbial subordinate clauses are linked by subordinators *-da* ‘because’ in (34) and *-le* ‘so’ in (35). In these sentences the subjunctive clauses express desiderative and obligative modalities respectively. There is no switch-reference marking in either sentence.

### 5.1.3 Switch-reference marking function

We have previously described switch-reference marking in subjunctive non-finite clauses. Here we provide a few more examples.

#### 5.1.3.1 Switch-reference marking in adverbial subordinate clauses

As the examples from natural discourse below show, genuine change of reference is only marked on the subjunctive clause by simultaneous and sequential markers. When these temporal markers occur the modality encoded in the subjunctive clause is neutralised so that it no longer expresses modality when functioning as a subordinate adverbial medial clause (or as a coordinate medial clause), as the examples below demonstrate.

From Waba’s wood-chopping story

- (36) *Ni-ri po-relè-pea-loaa-limina epa-wa-de.*  
 I-TOP chop-split-do-DUR:DS-2PL come-NP:1SG-VAD  
 ‘While you were splitting the wood, I came.’

In (36) *-loaa* ‘DUR:DS’ is the switch-reference marker which gives the medial clause its subordinate clause status.

From text about Kasa’s pig

- (37) *Pa ma-lu-pi-a-sa-de, ni so Ialibu aa-no.*  
 just get-hit-do-AUG-RP:3SG-VAD I upward Ialibu stand:be:DUR:DS-1SG  
 ‘He just got and killed it (the pig), while I was at Ialibu.’

In (37) the verb *aa* 'to stand or be' is stative verb which is functioning also as a switch-reference marker (see §6 below for a discussion on the origin of coreference and switch-reference markers). The linear order of switch-reference marking subordinate clause and the controlling clause is not structurally fixed, as in (37), whereas it is in coordinate clauses. This is further evidence of its subordinate status.

From text about negotiating a pig sale

- (38)     ...*epa-sa-pisa-no*                    *abi-ri*    *sarere lapo apo koma-la*.  
           come-keep-sit:DUR:DS-1SG now-TOP week two there die-PR: it  
           'It is now two weeks since (duration) I've brought the pig.'

In (38) the stative verb *pisa* 'to sit or to be' functions as a switch-reference marker. As long as the subject NP of the subjunctive clause is human, the subject NP of the final clause may be inanimate.

### 5.1.3.2 *Switch-reference marking in a coordinate clause*

As we have demonstrated earlier, the subjunctive clause is employed syntactically as a medial non-finite coordinate clause when marked by the sequential marker *-loma* 'SEQ'. For *-loma* 'SEQ' to mark a canonical switch-reference situation, the subject NP of the subjunctive clause must at least be animate if not human. The sequential marker effectively neutralises the deontic modality of the subjunctive clause, as (39), (40) and (41).

From text about a truck dispute

- (39)     *Tabulu po-pe-na-loma ni makira-sa-ya*.  
           Tambul go-do-3SG-SEQ:DS I fool-RP:3SG-HRS  
           'He had gone to Tambul, and he fooled me.'
- (40)     *Naaki epe-na-loma pua-me*.  
           boy come-3SG-SEQ:DS go-NP:3PL  
           'The boy had come, and they went.'
- (41)     *Ni kana mea-no-loma kaba-mina*.  
           I money get-1SG-SEQ:DS buy-1PL  
           'After I get the money, we (incl.) can buy it.'

As in examples (39)–(41) a change of reference between the same-person category, e.g. third person or first person, is possible. Sequential additional relation allows switch-reference between same-person categories, but not same-person and same-number.<sup>9</sup> As in (41), the

<sup>9</sup> When the subjunctive clause is a coordinate medial clause a change in number is treated as a change of reference. It is not possible for speakers to monitor switch-reference as Franklin (1983:46) suggests: "the speaker has the option of treating them [subjects] as coreferential (SS) or different (DS on the verb)". In subordinate subjunctive medial clause it is impossible for the same person to be part of an activity of another person at the same time. Therefore we have disjoint reference. Switch-reference is grammaticalised by grammatical relation markers and by the selection of irrealis mood clauses, and not determined by pragmatic factors as Reesink (1983:229) or Franklin (1983:46) suggest for Kewa. The exception is where the subject NP of the switch-reference marking clause (the subjunctive) is inanimate, and the controlling clause subject is animate, prototypically human, where there is coreference (SS) as demonstrated in §4.2.1.

subjunctive clause occurring as a final clause encodes modality. Note that (41) is a coordinate sentence and not a subordinate adverbial clause as the translation seems to indicate because both clauses are in an addition (sequential) relation.

## 5.2 Semantic functions of the subjunctive mood clause

The subjunctive is an irrealis mood and semantically it expresses obligative or permission mode. Speech acts are marked by speech act morphology, as in the declarative and the imperative mood clauses.

### 5.2.1 Unmarked modes: obligative and permission mode

As an independent clause, the subjunctive clause encodes obligative, as in example (42), or permission mode, as in (43). The pragmatic context determines the interpretation of obligative and permission mode.

From text about a pig's problem

- (42) *Mo mena-re ora ma-koma-pona.*  
 that pig-TOP really cause-die-IDL  
 'We must really kill that pig.'

From text about negotiating a pig sale

- (43) *Winya epe-te-a-re winya ma-kato-a, winya-da pua-ko-te-a-dare*  
 lady good-say-it-if lady get-give-FU:1SG lady-CF go-bad-say-it-if  
*go-re ipi-na mi-lipina la-a-de.*  
 that-TOP(then) you:DL-POS get-2DL say-NP:3SG-VAD  
 'He said that if the bride-price negotiation is successful, I will get (the pig) and give it to the lady, if the bride-price is unsuccessful, then you two can get it.'

### 5.2.2 Marked speech acts of subjunctive clauses

Various speech-act markers express categories of irrealis mood in independent clauses.

#### 5.2.2.1 Surprise assertion

As in example (44), the morpheme *-ra* marks surprise assertion, while *-wa* marks pending aspectual meaning.

From text about negotiating a pig sale

- (44) *O mena ipu-na agiara lopo-me ta-pe pi paga-pona-wa-ra.*  
 here pig it-POS parent dual-AGN say-IRR talk hear-IDL-ASP-SURP  
 'We have to hear what the pig's owners will say.'

5.2.2.2 *Permission*

The morpheme *-ya* marks permissive mode. The speaker seeks permission from the addressee to do something or seeks permission on behalf of a third person.

- (45)a. *Repona mea-pono-ya?*  
 wood get-1DL-PERM  
 'Shall we (two) get wood?'  
 b. *Rai naga-pi-na-ya?*  
 axe sharpen-do-3SG-PERM  
 'Shall he sharpen the axe?'

5.2.2.3 *Jussive mode*

The jussive mode is marked by *-wa*. This morpheme concurrently marks events pending completion (imperfective aspect). The speaker allows himself or a third person to do something (that is pending completion) by restraining the addressee.

- (46)a. *Ni ada po-no-wa.*  
 I home go-1SG-JUSS  
 'Allow me to go home.'  
 b. *Imu eda ne-na-wa.*  
 they food eat-3SG-JUSS  
 'Allow them to eat food.'

5.2.2.4 *Exhortative mode*

The exhortative mode is marked by the suffix *-pea* in East Kewa and *-paa* in West Kewa (Franklin 1971:113). It is derived from the reanalysis of an imperative clause *pe-a* '(you) do something'. The speaker exhorts second and third persons to do something with him. The inclusive first person pronominal subject-agreement markers of the subjunctive clause *-pona* '1SG:2SG' and *-mina* '1:2PL' are used in exhortative constructions.

- (47)a. *Repona mea-pona-pea.*  
 wood get-1DL-EXHORT  
 'Let us (incl.) get the wood.'  
 b. *Eda mea-mina-pea.*  
 food take-1PL-EXHORT  
 'Let us (incl.) take the food.'

## 6 Origin of reference markers

Diachronically interclausal reference markers appear to have developed from lexical verbs. Evidence from East Kewa indicate the following observations.



## 7 Conclusion

This paper has made the following observations about Kewa interclausal reference system.

- (1) Coreference and change of reference are marked only by simultaneous and sequential markers which encode the semantic categories of aspect (imperfective and perfective aspects respectively) and not by subject-agreement suffixes.
- (2) Coreference and change of reference is marked in non-finite clauses in both subordinate and coordinate medial clauses, rather than only in coordinate medial clauses.
- (3) A canonical switch-reference situation exists when a subjunctive clause is marked by sequential and durative markers resulting in medial clause status and neutralisation of the modality of the subjunctive mood clause.

Based on these observations, typologically Kewa is like the majority of languages in the Trans New Guinea Phylum (TNGP) that have suffixes marking different subject (DS) which are distinct from the suffixes marking person and number of the subject of the verb (cf. Roberts 1997:193).

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**-ma 'SEQ:SS'**. The form *ma* has many functions in East Kewa. As a serial verb preceding a transitive verb it has the meaning *to get*, e.g. *ma-gi* 'get-give = get it and give me' or *mea pu* -> *ma-pu* 'get-go = get it and go'. Before intransitive verbs in serialisation it functions as a causative verb derivational affix, e.g. *ma-pua* 'make/get-go = cause to go'. As a discourse linker it often combines with deictic or demonstrative forms, e.g. *gu-ma* 'that-cause' or *go-pu-ma* 'that-do-cause = having done that', etc. Franklin and Franklin (1978:176) states that *-mea* is used as a same subject (or sequential marker) in some areas of West Kewa. It seems clear from these distributions that *ma* is a medial verb form of the lexical verb *mea* 'to get'.

**-loma 'SEQ:DS'**. This morpheme is a reanalysed serial verb *lo-ma* 'say-get => say:SEQ'. The verb *lo* 'to say' grammatically relates the subjunctive clause as an object complement and the sequential marker *-ma* marks the subjunctive clause as a medial coordinate clause. Diachronically through a process of clause reduction and/or reanalysis, the suffix morpheme *-loma* 'SEQ' has evolved in Kewa. The reduction of clauses to form clause or discourse linkers is transparently pervasive in Kewa synchronic grammar.

**-ri 'SIM:SS'**. The morpheme *-ri* ~ *re* is a topic marker at the sentence level. The marked constituent is often interpreted as a subordinate adverbial clause, e.g. *ali-re* 'as for the man', *epa-lia-re* 'if he comes', *na-ri* 'as someone was eating'. In the relative clauses it functions as a realis verb, e.g.

(48) *Yana-me mena-me re pu na-a.*

dog-AGN pig-AGN emit urine eat-NP:it

'The dog consumed urine which was excreted or emitted by the pig.'

The physical process of emission of something from a source seems to have been extended metaphorically to represent a cognitive process of recall as in topic-comment structures and express mental states such as surprise assertion, e.g. *epa-a-na-ra* 'come-NP: he-INF-SURP = (I infer that) he has come (to my surprise)'. In sum it is suggested that the morphemes *-re* 'a realis form' and *-ra* 'an irrealis form' possibly originated from the lexical verb *raa* 'to emit', and has been extended metaphorically, semantically and structurally.

**-luara 'SIM:SS'**. The composition of this morpheme is transparent; it comes from a serial verb sequence *-lu-a-ra* 'say-stand-emit', reanalysed syntactically as a temporal clause linker. The same is true of *-lo-a-ra* 'say-stand-emit'.

**-luaa 'DUR:DS' or -loaa 'DUR:DS'**. Again the composition is *-lu/lo-aa* 'say-stand'.

**-lupiri/lopiri or lupisa/lopisa 'DUR:SS'**. This suffix comes from a serial verb sequence *lu/lo-pira/pisa* 'say-sit'.

**Aa 'stand' and pisa 'sit'**. These are stative verbs which follow the verb *lo/lu* 'say' in the imperfective form. They are reanalysed as suffixes and reinterpreted as durative DS markers in non-finite subordinate syntactic contexts.

In sum, lexical verbs have been reanalysed morphosyntactically as affixes, motivated initially by pragmatic or discourse processes to expand the grammatical resources of the language in an economic way.

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