Natügu [ntu] and the Temotu Province wind compass

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Abstract: Natügu and other languages of the Temotu subgroup of Oceanic have sets of wind direction terminology borrowed from Oceanic Polynesian languages in Temotu Province of the Solomon Islands. I compare the wind direction vocabularies of eight languages, three Polynesian languages and five languages from the Temotu subgroup. After introducing the languages, I give a brief look at some Proto-Oceanic terminology, and then turn to the data from the eight languages to discuss how innovations and discrepancies may have arisen which account for their current wind direction terms. I conclude that each individual language system is internally coherent and that the entire system province-wide has significant consensus and discernable explanations for any deviations.

Key words: borrowing, navigation, Oceanic, Polynesian, Temotu subgroup, wind compass, culture documentation, spatial relations

1. Introduction[1]

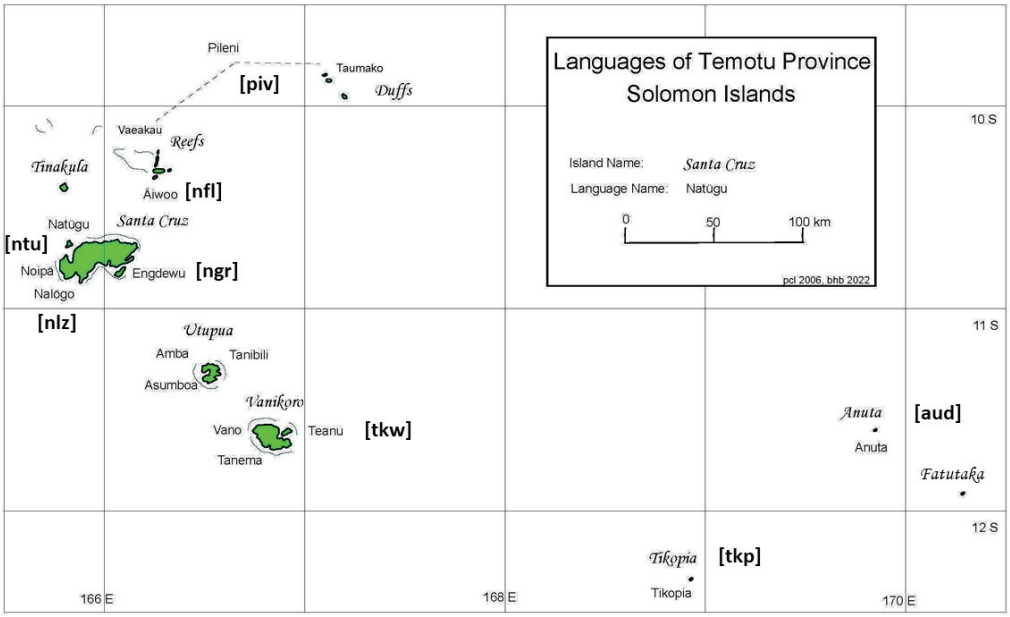
There has been much research already regarding wind compasses, in Temotu Province, elsewhere in Oceanic languages, and beyond. This Temotu Province wind compass study is the first comprehensive, comparative analysis incorporating wind terminology borrowed into non-Polynesian languages and how the respective wind compasses have changed over time.

The Polynesian languages of the study are Anuta [aud] (Feinberg 1981; 1988), Tikopia [tkp] (Firth 1970), and Vaeakau-Taumako [piv] (Pyrek & Feinberg 2016) as the primary

[1] Special thanks to Rick Feinberg who gave detailed feedback on a draft of this paper and greatly improved the quality and detail provided. In addition, along with published work, I also gratefully acknowledge colleagues who shared wind direction data from languages where they have lived and worked: Nico Daams for Tikopia [tkp], Richard Feinberg for Anuta [aud], as well as for Vaeakau-Taumako [piv], Alexandre François for Teanu [tkw], Åshild Næss for Äiwoo [nfl], Anders Vaa for Engdewu [ngr], and Valentina Alfarano for Nalögo [nlz]. The Nalögo data is on a hand drawn compass rose with a date of 1988. I received a similar Natügu drawing in 1988, which I transferred to a typed document. These appear as Figures 5 and 6, respectfully, in Appendix A. As always, any errors, omissions, and misinterpretations remain my responsibility.

sources. The core Polynesian terms are compared to wind direction terminologies in five non-Polynesian languages spoken by Melanesian peoples who predate Polynesians in Temotu Province, Solomon Islands. These five other languages belong to the Temotu subgroup of Oceanic (Ross & Næss 2007:461). The Temotu subgroup includes the Reefs-Santa Cruz languages (RSC) of Natügu [ntu], Nalögo [nlz], and Engdewu (formerly Nagu) [ngr] of Santa Cruz, along with Äiwoo [nfl] of Reefs, plus languages from Utupua and Vanikoro, here represented by Teanu [tkw] of Vanikoro. All eight of the languages are Oceanic, but from different branches. Figure 1 shows the geographical relationships amongst the languages.

Figure 1. Temotu Province and its languages



While the Temotu subgroup Oceanic languages have a long history in the region, the Polynesian speakers arrived later. There is evidence for a permanent Polynesian settlement on Tikopia starting around 1200 A.D. (Kirch 2017:144). While on Anuta, oral tradition dates the current population back about 20 generations or a little over 400 years (Feinberg 1981). This means there could have been hundreds of years of contact between the Melanesian Oceanic speakers and the later-arriving Polynesian Oceanic speakers. Given that the Polynesians are noted for their sea-faring capabilities, this is surely sufficient time for the indigenous wind direction vocabularies of the Temotu subgroup, if any, to have been replaced by the borrowed Polynesian ones.

2. Wider Oceanic considerations

Clearly Oceanic populations needed to develop navigational capacities at sea for inter-island travel. For our purposes, this includes sailing between and among the islands of Temotu Province, the Solomon Islands' easternmost province. A recent study links Polynesian navigation in Solomon Islands to a combination of cognitive recognition of environmental conditions along with visual, auditory, and kinesthetic perceptions of movement (Feinberg & Genz 2012). Indeed, this has been confirmed by a local navigator, Crusoe Kaveia, from Taumako Island, Solomon Islands, as reported in the popular *Hona Hou Magazine*:

> Bit by bit the chief imparted a comprehensive system of wayfinding that correlated deep knowledge of star positions, seasons, winds, waves and other factors into one intricate framework called *te nohoanga te matangi*, or roughly, "the life [better 'dwelling place'[2]] of the wind positions." (Ferrar 2017:106)

This multi-modal means of navigation needs to be recognized, since a knowledge of the wind directions was by no means the exclusive tool available (Pyrek & Feinberg 2016). There are clearly repeating annual patterns regarding when trade winds or cyclone seasons occur. But even with such knowledge, the exact time of rising of the rare *te parapu* wind was not completely predictable (Ferrar 2017). Furthermore, sudden shifts in wind direction or severity could adversely affect one's ability to reach one's destination (Davenport 1964). That being said, knowledge of winds, along with stars and wave patterns were certainly a major part of the knowledge held by the Proto-Oceanic (POc) ancestors of today's inhabitants of Temtou Province, both the Polynesians and the Melanesians. In fact, a number of wind terms have been reconstructed for POc and/or Proto-Polynesian (PPn) (Ross 2007:126-136), with the following being part of the Temotu wind compass.

POc *raki 'dry season wind' SE trades → PPn *laki 'southeast wind'
POc *apaRat 'wet season wind' NW wind → PPn *parapu 'north wind'
POc *tokalau(r) meaning unknown → PPn *tokelau 'NW quadrant, north-west winds'
PPn *toŋa 'east, east wind, trade wind; winter'

3. Natügu wind directions

I start with Natügu [ntu], which I've studied for 35 years. Documenting wind compass terminology relates to two research foci: (i) language and culture documentation (Boerger et

[2] Personal communication, Rick Feinberg.

al. 2016) and (ii) the role of the wind compass in the overall encoding of spatial relationships in Natügu (Boerger In progress; Lober & Boerger 2009). In contemporary Temotu Province, most Natügu speakers are not navigators who travel far from land, but at some point in history these speakers had to have arrived by sea with navigators who preceded the arrival of the Polynesian seafarers into the area. No remnants of earlier vocabulary for wind directions have been found for any of the Temotu family of languages distinct from those related to the Polynesian terms.

It appears that at some point in the historical interactions between these Melanesian and Polynesian populations, the Melanesians deferred to the Polynesians with regard to sailing expertise. This was certainly true during the time of the trade network described by (Davenport 1962; 1964; 1968), during which each island in the archipelago specialized in distinct crafts and skills. The Polynesians of the Duff Islands built large *tepuke* sailing canoes and Polynesians in general are clearly viewed by Natügu speakers as having the necessary knowledge for navigation at sea. This opinion is demonstrated by the passage below, written by Sanders Bck on the topic of *vöi* 'stars,' as the story to accompany the letter *V* in the Natügu alphabet primer.

> A (Polynesian) man from Mëtü[3] village [on Santa Cruz] married a Polynesian woman from Pileni Island. His work was sailing on the sea. Many Polynesians know how to sail on the sea. In the daytime their sailing follows mountains of Santa Cruz. At night they sail following the stars. These kinds of stars are taught to them by their elders. Every evening they sit down to look up in the sky. On nights and when the weather is bad and they cannot see the stars, they sail instead following the sea currents, the luminescence of the sea, or the ocean swells, too. This knowledge is nearly lost and only remains with a few people now. (Bck et al. 2004, translation by Boerger).

Today, the primary means of transport around and to nearby islands is by motorboat. Traditional navigation by sail remains the domain of Polynesian navigators in the province, though some knowledge is maintained by the oldest speakers and by younger speakers who are especially interested in island history and culture. Therefore, it is not surprising that there are only two wind direction terms in the *Autobiography of Simon G. Meabö*[4] (Boerger

[3] In the context, this man was almost certainly a Polynesian from one of the settlements near Mëtü. Inhabitants of Pileni speak Vaeakau-Taumako and there are numerous settlements of Polynesians on the north coast of Santa Cruz.
[4] Example sentences are abbreviated SGM along with the episode and sentence number. Before interlinearization, the SGM text was 95 single-spaced, A4 pages, with 82 episodes. Meabö was born in 1921 and died in 2013.

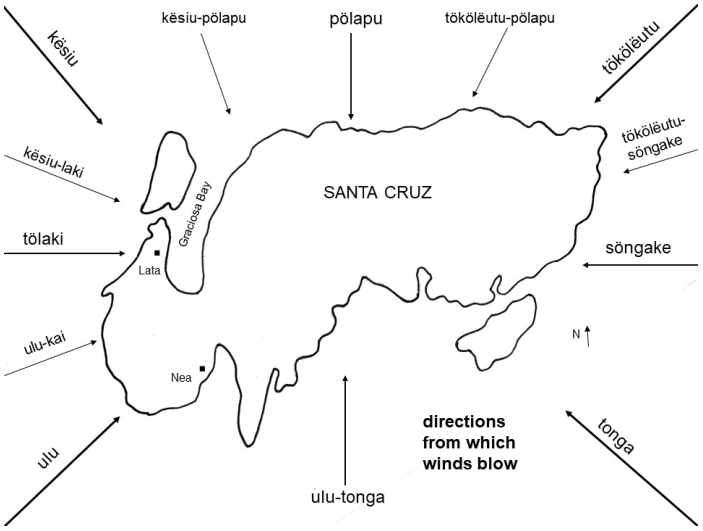
2022), as shown in (1) and (2) below.[5]

(1) Ëbë kë-dü ëbü kä nenü bao-ngö=de më tonga
then AT-INDF.SG day SUBR wind blow-APPL=3MINII PREP wind.SE
mëli kâ öla glü-tä-o=le nua'mu sâde ä
time DEM2.DIST morning carry-INTS-GDIR.down=3MINIA canoe PCLF.hand=3MINII and
sâ=tü-ya-pä=pe pöla më në-a-lvâ-kö=de lika
PFV=RL-paddle-GDIR.out=COS=3MINIS sea PREP NMLZ1-CAUS-fly-NMLZ.POSS=3MINII kite
'So one day when the wind was blowing out of the southeast that morning, he took his canoe and paddled out to sea to fly the fishing kite.' (SGM 11.04)

(2) A' nenü kä mnâ-tä=de kâ më ulu sâ
but wind SUBR stay-INTS=3MINII DEM2.DIST PREP wind.SW PFV=
të-mnâ-tä-alo=pe=ng Nëlvë
RL.3AUG-be-INTS-forever=COS=3AUGIS Reef.Is
'But there was a constant wind from the southwest so they had stayed a long time in Reef Islands.' (SGM 18.07)

In fact, it was Simon G. Meabö who drew a compass rose of the Natügu wind directions of Figure 2, elicited in 1988, when he was 67 years old.

Figure 2. Natügu wind directions on a map of Santa Cruz



[5] Abbreviations follow those standardized in *A Grammar Sketch of Natqgu [ntu]: An Oceanic language of Santa Cruz, Solomon Islands* (Boerger 2022a), primarily using the Leipzig Glossing Rules. Exceptions are as follows: AT attributor; AUG, augmented number; COS, change of state; GDIR, geometric directional; INTS, intensive; MIN, minimal number; PCLF, possessive classifier; PREP, preposition; RL realis; SPEC, specifier; SUBR, subordinator. Roman numerals I and II on person markers refer to two paradigms with different distributional restrictions.

Speakers under 50 years old today say they neither use nor even know these words. This is explained by two interrelated factors. First, the government banned long distance travel in the open ocean by sailing vessels without engines. However, some set out in small motorboats only to have the motor fail. Such boats have been taken by the prevailing easterly current until they reach land (or not), some days or weeks later, sometimes on Santa

Figure 3. The Temotu subgroup of Oceanic

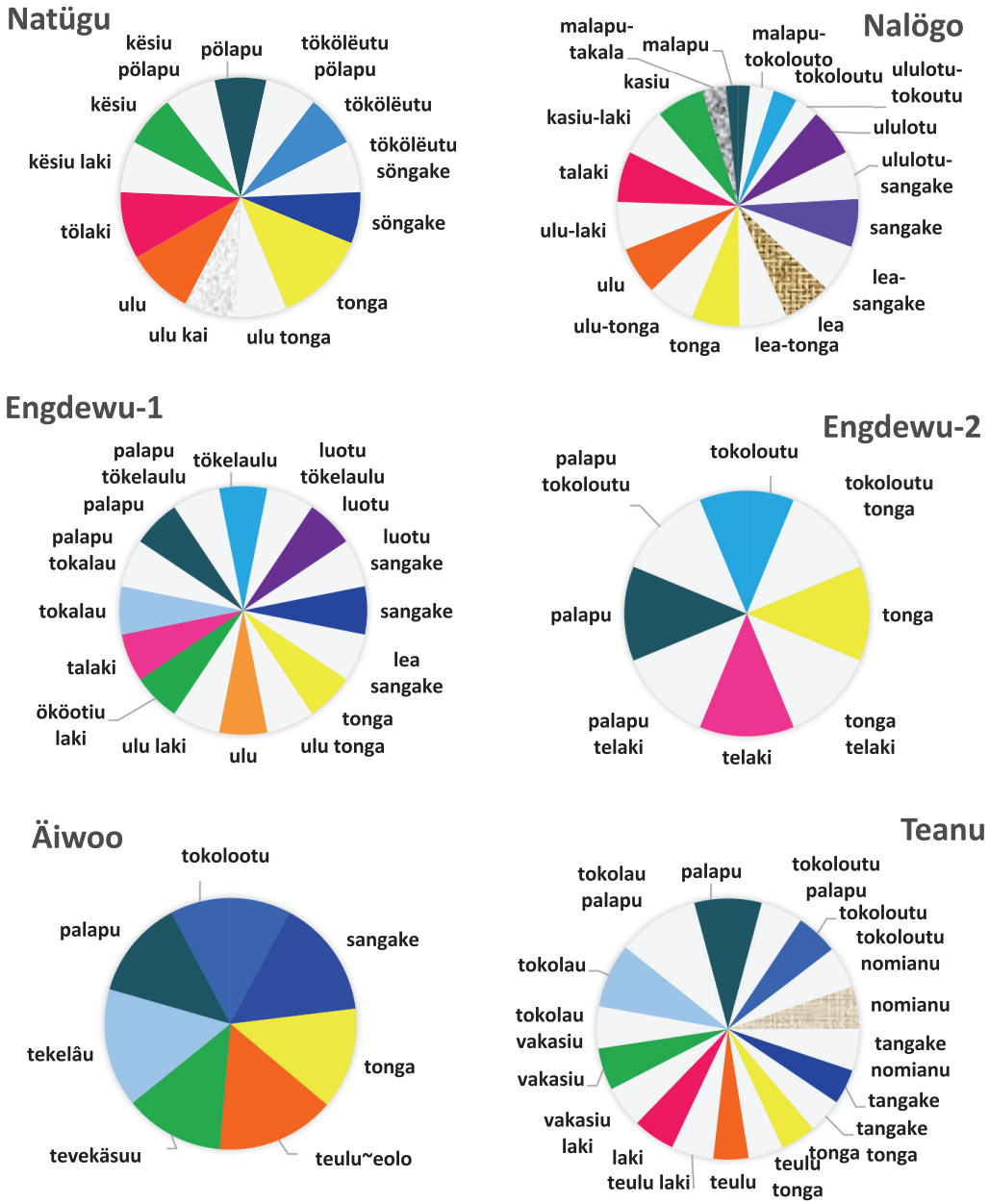
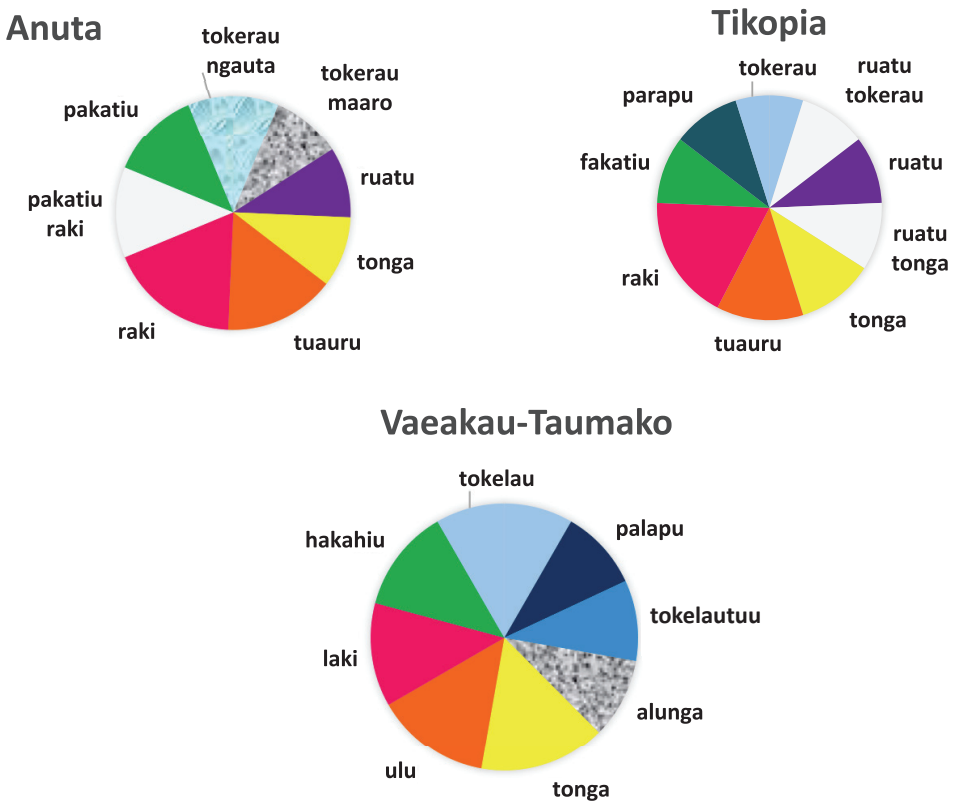


Figure 4. Polynesian (Oceanic) languages of Temotu Province



Ana Island, sometimes even further west. In spite of this, more knowledgeable Polynesians in Temotu Province do travel longer distances by small sailing boats, as recounted in Feinberg (1991). In my own experience, this is illustrated by an Anglican priest from Anuta, whom I met on Santa Cruz just after he had completed a two-person sailing voyage from Anuta to Santa Cruz, presumably with an experienced navigator. They covered a distance of some 460 kilometers or 285 miles, in order to pick up communion wine for Christmas services. Then they sailed back. The second reason Natqgu speakers no longer know or use the wind compass terms is that most ocean travel today is done on ships having engines and navigational equipment, leading to a decrease in the use of small personal craft for inter-island travel in Temotu Province. In spite of the presumed increased safety from having navigational equipment, such equipment can fail. This happened more than once during my sojourn on Santa Cruz Island, when ships coming from the national capital, Honiara, to Santa Cruz went astray when they lost sight of land in the open sea between Santa Ana and Santa Cruz. They ended up in northern Vanuatu, south of their intended port of call at Lata, Santa Cruz.

4. Comparative wind compass lexemes

In this section, each of the core wind direction terms is discussed with regard to its meaning and position in each of the languages. The Polynesian languages serve as the source for the basic terms and unique terminology is addressed at the end of the section. I start with *tonga* and move clockwise, following the perspective proposed by Jacob Love that it is not the Polynesian wind direction terminologies which are fixed, but rather that the island of Tonga is in a fixed position and each Polynesian settlement orients itself toward the island nation of Tonga (Feinberg 1988:185). This sets the wind compass name *tonga*, as winds coming from that direction, and the remaining names are established in a prescribed order in relation to *tonga*. This correlates well with the Temotu Province data, in that *tonga* is indeed southeast of Temotu Province and there is consistency in the order of terms in a clockwise manner from *tonga*. This type of readjustment has been seen more widely when due to migrations within Oceania, the meaning of some terms shifted for application to new environments (Ross 2007).

The wind direction pie charts are arranged in two sets. Figure 3 includes the non-Polynesian languages and Figure 4 has the Polynesian languages. Each pie is color-coded or shaded so that the same source term in each language is the same shade for that term, including its presumed cognates, which are not always clear. The light gray sections are hyphenated terms between two single-named directions. Sections which are textured indicate unique terminology, and these are discussed following the more common terms.

4.1 The Polynesian-based wind terms

There are a few caveats to keep in mind as we proceed. First, there is an inherent conflict in matching directions from which winds blow with the compass points of western navigation, in part because winds do not blow consistently at the same speed in one direction. Second, the data points are only as good as the original elicitations and techniques used to acquire them. For example, François travelled around the island to gather the data, giving a more precise degree of accuracy, while the labeled compass rose diagrams were handed to me and to Alfarano by speakers with whom we interacted. For Engdewu, Vaa had two speakers give him different data points, so both are included. Thus, for the Santa Cruz languages, to my knowledge, fieldworkers did not travel around the island to elicit the terms, but instead had a list of wind compass terms dictated or handed to them. And as reported previously, the command of these terms has virtually been lost. Finally, while the Polynesian terminology is indigenous and has a greater time depth, there is still fluctuation in terminology, even by the same speaker. For example, Feinberg reports four different

versions of the Anuta wind compass (Feinberg 1988:92-100), even though only one of those options is used for comparative purposes herein. Such variation is also found in the Vaeakau-Taumako terminology:

> The Vaeakau-Taumako wind compass has eight primary wind points with both the points and the spaces between them referenced by name; but the boundaries which separate these spaces (e.g., where *te tonga* becomes *te alunga*, or even *te alunga-tonga*) are a judgment call. The vagueness of these boundaries is precisely the source of the ever-shifting 'space between' the points (Pyrek & Feinberg 2016:54).

Given these caveats, the pie chart diagrams provided can give us insight into the development of the Temotu wind compass and its variation, island to island.

4.1.1 Tonga – southeast

Figures 3 and 4 show that for two languages, Engdewu-1 and Äiwoo, *tonga* represents a wind from the east and for five languages a wind from the southeast, which for Temotu Province would represent the trade winds of the region. Only Nalögo has *tonga* as a wind from the south-southwest, i.e. a different quadrant. So the consensus here makes the best gloss for *tonga* 'southeast.'

4.1.2 Ulu – south

Moving clockwise from the southeast, the term *ulu* is represented by all but the second speaker of Engdewu and it is the next single-word wind after *tonga* in the Polynesian languages. The various languages put its winds somewhere in the southern quadrant, varying from southwest to south to southeast.

A direct borrowing from Vaeakau-Taumako, which is geographically closest of the Polynesian languages to the Temotu subgroup, would account for *ulu* as opposed to *uru* in the languages with Melanesian speakers. One of the Äiwoo variants for this word exhibits the presence of the Polynesian article *te*. The other seems to have lost /t/ with /ulu/ becoming /olo/, leaving *eolo*.

If Anuta *tuauru* is also cognate with *ulu* as I posit, then its SE direction lines up nicely with Teanu's SSE,[6] in that each of these is further south from what each of the two languages

[6] There is some inconsistency in Anutan identification of a compass direction for tuauru (Feinberg 1988:92-100), but speakers all have the terms in the same order.

respectively categorizes as the direction for *tonga*.

4.1.3 Laki – west-southwest

For *laki*, there is a general consensus between the Polynesian languages along with Teanu and Natügu for it to be a wind out of the west-southwest. There is no reflex in Äiwoo, while Nalögo has it coming from the due south, probably as a result of having no reflex for *ulu*. For this wind name only, all four of the Santa Cruz languages include some form of the Polynesian article *te*: Natügu ***tö****laki*, Nalögo ***ta****laki* Engdwu 1 ***ta****laki*, and Engdewu-2 ***te****laaki*.

4.1.4 Fakatiu – (west)-northwest

In Figure 4, there is variation between /f/ and /p/ in Tikopia's *fakatiu*, as opposed to Anuta *pakatiu*. Then, in Vaeakau-Taumako both the initial and word-internal consonants become /h/, with *hakahiu*.

In Figure 3, for Teanu *vakasiu* the word-initial sound becomes /v/, while the Reefs-Santa Cruz languages Natügu *kësiu*, Nalögo *kasiu*, lose the first syllable. Likewise Äiwoo *tevekäsuu*, also has initial /v/, and in all of these terms the intervocalic /t/ becomes /s/, which is a normal process in these languages. The Äiwoo form maintains the borrowed Polynesian article *te*. Presumably a former sequence of /siu/, as in Santa Cruz languages has become Äiwoo /suu/ through assimilation.

The Engdewu-1 term *ökötiu laki* appears to be a possible deviant and/or frozen cognate form. Unlike the other Temotu subgroup languages, it lost the initial consonant, gained an extra vowel /o/, and preserved the /t/ in /tiu/ rather than becoming /siu/.

With regard to the position of the *fakatiu* wind, the three Polynesian languages, along with Natügu and Nalögo, all place it in the west-northwest, following *laki*, which I posit as its original Temotu Province orientation. However, reflexes in Teanu, Äiwoo, and Engdewu-1 have this term in the west-southwest. The Äiwoo *tevekäsuu* position can be explained by the lack of a term *laki*, which normally occurs following *ulu*. The Engdewu-1 *ökötiu laki* position can be explained because it is out of canonical Polynesian order, being placed before rather than following *laki*. Even though the Teanu winds are all represented and in the expected order, this term still falls in the southwest quadrant, perhaps due to local conditions.

4.1.5 Tokelau – north

The next wind direction in following the Polynesian language sequence is *tokelau*, and

all three have it coming out of the due north, with the recognition that Anuta does not list it as a single item, but instead divides *tokarau* into *tokerau ngauta* and *tokerau maaro*, both of which are discussed in 4.1.8. Of the remaining six representations, this term is missing in Natügu, Nalögo, and Engdewu-2. But rather than a wind out of the north, the remaining three non-Polynesian languages, Engdewu-1 *tokalau*, Äiwoo *tekeläu*, and Teanu *tokolau*, all have it as a wind out of the west or slightly northwest. Both Äiwoo and Teanu, though, have it immediately following their reflex of *laki*, which follows the relative Polynesian order, but not the actual Polynesian direction.

4.1.6 Parapu – rare northerly wind in November-December

This wind direction is particularly diverse in the directions assigned to it. Of the three Polynesian languages, two have it as a single term. But Tikopia and Vaeakau-Taumako disagree about placement, with Tikopia having it from the northwest and before *tokerau* while Vaeakau-Taumako has it from the northeast and following *tokerau*. Anuta does not indicate a reflex of *parapu*.

In the languages which borrowed the term, there is also some disagreement. Three languages, Natügu *pölapu*, Nalögo *malapu*, and Teanu *palapu* have it as a wind from due north. However, the two Engdewu speakers and Äiwoo have *palapu* meaning (west)-northwest.

The only consensus shared by all languages is 'somewhere in the north.' This is in line with a description of this wind in the popular magazine article cited earlier. The Taumako voyagers want to set out on a trip to Vanuatu and the time to do it relates to this wind.

> Those still on Taumako have been trying ever since to fulfill this dream of a voyage to Vanuatu, a feat that can be accomplished only in November or early December, when a rare wind known as *te palapu* blows from the north. …When November came the crew was ready for the journey that was expected to take two to four days. But no *te palapu* blew. For several weeks everyone waited… (Ferrar 2017:108-109)

This quote gives us a clue that the wind direction terms may go beyond directions and also refer to a season or time of year when a particular wind is generally expected, as seen in the glosses of the POc wind terms in section 2. In fact, one year the rare *palapu* wind did not materialize.

4.1.7 Ruatu and Tokelautuu – east-northeast – two terms, one direction

There is a discrepancy for the term meaning 'east-northeast' in the Polynesian languages. We find *ruatu* in Anuta and Tikopia, in the corresponding position on the wind compass as Vaeakau-Taumako *tokelautuu*, composed of *tokelau* (section 4.1.5) plus *tuu*. In all three languages, the term precedes *tonga*, and this is where we reach the end of the Polynesian terminology.

The meanings and positions of these two terms might push us toward seeing them as cognates. However, two things indicate that they are distinct terms, with their counterpart term having been lost in the other language(s). First, two languages of those in Figure 3 represent both terms. For example, Engdewu-1 has *tökelalulu* N, as well as *luotu* NE, which could easily be cognate with *ruatu* ENE. The Nalögo case is similar, but with some complications. It has *tokoloutu* NNE and *ululotu* NE. But in the form *ululotu*, it appears that *luotu* became /lulotu/ and then /ululotu/ possibly by analogy with the wind term *ulu* in the opposite quadrant. A two-word wind direction adjacent to Nalögo *ululotu* is *ululotu-tokoutu*. But a look at the Nalögo pie chart shows that in the normal naming conventions these two words should be reversed and that it also has a syllable missing in *tokoutu*, which presumably should be *toko**lo**utu*, as in the previous direction on the diagram. The second reason *ruatu* and *tokelautuu* are not cognate is that both terms occur in wind compasses of Oceanic languages outside Temotu Province. Pukapuka [pkp] also has both *tokelau matua* NW and *luatu* ESE (Pyrek & Feinberg 2016:48).

Meanwhile, clearly Vaeakau-Taumako *tokelautuu* E, with a further possible wider cognate at Pukapuka *tokelau iti* N (Pyrek & Feinberg 2016:48), is the source for the remaining Figure 3. non-Polynesian languages having this term, but with their reflexes more northward than the Vaeakau-Taumako direction 'east', as in Teanu *tokoloutu* NE, Natügu *tökölëutu* NE, Nalögo *tokoloutu* ENE, and Engdewu-2 *tokoluotu* N.

4.1.8 Idiosyncratic Polynesian terms

Before moving to terms not found in the Figure 4 Polynesian languages, but extant in one or more of the other five Figure 3 languages, let's first discuss the three textured pie pieces showing lack of agreement in the Polynesian pie charts. As seen in 4.1.5, Anuta divides *tokearu* into *tokerau ngauta* N and *tokerau maaro* NE, both in a generally northward orientation, like the meanings in Tikopia and Vaeakau-Taumako. The descriptor *ngauta* means 'in an inland direction,' that is toward *uta* 'land', a word which occurs generally in Polynesian languages. The other modifying term *maaro* does not occur elsewhere in the focus languages. However, I posit that Anuta *maaro* is likely a reflex of

POc *m[u,i]ri~*marau reconstructed to mean 'southeast trade wind' (Ross 1995:282), because *tokerau* ***maaro*** is the north wind which is to the east of *tokerau ngauta*.

Vaeakau-Taumako has only one unique term, *alunga*, which also does not occur in the other Temotu or wider Oceanic wind direction terminologies. However, this is a common Polynesian word for 'high', 'up', or 'upward'. As such, it means 'east' or 'easterly', since one goes 'upward' toward where the sun comes up (François 2004:10-11).[7]

No unique terms were collected for Tikopia.

4.2 Terms only found in the five non-Polynesian languages

Several wind direction terms are attested in the five non-Polynesian languages, one of which is shared by all of them, and another of which is shared by two.

4.2.1 tangake – east – in all five languages

Teanu *tangake* ESE corresponds to Natügu *söngake*, Nagu *songäke*, and Äiwoo *sangake* E in form and basic meaning. I choose this meaning because while the Teanu term is further south, the term which pushes it in that direction is one of the unique ones. While there is no reflex of *tangake* in the Figure 4 Polynesian wind compass terms of this study, *ake* is another common Polynesian word, similar to *alunga*. It means 'movement in an upward direction'. In Anutan, for example, one 'goes to a higher place' to travel east and one 'descends to the place below' to go west.[8] These terms correspond to the uses of *up* 'east' and *down* 'west' in other Oceanic languages (François 2004, Boerger In progress).

The remaining unique terms in the non-Polynesian languages are not shared with each other, but two of them refer to villages or islands in the environment where the languages are spoken.

4.2.2 Lea – Nalögo and Engdewu-1

The term *lea* occurs in both Nalögo and Engdewu, and both languages are located on the south side of Santa Cruz (Nedö) Island. Nalögo includes a full set of terms with *lea* which includes the hyphenated terms on either side of it in the SE quadrant, while Engdewu-1 only records the term *lea sangake* ESE. Lea is the Nalögo name for the village in its language area which is called Nea in Natügu. Presumably, *lea* refers to wind from the direction of Lea village. See Figure 1 and Figure 2 maps.

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[7] Feinberg, p.c.
[8] Feinberg, p.c.

4.2.3 Nomianu – Teanu E

A similar situation is found for Teanu. "There are five islands which make up Vanikoro: Banie (the main island), Tevai, Manieve, Nomianu, and Nanuga."[9] Given this, one assumes that *nomianu* is a wind from the direction of Nomianu Island, located east of the Teanu-speaking area.

4.2.4 kai – Natügu SSW

The unique term in Natügu is *kai* in *ulu kai*. The rest of the Natügu system is regular, with the two-word terms being intermediate between single-word terms on either side. Its sister language, Nalögo has *ulu-laki*, but the two terms are on opposite sides of *laki* in these languages. For Natügu, exchanging *ulu kai* with *ulu* would regularize the system. Otherwise, the motivation for *ulu kai* is unknown. The word *kai* on its own means 'first' and does not contribute to understanding this direction, unless *ulu kai* is a wind that comes first, but in relation to what?

4.2.5 takala – Nalögo NNW

In addition to the Nalögo terms discussed previously in 4.1.7 and 4.2.2, there is one additional term, *takala*, which does not occur elsewhere. It is in the two-word form *malapu-takala* NNW. I have no sources which suggest an origin for it.

5. Conclusion

Now that the terms in all eight languages have been examined, we see how the three POc forms introduced at the outset have been preserved. All the languages except Äiwoo preserve POc *raki and PPn *laki, primarily as a wind from somewhere in the southwest quadrant. Similarly, POc *appaRat and PPn *parapu have reflexes in all except Anuta, but the directions range from west through northeast in the daughter languages. Likewise, POc *tokalau(r) and PPn *tokelau occur in all but Natügu and Nalögo, with the direction also ranging from west to north. Not surprisingly, PPn *toŋa is one of the two terms shared by all eight languages, having a general southeasterly direction. The other unanimously shared term is *ulu* 'south'.

Thus, the wind direction terminology within each language and amongst the eight languages examined is surprisingly coherent, especially considering their possible 400 years of contact. At the same time, even the Polynesian languages differ from each other

[9] John Seach, Volcano Live, accessed 27.12.10. http://www.volcanolive.com/vanikoro.html

slightly, with five terms—*tonga*, *ulu*, *laki*, *fakatiu*, and *tokerau*—shared amongst all three, out of the eight single-word terms in the Polynesian languages. The non-Polynesian languages all have at least six of the eight core Polynesian terms, just not the same ones as each other. One term, *tangake* 'east' is shared by all the Temotu subgroup languages for wind directions, but while having a Polynesian source is not noted in the modern data for the Polynesian wind directions.

Some of the discrepancies in wind compass vocabulary and directional values are explained by island geography of the non-Polynesian languages. Others may be explained by changes through time or even errors in transmission, as in the places where transposing the order of two terms would bring them into compliance with a more standard compass order.

On sailing ventures in Temotu Province, it is common for those sailing and navigating to speak the same language. Given what we've seen, this is necessary, since even in the Polynesian languages there are enough differences to cause miscommunication. At the same time, we must recall that much of Polynesian navigation is not through linguistic interactions, but through a more holistic sensory processing of winds and waves and stars (Pyrek & Feinberg 2016; Feinberg & Genz 2012). In the non-Polynesian languages, some of the oldest speakers are cognizant of wind compass directions for travel at sea, but the number of such speakers is dwindling, perhaps leading to the strategy of passing down written wind direction terminology, rather than through spoken use in the languages themselves. These written documents for Nalögo and Natügu are included as Appendix A. I was told by Mr. Simon Meabö, who drew the compass terms for me, that there were no winds which came out of the three unlabeled compass directions, ESE, SSE, and WSW. However, this is unlikely. Rather, the terms on either side of the unlabeled compass points would need to be expanded to fill those gaps, as I did on the pie chart for Natügu.

This initial study has compared the wind direction compasses of the majority of languages in Temotu Province and has shown that in spite of apparent divergences, there is actually significant consensus in the meanings for the core wind compass terms, as well as in the relative order of the terms. In fact, there are reasonable explanations for the discrepancies, the unique terminology, and divergences which have arisen over time.

Further studies could be undertaken to determine the extent to which these terms continue to be known or used by the non-Polynesian language speakers of the province. I currently estimate that except for the written documents being pass on, these terms will very soon be lost from the active vocabularies of any speakers.

Appendix A.

Figure 5. Nalögo wind direction names

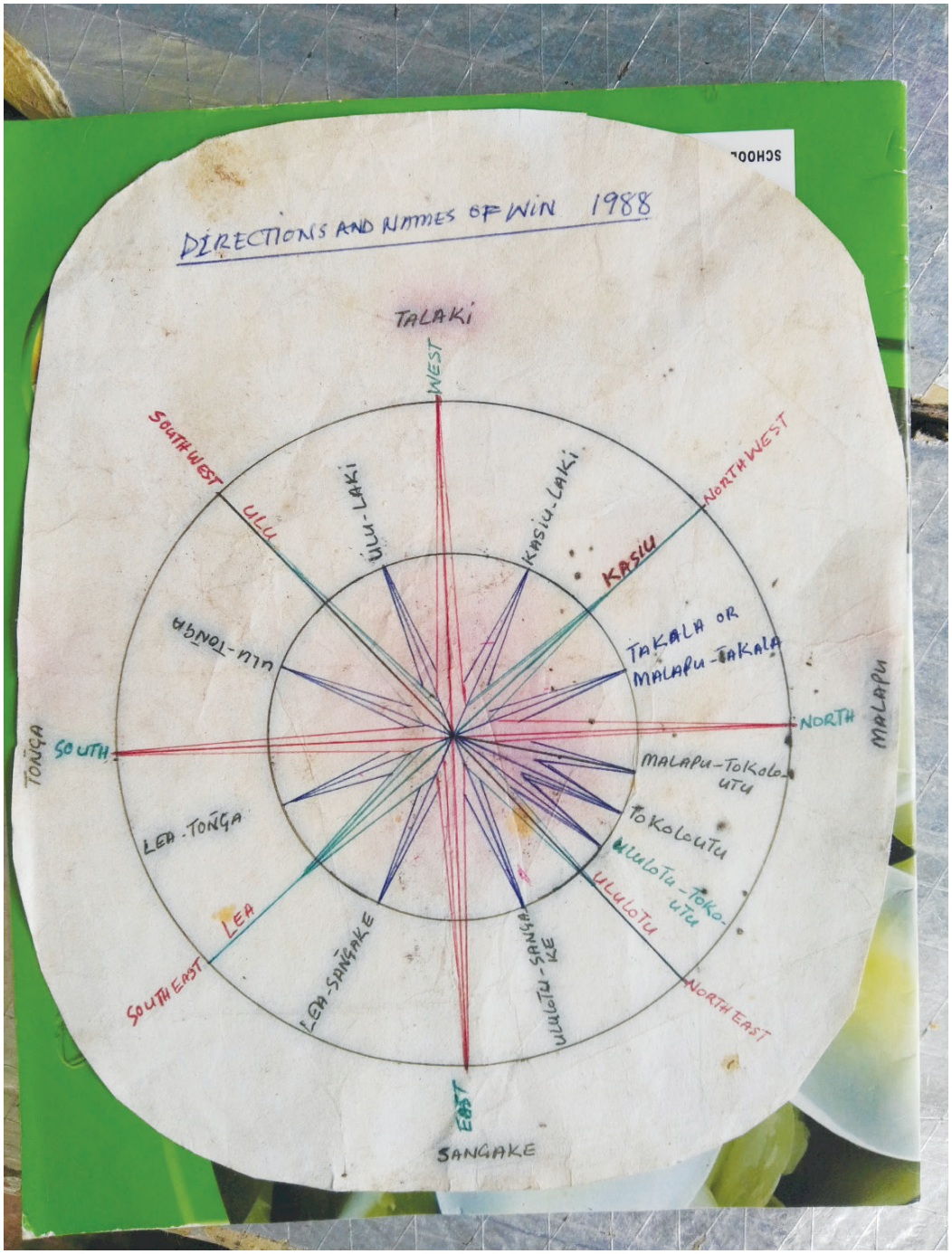
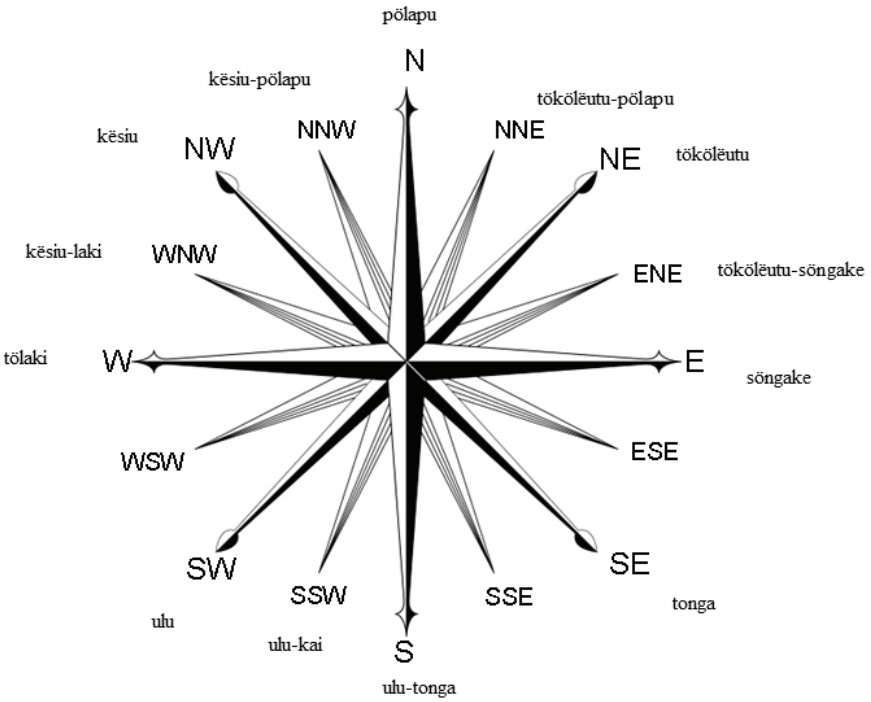


Figure 6. Natügu wind direction names



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