Spatial Relationships in Natügu: Micro-level Directionals

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Spatial Relationships in Natügu: Micro-level Directionals

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1 Introduction
Oceanic languages have challenged western conceptions of space in language (cf. Levinson 2003) because they use a system based on topography, especially in relation to land and sea. This is in exclusion to other terms. For example, even though Natügu has words for left and right and a large number of names for wind directions, these are not in common use in the language and are even unknown by the youngest third of the speakers. Instead a number of deictic particles and directional verbal suffixes are used to locate a discourse in space and time.

This paper examines three pairs of directionals in Natügu and their functions at the micro-level. Natügu is in the Reefs-Santa Cruz subgroup of Temotu, spoken on Santa Cruz, Solomon Islands. Its directionals bear a striking resemblance to those found in Mwotlap (François 2003:412-414), even though the two languages are from different branches of Oceanic. Here we show that synchronically Natügu directionals are bound, verbal directional suffixes. Our findings contribute to the description of a little known language and have implications for both conceptions of space in language and Oceanic historical processes.

1.1 Serial verb constructions and deictic verbs
Diachronically, many scholars derive directionals from verbs in serial verb constructions (SVCs), since such directionals are seen as one of the three possible results of grammaticization of directional verbs in Oceanic languages (Ross 2004:311). We assume here the analysis of Næss and Boerger (2008:186) who
posit that Natügu directional suffixes are the result of nuclear-layer verb serialization.

Ross (2004:301) also discusses how some of the deictic verbs came to have directional functions and makes the observations recorded in Table 1, to which we have added the Natügu forms.

<table>
<thead>
<tr>
<th>as verb</th>
<th>as directional</th>
<th>Natügu</th>
</tr>
</thead>
<tbody>
<tr>
<td>*mai, *ma (VF)</td>
<td>„come“</td>
<td>-mū „hither“</td>
</tr>
<tr>
<td>*watu, *ua (VF)</td>
<td>„go towards addressee (=go:2)“</td>
<td>-bē „hither“ merged</td>
</tr>
<tr>
<td>*pano, *pa (VF)</td>
<td>„go away“</td>
<td>„away from speaker“</td>
</tr>
<tr>
<td>*lako, *la (VF)</td>
<td>„go (to) (=go:3)“</td>
<td>lost</td>
</tr>
</tbody>
</table>

Table 1: ProtoOceanic verbs, their directional functions, compared to Natügu

Based on both the semantics and surface phonological resemblance, we hypothesize that the ProtoOceanic (POc) verb *mai „come“ was the source for Natügu -mū „hither,” and that -bē came from either *watu „go towards addressee“ or *pano „go away,” which appear to have merged in Natügu. Finally, POc *lako „go (to)” has been lost in Natügu, so that we have two Natügu directionals representing what were presumably four distinctions in POc.

2 The Coordinate Sets of Directionals—Micro-orientation

Synchronically, then, Natügu directionals are bound, morpheme suffixes. There may be as many as twelve spatial directionals in Natügu. However, our focus in this paper is restricted to a micro-level analysis of the six which occur in pairs.

These six directionals are categorized into two coordinate sets following François’s (2003) analysis of Mwotlap, an Oceanic language of Northern Vanuatu. When reading the Mwotlap analysis we were struck by similarities in the use and scope of this set of directionals in the two languages. For example, neither Mwotlap nor Natügu has a verb „come“; rather each language pairs the verb „go“ with a directional meaning „hither.” Thus, following François, the three pairs of directionals fall into two coordinate sets: 1) Personal Coordinates: the

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4 The texts used in analysis are a result of field work conducted by Boerger on Santa Cruz Island. Other data for illustrative purposes come from translated material or other oral/written texts from Boerger’s corpus of field data. The data analyzed consists of multiple types of texts: narratives (both oral and written), procedural texts (oral), a personification text (written), a descriptive text (written), an advisory text (oral), and a genealogy text (oral). With this mix of both oral and written texts, both of which are of specific forms, the shift of deictic center must be taken into account (i.e., when the deictic center is a character in the story and not the author/reader, etc.).

5 There are at least five „other“ verbal suffixes in Natügu that also seem to have directional functions, but which do not occur in paired sets: -ki „move along a path,” -ba „reverse direction of action,” -wi(ā) „across,” -sē „away from,” and -lvē „towards, regarding.” Semantically, they all seem to relate to the path of an action, but we are less certain that these five also derive from SVCs, as posited for the paired directionals discussed above.
personal directionals of hither/thither; 2) Local Coordinates: the container perspective directionals of in/out and the vertical axis directionals of up/down.

These parallels are particularly interesting because Natügu and Mwotlap are from different lines on the Oceanic family tree: Natügu is from the Proto Temotu branch and Mwotlap is from the Proto Eastern Oceanic Branch (cf. Figure 1). These parallels can be explained one of three ways: 1) the merger and loss described above happened before the two branches split; 2) they were independent developments in each of the language families; or 3) this pattern of directionals is an areal phenomenon covering northern Vanuatu and Temotu Province of the Solomon Islands. Confirmation depends on obtaining data from representative languages on the branches of the tree.

![Proto Oceanic Tree](image)

**Figure 1**: ProtoOceanic Tree (adapted from Ross, *et al* 1998:7) with the Proto Temotu branch (Ross and Næss 2007) expanded.

Of the six main directionals found in Natügu, only one directional per set may occur on the same verb, since each pair represents polar opposites. Therefore, the affixes glossed *in* and *out*, for example, may not both occur on the same verb. The container and vertical directionals are not ordered in relation to each other because there is a constraint in the language which disallows their occurring on the same verb. Even though there may be other suffixes which divide the directionals from each other, this same constraint and the relative ordering of the directionals is confirmed by Archer and Boerger (in progress). The „Other” directionals, which are outside the scope of this paper, can appear in combination with the paired set. The order of the directionals is represented in (1).

(1) Formal representation of the order of directionals:

\[ V + (ODIR) + (CDIR/VDIR) + (PDIR) \]

\[ \text{Verb} + (\text{Other DIR}) + (\text{Container DIR/Vertical DIR}) + (\text{Personal DIR}) \]
2.1 **Personal coordinates: hither/thither**
The personal coordinate forms in Natügu, -mü „hither” („towards speaker”) and -bë „thither” („toward non-speaker”) can orient the action of the verb in a number of ways. With verbs of motion, the affixes have the *hither/thither* meaning described above. Furthermore, a range of semantic relationships are indicated when these personal directionals are used with other classes of verb: recipient, beneficiary, goal, addressee, etc. Switching between these two directionals can also signal a shift in the deictic center. Because of their many functions, these directionals occur more frequently than the others.

2.1.1 **-mü ‘hither, toward speaker or deictic center’**
As in Mwotlap (François 2003:411), one of the functions of the directional -mü „hither” is to indicate that the direction involved is toward the speaker/deictic center, toward a group of people to which the speaker/main character belongs, or toward the area where the speaker/deictic center is located.

(1) Nâ tabao kâ tü-lu-nge-o-mü=le
tree papaya DEIC RL-spear.V-hole.V-DIR.down-DIR.hither=3MIN

*bute’ kâ*
corner DEIC
„The papaya tree poked a hole in the corner (of the house).”

In example (2), a gust of wind had knocked the branch onto the house previously in the story, and it was the single boys in the house who saw that the tree had poked a hole in the corner of the house; thus, the direction that the tree is poking in (2) is toward the single boys/deictic center, etc. who were in the house.

2.1.2 **-bë ‘thither, toward non-speaker or non-deictic center’**
Our analysis of the Natügu directional -bë „thither” again follows François (2003:412), who suggests the gloss „towards non-speaker” for Mwotlap, as opposed to previous work on directionals which glossed such directionals as „away from speaker.” We would add that -bë „thither” can also indicate „towards non-deictic center.” Consider (3) and (4):

(2) Në-otî-bë=lö sop sâ tü-kipo=pe=Ø.
3AUG-get-DIR.thither=3AUG soap PFV RL-bathe=AS=3MIN
„They got soap, then he bathed.”

(3) Obü-bë=Ø ä löpë sâ olman Mebünr.
look-DIR.thither=3MIN CONJ clothing PCLF old.man PN
„He looked and it was old man Mebunr”s clothing.”
The verb in (3) is transitive, with the direct object, *sop* „soap”, being explicit. In it `-bë` signals that they went away from the deictic center to obtain the soap, with a strong implication that they also gave it to the man, who then bathed. In Solomon Islands Pijin, as spoken on Santa Cruz, this verb would be expressed by the SVC *go tekem*. However, the verb *obü* „look” in (4) is intransitive. Earlier in the story the subject of this sentence had felt something entangled in his legs. In (4) `-bë` shows that he looked at something for a specific purpose, as opposed to just looking around. Here, the Pijin parallel would be *luk go*.

Further, in (5) there are two instances of `-bë`. The first in *obü* „look” establishes the deictic orientation „towards non-speaker” as being toward the escaped kite that was flying away with the fish dangling from its fishing line. This sets up the second instance of `-bë`, glossed „there,” illustrating that once the basic orientation of deictic versus non-deictic center has been established, the directionality indicated by „thither” can merely mean „elsewhere.”

(4)  
*Sà*  
PFV  
*tu-pwä-nüblü-lë=pe*  
Metalo  
*look-foll-up-AS*  
Metalo  

\[në-vë-lë-kö=de,\]  
*NLMZ-up-PCLF=3MIN*  
\[obü-bë=Ø\]  
*look-thither=3MIN*  
\[nà-boi\]  
*fish-long*  

\[
käma \, \text{topwë} \, \text{do-ne-lë=pe-kë-bë}.\]  
\*DEIC small hang-DISTR-up-AS-also-DIR.thither*  
„Then Metalo looked up following its [the kite’s] going up and looked at that small longfish also dangling up there.”

### 2.1.3  Hither/thither to encode presence of recipient

The directionals `-më` „hither” and `-bë` „thither” also encode the presence of the semantic role of recipient. This function, as well as those discussed in the following sections, make the hither/thither personal directionals more frequent than the other directionals. They are mandatorily present to indicate presence of a recipient or beneficiary and occur in conjunction with either a dative pronoun, as in (6) and (7) below, or an oblique which states the recipient. This corresponds to François’s (2003) discussion of Mwotlap verbs of transfer. For Natūgu, the ditransitive verb *ka* „give” illustrates directionals which encode recipient:

(5)  
*Sà*  
IPFV  
*na-ka-bë=le*  
*IRR-give-thither=3MIN*  
*ba=mu.*  
*DAT=2AUG*  
„He will give (it) to you-pl.”

(6)  
*Sà*  
IPFV  
*na-ka-më=le*  
*IRR-give-hither=3MIN*  
*ba=nge*  
*DAT=1MIN*  
*da lâ-ng.*  
*thing DEIC-PL*  
„He will give me those things.”
In (6) we see that "thither" is used with ba=mu ,"to=2AUG" while -mü "hither" in (7) is used with bange ,"to=1MIN." This parallels what we have already seen, in that -bë signals that the recipient is non-speaker, while the use of -mü indicates that the recipient is the speaker. The word order for ditransitivces with both objects present allows syntactically simple objects in either order in relation to each other, such that the recipient and theme could occur in the order theme-recipient in sentences like (7). However, when one object is significantly more complex than the other, there is a general preference for the syntactically complex object to be stated last.

It should further be noted that the use of the directionals allows the theme (object given) of the sentence to remain unstated as in (6), because it is implied simply by the presence of the directional. Similarly, the recipient may also be optional. In fact, because of the work done by the directionals in orienting the event with regard to speaker and non-speaker and assuming some common knowledge based on the previous discourse, we can say that the syntactic expression of both theme and recipient are optional in the ditransitivces, such that sentence (8) is syntactically well-formed.

(7)   Sa na-ka-mü=le
       IPFV  IRR-give-DIR.hither=3MIN
       ,"He‘ll give [assumed object] [to speaker/speaker's group (me, us)]."

2.1.4   Hither/thither to encode presence of goal
The directionals -mü ,"hither" and -bë ,"thither" have a further function in encoding the presence of a semantic goal, defined as the final destination of a verb of motion. This use is illustrated in the next two sentences below, which are from the same story. Compare the use of -bë ,"thither" in (9) and the lack of either of the personal directionals in (10).

(8)   Oti-bë=le  bë  kâ,  tapu-þà-bë=le
       get-DIR.thither=3MIN  bë-fish  DEIC  split-INTS-DIR.thither=3MIN

naö=de  më  öplë  mûbü.
       head=3MIN  PREP  stone  green
       ,"He got the bë-fish; he split its head on a mûbü stone."

(9)   Twë=le  bë  kâ  bëü
       take=3MIN  bë-fish  DEIC  home
       ,"He took the bë-fish home."

In the bë-fish story, prior to sentence (9), the fish bites the boy’s finger and he cries. It is assumed that in the process he dropped the fish, because in (9) the verb oti-bë ,"get" shows he has to go or reach away from his present position (i.e., the deictic center) in order to get it. The second ,"thither" in (9) occurs with the verb
"split" and signals that he split the fish’s head on something, which we are calling the goal. In (10), the verb *twë* "take" occurs without a directional where one might be expected. Two factors account for this difference. First, another gloss for *twë* is "carry", which would make directionality less overt in the root. In addition, on the discourse level, once the deictic orientation has been established, *-bë* "thither" can be omitted from a verb. Those considerations allow us to understand in (10) that the boy is *going* home, rather than *coming* home. The narrator of this story does not orient himself in the story, but tells it from a perspective outside the story (i.e., the omniscient narrator perspective).

### 2.1.5 Hither/thither used with speech events

Like in Mwotlap (François 203:214) both *-mü* "hither" and *-bë* "thither" are also used to indicate recipient and directionality of a speech event, and a speech event verb plus directional can also be used to introduce direct or indirect quotes. In such sentences, there is no physical movement of an object or person. Rather, the directionals indicate speaker and addressee.

(10) ö-pi-tä-lë-bë poi më lõkõ kä, DETR-say-INTS-DIR.up-DIR.thither pig PREP rat SUBR

"Awi kä etu, mële=nge." thanks SUBR big brother=1MIN

"The pig said to the rat (up in the tree), “Thanks very much, my brother.”"

(11) Na-o dü kã-kë mõkâ Neboi, IRR-go.for a SUBR-medium LOC PN

*na-pi-mü=le ba=gu kãmu dõka' lá* IRR-say-DIR.hither=3MIN DAT=1+2AUG why demon DEIC

"Go get a medium from Neboi to tell us why this demon…"

(12) ö-pi=le na-ya-ne=ngü Mëtû. DETR-say=3MIN IRR.3AUGA-paddle-along=3AUG PN

"He wanted for them to paddle to Mëtû."

In (11) the pig speaks toward the non-deictic center, which is not toward himself. This illustrates direct discourse. In (12) *-mü* "hither" includes the speaker and his friends (a group of people)/deictic center, which is also encoded in *ba=gu* "to.us". This is another instance of the personal directional signaling the presence of the addressee, which is an optional indirect object in Natügu. However, in (13),

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6 Sentence (9) is ambiguous with regard to whether the boy split the fish’s head by banging it against a stone or hitting it with a stone. This is a result of the preposition *më* having a wide range of possible English glosses ("on," "with," "at," "to," etc.). However, (9) does not signal an instrumental because of selectional restrictions for the semantics of the verb *tapu* "split."
the verb *pi* „he says” plus the irrealis mood on the verb *ya* „paddle” marks the action as potential, giving the idiomatic reading of „want.” No personal directional is used because its presence would void the idiomatic meaning.

The combination of *pi* „say” plus -*bë* „thither” is also used to form a passive, and is used when naming a proper name or a specific word, as exemplified by (14) below.

(13)  
*Këdû kâ mëtea në-ô-pi-bë* Bonego.  
ART.SG DEIC village 3AUGA-DETR-say-DIR.thither Bonego  
„There is a village called Bonego.”

### 2.2 Local coordinates

Françoïs’(s)(2003:415-416) local coordinates for Mwotlap include two sets that are based on reference to a physical feature of the local situation. The two parallel pair for Natügu are: the vertical axis directionals of -*lë* „up,” -*o* „down,” and the container perspective directionals of -*tö* „in,” -*pä* „out”.

#### 2.2.1 The up/down vertical axis

In Natügu, the directionals of -*lë* „up” and -*o* „down” encode the vertical axis of up/down. One of the functions of these directionals is to encode what Françoïs (2003) calls the “universal opposition” of „upper” and „lower” as a result of gravity, as illustrated by (15) and (16):

(14)  
*ötâ-lë=Ø=ngü më blëmë nuê’mu.*  
throw-DIR.up=IMP=PLO PREP platform canoe  
„Throw them up on the platform of the outrigger canoe.”

(15)  
*ëbë sâ tû-ötâ-o=pe-ngö-bë=Ø*  
CONJ PFV RL-throw-DIR.down=AS-TRNS-DIR.thither=IMP  
*öplë ngö=de.*  
stone PCLF=3MIN  
„Then throw down the stones for it.” (i.e. into the firepit)

In (15), -*lë* „up” is used because the platform is above the speaker and the addressee who are in the water swimming alongside the canoe. In (16), -*o* „down” is used because the firepit is a hole in the ground, below the speaker. As already seen, -*bë* „thither” is used with the verb of motion in (16) to indicate that the stone(s) are thrown toward the non-speaker/non-deictic center.

The directionals up/down are also used with verbs which may or may not have an inherent up/down axis (Françoïs 2003). When there is such an axis, the

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7 The Natügu passive used in sentence (14) is the subject of a paper in progress (Graves and Boerger). Such constructions are rare in Melanesia and the literature only documents it in two languages there to date.
directional -lë „up” is required when the motion is rising (e.g., as with the verbs grow, climb, waken, erect, etc.) This is illustrated in the following two examples:

(16)  
\[
\begin{array}{llll}
\text{Doa} & \text{nâblo} & \text{kâ} & \text{etu-lë-mü}=Ø \\
\text{person} & \text{man} & \text{DEICT} & \text{big-DIR.up-DIR.hither}=3\text{MIN} \\
\end{array}
\]
„The boy grew up.”

(17)  
\[
\begin{array}{llllllllll}
\text{Ä} & \text{nenü} & \text{etu-ne-pä}=Ø & \text{ēlwë} & \text{kë} & \text{më} \\
\text{CONJ} & \text{wind} & \text{big-DISTR-DIR.out}=3\text{MIN} & \text{much} & \text{also} & \text{PREP} \\
\text{né-wü-kō}=\text{de} & \text{më} & \text{nē-vē-lë}=\text{pe-kō-mū} \\
\text{NLMZ-blow-CLF}=3\text{MIN} & \text{PREP} & \text{NLMZ-go-DIR.up}=\text{AS-PCLF-DIR.hither} \\
\text{nepi} & \text{wū}. \\
\text{sun} & \text{above} \\
\end{array}
\]
„And the wind also increased very much in its blowing with the rising of the sun.”

In (17) we see etulëmü „grew up”, with -lë „up” showing the direction of growth. Children grow taller in an upward direction; thus, the directional -lë „up” is paired with the directional -mū „hither”. The latter indicates the perspective that adulthood is the norm to which children come in their growing up. „The rising of the sun” is the object of the second preposition in (18). Here once more -lë „up” is paired with -mū „hither”, such that go-up-hither is the equivalent of „come up.”

In the same way that the directional -lë „up” is used for a motion of rising, so the directional -o „down” is used when the movement is inherently downward (e.g., as with the verbs fall, sit, lie, bury, sink, etc.) Example (19) illustrates this use of -o „down” with the verb bo „sink,” which implies movement downward, but still requires the directional -o „down”.

(18)  
\[
\begin{array}{llllllllll}
\text{Nenü} & \text{kā} & \text{bao}=\text{le} & \text{kà}, & \text{nuē'mu} & \text{sā}=\text{dō} & \text{kà} \\
\text{wind} & \text{SUBR} & \text{blow}=3\text{MIN} & \text{DEIC} & \text{canoe} & \text{PCLF}=3\text{AUG} & \text{DEIC} \\
\text{tū-bo-o}=\text{pe}. \\
\text{RL-sink-DIR.down}=\text{AS} \\
\end{array}
\]
„When the wind blew, their canoe started to sink.”

2.2.2 The in/out container perspective

The second type of local dimension is that of the contrast between -tō „in” and -pā „out” It assumes a container of some sort, which can be something small or large, like a cup or a cave, as well as something large and abstract, such as viewing the entire island as a container of sorts. This parallels the use of the Mwotlap directionals for in and out (François 2003:416). Consider (20) and (21) which illustrate their use with the small-sized container perspective.
(19)  *Oti=* le  *Bia*  *lopāi=* le  ā  
get=3MIN  *breadfruit*  break=3MIN  CONJ

*oti-kē-bē=* le  *Nēlu*  *lapu-pā=* le.  
get-*also-DIR.thither=3MIN  *coconut*  split-*DIR.out=3MIN

„*He took Breadfruit and broke him, and he also took Coconut and split him.”

(20)  ā  *lomō=* de  *lu-blā-tō*  kēdū  nātū  tōpapa  kā  
CONJ  chest=3MIN  *spear-jump-*DIR.in  ART.SG  piece  timber  DEIC

„*And his chest was speared by a piece of that wood.”

In (20), *breadfruit* and *coconut* are personified as if they were proper names. In it a comparison can be made between *lopāi*  „*break,” (the verb used regarding *Bia*  „*Breadfruit”) on which there is no directional and *lapupā*  „*split open,” which is used to talk about *Nēlu*  „*Coconut.”* Here we see that a coconut is a container, with the outside being split open so that the inside is exposed. The action of breaking used of *Bia*  „*Breadfruit” is something that can be done with one”s bare hands, so the directional is less critical. But for *Nēlu*  „*Coconut” to be eaten, the hard, outer shell must be cracked. In (21) the container is someone”s chest, and the piece of wood that breaks off his surfboard  *lublātō*  „*spear-jumps into” his chest, i.e., it pierces it.

On a somewhat larger scale, locations with interiors can also be containers. In (22),  *butūbē*  „*cave” functions as a container with the woman taking her child into it, while (23) shows the house functioning as a container.

(21)  *Olvē*  kā  ma  vē-mi-tō=* pe=* le  
woman  DEIC  specifically  go-*COM-DIR.in=* AS=3MIN

doa  ne=* de  mē  butūbē  
child  PCLF=3MIN  prep  cave

„*The woman took her child into a cave.”

(22)  *Sā*  tū-pō-ngei-tō=* Ø  
mou  madāi  
PVF  RL-*move-very.slowly-DIR.in=* 3MIN  again  single.boys’.house

„*Then he went slowly back inside the single house”

The container concept can also be more figurative:

(23)  *Dōka’*  sā  tū-mwa’o-mū=* Ø  
mē  bā  
demon  PFV  RL-*fish/hunt-DIR.down-DIR.hither=3MIN  PREP  top

*ninē*  lā  tū-tu-tō-mū=* Ø  
tree.nalinut  DEIC  RL-*stand-*DIR.in-DIR.hither=3MIN

„*A demon is fishing down from the top of the nalinut tree which stands
close by.”

In (23) a man went back into a house and whispered the information in (24) to his friends, so tütutömü „to stand in” means „to stand close”, and the -mü „hither” adds the person information i.e., the container is the space of a group which contains the speaker.

2.3 Some macro-level uses of local and personal directionals

Beyond the use of the Local Coordinate and Personal Coordinate directionals at the micro-level, they may also be used at the macro-level. Below we discuss a couple of their uses as they apply to our analysis of these directionals.

Like many Oceanic languages, Natügu is spoken on an island, and therefore speakers maintain a constant awareness of where they are with relation to the sea. This ends up being a primary axis for Oceanic languages, as opposed to Indo-European languages, for example, which have a spatial system related to the path of the sun, due to the large continental landmass which precludes regular contact with the sea (Blust 1997:50).

The container perspective directionals can be used to make this distinction between land and sea, which is illustrated by sentences (26), in which a man goes into the jungle and emerges out from it, and (27) in which some women go out to a reef.

(24) Kä vē-tō=le kā-ma peto
    SUBR go-DIR.in=3MIN DEIC-SPEC jungle
    ä sā yēlu-pā=pe-mū=Ø.
    CONJ PFV return-DIR.out=AS-DIR.hither=3MIN
    „When he entered the jungle, then he returned out.”

(25) Kedu=ngū olvē lō Matemē, nē-vē-pā=ngū mē maboī.
    some-PL woman from Matemē 3AUG-go-DIR.out-3AUG prep outer.reef
    „Some women from Matemē island went out to the reef.”

The man in (26) is, in fact, already in the jungle. But when he penetrates it further, -tō „in” is used, and the location of the sea is not in focus. When he comes back out, he is also still in the jungle where he had been working previously. Therefore, in (26) in and out do not imply an absolute value of either being in the jungle or not in the jungle, but relative degrees of how far one is.

We have no data illustrating at what point a man travelling in one direction into the jungle would be said to be coming out on the other side. But given people’s highly developed sense of where they are on the island, we would expect that a Santa Cruz person accompanying strangers on such a trek would be able to
say with a high degree of accuracy, “Now we are going out of the jungle.” We posit that such a statement would be based on their relative relationship to the sea, in that when one is half way through the jungle, he is also half way to the other side of the island. So when viewing the island or the jungle as a container, it appears that the sea or the seashore can be said to define the boundaries of the container in whatever direction one travels.

Further, the only genealogical text examined for this study provides several examples of directionals as they apply to our analysis.

(26)  Këdü,  Lvëtā,  bë-lë-mü  mö-lä  Guadolkana,
one  Lvëtä  die-DIR.up-DIR.hither  LOC-DEIC  Guadalcanal.island,
ä  këdü  dötü=de  Mëleibla  bë-ki-tō-mi-lë
CONJ one  name=3MIN  Mëleibla  die-DIR.path-DIR.in-DIR.hither-3MINA
Sidni.
Sydney.
„One, Lvëtä, died up on Guadalcanal, and one named Mëleibla, died in Sydney.”

In (28), the narrator is telling about where two of his ancestors died. The most difficult of the directionals in this sentence is the use of hither directionals with die in both clauses. This appears to be an instance of a fixed pattern. If this is correct, then no matter where someone dies, they always „die-hither,” in the sense that their bodies remain on the earth with the speaker/deictic center and do not go elsewhere.

Guadalcanal, though, is several hundred miles from Santa Cruz, and in the same clause it is paired with a deictic locative which points there as opposed to here. Meanwhile, Australia, which occurs in the second clause, is several thousand miles away. This causes the use of a different construction. The path directional (i.e., one of the „other” directionals) seems to be visualizing the path of a plane or ship which took Mëleibla to Australia. The form -tō „in” is used in place of locative deictic and identifies Sydney as the town in which the relative died. The use of hither was explained in the previous paragraph.

3 Conclusions and Implications
In this analysis of Natügu directionals, we have seen that there are three pairs which fall into two coordinate sets: 1) Personal Coordinates: the personal directionals of hither/thither and 2) Local Coordinates: the container perspective directionals of in/out and the vertical axis directionals of up/down. The personal directionals have the hither/thither meaning with verbs of motion and they can also indicate a range of semantic relationships (e.g., recipient, beneficiary, goal, addressee, etc.). The container perspective directionals assume a container of some sort (small or large), while the vertical axis directionals encode the vertical axis of up/down. Further, we have seen that these directionals may be used in a
wider setting to distinguish between land/sea and to describe areas beyond the village/island.

Our description here adds to the growing corpus of data on Natügu, allowing for further studies to build upon it. We have shown that in Natügu, directionals synchronically are no longer verbs, but bound verbal suffixes, and that Natügu directionals closely parallel those of Mwotlap (i.e., show similar development, possibly due to contact, not relatedness). Further, our findings help support those of Ross and Næss (2007) that RSC languages have an Oceanic origin, and Næss and Boerger (2008) that the directionals derive from verbs in SVCs.

These findings lend themselves to a number of implications for further research and analysis. First, further comparison among Oceanic languages is needed, especially those in the Temotu family. Secondly, given that our focus here was primarily on the micro-level, there is more work to be done on the macro-level directional. In addition, it could be fruitful to look at how wind directions are used in spatial orientations in Natügu. Furthermore, the „Other” directionals, mentioned in passing in this paper, also need analysis. Another fruitful pursuit would be an investigation of the non-canonical uses of these directionals at the micro-level. Finally, the deictic determiners, all of which have been glossed merely as DEIC in this paper, need to be analyzed and described, including an investigation of how they interact with the verbal directionals to point even more specifically to time and space in Natügu. Thus, while our preliminary analysis has provided a starting point regarding how space is encoded in Natügu, it leaves open many more avenues waiting to be explored.

References

Appendix A: Abbreviations Used

<table>
<thead>
<tr>
<th>affix</th>
<th>ABBR</th>
<th>meaning</th>
<th>further description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1, 2, 3</td>
<td></td>
<td>1st, 2nd, 3rd person</td>
<td>first, second, and third person</td>
</tr>
<tr>
<td>1+2</td>
<td></td>
<td>1st and 2nd person</td>
<td>a separate person category including first and second person</td>
</tr>
<tr>
<td>=pe</td>
<td>AS</td>
<td>achieved state</td>
<td>parallels plural, but 1+2 occurs in minimal and augmented</td>
</tr>
<tr>
<td>a-</td>
<td>CAUS</td>
<td>causative</td>
<td>verbal prefix</td>
</tr>
<tr>
<td>CONJ</td>
<td>conjunction</td>
<td>refers to all three conjunctions – and, but, or</td>
<td></td>
</tr>
<tr>
<td>ba-</td>
<td>DAT</td>
<td>dative base</td>
<td>pronominal enclitics attach to this to form dative pronouns</td>
</tr>
<tr>
<td>DEIC</td>
<td>deictic particle</td>
<td>refers to a number of such particles in the language</td>
<td></td>
</tr>
<tr>
<td>ò-</td>
<td>DETR</td>
<td>detransitivizer</td>
<td>decreases valence of verb; may be used for habitual actions</td>
</tr>
<tr>
<td>-bē</td>
<td>DIR.thither</td>
<td>personal directional</td>
<td>toward non-speaker or non-deictic center</td>
</tr>
<tr>
<td>-mū</td>
<td>DIR.thither</td>
<td>personal directional</td>
<td>toward speaker or deictic center</td>
</tr>
<tr>
<td>-lē</td>
<td>DIR.up</td>
<td>vertical directional</td>
<td>up or upward</td>
</tr>
<tr>
<td>-o</td>
<td>DIR.down</td>
<td>vertical directional</td>
<td>down or downward</td>
</tr>
<tr>
<td>-tō</td>
<td>DIR.in</td>
<td>container directional</td>
<td>in or inward</td>
</tr>
<tr>
<td>-pā</td>
<td>DIR.out</td>
<td>container directional</td>
<td>out or outward</td>
</tr>
<tr>
<td>-ki</td>
<td>DIR.path</td>
<td>other directional</td>
<td>along a path set up by discourse or recognized by speakers</td>
</tr>
<tr>
<td>-ne</td>
<td>DISTR</td>
<td>distributive aspect</td>
<td>aimlessly, in many places, all around</td>
</tr>
<tr>
<td>ēvē</td>
<td>HAB</td>
<td>habitual</td>
<td></td>
</tr>
<tr>
<td>IMP</td>
<td>imperative</td>
<td></td>
<td></td>
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<td>INTS</td>
<td>intensifier</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sa-</td>
<td>IPFV</td>
<td>imperfective</td>
<td></td>
</tr>
<tr>
<td>na-</td>
<td>IRR</td>
<td>irrealis</td>
<td>action is potential</td>
</tr>
<tr>
<td>MIN</td>
<td>minimal</td>
<td>parallels singular, but with 1+2 being a minimal person</td>
<td></td>
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<td>NEG</td>
<td>negative</td>
<td></td>
<td></td>
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<tr>
<td>NMLZ</td>
<td>nominalizer</td>
<td>makes all kinds of verbs into nouns</td>
<td></td>
</tr>
<tr>
<td>O</td>
<td>object</td>
<td>or patient</td>
<td></td>
</tr>
<tr>
<td>PCLF</td>
<td>possessive stem</td>
<td>classifier which divides nouns into 7-8 classes</td>
<td></td>
</tr>
<tr>
<td>sā</td>
<td>PFV</td>
<td>perfective</td>
<td>may be used to mark plurality of nouns, but not mandatory</td>
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<tr>
<td>PL</td>
<td>plural</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PN</td>
<td>proper name</td>
<td>person or place name</td>
<td></td>
</tr>
<tr>
<td>Prefix</td>
<td>Type</td>
<td>Meaning</td>
<td>Notes</td>
</tr>
<tr>
<td>--------</td>
<td>-------</td>
<td>------------------------------</td>
<td>--------------------------------------------</td>
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<tr>
<td>mē</td>
<td>PREP</td>
<td>preposition</td>
<td></td>
</tr>
<tr>
<td>bēkū</td>
<td>PROH</td>
<td>prohibitive</td>
<td>Don't!</td>
</tr>
<tr>
<td>īū-</td>
<td>RL</td>
<td>realis</td>
<td></td>
</tr>
<tr>
<td>-ma</td>
<td>SPEC</td>
<td>specific</td>
<td>occurs with deictic particles to make referent more specific</td>
</tr>
<tr>
<td>kā</td>
<td>SUBR</td>
<td>subordinator</td>
<td>particle functions on several levels, but always subordinates</td>
</tr>
<tr>
<td>-ngō</td>
<td>TRNS</td>
<td>transitivizer</td>
<td>implies verb acts on object or objects, even if not stated</td>
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