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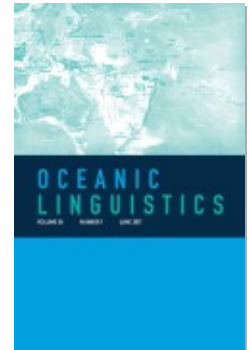
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Spatial Deixis, Textual Cohesion, and Functional Differentiation in Takivatan Bunun

Rik De Busser

NATIONAL CHENGCHI UNIVERSITY

Spatial deixis in Takivatan Bunun has not developed specialized functions that allow it to refer back to referents or propositions in discourse (textual use), without pointing to an external spatial or temporal context (situational use). This challenges established accounts of deixis, which assume that both situational and textual uses are universal or that the former use is a diachronic precedent to the latter. Based on two concepts of functional grammar, cohesion and layering, the present article offers the alternative analysis that Takivatan Bunun demonstratives and related forms fulfill a spatial deictic function while simultaneously being involved in establishing textual cohesion through phoric reference.

1. INTRODUCTION.[1] Takivatan is one of five dialects of Bunun (ISO 639-3: bnn), an Austronesian language of Taiwan. It is mainly spoken in two settlements on the east coast of Taiwan and in some isolated pockets deep in the central mountain range. Like its sister dialects, it has a Philippine-type voice system and a large system of affixes, mainly verbal.[2] One of its interesting characteristics is that it has various paradigms of spatial deictic expressions that have a range of deictic and nondeictic uses (De Busser 2009:415–80). Demonstratives all distinguish between a proximal, a medial, and a distal form. The examples below illustrate this distance contrast for bound demonstratives of the *t*-paradigm, which has the highest relative frequency in the Takivatan corpus.[3]

(1) a. mu-dan-in   su   tama lumaq-**ti**
       TOWARD-go-PFV 2S.N father home-ENT.PROX
       'Did your father already go home?'

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2. The more than 200 distinct bound forms that have been attested are organized along a boundedness cline. This makes it "impossible to determine an unambiguous cut-off point where affixation stops and cliticization begins" (De Busser 2009:177). All will be labeled as affixes in this article.

   b. ma tupa-**ka** tama Maia-tun manaq ni tu maqtu
      INTER say-EVT.DIST father M.-ENT.MED shoot   NEG COMP be.allowed.to
     'But Maia's father said that we could not go shooting.'

   c. dusa-in sam Tiaŋ-**ta**
      two-PFV 1E.TOP.AG[4] T.-ENT.DIST
     '... and then there was only (that) Tiang and me.'

Deixis has received a fair amount of attention in various subgroups of Austronesian languages; two works offering a broad overview, mainly of languages in the Eastern Pacific, are Senft (1997) for Austronesian and Papuan languages and Senft (2004) for Oceanic languages. Most studies on Austronesian languages focus on various aspects of the situational use of demonstratives, that is, their function in encoding spatial (and by extension temporal) reference. This is understandable, because cross-linguistically demonstratives are often considered prototypical deictics and their situational function is generally regarded as their most basic function. From an evolutionary and a developmental viewpoint, the primacy of the exophoric situational use of deixis makes a lot of sense: it is widely assumed that the evolutionary origin of demonstratives is exophoric situational use (for instance, Halliday 1994:312), and there is some evidence that this pointing use is also prior in first language acquisition (Clark 1978). Diessel takes this a step further, arguing that situational use is diachronically the primary use of demonstratives and "that anaphoric and discourse deictic demonstratives are already to some extent grammaticalized" from this primary situational function (Diessel 1999a:20).

Himmelmann (1996) takes a rather different perspective. He argues that, since phoric and discourse uses of demonstratives seem to be as good as universal cross-linguistically, there is little evidence for the functional primacy of situational over text-oriented deixis. On the contrary, he seems to suggest that discourse deixis (which refers back to a text segment; see 3.1) is the unmarked use for free demonstrative forms (Himmelmann 1996:225).

Both Himmelmann's and Diessel's positions are to some extent problematic for the analysis of deixis in Takivatan Bunun, because in this language "the distance dimension in any of the deictic paradigms is rarely used unambiguously for anaphoric reference"

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3. Unless indicated, the Takivatan Bunun examples in this article are from the 27,000 word corpus of Takivatan Bunun, collected by the author between 2005 and 2011. The main body of the corpus consists of ten narrative and expository texts, ranging from 5m 36s to 49m 20s in length. These are supplemented by ten sets of elicited example sentences. Care was taken to avoid translation elicitation and response bias. Initial capitals and final periods are not used in the Takivatan sentences, as is normal in Formosan linguistics.

    Abbreviations that do not follow the Leipzig Glossing Rules are: 1E, first person exclusive; 1I, first person inclusive; ACT, actor; AG, agent form of the personal pronoun; ANAPH, anaphoric marker; ASSOC, associative; CONS, consequence; CV, CV-reduplication; DEFIN, definitional marker; DYN, dynamic; EMO, emotive marker; ENT, entitative; EVT, eventive; EXIST, existential; FILL, filler; GIV, given; GNR, generic; HI.AG, high agency; INCH, inchoative; INTENS, intensifying; INTER, interjection; LF, locative focus; LNK, linker; LOC, locative; MED, medial; N, neutral form of the personal pronoun; NVIS, nonvisual; P, plural; PAUC, paucal; PERSON, person nominalization; PM, predicate marker; PN, proper noun marker; PRT, particle; RESOBJ, resultative object; S, singular; SPEC, specific article; STAT, stative; SUBORD, subordinator; TOP, topical form of the personal pronoun; TRANSFER, transfer; UF, undergoer focus.

    Abbreviations used in cohesion analysis: Rc, reference; Rt, referent; Ta, target; T$_n$, n-th link in a cohesive chain.

4. The label TOP is here used to refer to the clause-internal topic that is targeted by voice-related verbal affixes (see De Busser 2011).

(De Busser 2009:425), and neither is there evidence of a dedicated discourse-deictic functional specialization in Takivatan demonstratives,[5] in apparent contradiction to Himmelmann's (1996) assumption about the universality of anaphoric or discourse deixis. The question then becomes whether the Takivatan situation lends support to Diessel's (1999a; 1999b) assumption about a fixed pathway from situational to textual and discursive functions of deixis. Are Takivatan demonstratives just in an initial phase where the diachronic functional change from situational deixis to anaphoric and discourse deixis (and eventually to grammaticalized forms such as third person pronouns or determiners) has only just started? I argue in section 3 that this is not very likely, because although Takivatan demonstratives have no specialized nonsituational phoric use, they are nevertheless closely involved in establishing phoric reference in text.

This article will, therefore, explore an alternative hypothesis, which explains the distribution of functions among demonstratives and other deictic forms in Takivatan Bunun in terms of functional superposition. This explanation relies on two concepts from systemic-functional grammar: cohesion (Halliday and Hasan 1976; Halliday 1994:308–39) and layering (Butler and Taverniers 2008; Martin 1992:14–21). In general terms, it will be argued that Takivatan demonstratives did not develop any specialized discursive or textual functions from an original situational function, but rather that these functions are all simultaneously expressed as separate semantic-pragmatic layers.

Section 4 fleshes out this hypothesis. Two case studies analyze oral narrative text segments in terms of their cohesive structure. They will confirm that a major function of Takivatan deictic forms in text is the creation of cohesive ties through phoric reference and that this function is superimposed on its primary spatial demonstrative function. Section 5 discusses the broad theoretical implications of this analysis. First, however, it is necessary to give an overview of the deictic paradigms in Takivatan Bunun that are relevant to the discussion at hand (section 2) and to discuss various alternative hypotheses about the development of deictic functions (section 3).

2. DEICTIC PARADIGMS IN TAKIVATAN BUNUN. Table 1 gives an overview of all markers for expressing relative spatial or textual deictic reference that have been unambiguously attested in Takivatan Bunun. I exclude roots that are used for absolute and relative topographical reference, such as *baʔav* 'on a high location, in the mountains', *haul* 'at the riverside', and *diŋal* 'neighboring'.

Two categories of deictic paradigms are important to the present discussion: spatial and phoric deictic markers. The first subsumes various sets of deictic markers involved in the expression of spatial deixis. This article concentrates on deictic paradigms, and largely ignores freestanding spatial deictics (table 1b, left column).

Phoric deictic words are isolated forms that do not make a distance distinction, but are used solely for the expression of phoric and discourse deixis. I will focus on the two most common forms and their derived forms: the dedicated anaphoric marker *sia* and the manner expression *maupa* 'thus'.

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5. I will largely sidestep discourse deixis in the present discussion.

TABLE 1. OVERVIEW OF DEICTIC MARKERS IN TAKIVATAN BUNUN

a. SPATIAL DEICTIC PARADIGM

		Proximal	Medial	Distal	Under-specified	Meaning Spatial	Temporal
Bound dem.	Entitative	-ti	-tun	-ta		'this / that …'	'… now / then'
	Eventive	-ki	-kun	-ka		'this / that … here / there'	'… now / then'
Free dem.	Sing. Visible	aipi	aipun	aipa	aip	'this / that / a certain one'	'this one now / then'
	Nonvis.	naipi	naipun	naipa	naip		
	Pl. Visible	aiŋki	aiŋkun	aiŋka		'these / these ones'	'the ones now / then'
	Nonvis.	naiŋki	naiŋkun	naiŋka			
	Generic Visible	aiti	aitun	aita		'the people here / there'	'the people now / then'
	Nonvis.	naiti	naitun	naita			
	Pauc. Visible	—	—	(ainta)		'that small group of people there'	'that small group of people then'
	Nonvis.	—	naintun	(nainta)			
3rd person pronouns	Sing.	isti	istun	ista		'he, she here / there'	'he, she now / then'
	Pl.	inti	intun	inta		'they here / there'	'they now / then'
Place words		ʔiti	ʔitun	ʔita		'here / there'	'now / then'

b. MISCELLANEOUS DEICTIC FORMS

Spatial deixis	daiða	'over there'
	di	'here; now'
	dip	'then; there'
	makun	'there (unknown to hearer)'

Phoric deixis	aupa	'thus'
	maupa	'thus'
	sia	'aforementioned'

2.1 SPATIAL DEIXIS.   There are four deictic paradigms in Takivatan, altogether containing 38 distinct forms: six bound demonstratives; 23 attested forms in a free demonstrative paradigm; six third person pronouns; and three place words. All make a tripartite distance distinction between a proximal (close to the speaker), medial (in the same area as the speaker), and distal (away from the speaker) form, indicated by the morphs -*i*, -*un*, and -*a*, respectively.

2.1.1 Bound demonstratives.   By far the most common are the six bound demonstratives, given in table 2.[6] Two things are unusual about these forms. First, they do not exclusively attach to nominal hosts, and they distinguish an entitative series, which stresses the

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6. Nojima Motoyasu (pers. comm.) correctly points out that eventive forms always follow hosts ending in a vowel, and that consonant-final hosts result in forms that are realized as -*i/-un/-a*. This is only part of the story: entitative forms also have a strong preference for vowel-final hosts, and this indicates that they also have allomorphs in -*i/-un/-a* in environments where they are preceded by consonants. A consequence is that in the postconsonantal environment, the distinction between the entitative and eventive set of markers is neutralized. An additional problem is that -*a* and -*i* occur in a host of environments and could be argued to function as general linkers that connect "all elements within a domain of modification" (Kaufman 2009:201). In the absence of objective indicators to distinguish between their different functions, this is how they will be analyzed here (-*a* will be marked 'LNK' and -*i* 'PRT'). Note that none of this influences the general argument put forward in this article.

TABLE 2. BOUND DEMONSTRATIVES

	Entitative	Eventive
Proximal	-ti	-ki
Medial	-tun	-kun
Distal	-ta	-ka

referential properties of the host, and an eventive series, which stresses its spatio-temporal properties. The distinction is indicated by the morphs *-t-* and *-k-* occurring before the distance markers *-i/un/a*. Second, unlike demonstrative articles in most languages, Takivatan bound demonstratives attach to nominal, verbal, and several other types of stems (though significantly, they can never occur on free demonstrative forms). Examples (2a–c) illustrate this for the proximal eventive form *-ki*.

(2) a. ni   tu   ma-naskal sadu-**ki**   uskun-an
      NEG COMP STAT-happy   see-EVT.PROX together-PERSON
    '[...] so I was not happy to see my companions doing this.'

    b. ma-nak-a   qaliŋa-**ki**-a   ma[s]ðaŋ-i sauqaissauqais-a, …
      DYN-1S.N-LNK language-EVT.PROX-LNK same-PRT   move.back.and.forth-LNK
    'As for my language here, it is similarly going back and forth, …'

    c. Pian sadu-an su-**ki**   mun-ʔiti
      P.   see-LF   2S.N-EVT.PROX TOWARD-here
    'Pian saw that you (here) would come here.'

The first sentence in these examples represents the most common use of this form, that is, attached to a verbal stem. A proximal form is selected here because of a deictic shift: the act of seeing expressed by *sadu* happened shortly after the hunting companions of the narrator committed a taboo. In (2b), the same article appears on the nominal stem *qaliŋa* 'language' (the speaker is commenting on a story she just told). Finally, in example (2c), *ki* appears on a second person pronoun. Note that the basic semantic function of bound demonstratives is consistent across word classes. For instance, the proximal eventive forms have the same function regardless of the category of their hosts: they all express relatively close spatial or temporal proximity, be it of an event, an abstract concept, or a speech participant.

It is not really clear where this categorial nonselectivity comes from, and I am not aware of bound demonstratives in other languages with a similar distribution. One possible explanation is that it is related to the nonrigid word class boundaries in Bunun dialects, a phenomenon that has been associated mainly with Western Austronesian languages (Foley 1998; Gil 2000; Himmelmann 2008). When in a language in which boundaries between lexical categories are not rigid, categorial attachment restrictions for function words such as articles are less likely to determine their behavior.

The second interesting aspect of bound demonstrative forms is that they distinguish between an entitative (ENT) subparadigm, which is formed with a morph *-t-* and is used when the concrete, material properties of the referent or event marked by the bound demonstrative need to be stressed, and an eventive (EVE) subparadigm, which is formed with *-k-* and indicates the importance of the spatio-temporal location of a referent or event in its immediate context.[7] Consider the difference between (3a) and (3b).

(3) a. maq-a   ainak-a   tama-**ka**   tu-tuða tu   miqðiq
     DEFIN-LNK   1S.POSS-LNK   father-EVT.DIST   CV-real   COMP   difficult

    daiŋʔað aipa
    large   DEM.S.DIST

    'As for my father in those days, he really had a lot of difficulties.'

   b. pa-ʔuni   san i-nam   tama-**tun**   tudip
    CAUS.DYN-be   truly   POSS-1E.N   father-ENT.MED   that.time

    'Our dear father truly went through a lot in those days.'

In (3a), the use of a distal eventive bound form *-ka* on *tama* 'father' is motivated by the importance of emphasizing the positioning of this participant in a distant temporal past. In (3b), the spatio-temporal setting of the event and its associated participants is already encoded by *tudip* 'in those days'. Consequently, there is no need to express this on the nominal stem any more and the entitative *-tun* is used. The medial form highlights the status of the father as an object of emotional affection. Another illustration of the distinction between these two bound demonstrative paradigms can be found in table 7 below: eventive forms in that list all refer back to temporal or spatial expressions, while entitative forms tend to refer to concrete referential targets. Note that while eventive demonstratives are more common on verbal and adverbial elements expressing time and place, and entitative demonstratives occur more often on nominal forms, the examples illustrate that both subparadigms can attach to stems of any category that allows for the attachment of bound demonstratives. This indicates that the distinction between the two categories is a semantic rather than a grammatical one.

In terms of distance, the bound demonstrative paradigm makes a distinction between proximal, medial, and distal forms. It is often speaker-oriented, but especially in narrative text, deictic shift to one of the narrative protagonists is possible. The contrast between proximal and distal reference is illustrated in (4). The speaker explains how a group of Bunun who recently moved to the east coast from Nantou, in the Central Mountain Range, need to acquire a relocation permit. At the time of utterance, he is in Hualien County, hence the proximal forms on *Kaliŋku* 'Hualien' and the second token of *pisiha-lun* 'make good, bring in order'. In the last clause, by contrast, *Nantu* gets a distal form. Note that *Kaliŋku* and *Nantu* both have entitative demonstratives, despite the fact that they are toponyms; in the narrative context, emphasis is on the actions that are to be undertaken in both locations, rather than on their spatial properties.

(4) asa   pi-sihal-un   itu   Kaliŋku-**ti**
    have.to   CAUS.STAT-good-UF   this.here   K.-ENT.PROX

    'You have to put things in order here in Kaliŋku, …'

    pi-sihal-un-**ti**   na   asa   tun-han   Nantu-**ta**
    CAUS.STAT-good-UF-ENT.PROX   CONS   have.to   THROUGH-go   N.-ENT.DIST

    '… and when it is in order here, …you have to go over there to Nantou.'

One notable metaphorical extension of the distance contrast, which is present in all spatial deictic paradigms, is the indication of emotive distance. This use is especially common for medial forms, which commonly express endearment.[8] It explains why

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7. De Busser (2009:426–40) gives an elaborate description of the contrast between these two categories, there called referential and situational definiteness.

medial bound forms are commonly used on proper names and kinship terms, for instance in (3b). I will argue in 3.2 that there is no strong evidence for a specialized anaphoric or discourse-deictic function for bound demonstratives.

It has been argued that bound demonstratives in other Bunun dialects are portmanteau forms that mark both deixis and case. Wu (2009:266) and Zeitoun (2000) distinguish two sets of bound demonstrative forms in Isbukun Bunun, which mark nominative and oblique noun phrases (see table 3; see also Li 1997:363).

In other Austronesian languages, it is not unusual for noun markers to combine case marking and deixis, definiteness, or specificity (see, for instance, Reid 1978; Reid 2002). However, the Takivatan data available do not support such an analysis: individual bound demonstratives occur in a number of positions that do not correspond to a single grammatical role or case domain, and they are not in complementary distribution.

TABLE 3. ISBUKUN BUNUN BOUND DEMONSTRATIVES

	Nominative	Oblique
Proximal	-in	-cin / -tin
Medial	-an	-tan
Distal	-a	-cia / -tia

2.1.2 Free demonstratives. Free demonstratives form a rather bulky paradigm, represented in table 4. They consist of a visibility marker (zero vs. *n-*), a root *-ai-*, an indicator of plurality *-p/ŋk/t/nt-*, and a deictic element *-i/un/a*. Apart from occasional use in possessive constructions, these forms cannot occur in adnominal positions. Dashed cells indicate forms that have not been attested.

Free demonstratives vary along three parameters: distance, visibility, and number. Distance is encoded on a three-point scale, similarly to bound demonstratives. This is illustrated in (5) for the singular visible forms, which are by far the most common of the free demonstratives in the corpus by a factor of four. In (5a), *aipi* 'he (here)' refers to a person close to the speaker. The medial form *aipun* in (5b) is an illustration of the delineation semantics of medial distance in Takivatan: it indicates a referent that is not close to, but still within the same delineated spatial area as the deictic center (in this instance, in the same village). In (5c), distal *aipa* in the second clause is used for referring to a referent that is temporally distant from the speaker.

TABLE 4. FREE DEMONSTRATIVES

		Proximal	Medial	Distal	Under-specified
Singular	Visible	aipi	aipun	aipa	aip
	Nonvisible	naipi	naipun	naipa	naip
Plural	Visible	aiŋki	aiŋkun	aiŋka	—
	Nonvisible	naiŋki	naiŋkun	naiŋka	—
Generic	Visible	aiti	aitun	aita	—
	Nonvisible	naiti	naitun	naita	—
Paucal	Visible	—	—	(ainta)	—
	Nonvisible	—	naintun	(nainta)	—

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8. A similar meaning specialization has been reported for English *this* (Lakoff 1974; Potts and Schwarz 2010).

(5) a. siða **aipi**   qaimaŋsuð ma-tauŋtauŋ
         take DEM.S.PROX thing   DYN-beat
         'He (here) takes things and beats them against something else.'

    b. sau-han   **aipun**   qanaqtuŋ i-ʔiti-i,
        UNTIL-be.in DEM.S.MED finished   LOC-here-PRT

        a   na,   ma-sihal   naupa   istun-a   inliskinan-i
        INTER well STAT-good seemingly 3S.MED-LNK thought-PRT
        'When he has finished being here, his thoughts will be very happy.'

    c. maq-a   ainak-a   tama-ka
        DEFIN-LNK 1S.POSS-LNK father-EVT.DIST

        tu-tuða   tu   miqðiq daiŋʔað **aipa**
        CV-real   COMP difficult large   DEM.S.DIST
        'As for my father in those days, he really had a lot of difficulties.'

    d. na   ni-in-un   **aip**   min-pantu-a
        well NEG-PFV-UF DEM.S INCH-study-LNK
        'And she wasn't there anymore, she had become a student.'

Curiously, singular free demonstratives can be underspecified for distance, by simply not adding a distance suffix. This is so in (5d), where *aip* does not indicate any spatial or temporal distance. Such forms are relatively rare. Again there are no attestations of demonstratives that are exclusively used anaphorically, although it is clear from examples such as *aipa* 'DEM.S.DIST' in (5c) that demonstratives can have a phoric function in addition to their situational function. Rarely, forms such as *aipi* 'DEM.S.PROX' in (6) can be found where there is a discrepancy between the real or imagined spatial or temporal distance (other village, past) and the deictic form used (proximal).

(6) a. paun **aipi**   tu   Tanta
         called.UF DEM.S.PROX COMP T.
         '[In the old days, we lived in what was called our former village,] this was called Tanta.'

    b. sihal-un **aipi**   sia   binanauʔað
        good-UF DEM.S.PROX ANAPH wife
        '[And if the meat was good,] this [hunter] should store it well for his wife.'

Such forms could be interpreted as anaphoric deixis, but it is telling that this and similar examples involve a proximal demonstrative referring to a deictic referent that always has a strong positive connotation (a much beloved old village or a virtuous hunter). As such, these proximal forms are probably better analyzed in terms of an evaluative extension of spatial deixis, expressing endorsement or approval (De Busser 2009:462–64). This is also so for many medial forms, including bound demonstratives, which often indicate an emotional fondness towards the referent.

    The second parameter of variation for free demonstratives is visibility. Nonvisible forms typically indicate not simply that a referent is not visible, but that its nonvisible status from the point-of-view of the deictic center is relevant to the exposition. An excellent illustration is the nonvisible distal singular form *naipa* in (7).

(7) mu-sbai   **naipa**   maqmut
     TOWARD-cause.to.move   DEM.S.DIST.NVIS   night.time
     '… it will have run away during the night.'

This clause is part of a longer hunting sequence that is analyzed in 4.2 below, and *naipa* refers to a deer that the hunters are stalking. The form is here used, in contrast to its corresponding visible equivalent *aipa* 'DEM.S.DIST.NVIS' in the preceding clause—see (22E)—to indicate that the animal has disappeared.

The final contrast in the free demonstrative paradigm is plurality, indicated by a consonantal segment in the demonstrative stem: -*p*- for singular, -*ŋk*- for plural, -*t*- for collective, and -*nt*- for paucal reference. Singular forms are by far the most common, followed by plurals. An example of the former is given in (8a), and of the latter in (8b). The choice of distal forms in these two examples probably reflects temporal remoteness.

(8) a. ni ma-lavi   **aipa**
         NEG DYN-accompany   DEM.S.DIST
         'He (that one) did not accompany us.'

     b. nanu **aiŋka**   liska?uni …
         really DEM.P.DIST   believe
         'They (those ones) really believed in it …'

Generic demonstratives typically describe a collective group of referents that is specific but indefinite, that is, its exact members are left undefined. A good example is *naita* in (9), which is coreferential with the inclusive plural *?ata*, but whose set of members is left rather vague (a group of Bunun people that came from Banuaz).

(9) a   **naita**   qabas-a   bunun-a
     INTER DEM.GNR.DIST.NVIS in.former.times-LNK people-LNK
         mainhan ?ata   qabas   paun   tu   Banuað
         come.from 1I.TOPAG in.former.times be.called COMP B.
         'And in the old days those people, those Bunun, we came from a place called Banuaz.'

Only one instance of the paucal category has been attested in the corpus, and two other forms have turned up in elicitations; it is mentioned here for completeness, but I will ignore it henceforth.

2.1.3 Third person pronouns. Unlike other personal pronouns (De Busser 2009:440–54, 2011:531–32), but like free demonstratives, third person personal pronouns express a three-way distance contrast and do not distinguish between different case forms (table 5). There are a number of reasons for analyzing them, nevertheless, as part of the pronominal paradigm. One is that the singular root is identical to the bound pronominal form -*is* '3S.TOP', which is now largely defunct but still occurs occasionally in archaic

TABLE 5. THIRD PERSON PRONOUNS

	Singular	Plural
Proximal	isti	inti
Medial	istun	intun
Distal	ista	inta

constructions, such as (12c). Third person pronouns do not appear to have strong demonstrative semantics; in situations where a distance contrast needs to be expressed free (as in [7]) or bound demonstratives (as in [4]) are typically used. Third person pronouns typically refer to humans or animate referents:

(10) han-ʔak   daiða   ma-luskun **inta**
     be.at-1S.TOP over.there DYN-together 3P.DIST mm
     'I am there with them together.'

As in the other spatial deictic paradigms, medial forms often have an emotive interpretation. For example, in (11), the speaker employs *istun* '3S.MED' to refer to the writer of this article, who was at the time living in her house as an adopted family member.

(11) ma-sihal naupa **istun**-a   inliskinan-i
     STAT-good seemingly 3S.MED-LNK thoughts-PRT
     '… then his thoughts will be very happy.'

2.1.4 Place words. The final spatial deictic paradigm is a set of three place words, given in table 6. Depending on the grammatical slot in which they occur, they can be analyzed either as verbal, as in (2c) *munʔiti* 'come here', or adverbial elements, as in (22 F1) *ʔita* 'there'.

TABLE 6. PLACE WORDS

	Spatial	**Temporal**
ʔiti	'here'	'at this moment'
ʔitun	'there (medial)'	'at that moment (medial)'
ʔita	'there (distal)'	'at that moment (distal)'

2.2 TEXTUAL DEIXIS. Under textual deixis in Takivatan are subsumed deictic elements that are used for phoric or discourse-deictic reference and do not have attested situational deictic uses.[9] Whenever they are directly involved in expressing a spatial or temporal deictic contrast, they, therefore, combine with bound demonstratives: see (12b,c) and (13a,b). Phoric deixis—called tracking by Himmelmann (1996) and anaphoric deixis by Diessel (1999b)—keeps track of the participants in a text by pointing back, or forward, at their previous references in that text or in a shared discourse context. Discourse deixis is reference to a (usually preceding) text segment, rather than a referential expression. Most research agrees that these two functions need to be considered distinct, although they are not necessarily formally differentiated.

2.2.1 The anaphoric marker *sia*. This is so for the anaphoric marker *sia*, which in all likelihood goes back to the Proto-Austronesian pronoun *si 'NOM' + *ia '3S' (Blust 2015; *s-ia in Ross 2006), whose reflexes in various Austronesian languages often function as personal or demonstrative pronouns. However, Takivatan *sia* is exclusively used for textual deictic reference. It can be used both anaphorically (12b) and as a discourse deictic (12c). Grammatically, *sia* is quite versatile: it can function as the head of a noun

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9. This terminology is in line with Lyons (1977:667), who proposes the term "textual deixis" to refer to "demonstrative pronouns and other deictic expressions [that are] used to refer to linguistic entities of various kinds (forms, parts of forms, lexemes, expressions, text-sentences, and so on)."

phrase, as a verbal predicate head, or as a nominal modifier. In (12a), it is the head of the topical argument modifying the verb *mapaðnu* 'point at'. In (12b), its position and the fact that it is modified by an irrealis marker and a directional prefix *taun-* 'PERL' indicate that it functions as a verbal element. In (12c), *siati* 'what I just recounted here' is functioning as the only free form in a subordinate clause. Finally, in (12d) *sia* functions as an attributive modifier of *madadaiŋʔað* 'the elders'.

(12) a. haiða makun bunun ma-makun-un, ma-paðnu-du **sia**
       have over.there people CV-over.there-UF DYN-point-EMO ANAPH
       '"There is a human over there, over there!", it [the monkey] pointed with its finger.'

   b. na-taun-**sia**-ki   ma-ma-la-labas-ka   hutuŋ
      IRR-THROUGH-ANAPH-EVT.PROX CV-DYN-CV-abundant-EVT.DIST monkey
      '… well, we wanted to go to the aforementioned place here because there were a lot of monkeys.'

   c. a   **sia**-ti-a   nitu maqtu-is   nitu
      INTER ANAPH-ENT.PROX-SUBORD   NEG be.possible.to-3S.TOP NEG
      'And this here [what I just recounted], it cannot be otherwise [lit., it cannot be that it is not].'

   d. a   paqun maup[a]-in-ta   **sia** madadaiŋʔað qabas
      INTER indeed thus-PFV-ENT.DIST ANAPH elder   in.former.time
      'Like that it happened to the [aforementioned] elders in those days [that …]'

2.2.2 The manner expression *maupa*. The second phoric deictic marker relevant to our discussion is *maupa* 'thus, in such a way', and its derived forms.[10] As the English translation suggests, it could be interpreted as expressing manner, but very often it makes sense to analyze it as a discourse-deictic marker. It is attested in a number of grammatical functions, the most important of which are the verbal head of a predicate, auxiliary verb, and adverbial element. In (12d), the stem *maupa* '(it has happened) thus' is the only element that can be interpreted as the predicate head, and the presence of a perfective suffix *-in* suggests that it is a verbal form.

(13) a. **maupa**-ta madaiŋʔað tu   baðbað-i   Diqanin
       thus-ENT.DIST elder   COMP have.conversation-PRT Heaven
       tu   ma-sihal-aŋ   ka-kaun-un
       COMP STAT-good-PROG CV-eat-UF
       'And like that, the elders talked to Heaven in order to keep producing good crops.'

   b. haiða inliskinan **maupa**-ta
      have thoughts   thus-ENT.DIST
      'I had thoughts like that.'

   In (13a), the form occurs in initial position, followed by the topical argument in second position, then a complementizer, and then the semantic head of the verbal clause. All of this is indicative of an auxiliary verb construction. In (13b), *maupa* appears in final

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10. Note that *maupa* does not in itself express any deictic distance. A bound demonstrative marker, typically *-ti* or *-ta*, needs to be added to accomplish this: *maupa-ti* 'thus-ENT.PROX > in this way' vs. *maupa-ta* 'thus-ENT.DIST > in that way'.

position, a grammatical slot that is consistently filled by adverbial expressions of time, manner, and place (De Busser 2013).

Interestingly, unlike situational deixis, textual deictic markers are not part of elaborate paradigms, but rather isolated forms with high grammatical versatility. They are both very common in the corpus and are semantically undifferentiated. Note also that both *sia* and *maupa*, because they have no spatial deictic functions, readily combine with bound demonstrative forms, unlike any of the freestanding spatial deictic forms (see examples above).

3. FUNCTIONS OF SPATIAL DEIXIS

3.1 TYPOLOGICAL CLASSIFICATION. After setting the scene, we will now turn back to a description of the functional potential of deictic forms in languages around the world. There is relatively little controversy over the broad function of deixis: it "is generally understood to be the encoding of the spatio-temporal context and subjective experience of the encoder in an utterance" (Green 2006:415). This often includes person deixis, as expressed by personal pronouns, and the temporal encoding of events, as expressed by tense, aspect, and modality, but in this section I will mainly focus on spatial deixis as it is encoded by demonstrative reference.

It is in the details that things become muddled. When we start talking about the classification of spatial deixis and its functional extensions, a number of issues come up:
- What are the basic and derived functions of spatial deixis?
- How universal are they?
- How are these functions diachronically related to each other?

3.1.1 Functional classifications of spatial deixis. Let us first look at some basic classifications of functions. An early attempt was by Fillmore (1971:40–41), who made a basic distinction between gestural, symbolic, and anaphoric deixis.

> (14) a. I want you to put it there. (gestural)
> b. Is Johnny there? (symbolic)
> c. I drove the car to the parking lot and left it there. (anaphoric)
> (Fillmore 1971:41)

Gestural deixis pertains to the immediate physical discourse context and is expected "to be accompanied by a gesture or demonstration of some sort" (Fillmore 1971:41), as illustrated in (14a). Symbolic deixis is an abstract extension of spatial deixis as pointing behavior. It is still spatially oriented, but speaker, hearer, and deictic target do not need to share a physical context. In (14b), for instance, the speaker and *Johnny* are very likely not in the same place. Anaphoric deixis is a further abstraction in which deictic words are used for tracking referents in a text.

There are problems with Fillmore's classification. For instance, his classification of nonspatial deixis is probably underdeveloped and it is not clear what determines the boundary between gestural and symbolic uses.[11] Salient to our discussion here is that Fillmore—

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11. Fillmore (1971:44) asserts that his classification is speaker-oriented, but gestural deixis appears to be equally hearer-oriented; how else could the hearer pick up on pointing cues?

in line with later research—assumes a developmental progression of deictic functions, that starts from spatial deixis and leads to the use of deictics in nonspatial, textual contexts.

Himmelmann (1996:218–32) identifies four main uses of spatial deixis:

- Situational deixis subsumes deictic reference to the spatio-temporal context, and largely combines Fillmore's gestural and symbolic uses. One of its diagnostic properties is the presence of a deictic center.
- Discourse deixis is reference to "propositions or events" (1996:224) expressed in the current text.
- Tracking is the use of demonstratives for keeping tab of referential expressions in a text by establishing coreferential links.
- Recognitional deixis identifies a referent as belonging to the shared context of the ongoing discourse.

The examples in (15a–d) illustrate these four functions for the proximal demonstrative *ine* in Biak (ISO 639-3: bhw), an Austronesian language of Indonesian Papua (van den Heuvel 2006).

(15)   BIAK
    a. Situational:
       Ro   mnu   Saba i-ra-**ine**   i.
       at   village S.   3S-seaward-this focus.marker
       'In Saba, this seaward village.'   (Dalrymple and Mofu 2015:T03.006)

    b. Discourse-deixis:
       Rari-rya   fafyar an-**ine** i-mnai roro di-ne.
       such.that-so story   GIV-this 3S-finish at   the.place-this
       'That is the end of this story.'   (Dalrymple and Mofu 2015:T07.198)

    c. Tracking*:*
       Inai   sko-**ine**   sko-na   snon-o ba.
       daughter 3PAUC-this 3PAUC-have man-FILL not
       '[Her three daughters, one called Binwan, another called Inande and another one also called Inggumi.] These three daughters did not have a brother.'   (Dalrymple and Mofu 2015:T01.011)

    d. Recognitional:
       Ma insape insama ido Byak ko-**ine** ko-k-fawi-yo   ko-kam-e
       and after.that so.that   then Biak   1I-this   1I-give-know-FILL 1I-all-FILL
       ko ro iso mob oser.
       1I at be   place one
       'And therefore we, these Biak people, could use it [the story] to know that all of us were from one place.'   (Dalrymple and Mofu 2015:T01.075)

Diessel (1999b:50–55) sees demonstratives as a complex interaction of syntactic, semantic, and pragmatic functions. However, what he describes as the pragmatic functions of demonstratives is essentially identical to Himmelmann's classification of deictic functions.[12] This four-way distinction is, in fact, widely accepted and will take center stage in this discussion. I follow Himmelmann's terminology, but refer to tracking as

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12. There is some transparent terminological variation. Diessel (1999b:6) distinguishes exophoric, anaphoric, discourse-deictic, and recognitional use.

phoric deixis (for reasons that will become clear in section 4), and use textual deixis as a cover term for phoric and discourse deixis.

3.1.2 Universality and hierarchies of deictic functions. Despite all the similarities, there are a number of fundamental differences between how Himmelmann and Diessel interpret the relationship between these deictic functions. Two are discussed in detail by Cleary-Kemp (2007): the universality of these categories and the primacy and unmarkedness of situational use. Both are related to the presumed diachronic relationship between different deictic functions. Additionally, I will discuss how both authors view the discreteness of these functions.

The idea that deixis encompasses reference- and discourse-related functions is widely accepted, although some—for instance, Dixon (2003:63–64)—suggest that phoric and discourse reference should not be considered deixis, but a separate related phenomenon. There is less certainty about how common different uses are cross-linguistically. Himmelmann asserts that the four uses identified by him "are universally attested in natural languages" (1996:206) as functions of demonstratives. Note that the assertion made in Himmelmann (1996) is not that these functions are universally present in language as distinct forms, but that they are universal functions of demonstratives. Diessel (1999b:110) is doubtful about this claim, although he does not provide clear evidence to the contrary.

As to the primacy of demonstrative functions, the common assumption is that the spatial situational use of deixis is in some sense or other primary (Fillmore 1971:70; Halliday and Hasan 1976:32), though often without being properly motivated. Diessel (1999b:110–13) attempts to do just that. He points out evidence from developmental psychology strongly suggesting that children acquire situational deictic contrasts first, and that this is preceded by pointing behavior (see, for instance, Clark and Sengul 1978). He also argues that situational deixis is grammatically unmarked relative to other uses and, crucially, that it is at the source of a grammaticalization pathway that, via nonsituational deictic forms, leads to the development of personal pronouns, determiners, sentence connectives, and other grammatical forms (see also Diessel 1999a). Diessel's discussion is a reaction against Himmelmann, who argues that all demonstrative functions are better seen as equivalent. Tellingly, in the four languages discussed in Himmelmann (1996), textual uses tend to dominate and Himmelmann cautiously hypothesizes "that discourse deixis is the typical use for demonstrative pronouns" (1996:225).

3.1.3 Relationships between deictic functions. Assumptions about universality and primacy should at least partly be understood in terms of their importance to the diachronic relationship between demonstrative functions. If there is no unambiguous basic use among the four basic functional categories of deixis, and if these categories are universal, it is unlikely that they are the result of an (ongoing) grammaticalization process. There is ample cross-linguistic evidence for the metaphorical extensions of spatial deixis to other semantic domains. A well-documented case is the use of spatial demonstrative forms for temporal reference (see, for instance, Fillmore 1971:70; Dixon 2003:88). This particular semantic extension from the spatial into the temporal domain is not restricted to deictic forms: Haspelmath (1997:3) notes that the "spatial expression of temporal notions is extremely widespread in the world's languages"; see also Bender and Beller (2014).

In comparison, the nature of the relationship between spatial deixis and various forms of textual deixis has received less attention. Interestingly, this relationship between the situational and the discursive plane is not restricted to deixis. Halliday and Hasan (1976:321) describe an analogous distinction for conjunctive relations in English:

(16) a. They looked after him well. Yet he got no better.
      b. That must be Henry. Yet it can't be; Henry's in Manchester.

In (16a), the coordinator *yet* establishes a contrastive relationship between the extralinguistic events that are described by the first and the second clause. In (16b), the contrast indicated by *yet* is between the propositions of the first sentence and the remainder of the utterance, not between the actual events encoded by these propositions. In other words, it operates on a textual level. At the least, these phenomena indicate a nontrivial connection between the situational and the textual domain that transcends languages and, among other things, manifests itself in the polyfunctionality of deictic forms. As we saw above, Diessel (1999a,b, 2006) takes this a step further. To him, the conceptual connection implies a cross-linguistic historical connection, a set of grammaticalization pathways starting from situational deixis in which textual deixis plays an intermediary step: "One can think of the grammaticalization of demonstratives as a cline ranging from demonstratives that are used to orient the hearer in the outside world to grammatical items serving a specific syntactic function. Anaphoric and discourse deictic demonstratives occur somewhere between the two ends of this cline" (Diessel 1999a:19).

Though this grammaticalization process might seem relatively uncontroversial, Himmelmann's analysis appears incompatible with the assumed implications "that anaphoric and discourse deictic demonstratives are already to some extent grammaticalized" from these situational uses (Diessel 1999a:20). Rather than assuming a universal connection between situational and nonsituational deictic functions, he argues for the "relative independence and viability of each use" (Himmelmann 1996:207).

An important question at this point is what we mean exactly by functional extension—in this instance, of spatial deixis to other domains of use. In fact, two distinct scenarios are possible. The first is that forms or parameters in the original paradigm develop an extended function. For instance, Diessel (1999b:99) reports that of three Japanese demonstrative roots, only the medial form *so-* is commonly used for anaphoric deictic reference. We already saw an example of parameter shift above: in Takivatan, only medial forms, across deictic paradigms, are used for expressing endearment; see (3b) and (11).

The second scenario is that the distance contrast in the spatial domain is metaphorically extended to a different domain in its entirety. This might happen, for example, when spatial distance distinctions start signaling referential distance (Givón 1983:13) in phoric or discourse deixis. For English, such a semantic shift has been postulated for various demonstratives' paradigms: for instance, for the demonstrative adverbs *here* and *there* by Klein (1983:290). He asserts (but provides only cursory evidence) that *here* as a discourse deictic is used for referring to the immediate textual context, in contrast to *there*, which refers to the wider discursive universe beyond the present text. A more convincing example in the Austronesian world is to be found in Toqabaqita (ISO 639-3: mlu), where two adnominal demonstratives, *qeri* 'this' and *baa* 'that', are used for anaphoric reference (Lichtenberk 2008:625–27). According to Lichtenberk, "the choice between the

two anaphoric elements is sensitive to the degree of accessibility of the referent of an anaphoric noun phrase", a main factor being "anaphoric distance, in terms of the number of clause boundaries, between the current anaphoric mention and the most recent antecedent" (2008:625).

A final difference in how Diessel and Himmelmann view demonstrative uses is functional discreteness. Himmelmann, along with many others, considers his four demonstrative categories to be discrete functions of demonstratives. For instance, when discussing the tracking use of Tagalog *ito* in the example below, he assumes that establishing a coreferential link with *isang manlalakbay* in the previous clause implies a loss of its situational function as a proximal spatial marker.

(17) TAGALOG
  May kasaysayan sa isang manlalakbay;
  may ka-saysay-an sa isa-ng maN-la-lakbay
  EXIST ?-statement-LOC LOC one-LNK IRR.ACT-CV-travelling
  '(One incident) is told about a traveler; ...'

  ang manlalakbay na ito ay si Pepito.
  ang maN-la-lakbay na **ito** ay si Pepito
  SPEC IRR.ACT-CV-travelling LNK PROX PM PN P.
  'this traveler (his name) was Pepito.'   (Himmelmann 1996:229)

Barring ambiguity and vagueness (see Himmelmann 1996:242), choice between demonstrative functions appears to be an either/or matter. This is somewhat different from Diessel, whose classification suggests a more complex interaction between demonstrative uses. Diessel (1999b:50–55) postulates a separation of semantic and pragmatic functions. The former includes categories such as distance, visibility, and other spatial distinctions; the latter includes phoricity, and other distinctions that need not concern us here. Diessel (1999b:52) believes that "these features are meant to characterize the information that is directly encoded in the morphological form of a demonstrative" and do not reflect their function in context. Even so, his classification seems somewhat at odds with his idea about the grammaticalization of demonstratives' functions, because it appears to assume that they are discrete on a diachronic level as separate grammaticalization stages, but not necessarily synchronically. It is not clear how grammaticalization from situational to textual deixis is to be explained when both functions are simultaneously encoded in each deictic form in a language.

3.2 TAKIVATAN BUNUN DEIXIS. In section 2, I introduced two groups of deictic elements: a somewhat unwieldy set of spatial demonstrative paradigms on the one hand and two textual deictics, *sia* 'ANAPH' and *maupa* 'thus', on the other. How do these paradigms fit in with what was discussed in the previous section?

Let us start with the issues of the universality of deictic functions and the primacy of situational deixis. Many studies on spatial deixis put great stress on the use of demonstratives for anaphoric reference and discourse deixis (Himmelmann 1996; Lyons 1977:657–77; Levinson 1983:54–96). However, as was mentioned in the introduction, these uses have not been unambiguously attested as discrete functions in Takivatan (De Busser 2009:425). This does not mean that Takivatan demonstratives cannot have any

phoric function (we will see they do in the next section). However, there is no evidence for the metaphorical extension of the tripartite distance contrast to phoric distance, as was the case in Toqabaqita; and neither are there attested examples of the phoric or discourse-deictic use of demonstratives leading to the neutralization of the distance contrast, or its extended emotive use. In other words, Takivatan demonstratives always appear to retain a spatio-temporal deictic function, or its emotive extension.

One reason for the absence of phoric or discourse-deictic demonstrative functional specializations is the presence of the specialized textual deictic markers *sia* and *maupa* (see 2.2). Both occur in the example below.

(18) **maupa sia**-ti   nak-a   matqas-ʔak   ma-qansiap   tu
       thus   ANAPH-ENT.PROX 1S.N-LNK   clearly-1S.TOP DYN-understand COMP
       'And thus, I understood the aforementioned now clearly: …'

The form *maupa* refers back to the immediately preceding text segment. A literal translation of *sia-ti* could be 'this aforementioned fact here'; the form refers to a realization the speaker expressed in the previous sentence. Interestingly, the choice of a proximal marker -*ti* 'this now' could be explained by discourse deixis, but Himmelmann (1996:221) subsumes this "self-reference to a linguistic unit or act" under situational deixis, and it could be interpreted equally well as temporal deixis.

In defense of Himmelmann's hypothesis, one could still argue that *sia*, which, after all, is hypothesized to derive from a Proto-Austronesian third person pronoun, should be considered an (anaphoric) demonstrative form, but this would ignore Himmelmann's definition of demonstratives as "elements which when used exophorically locate the entity referred to on a distance scale" (1996:210), and the fact that *sia* commonly combines with bound demonstrative forms—for instance, in (12b-c). All this is contrary to Himmelmann's (1996) claim that phoric and discourse-deictic use are universal functions of demonstratives. Of course, the absence of textual functional extensions of demonstratives makes Takivatan irrelevant to any discussion about which deictic function is primary.

The next question is, then, what the implications of this situation are for Diessel's grammaticalization pathway. Obviously, there is no direct evidence for a diachronic pathway from situational to discursive uses of deixis in Takivatan, but Diessel's grammaticalization pathway assumes a historical hierarchy between functions. This appears to imply that, in the diachronic development of deictic forms, an initial stage exists where their function is purely situational, and by implication does not have any anaphoric or discursive function. Might it be that Takivatan deixis is representative of such an initial "pre-textual" stage? One argument in favor could be that demonstratives often do play a role in referent tracking. They fulfill this phoric function, in addition to having a situational (or emotive) function. In (19), for instance, the proximal demonstrative *aipi* is selected to refer to a place close to the (dislocated) deictic center. At the same time, it is also coreferential with *ʔiti* '(this place) here' in the preceding clause.

(19) na-mu-isbai-ʔak   ʔiti aupa ka-pisiŋ-un   **aipi**
       IRR-TOWARD-run.away-1S.TOP here because ASSOC.DYN-afraid-UF   DEM.S.PROX
       'I ran away from here, because he / this place was dangerous.'

One could also argue that this overlap of situational and phoric functions is indicative of a transitional phase of grammaticalization (Hopper and Traugott 2003:49). One problem is that the aforementioned functional overlap is nearly ubiquitous, as will be discussed in the next section. With an ongoing grammaticalization process, this rarely if ever happens; instead, one would expect partial functional overlap. This indicates that the textual function of demonstratives is always present in addition to their situational function, contradicting Diessel's (1999b:118) criterion for grammaticalization, which states that forms "that developed from demonstratives are no longer used to focus the hearer's attention on entities in the outside world." There is also no evidence for phonological or morphological reduction or a restriction of the grammatical environments in which various functions of deixis can occur, two properties that are commonly associated with grammaticalization (see, for instance, Lehmann 1985). In sum, Takivatan demonstratives go against the claim made in Diessel (1999a,b) that a grammaticalization pathway exists that leads from situational to textual deixis.[13]

The key to understanding the discrepancy between the Takivatan data and the claims made by Himmelmann and Diessel is the concept of functional discreteness. It is assumed by Himmelmann, but also implicit in the hypothesis that textual functions of deixis are part of a process of grammaticalization, that the different uses of deixis that were identified in Himmelmann (1996) and adopted by Diessel represent discrete functional specializations of spatial deixis, synchronically and possibly diachronically. The previous paragraphs already suggested that this is not what happens here: in example (19), situational and phoric deixis appear to coexist in a single form *aipi*. In the following section, I discuss an analytical framework that will allow us to model this functional overlap in a systematic way.

4. TAKIVATAN DEIXIS AND TEXTUAL COHESION

4.1 TEXTUAL COHESION. What then is the textual function of spatial demonstratives in Takivatan? Given their referential nature, it can be assumed that they make some contribution to discourse structure, whether or not this contribution can be described in terms of a discrete semantic or grammatical function. On the other hand, I argued that demonstratives have not developed dedicated textual functions. How exactly can these two facts be reconciled?

A useful way of thinking about the textual functions of Takivatan demonstratives is in terms of textual cohesion, which Halliday and Hasan (1976:4) defined rather broadly as the "relations of meaning that exist within the text, and that define it as text." It is clear that, for them, these relationships are encoded in the semantic structure of a text, which means that they are not necessarily correlated to a single formal mechanism or, as Martin expresses it, cohesion is related to the "nonstructural resources for textual organization" (2001:36).

Of course, cohesion should not be considered the sole or even the primary mechanism for establishing textual integrity. There are other factors involved, such as event

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13. As an anonymous reviewer pointed out, my data do not preclude other grammaticalization processes. I noted above that certain demonstratives have developed an emotive meaning extension. This suggests subjectification (Traugott and Dasher 2001:89–99), in which linguistic forms develop increasingly subjective or expressive functions.

structure, discourse organization, prosody, and so on, a fact that is recognized by Halliday and Hasan (1976:324). This article will take the cautious stance that cohesion is a property of a language segment that *assists* language users in interpreting this segment as a semantically and pragmatically coherent unit, in other words, as a *text*. Whether cohesion is primarily a semantic or pragmatic device or is part of information structure is not a subject of discussion here. What is crucial is that it is an easily quantifiable property of texts that has a discourse-structuring function.

Of the mechanisms involved in establishing cohesion, described in Halliday and Hasan (1976), and expanded and adapted in later publications such as Hasan (1984) and Halliday (1994), I am here only interested in those involved in expressing relations of reference. Apart from demonstrative reference—my main interest—this includes person reference and lexical relationships that Halliday and Hasan subsume under the term *reiteration*: lexical repetition, synonymy, hyponymy and hyperonymy, and so on. In a departure from most commonly accepted analyses of cohesion (Halliday and Hasan 1976; Halliday 1994; Martin 2001), I add metonymic and metaphorical relationships to this list, provided they maintain identity of reference (that is, as long as a metonym or a metaphor refers to the same referent as its referential target).

I will call all these relationships *referential cohesion*, the set of cohesive relations that create referring relationships between linguistic forms and referents. Like all subtypes of cohesion, it does this through establishing *cohesive chains*. Note that this delineation of referentiality relative to other cohesive relationships differs from that in Halliday and Hasan (1976), who make a clear distinction between lexical cohesion and reference.[14] Martin (2001) has a similar contrast between identification and ideation. The former is "concerned with resources for tracking participants in discourse" (Martin 2001:38) and assumes identity of reference among the members of a cohesive chain, but curiously not lexical repetition. Ideation concerns traditional lexical-semantic relationships, such as repetition, synonymy, hyponymy, and so on. It is not clear why referential cohesion in both accounts excludes lexical items, particularly nouns, that clearly do have a referential function.

The referent is typically a material or abstract entity (but sometimes also an event) in the textual context, the real or imaginary environment in which the text exists. It establishes a cohesive chain, a process that, in its simplest form, can be schematically represented as in figure 1.

FIGURE 1. SCHEMATIC REPRESENTATION OF A COHESIVE CHAIN
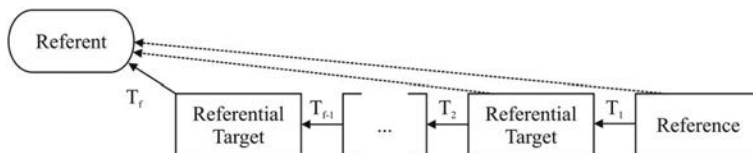
14. Lexical cohesion subsumes all types of cohesive ties established by content words and, somewhat confusingly for a semantic phenomenon, is based on what they call "relatedness of form" at a lexico-grammatical level, unlike reference, which is based on "relatedness of function" (Halliday and Hasan 1976:322). Reference is the set of relationships between linguistic forms that are "interpreted by reference to something else," although this somehow is restricted to grammatical forms that have reference as a dedicated function.

A cohesive chain consists of one or more *cohesive ties* (indicated by T_n). Each tie establishes a semantic relationship between a *reference* (Rc) and a *referential target* (Ta). In most instances, the immediate target of a reference functions itself as a reference in the text, with the exception of the target terminating the cohesive chain, the *referent* (Rt), which typically resides in the textual context. This implies that, ultimately, a referential cohesive tie "is a semantic relation linking an instance of language to its environment, and reference items are in principle exophoric" (Halliday and Hasan 1976:305).

The two types of relationships—nonterminal and terminal—are illustrated in the examples below. In example (20), the proximal demonstrative *aipi* refers back to a Referential Target, the noun *tuqnað* 'bone'. In (21), the same form has a text-external third person referent as a Target.

(20) maq-a   **tuqnað**-ti-a   na-is-kalat-un   ðaku **aipi**   asu
     DEFIN-LNK bone-ENT.PROX-LNK IRR-TRANSFER-bite-UF 1S.N DEM.S.PROX dog
                 Ta ←   Rc
     'As for this bone, I wanted to give it to this dog to gnaw on it.'

(21) ma-nak-a   qaimaŋsuð-a sin-pa-sa-saiv   **aipi**
     DYN-1S.N-LNK thing-LNK   RESOBJ-RECP-RED-give   DEM.S.PROX
                     (Ta: 'he' / exophoric) ← Rc
     'My things, he exchanged them with me for something else.'

The examples above illustrate that cohesive ties are always asymmetrical (Halliday and Hasan 1976:329); they establish a directional link between a referential item (Rc) and a presupposition (Ta). In other words, all relationships established through referential cohesion are by their very nature phoric. This has a formal corollary: whereas a reference is an explicitly realized lexical or grammatical item, the target presupposition may or may not be encoded in the text. Depending on directionality and the nature of the referential target, we will make a distinction between:

1. Exophoric reference: the referential target exists outside the text in the context
2. Endophoric reference: the referential target is encoded in the text
2a. Anaphoric reference: the target precedes the reference
2b. Cataphoric reference: the target follows the reference

From a conceptual perspective, a rigid distinction between endophoricity and exophoricity is problematic for a number of reasons. As mentioned above, most referential targets are ultimately exophoric: they typically refer to a reality existing outside the text. Second, the distinction is dependent on the definition of text. Its boundaries are easily established for Western written literature, but what about dialogue? Or larger story cycles that take up multiple sessions? The hunting story below is part of a larger text in which Vau Taisnunan (the consultant) recounts his life. What is to be defined as the text in such situations? From a functional-semiotic perspective, language is typically seen as a semiotic subsystem embedded in a large network of human communicative systems: for Sebeok (2001:137), although language "is a semi-autonomous structure, it does lie embedded in a labyrinthine matrix of other varieties of semiotic patterns." Nevertheless, the separation between exophoric and endophoric links is maintained in our labeling scheme for practical reasons. It allows our analysis to have unambiguous criteria for discriminating between the textual vs. the nontextual referential targets and for calculating the distance between reference and target.

   Although foundational studies on cohesion, such as Halliday and Hasan (1976) and
Martin (1992), have a strong (often exclusive) focus on the English language, it is
assumed that cohesion is a property of all languages, although the mechanisms for realiz-
ing it might show considerable variation cross-linguistically. Research on cohesion in
Austronesian languages is not common, but there are precedents to the present study. The
most impressive is probably Benn (1991), who uses a cohesion analysis as a basis for
investigating the discourse structure of ritual texts in Central Bontok (ISO 639-3: lbk), a
Cordilleran language of the Northern Philippines. His work is strongly inspired by Halli-
day and Hasan (1976) and transplants all cohesive categories defined by them from
English to Bontok. The same is true for Davies (2001), a description of cohesive mecha-
nisms in Ramoaaina (ISO 639-3: rai), a language of New Britain, and Flaming's (1983)
account of Wandamen (ISO 639-3: wad), a small Austronesian language spoken in West
Papua. A problem with these studies is that none critically engages with the actual classifi-
cation proposed in Halliday and Hasan (1976), which was developed in and for English.

4.2 CASE STUDY. This section investigates the role that the deictic paradigms
introduced in section 2 play in establishing the cohesive structure of a Takivatan narrative
segment. The text segment I will use as an illustration is a hunting story taken from a long
recording (45m 30s) recounting the life of Vau Taisnunan, one of the main consultants
during my fieldwork in the village of Bahuan, on the east coast of Taiwan. In it, a group
of hunters including the narrator are on a hunting trip in the mountains. They have been
stalking a deer for quite some while and have sent their friend Tiang ahead as a scout to
see where it is hiding.

   (22) [A] Aupa tuða … niaŋ tu nanu sanavan minsumina … Tiaŋ, minabaʔav tupa
              naip tu:
         [A1] aupa tuða ni-aŋ   tu   nanu sanavan min-suma-in-a   Tiaŋ
               thus real NEG-PROG COMP really evening INCH-return-PFV-LNK T.
         [A2] mina-baʔav   tupa naip   tu
               FROM-high.location say DEM.S.NVIS COMP
         'But, when it wasn't really evening yet, Tiang had returned, he had
         come back from the mountain and told us …'

      [B] Na, maqtu laqbiŋina, naʔasa dusata matiskun, maluʔumi han baʔav
           daiðaki, pinkaunun isian baʔavta, ŋabul.
         [B1] na maqtu   laqbiŋin-a   na-asa   dusa-ta   ma-tiskun
               well be.possible tomorrow-SUBORD IRR-have.to two-ENT.DIS DYN-in.a.group
         [B2] maluʔum-i han baʔav   daiða-ki
               disperse-PRT be.at high.location there-EVT.PROX
         [B3] pinkaun-un i-sia-an   baʔav-ta   ŋabul
               go.up-UF   LOC-ANAPH-LF high.location-ENT.DIST deer
         'Well, tomorrow is possible, two of us will have to go together, and
         disperse when we get to this place, and the deer will be driven
         upwards to that place above. …'

[C] A, namaqaisaqdauka, saqnutai du sia ʔukai laqaiban.

    [C1]   a   na-ma-qaisaq-dau-ka
            INTER   IRR-DYN-in.that.direction-EMO-EVT.DIST

    [C2] saqnut-i-du   sia   ʔuka-i   laqaiban
            get.stuck-PRT-EMO ANAPH NEG.have-PRT route

'Ah, if it will go in that direction, it will get stuck there, without a way out. …'

[D] Mei, mei kahaul duna ʔuka duduma laqaiban, aupa tuða, maupa tupina.

    [D1] mei   mei   ka-haul   dun-a
            already already HI.AG-below line-SUBORD

    [D2] ʔuka   du-duma   laqaiban
            NEG.exist INTENS-other route

    [D3] aupa tuða
            thus   real

    [D4] maupa tupa-in-a
            thus   say-PRV-LNK

'When when it comes from the track below, there is no other way out, it really is like that, thus he told us. …'

[E] Ansaisaŋa Atul Daiŋ tu "nis, matiŋmutin tamudana madav."

    [E1] ansais-aŋ-a   Atul daiŋ tu
            forbid-PROG-LNK A.   large COMP

    [E2] ni-is   ma-tiŋmut-in ta-mu-dan-a   maðʔav
            NEG-3S.TOP STAT-morning-PFV ?-TOWARD-road-LNK embarrassed

'But Big Atul forbade us: "No, when it has become morning, it will have gone, it will be embarrassing. …'

[F] "Na... s… ʔukin aipa ʔita namudanin, musbai naipa maqmut."

    [F1] na ʔuka-in   aipa   ʔita   na-mu-dan-in
            well NEG.have-PFV DEM.S.DIST there.DIST IRR-TOWARD-go-PFV

    [F2] musbai naipa   maqmut
            run.away DEM.S.DIST.NVIS night.time

'"Well, it will not be there anymore, it will be gone, it will have run away during the night."'

Table 7 is a list of all free and bound elements that function as references. The first main column in table 7 gives the location and identity of each Reference (Rc); the second the same information about the associated Target (Ta). The third main column encodes information about the relationship of the cohesive relation, more specifically the nature of the relation and the distance between Rc and Ta. For instance, in (A2), *naip*, a nonspecified, nonvisible singular demonstrative, refers back to the form *Tiaŋ* in the previous clause (A1); the relationship between *naip* and its Target is one of identity, and there are three word-breaks between the two forms. The classification of cohesive relations (marked Rel.) is loosely based on categories proposed in Halliday and Hasan (1976), with the notable addition of links representing the three Peircean sign-signifier relationships: metaphoric, metonymic, and symbolic links (Merrell 2001).[15] By far the most

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15. To be precise, the following categories are available for classification of relationship types: identity, subset/superset, part/whole, antonym, metaphor, metonym, symbolic. This set is designed to be adequate for description rather than theoretically comprehensive.

TABLE 7. ANALYSIS: HUNTING STORY†

Reference (Rc)		Referential Target (Ta)		Rc→Ta	
Loc.	Token	Loc.	Token	Rel.	Dist.
A1	sanavan 'evening'	new	—	—	—
A1	Tiaŋ 'T.'	prev	('T.') [008-002:123]	Identity	62
A2	[mina-]baʔav 'come from the mountain'	prev	(tanhapav qumaki 'higher land') [008-002:124]	Identity	56
A2	naip 'DEM.S.NVIS'	A1	Tiaŋ 'T.'	Identity	3
B1	laqbiŋin[-a] 'tomorrow'	A1	sanavan 'evening'	Metonym	9
B1	dusa-ta 'two- ENT.DIST'	prev	(sam 'we') [008-002:121]	Subset	96
B1	[dusa]-ta 'ENT.DIST'	A2	[mina-]baʔav 'come from the mountain'	Identity	7
B2	baʔav 'high location'	A2	[dusa]-ta 'ENT.DIST'	Identity	4
B2	daiða-ki 'that place'	B2	baʔav 'high location'	Identity	1
B2	[daiða]-ki 'EVT.PROX'	B1	laqbiŋin 'tomorrow'	Identity	8
B3	i-sia-an 'the place of that one'	B2	daiða-ki 'that place'	Identity	2
B3	[i-]sia[-an] 'ANAPH'	prev	(dapana 'foot prints') [008-002:125]	Part-whole	62
B3	baʔav[-ta] 'high location'	B3	i-sia-an 'the place of the afore-mentioned one'	Identity	1
B3	[baʔav]-ta 'ENT.DIST'	B3	sia 'ANAPH'	Identity	1
B3	ŋabul 'deer'	B3	[baʔav]-ta 'ENT.DIST'	Identity	1
C1	[dau-]ka 'EVT.DIST'	B3	baʔav-ta 'high location'	Identity	4
C2	sia 'ANAPH'	B3	ŋabul 'deer'	Identity	6
C2	laqaiban 'route'	new	—	—	—
D1	[ka-]haul 'below'	C1	[dau]-ka 'EVT.DIST'	Antonym	4
D1	dun 'line'	C2	laqaiban 'route'	Identity	4
D2	laqaiban 'route'	D1	dun 'line'	Identity	3
E1	Atul daiŋ 'Big Atul'	prev	(nas-Atul daiŋ 'the erstwhile Big Atul') [008-002:126]	Identity	77
E2	[ni]-is '3S.TOP'	C2	sia 'ANAPH'	Identity	18
E2	[ma-]tiŋmut[-in] 'morning'	B2	[daiða]-ki 'EVE.PROX'	Subset	28
F1	aipa 'DEM.S.DIST'	C2	sia 'ANAPH'	Identity	6
F1	ʔita 'there.DIST'	D1	[ka-]haul 'below'	Antonym	20
F2	naipa 'DEM.S.DIST.NVIS'	E1	aipa 'DEM.S.DIST'	Identity	4
F2	maqmut 'night time'	D2	[ma-]tiŋmut[-in] 'morning'	Metonym	10

†   Loc. = Location in the text segment; Rel. = Nature of the cohesive relation between reference (Rc) and target (Ta); Dist. = Distance between Rc and Ta in words; prev = Referential target is explicitly expressed in the text preceding this text segment; the exact location in the corpus is indicated between square brackets; new = First mention; the target is exophoric. When a part of an expression is targeted by the analysis, the morphological context is given in square brackets. For instance, in B2 *[daiða]-ki*, only *ki* is being analyzed.

common type of relationship between Rc and Ta is that of identity. The table does not include information about phoricity, because all links in the example are either anaphoric or exophoric; the distinction between the two is encoded in the location of Ta.

    Importantly, only explicitly coded referential information is taken into account: nouns, various locative and temporal expressions irrespective of their word class, the deictic forms that were discussed in section 2, and, finally, complex words in which any of the aforementioned elements appear as a component (for instance *i-sia-an* 'LOC-ANAPH-LF > be located in the aforementioned place'). This analysis has lacunae. The most obvious one is that it does not take into account the nonexpression of arguments, considered a

subtype of cohesion through ellipsis in Halliday and Hasan (1976). In Takivatan Bunun, as in many other Austronesian languages, it is common for arguments that are recoverable from the discourse context to remain unexpressed. Zero realization is, therefore, related to the salience of referents and can be expected to play an important role in establishing the persistence of reference in text (Givón 1983 refers to this as topic continuity) and consequently in referential cohesion.

These limitations, however, do not detract from the main purpose of this analysis, namely to illustrate the role of demonstrative deixis in establishing cohesion in text. This process, in which cohesive links create larger cohesive strands that, in turn, form an interwoven cohesive "fabric," becomes obvious when the information in table 7 is visualized schematically in a cohesion diagram, as in figure 2.

4.3 DISCUSSION. Even on the basis of the short text sample above, a number of clear conclusions can be drawn. Most importantly, it is obvious that Takivatan Bunun demonstratives, despite not having developed a meaning specialization uniquely dedicated to what Himmelmann and others call tracking, are nevertheless involved in establishing phoric connections in text, through their role alongside other nominal expressions in the establishment of textual cohesion. For instance, the bound demonstratives *-ka* 'EVT.DIST' in [C1], *-ta* 'ENT.DIST' in [B1], and *ʔita* 'there.DIST' in [F1] are part of a cohesive strand that ultimately refers back to *quma* 'land':

(23) quma 'land' ← baʔav 'high.location' [A2] ← **-ta** 'ENT.DIST' [B1]
    ← baʔav 'high.location' [B2] ← daiða-ki 'that place' [B2]
    ← isiaʔan 'the place of the aforementioned' [B3] ← baʔav 'high.location' [B3]
    ← **-ka** 'EVT.DIST' [C1] ← haul 'below' [D1] ← **ʔita** 'there.DIST' [F1]

We clearly see in figure 2 how these cohesive strands, created by deictic forms and other referential expressions, "weave" the text together in a convoluted overlapping pattern. Importantly, they perform this phoric function in addition to their situational function. For instance, in [F1, F2] there are two demonstrative pronouns in contrast: a visual singular distal demonstrative *aipa* refers to a deer being present in the distance, and its nonvisual equivalent *naipa* to it having run away. The visibility contrast and the distance contrast encoded in these demonstratives clearly represent observable situational functions. In addition, however, these demonstratives function as phoric markers, as represented in (24): *naipa* refers back to *aipa* through a relation of identity, and *aipa* in turn to the pronominal suffix *-is* in the clause immediately preceding it.
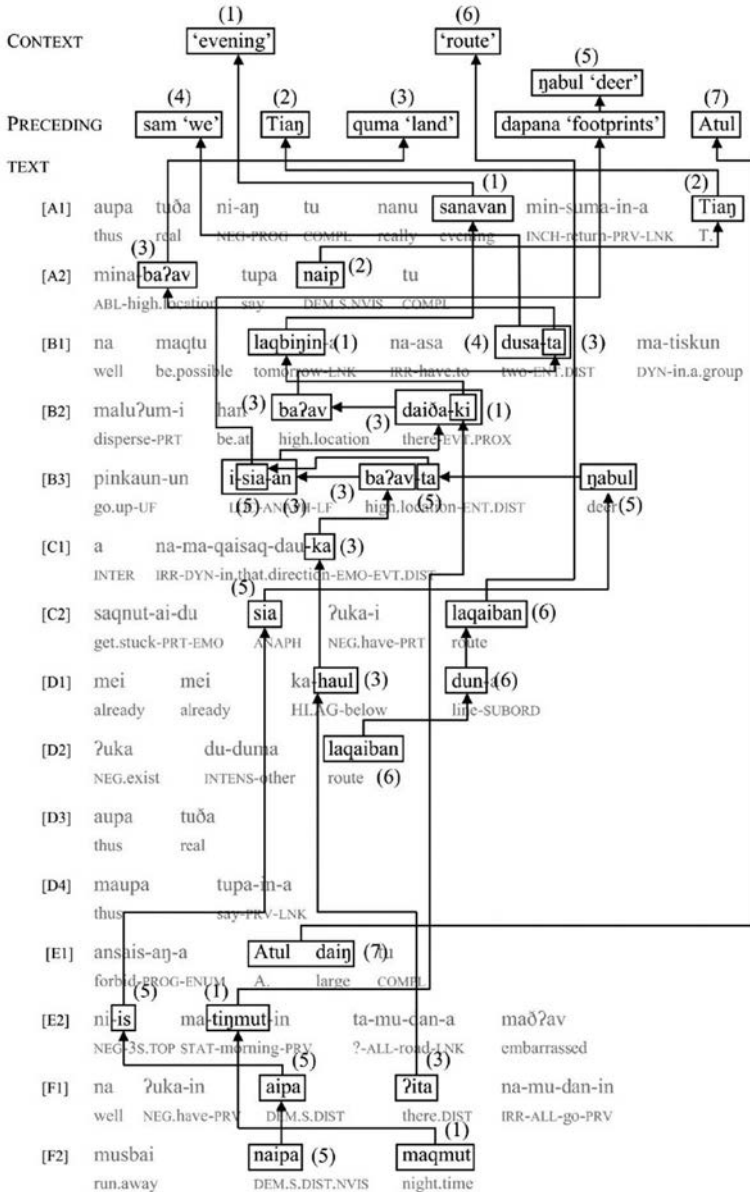
(24) [F1] na   ʔuka-in   **aipa**   ʔita   na-mu-dan-in
            well   NEG.have-PFV   DEM.S.DIST   there.DIST   IRR-TOWARD-go-PFV
            (Ta$_2$: D2 -is '3S.TOP') ←   Rc$_2$ = Ta$_1$ ←

      [F2] musbai   **naipa**   maqmut
            run-away   DEM.S.DIST.NVIS   night.time
                        Rc$_1$

            'Well, it will not be there anymore, it will be gone, it will have run away during the night.'

Second, even in this small excerpt there is local variation in the cohesive density of the text. Clauses [B2, B3] contain considerably more referential expressions and more bound

FIGURE 2. COHESION DIAGRAM: HUNTING STORY

CONTEXT (1) 'evening' (6) 'route'

(5) ŋabul 'deer'

PRECEDING (4) sam 'we' (2) Tiaŋ (3) quma 'land' dapana 'footprints' (7) Atul

TEXT

(1)   (2)

[A1] aupa tuða ni-aŋ tu nanu sanavan min-suma-in-a Tiaŋ
thus real NEG-PROG COMPL really evening INCH-return-PRV-LNK T.

(3)   (2)

[A2] mina baʔav tupa naip tu
ABL-high.location say DEM.S.NVIS COMPL

[B1] na maqtu laqbiŋin-x(1) na-asa (4) dusa-ta (3) ma-tiskun
well be.possible tomorrow-LNK IRR-have.to two-ENT.DIST DYN-in.a.group

(3)   (1)

[B2] maluʔum-i han baʔav daiða-ki
disperse-PRT be.at high.location (3) there-EVT.PROX

[B3] pinkaun-un i-sia-an baʔav-ta ŋabul
go.up-UF LOC-ANAPH-LF (3) high.location-ENT.DIST deer(5)
(5)

(3)

[C1] a na-ma-qaisaq-dau-ka (3)
INTER IRR-DYN-in.that.direction-EMO-EVT.DIST

(5)

[C2] saqnut-ai-du sia ʔuka-i laqaiban (6)
get.stuck-PRT-EMO ANAPH NEG.have-PRT route

[D1] mei mei ka-haul (3) dun-x(6)
already already HI.AG-below line-SUBORD

[D2] ʔuka du-duma laqaiban
NEG.exist INTENS-other route (6)

[D3] aupa tuða
thus real

[D4] maupa tupa-in-a
thus say-PRV-LNK

(5)   (1)

[E1] anshis-aŋ-a Atul daiŋ (7)u
forbid-PROG-ENUM A. large COMPL
(5)   (1)

[E2] ni-is ma-tiŋmut-in ta-mu-dan-a maðʔav
NEG-3S.TOP STAT-morning-PRV ?-ALL-road-LNK embarrassed
(5)   (3)

(1)

[F1] na ʔuka-in aipa ʔita na-mu-dan-in
well NEG.have-PRV DEM.S.DIST there.DIST IRR-ALL-go-PRV
(1)

[F2] musbai naipa (5) maqmut
run.away DEM.S.DIST.NVIS night.time

forms than clauses in the rest of the segment, and even contain a construction, *i-sia-an*
'LOC-ANAPH-LF', which contains nesting of deictic elements. This local variability is to
be expected; as Halliday and Hasan (1976:296) put it: "Textuality is not a matter of all or
nothing, of dense clusters of cohesive ties or else none at all. Characteristically we find

variation in texture, so that textuality is a matter of more or less." Interestingly, the cohesively dense region around [B2, B3] also contains all bound deictic forms in the text segment (see figure 2).

Third, both situational and textual deictic forms tend to be used for shorter cohesive links than other referential expressions. The average distance in words between a deictic Reference and its Target is 12.1, compared to 23.5 for nominal References. This is so because nouns tend to be used for introducing new referents and for reestablishing referents that were temporarily suspended from the narrative or that have become ambiguous due to shifts of perspective. For instance, a long-distance cohesive tie such as the one established by *Atul daiŋ* 'Big Atul' in [E3] reintroduces Atul to the story after an absence of 77 words; it would not be possible to do this by using a demonstrative, which is potentially referentially ambiguous. Situational and textual deictics typically refer back to referents that are salient to the immediate story line and have, therefore, been previously expressed in the proximate textual context. Thompson and Thompson (2001:58) refer to this difference as "a pattern of constant repetition of semantic elements, which provides a sense of continuity, and equally constant replacement—the introduction of new elements in the message—which generates the forward movement of the text."[16] The criteria for the selection of situational versus textual markers cannot be unambiguously deduced from the small sample contained in the present segment, but an educated guess can be made based on this and other data. Unsurprisingly, spatial deictic forms tend to be used whenever spatial or temporal location (or one of their metaphorical extensions) is crucial for the development of the narrative or is relevant to the semantics of the referential expression; and textual deictic forms are used in situations where this is not so.

This segment was selected because it is relatively well understood, and also because it contains a wide range of deictic expressions, but there is no indication that it is in any way atypical of Takivatan narrative discourse, except for the fact that its referential density is relatively high. Table 7 records 24 referential expressions, nine of which are deictic forms. This can be explained by the fact that we are dealing with a narrative sequence with repeated shifts of perspective (between the scout, the hunting party, and the deer), in which the location of the various participants is crucial to the development of the story.

One criticism against the analysis above could be that it is too ad hoc, that it is only based on a single text by a single person. That is true, but this criticism misses the point. What I set out to demonstrate was that deictic forms, and especially demonstratives, are systematically involved in establishing cohesion in text. My analysis, however limited, strongly suggests that this is indeed what happens. What is more, spatial deictic markers simultaneously have a situational and textual function, and there is a clear functional specialization in the roles that various deictic forms play in phoric reference that sets them apart from each other and from other referential expressions. Further research will need to point out to what extent these various functions are subject to intersubjective and genre-dependent variability.

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16. For some reason, they see this primarily as a property of nonnarrative text, but it appears to be equally applicable to narrative sequences.

5. IMPLICATIONS

5.1 FUNCTIONS OF DEMONSTRATIVES REVISED. What are the implications of a cohesion analysis of Takivatan deixis for the established interpretations of the uses of demonstratives as a grammatical resource with universal synchronically differentiated functions (Himmelmann 1996) or as historically differentiated stages that develop along a universal grammaticalization pathway (Diessel 1999a, 1999b)?

Foremost, the analysis offered above is diametrically opposed to any concept of functional discreteness as discussed in section 3. If we accept that deictic forms in Takivatan are involved in establishing referential cohesion, and that cohesion is a pervasive property of texts, it simply cannot be that situational and phoric functions of deixis exist in complementary distribution. On the contrary, both functions must exist simultaneously within the same form, and this overlap is pervasive throughout the language. Both functions might still be distinct, but they are definitely not discrete. (Note that it is still possible that other meaning specializations, such as emotive functions, are functionally discrete, diachronically or synchronically.)

Ubiquitous overlap makes it even less likely that situational and textual functions have derived from each other through a process of grammaticalization, since grammaticalization is typically "gradual, in two senses: over time (i) a sequence of very tiny local structural changes can be seen to emerge, (ii) the frequency with which the new structure is used increases gradually across linguistic types, styles and genres, and speakers" (Hopper and Traugott 2003:232). Even if we interpret structural change broadly, the former is certainly true in Takivatan, and there is no real evidence for the latter.

As mentioned above, Diessel (1999b) postulates that the primacy of the situational function is a universal property of demonstratives. Cleary-Kemp (2007) convincingly argues that this is indeed so in four Austronesian languages from Indonesia. In Takivatan, ubiquitous overlap of situational and textual functions indicates that, at least on a grammatical level, it does not make sense to consider either situational or textual functions of deixis as primary. Whether the primacy of one function over the other can be established on the level of meaning or use is another matter. For instance, one could still assume that situational use is the dominant function of spatial deixis because it resides in the propositional content plane, and is, therefore, more "literal" or more closely connected to material reality, or requires less cognitive effort to process. As Halliday and Hasan (1976:32) remark: "This seems quite plausible, even though it is not entirely clear what it means." More research will be needed to solve this particular problem.

5.2 FUNCTIONAL LAYERING. Finally, how can we theoretically account for the simultaneous presence of a situational and a textual function in deictic expressions? The idea that a linguistic form can simultaneously express both a propositional and a discourse-related meaning is by no means new or controversial. Many grammatical theories, for instance, implicitly assume that utterances and their component parts have various semantic and pragmatic functions. To give a trivial example: in the clause *Elizabeth bought an apartment*, the phrase *Elizabeth* is simultaneously a topic and an agent. The problem starts when, for certain grammatical forms with a large functional load, these different "meanings" are conceptualized as discrete grammatical functions. Him-

melmann (1996) and Diessel (1999a,b) both make this assumption about demonstrative functions, albeit in their own particular manner. Diessel makes the logical assumption that functional differentiation in demonstratives is symptomatic of a grammaticalization process, which implies a historical and a hierarchical ordering of functions. The universality of these functions in the world's languages, on the other hand, leads Himmelmann to the equally logical but opposite conclusion that situational use is not the basic function of demonstratives. The problem he then has is that it becomes unclear where these distinct spatial deictic functions have all come from, if not from functional extension as part of a grammaticalization process.

The key here is how we deal with functional diversification of grammatical forms. The traditional typological view of functional diversification is one of functional extension: a grammatical form has a basic function, which over time and through repeated use in certain contexts develops distinct new functions. From a cognitive perspective, it makes sense to think of these functions as being discrete: when a form acquires a new function in a certain context, the general assumption is that "older meanings may become restricted in register, and, therefore, recessive, and may disappear completely" (Traugott and Dasher 2001:11).[17] Of course, diachronically there is typically a period where old and new functions coexist, but section 3 illustrates clearly that this cannot explain what happens to Takivatan demonstratives. Rather than a partial overlap between two competing functions that exist in a grammatical system that is historically unstable because it is in a process of replacement, we get a systematic, time-stable overlap between two complementary functions that is expressed in every token of a grammatical class.

We can call this phenomenon functional layering (Butler and Taverniers 2008; Martin 1992:14–21), the state in which a grammatical form simultaneously fulfills two or more distinct and complementary functions. Diachronically, it is best seen as an instance of exaptation rather than adaptive replacement. Layering might be a global property realized in all instances of a grammatical class, as appears to be the case for situational and textual functions of Takivatan demonstratives, or it might be conditioned (emotive functions of demonstratives could be an example).

The idea of layering of grammatical functions is not original. As mentioned above, many grammatical theories make at least a naïve differentiation between a grammatical, semantic, and pragmatic level, although classifications are only rarely explicitly motivated, and actual analysis keeps these levels largely separate. Jakobson (1985) (originally written in 1956, republished as Jakobson 1990) was probably one of the first to explicitly formulate a layered model of linguistic functions. His classification is motivated by a process-oriented model of communication, with each of the six functions he identified corresponding to a constituent aspect of the linguistic communicative process (Jakobson 1990:72–77).

In functional linguistics, the superposition of functions is generally considered unproblematic and is sometimes referred to as stratification or layering. Interpretations of what this exactly is and how it is realized in language vary considerably from theory to theory, as is illustrated poignantly in Butler and Taverniers (2008), a comparison of very distinct interpretations of layering in three functional theories. Most relevant to our dis-

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17. This process can lead to a situation where multiple forms are available in a language for expressing a single function. This has been called "layering" by Hopper (1991:22–24). It should be noted that this use of the term is quite different from how it is used in this article.

cussion is the concept as it is understood in systemic-functional grammar (Halliday 1994; Halliday and Matthiessen 2004) and its offspring (notably Martin 1992), as it motivates the concept of cohesion in Halliday and Hasan (1976). To them, functional overlap is a self-evident property of language. For instance, they say about the functions of the English definite determiner that a "given occurrence of *the* might have any two or three functions at the same time" (Halliday and Hasan 1976:73). In the original Hallidayan model (as presented in Halliday 1994), each element of a linguistic expression has three distinct "metafunctions." The ideational metafunction represents language as a representation of our experiences, the interpersonal metafunction language as a communicative act, and the textual one governs the creation of coherent discourse. Each in turn contains a number of distinct functions (Halliday and Matthiessen 2004:29–31). These layers intersect with various levels of realization (phonology, lexicogrammar, semantics, and context) and, importantly, "are simultaneously present as parallel strands of structuring: each element in the syntagm can be linked to an ideational, an interpersonal and a textual function" (Butler and Taverniers 2008:698).

Linguistic typology does not in principle preclude layering. Mostly, it is just not considered to be a terribly relevant phenomenon. However, deictic functions have not typically been analyzed like this. For instance, the selection between situational and textual functions of deixis is usually seen as a binary choice. In contrast, the analysis in this article suggests that both functions can coexist in a single form.

A crucial question is whether the cohesion analysis offered here for Takivatan deixis can be generalized to other languages. If so, it is likely that situational-textual overlap is commonplace in languages across the world. However, even if it were not, Takivatan illustrates that functional extension is not the only option for functional differentiation cross-linguistically. A third, more reasonable option is that the occurrence of functional overlap versus functional extension is a matter of degree: different linguistic subsystems and different languages deal with functional differentiation in different ways. In English, for example, certain instances of phoric reference cannot be interpreted as simultaneously having a situational function, *that* is a fact.

6. CONCLUSION. By having never developed dedicated textual functions but still having a function in establishing cohesive links in discourse, Takivatan spatial deixis challenges the existing accounts of deictic functions offered by Himmelmann (1996) and Diessel (1999a,b, 2006). The absence of a specialized phoric and discourse-deictic use appears to go against Himmelmann's claim that, together with situational use (and recognitional use, which we did not discuss here), these are universal functions of deixis. The fact that Takivatan demonstratives can still be involved in phoric reference, while maintaining their situational function, undermines the assumption, formulated in Diessel (1999b) and corroborated for Austronesian by Cleary-Kemp (2007), that the situational functions of deixis are more basic than its textual functions, and this is a prerequisite for Diessel's hypothesis that textual uses are grammaticalized from situational use.

The main problem with both established views is that they assume that deictic functions are discrete, in the sense that they represent separate grammatical uses that are in complementary distribution and/or represent diachronic stages in a grammaticalization

process. This paper offers an alternative analysis, based on principles borrowed from systematic-functional grammar, in which deictic functions are simultaneously involved in reference to the external spatio-temporal context and in establishing the cohesive structure of text. Such an analysis becomes possible, and probably inevitable, once one accepts that not only grammar but also individual linguistic forms are inherently multilayered and allow for a superposition of functions.

A number of important questions remain. The first concerns the general applicability of cohesion as a text-structuring device. Is the cohesion analysis offered here applicable cross-linguistically and, importantly, to what extent does it vary across languages in terms of the grammatical elements that are involved in its realization and the distinct relationships that it realizes? This is especially relevant, since theories of textual cohesion have been mainly developed for English (Halliday and Hasan 1976; Martin 1992). Studies on cohesion in other languages have straightforwardly appropriated these original classifications, by and large without evaluating their cross-linguistic applicability. A further question is to what degree cohesive patterning varies across genres and intersubjectively in a cross-linguistic setting. In Takivatan, there are indications that cohesive density varies considerably from person to person; more research is needed to explore this further.

A second question is how widely applicable the concept of functional layering actually is within individual languages and cross-linguistically. Most linguistic theories implicitly accept different levels of analysis (think of traditional distinctions between grammar, semantics, and pragmatics), but these levels are generally kept neatly separated in the actual analysis of linguistic data. This article shows that this is not an optimal approach when we want to understand the functional distribution of demonstratives in Takivatan Bunun, but is this just an exceptional case? How pervasive are linguistic phenomena that require the concept of functional layering to be adequately understood?

A more fundamental issue is the exact nature of layering or functional superposition. The general idea is that individual linguistic expressions at the same time have different functions, but how does this work precisely? For instance, functional theories typically assign a unique value to each layer of a linguistic form, but is this a necessary restriction? In other semiotic systems, functional layers can have multiple coexisting values (for instance, a painting can have an unlimited number of coexistent metaphorical meanings), so why would this not be the same for language? Answering such questions and developing a model of functional superposition that will be more generally acceptable is a far from trivial task.

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rdbusser@nccu.edu.tw