Personal and environmental deictic categories in a northern dialect of Tamang[1]

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1. Introduction

Like many Tibeto-Burman languages of the Himalaya, Tamang (ISO-639 code: taj) displays features of an "environmental" demonstrative and spatial deictic system (Brown and Levinson 1993; Bickel 1994), involving forms whose use is determined by aspects of the environment in which an utterance takes place (see Ebert 1999; Watters 2002: 129-136; Hyslop 2011: 282-285 *inter alia* for accounts of similar systems). This environmental system interacts with one based on personal reference, which comprises forms centred on the interlocutors themselves.

In the Tamang dialect spoken on the eastern bank of the Indrawati Khola (Sindhupalchok District, Central Region, Nepal), demonstrative forms are constructed on five deictic "bases", two of which are anchored to the interlocutors (*²cu* on the speaker and *²u* on the addressee) and three of which indicate locations remote from both interlocutors, and are determined by environmental factors in relation to them (these are *¹to*, *¹kya*, and *¹ma*, which refer to locations situated at a higher altitude, roughly the same altitude, and a lower altitude respectively).[2] These "base" morphemes are used as the roots of the nominal demonstratives ('this' etc.), and a large number of other demonstrative (and some non-demonstrative) terms which can be used to indicate various places, directions, entities, attributes, quantities, actions and manners, generally in quite regular paradigms.

Many works on deixis have noted an important distinction between such person-based and environment-based categories, using terms such as "egocentric" vs. "topomnestic" (Bühler 1934), "relative" vs. "absolute" (Levinson 1994) and "personmorphic" vs. "ecomorphic" and "geomorphic" (Bickel 1994) to distinguish their qualities. This

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[2] Raised numbers at the beginning of the word indicate which of Tamang's four lexical tones the word carries. The realisation of tones varies from dialect to dialect (Mazaudon 2005), but in the Indrawati Khola dialect they can be impressionistically described as 1 = high level, 2 = mid level, 3 = low level, 4 = mid-low falling. The segmental transcription system adopted here generally follows traditional regional conventions used for roman transcription of Indo-Aryan and other South Asian languages. Most of the symbols used are equivalent to the IPA, however *y* represents the palatal glide [j], and *c* represents an alveolar affricate [ts]. For a full account of Tamang phonology, see Mazaudon (1973).

division rests on the fact that personal categories involve the perspective and orientation of a human body (which includes such concepts as right/left or front/back), and alternate perspective each time the other interlocutor speaks (i.e. what were 'here', 'there' or 'left' when A was speaking respectively become 'there', 'here' and 'right' when B speaks);[3] while environmental categories are absolute, and 'up' is still 'up' regardless of which of the two is speaking.[4]

In Tamang there indeed seems to be a semantic cleavage between the two personal deictic bases on the one hand and the three environmental bases on the other; and this distinction is reflected structurally in the sets of terms which are formed from each of the bases (including restrictions on the formation of certain terms) and the paradigmatic shape of these terms, as well as pragmatically in how they can be used (specifically, whether they must be purely demonstrative or not).

In this paper I will briefly discuss the relevant concepts before setting out the main arguments of the paper (Section 2). I will then present Tamang's demonstrative and spatial deictic system, based mostly on my fieldwork in the valley of the Indrawati Khola in Sindhupalchok District with some comparative data from the Risangku dialect (Mazaudon, in prep). In Section 3, I will describe the form of the relevant terms, before considering their semantics and how these condition the forms themselves in Section 4. General conclusions will be made in Section 5.

2. Deixis and demonstratives
Before proceeding to the data, it seems useful to define how I will use certain terminology in this paper, particularly with regard to categorical distinctions which are especially important for discussing Tamang.

I follow Levinson's (1983: 54) definition of deixis as "the ways in which languages encode or grammaticalize features of the context of the utterance", which include strategies for indicating person, place, time, social distinctions and roles in discourse. In this paper we will be above all concerned with place (or spatial) and marginally with discourse deixis, which can be defined respectively as "the encoding of spatial relations *relative* to the location of the participants of the speech event" (Levinson 1983: 62), and "the encoding of reference to portions of the unfolding discourse in which the utterance…is located" (Levinson 1983: 62). When I use the term "personal deictic categories" in this paper, I am referring to spatial deictic reference to the interlocutors rather than to elements such as personal pronouns and morphological agreement which index the identity and role of the interlocutors and third parties in an utterance (Levinson 1983: 68-73). However it is worth noting that there are evidently semantic

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[3] An exception to this is when the speaker includes the addressee in his/her orbit, so that 'here' encompasses the location of both the speaker and addressee as opposed to the location of a third party. However this usage is still essentially centred on the speaker.

[4] So long as the speakers are stationary. In the steep environment of the Himalaya, it is quite possible that during a conversation, one interlocutor may move from a position lower down the hillside from the other to one higher up the hillside. A similar transition might occur in a completely flat area if one interlocutor walked upstairs while talking. But as we shall see, Tamang uses person-centred forms for such situations, and environmental forms are only used for locations which are up, across, or down from both interlocutors.

links between categories such as personal pronouns and person-centred spatial deictic terms (see below), and sometimes these can be reflected morphologically.

Demonstratives are a particular class of spatial deictics, whose function Diessel (1999: 36) defines as follows: "they indicate the relative distance of an object, location or person vis-à-vis the deictic centre (also called the *origo*), which is usually associated with the speaker". Demonstratives are used in a number of ways, the most basic being to draw the addressee's attention to a particular location or an entity located there. This is known as "exophoric" usage, and is defined by Diessel (1999: 93) as "reference to entities in the speech situation". Levinson (1983: 65) divides exophoric usage into "gestural" and "symbolic" usage; in the "gestural" usage, the actual gestures of the speaker are crucial to know which entity he/she is referring to (e.g. 'this box, not that one'), while in the "symbolic" usage the deictic reference can be understood from general knowledge about the speech situation (e.g. 'this city', 'this life').

A number of "endophoric" usages have also been identified, where demonstratives refer to elements which are "given" (see Chafe 1976) or accessible from context. These include "anaphoric" demonstratives which "are coreferential with a noun or noun phrase in the previous discourse" (Diessel 1999: 95). An example is the demonstrative in the second sentence of 'there was a man who lived by the sea. Now this man had no children', which refers back to the man mentioned in the first clause. Anaphoric demonstratives tend to be used in languages (such as Tamang) which lack definite articles with a similar referential function to that of the definite article in English and many other European languages, and are often the diachronic source of definite articles (Diessel 1999: 128-9). Diessel (1999: 100) also distinguishes "discourse deictic" demonstratives which refer to elements, usually propositions, from the surrounding discourse (e.g. 'I know that already!', where 'that' refers to something that the addressee had previously said), and (1999: 105) "recognitional" demonstratives, whose referent is not present in the preceding discourse or the surrounding situation, but is inferred from knowledge shared between the speaker and addressee (e.g. 'I couldn't sleep last night. That dog kept me awake', where the speaker knows that the addressee heard the dog too).

While some uses of demonstratives are evidently less concrete than others, the quality which distinguishes them from non-demonstrative deictic forms is that they have to be anchored to the current speech situation. That is, the interlocutors and above all the speaker always constitute the deictic centre or "*origo*", whereas non-demonstrative deictics can use secondary reference points which have been called the "ground" (Bühler 1934), and the "anchor" (Talmy 1983) in order to give accurate an description of the location of an object (which is often called the "figure"). For example, in the sentence 'the bird-table is to the left of the apple tree', the *origo* is the speaker which constitutes the perspective from which the location is specified, the bird-table is the figure (the object whose location is specified) and the apple tree is the ground, which is the secondary reference point used to specify the location of the bird-table. The term "anchor" is used when the secondary reference point has its own intrinsic orientation independent of the speaker, for instance in the sentence 'Andrew is on Patrick's left', Patrick can be called the anchor, as the position of Andrew is located according to the

perspective of Patrick rather than of the speaker. Bickel (1994) discusses these concepts in more detail.

Much traditional terminology for demonstratives has been based on "distance-oriented" systems (Anderson and Keenan 1985: 282-6), where the choice of demonstrative term is determined by the distance of the relevant entity from the speaker. Tamang, however, exhibits a "person-oriented system" (Anderson and Keenan 1985: 282-6), where the choice of forms is determined by the locations of both the speaker and the addressee. The traditional terms "proximal" (i.e. close to speaker) and "distal" (i.e. away from speaker) are not that useful for describing such a system, as by this definition Tamang would have one proximal and four distal forms. The term "medial" is also not especially useful, as the middle (that is not close, not very distant) form's use is determined by the location of the addressee, not distance from the speaker.

For this paper I have therefore adopted the terms "speaker-centred" (or for brevity's sake "1P") and "addressee-centred" (or "2P") for the forms whose deictic centre are the speaker and addressee respectively. Both of these forms could be called "personal" or "person-centred". The three Tamang deictic bases which indicate locations away from both the speaker and the addressee can also be analysed as part of the person-centred system -- constituting 3P as they refer to points which are explicitly not identified with the speaker or addressee. However, the usage of these terms is determined, apart from distance from the interlocutors, by the altitude of the referent relative to them. They therefore also constitute an environmental system, which could be considered a sub-system of the overall deictic system, in which "person-orientation" is the primary category. I will refer to them collectively as the "environmental" forms, with reference to the altitude where necessary. For the purpose of having semantically precise but brief glosses for these categories, in this article I will use the terms 1, 2, 3U, 3L and 3D for the speaker-centred, addressee-centred, and Up, Level and Down environmental forms respectively.

This paper will argue that in Tamang's demonstrative and spatial deictic system there exists an important distinction between person-centred and environmental deictic categories, which is reflected structurally in the form of the terms themselves, and pragmatically in how they are used. Specifically, these differences are as follows:

> i) person-centred forms "outrank" (that is, they are preferred over) environmental forms in exophoric, gestural demonstrative usage, therefore the personal category is privileged
> ii) only person-centred forms (above all the 2P forms) are used in discourse with anaphoric reference, while environmental forms are always exophoric
> iii) the environmental deictic bases serve as the root of a set of non-demonstrative deictic adverbial forms, while person-centred forms are always demonstrative
> iv) paradigms built on the environmental bases are morphologically totally regular, whereas those built on the person-centred bases display a number of irregularities

As mentioned in Section 1, various typologies have been proposed for deictic categories. Bickel (1994) divides Bühler's (1934) "topomnestic" and Levinson's (1994)

"absolute" categories into "ecomorphic" and "geomorphic", the former being based on the conceptual structure of the environment (e.g. the concept of verticality) and the latter on specific salient geographical features. I will discuss these concepts in more detail below (Section 4), and we shall see that while the environmental forms (based on ^1to, ^1kya, and ^1ma) are all absolute, Bickel's finer distinction is useful for Tamang as it captures the semantic difference between the environmental demonstrative forms which can be considered ecomorphic, and the non-demonstrative deictic forms, which fall into the geomorphic category.

3. Tamang demonstratives and spatial deictics: form

Demonstrative and spatial deictic forms are formed by adding various morphemes to the deictic bases on an agglutinative pattern. This is a rich and perhaps still productive system. Having heard many of these forms used in natural discourse, I obtained full paradigms of theoretically possible forms through elicitation. I should say that I have not (yet) encountered all of these forms in spontaneous discourse, but language consultants maintain that they could be used in an appropriate context. The full set of theoretically possible forms is presented in table 1. Some forms are built directly on the deictic base, and some on the stem of the nominal demonstrative. Table 1 breaks the forms down into their constituent morphemes, and indicates which are built directly on the deictic base, and which on the demonstrative stem. I will explain over the course of the paper what the various forms mean and how they are used.

The deictic bases are bound (except, arguably, the 1P base ^2cu which can stand alone as the 1P nominal demonstrative), and the simplest forms which can stand as independent words involve the deictic base plus another morpheme (with the exception of the 1P nominal demonstrative just mentioned). There are just two sets of paradigms which are composed of only the base plus another morpheme: the nominal demonstratives and the non-demonstrative deictic adverbs. Nearly all other forms are derived secondarily from these, the great majority from the nominal demonstratives. There is also a group of similative demonstrative forms (meaning 'like this' etc), which can be constructed either on the deictic base or on the nominal demonstrative stem. As two alternative structures are available for these forms, I do not count them to be as "primary" as the nominal demonstratives and the non-demonstrative deictic adverbs, although it could be possible that the deictic base-derived set may be of a similar age historically. I therefore consider only the non-demonstrative deictic set to stand uncontroversially in a structurally equal position to the demonstrative nominal.

3.1. Deictic bases

As mentioned in Section 1, the deictic bases in the Indrawati Khola dialect are: ^2cu centred on the speaker, ^2u centred on the addressee, and ^1kya, ^1to, and ^1ma which indicate locations remote from both the speaker and addressee, and situated at a higher altitude, roughly the same altitude, and a lower altitude respectively.[5] There appears to be some allomorphy of the bases ^2cu and ^2u, which are sometimes realised as ^2co and ^2o respectively. This allomorphy may be related to some kind of vowel harmony, though it also appears there may be some processes of analogy between 1P and 2P forms. The Tamang vowel phoneme /o/ is usually realised very high, and often approaches [ʊ],

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[5] Also interacting with this system is ^2kha-, which is the root morpheme for many of the words used for asking content questions, although I will not discuss interrogative forms much in this paper.

therefore it can sometimes be difficult to distinguish between the phonemes /o/ and /u/. This could also lead to instability in the vowel quality of some forms.

Suffixes on deictic base		DEICTIC BASE MORPHEMES				
	Notion	*²cu-*	*²u-*	*¹kya-*	*¹to-*	*¹ma-*
	Paradigms based directly on the deictic root:					
-cu	**nominal demonstrative**	*²cu*	*²ucu*	*¹kyacu*	*¹tocu*	*¹macu*
-r	deictic adverb	-	-	*¹kyar*	*¹tor*	*¹mar*
-r-pa	nominalized deictic adverb	-	-	*¹kyarpa*	*¹torpa*	*¹marpa*
-raŋ	similative	*²curaŋ*	*²uraŋ*	*¹kyaraŋ*	*¹toraŋ*	*¹maraŋ*
-raŋ-le	similative (adverbial)	*²curaŋle*	*²uraŋle*	*¹kyaraŋle*	*¹toraŋle*	*¹maraŋle*
-raŋ-pa	similative (adnominal)	*²curaŋpa*	*²uraŋpa*	*¹kyaraŋpa*	*¹toraŋpa*	*¹maraŋpa*
	Paradigms based on the demonstrative stem:					
-ci:	demonstrative adverb	*²ci:*	*²uci*	*¹kyaci*	*¹toci*	*¹maci*
-ci-pa	belonging to (a certain place)	*²ci:pa/ ²cucipa*	*²ucipa*	*¹kyacipa*	*¹tocipa*	*¹macipa*
-raŋ-pa	similative (adnominal)	*²cuʈʈaŋpa*	*²uʈʈaŋpa*	*¹kyaʈʈaŋpa*	*¹toʈʈaŋpa*	*¹maʈʈaŋpa*
-tem-pa	…kind of	*²cuttempa*	*²uttempa*	*¹kyattempa*	*¹tottempa*	*¹mattempa*
-tum-pa	…big	*²cuttumpa*	*²uttumpa*	*¹kyattumpa*	*¹tottumpa*	*¹mattumpa*
-le	like… (adverbial)	*²cotle*	*²otle*	*¹kyatle*	*¹totle*	*¹matle*
-tana	amount	*²cottana*	*²ottana*	*¹kyattana*	*¹tottana*	*¹mattana*
	Paradigms based on the demonstrative stem with irregularities in 1P and 2P forms:					
-(n)to	direction	*²cinto*	*²onto*	*¹kyatto*	*¹totto*	*¹matto*
-te	quantity	*²cote*	*²ote*	*¹kyatte*	*¹totte*	*¹matte*
-so-pa	like…does	*²co:sopa*	*²o:sopa*	*¹kyatsopa*	*¹totsopa*	*¹matsopa*

Table 1

Noonan (2001) analyses what appears to be mostly a cognate system in Chantyal as "double demonstratives", which comprise several sets of forms with deictic properties and are capable of combining two independent deictic notions in one expression. However, I propose that Watters' concept of "deictic primitives", which he defines in Kham as "a class of bound roots that deals entirely with deixis and location" (Watters 2002: 129) is more appropriate for Tamang. This is because, as we shall see below, the bases are deictic but not themselves demonstrative; and while they are used in forming the demonstrative set, the demonstrative meaning is imparted by a different morpheme.

3.2. Nominal demonstratives and their derived forms
Nominal demonstratives have the same form when used as adnominals and pronominals. They are formed from the relevant deictic base followed by the demonstrative morpheme *-cu*, which should probably be considered a demonstrative nominalizer. As mentioned in Section 3.1, the 1P demonstrative itself is *²cu*, so one

could perhaps propose that this form has a base Ø, though on the other hand this form could just be considered monomorphemic and irregular. The nominal demonstrative paradigm in the Indrawati Khola dialect is shown in table 2, set beside the Risangku dialect (Mazaudon, in prep) for comparison:[6]

Deictic reference	Indrawati Khola	Risangku	Meaning
1	²cu	²cu, ¹ica	this (close to speaker)
2	²ucu	¹oca	that (close to addressee)
3U	¹tocu	²toca	that (away, up)
3L	¹kyacu	¹keca	that (away, level)
3D	¹macu	²maca	that (away, down)

Table 2

Demonstrative (locative) adverbs (equivalent to English 'here', 'there') are formed from demonstrative nominals with the locative case suffix *-i*. In other Tamang dialects, the composition of the structures is transparent, however the Indrawati Khola dialect has innovated somewhat aberrant forms due to the fact that the locative suffix *-ri* which is found in most Tamangic languages, and in most Tamang dialects (giving 1P demonstrative adverb ²*curi*) has been elided to *-i* in this dialect. These forms are shown in table 3:

Deictic reference	Demonstrative nominal	Demonstrative adverb	Meaning
1	²cu	²ci:	here (close to speaker)
2	²ucu	²uci	there (close to addressee)
3U	¹tocu	¹toci	there (away, up)
3L	¹kyacu	¹kyaci	there (away, level)
3D	¹macu	¹maci	there (away, down)

Table 3

It appears likely that the synchronic form of the demonstrative adverbs developed in the following manner: *cu-ri > *cu-i > *ci:* etc., where the diphthong resulting from the loss of the onset of *-ri* became a simple vowel (long in initial syllables and short in non-initials, where long vowels are generally disallowed). The correspondence of /i:/ in initial syllables in the Indrawati Khola dialect to /ui/ in phonologically more conservative dialects is also evident in words such as ²*ki:* 'water', ⁴*ti:* 'landslide' where the phonologically conservative Risangku dialect has ²*kyui*, ⁴*ʈui* respectively (Mazaudon, in prep).

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[6] Note that the Risangku dialect has an alternative 1P-centred alternative to ²*cu* -- the form ¹*ica* which contains a deictic base ¹*i*, which is not attested in the Indrawati Khola dialect. It is likely that the bases ¹*i* and ²*u/²o*, and possibly the element *-a/-e* in the base ¹*kya/¹ke* reflect a distinction which Benedict (1983) finds in demonstratives forms across Tibeto-Burman. He proposes that these forms descend from the proto-language, and analyses their semantics as 'this', 'that' and '3rd' respectively (Benedict 1983: 76), which fits closely with their meanings in Tamang.

While the demonstrative adverbs are constructed from the full form of the nominal demonstratives, a number of other (mostly more complex) forms are built on an apocopated form of the demonstrative, which involves the loss of the final *-u*, and simplification of the affricate *c* [ts] to a stop *t* [t]. This "oblique" form of the demonstrative stem is used when pronominal demonstratives are followed by case markers (e.g. *²ut=se* 'that/he/she/it=ERG', *²ut=ki* 'that/he/she/it=GEN', *²ut=ta* 'that/he/she/it=DAT'), and when the demonstrative is used as a base for certain other deictic forms, which I will now discuss.

The most relevant of the paradigms involving the oblique demonstrative stem for the discussion of semantics later in this paper is the set of directional demonstrative adverbs, shown in table 4:

Deictic reference	Demonstrative	Directional demonstrative adverb	Meaning
1	*²cu*	*²cinto*	this way (towards speaker)
2	*²ucu*	*²onto*	that way (towards addressee)
3U	*¹tocu*	*¹totto*	that way (away, up)
3L	*¹kyacu*	*¹kyatto*	that way (away, level)
3D	*¹macu*	*¹matto*	that way (away, down)

Table 4

All the directional adverbs end with the morpheme *-to*, which indicates movement towards the demonstrative point. The three environmental forms are all regularly formed from the demonstrative. The 1P and 2P forms are less regular, and both involve an element *-n* (which also appears in the interrogative adverb *²khanto* 'where').

As shown in table 1, a number of other secondary demonstrative paradigms are also built on the nominal demonstrative. The forms ending in the nominalizer *-pa* could be considered tertiary as the nominalizer constitutes a third element, although the relevant intermediate (that is would-be secondary, non-nominalized) forms may not exist in the current language.

The deictic reference of all forms is determined by the deictic bases, as in the following examples:

(1)   *²ottana*   *²teme*   *³a ¹to:*
      that many   potato   NEG be.necessary
      [We] don't need that many potatoes.

(2)   *²mattempa*   *³mi*   *³a ¹taŋ-pa*   *¹ŋa=ta*
      that kind of   person   NEG please-NOMZ   I=DAT
      I don't like people like him [down there].

(3)   *²cotle*   *¹lo*
      like this   do.IMP
      Do [it] like this.

I have presented all the forms in table 1 (for which, as I mentioned, the full paradigms were obtained by elication rather than from the corpus of recorded discourse) above all for completeness and to show the richness of Tamang's demonstrative system. Most of the forms on this table will not feature in the later discussion of semantics and function, but I draw the reader's attention to the fact that while the environmental forms are completely regular, there are a number of irregularities in the person-centred forms, including instances where these appear to be built directly on the deictic base perhaps with vowel harmony (e.g. *²cote, ²ote*), while the environmental forms are consistently constructed from oblique form of the nominal demonstrative stem. It is not really possible to tell whether the "split paradigms" (that is, person-centred forms built on the base and environmental forms on the nominal demonstrative) initially developed in this way historically or whether there has been a gradual drift of demonstrative-based forms towards simpler forms built directly onto the deictic base. The case of the directional demonstrative adverbs (*²cinto, ²onto*) might suggest that person-centred forms are more prone to renewal and analogy, although at the present time such a proposal is only speculative.

3.3. Non-demonstrative deictic adverbs and their derived forms
The other paradigm which is built directly on the deictic bases is a set of adverbs whose meaning is deictic but not demonstrative. This is because they refer to general areas rather than locations indexed from the speech situation, and is reflected in the fact that they can be used either with the interlocutors as the deictic centre, or with another point as the "ground". These forms involve the morpheme *-r* directly following the deictic base, and the paradigm for this set is shown in table 5:

Deictic reference	Spatial deictic adverb	Meaning
3U	*¹tor*	up
3L	*¹kyar*	across
3D	*¹mar*	down

Table 5

No person-centred forms exist, which can be explained by the fact that personal forms cannot be non-demonstrative, as these are. The number of forms derived from these is much smaller than those based on nominal demonstratives, but there is a set of nominal forms involving the prolific nominalizer *-pa*, as follows:

Deictic reference	Nominalized deictic adverb	Meaning
3U	*¹torpa*	a … above
3L	*¹kyarpa*	a … across
3D	*¹marpa*	a … below

Table 6

These forms indicate an entity located in a general area above, level to, or below the deictic centre, on the same side of the valley. I will discuss the difference between these

and other nominalized forms, as well as the general semantics of this non-demonstrative deictic category in Section 4.

3.4. Similative demonstratives

As mentioned in Section 3.1, there is one other set of demonstrative forms which can be built directly onto the deictic base. This is the quite large set of similative forms involving the pronoun *³raŋ* 'self', which when used after another noun or pronoun means 'like'. Although forms with *³raŋ* can be built directly on the deictic base, they can also be built on the nominal demonstrative base with no apparent difference in meaning. It is not clear which set of paradigms is older historically, however the fact that both options exist is the reason why I do not consider *³raŋ* forms to be as uncontroversially "primary" as nominal demonstratives and non-demonstrative adverbs. The range of possibilities (to my knowledge) involving the similative morpheme is as follows:

Suffixes	Notion	1	2	3U	3L	3D
-raŋ	like…	*²curaŋ*	*²uraŋ*	*¹toraŋ*	*¹kyaraŋ*	*¹maraŋ*
-raŋ-le	like…(adverbial)	*²curaŋle*	*²uraŋle*	*¹toraŋle*	*¹kyaraŋle*	*¹maraŋle*
-raŋ-pa	like…(nominal)	*²curaŋpa*	*²uraŋpa*	*¹toraŋpa*	*¹kyaraŋpa*	*¹maraŋpa*
-raŋ-pa	like…(nominal)	*²cuʈʈaŋpa*	*²uʈʈaŋpa*	*¹toʈʈaŋpa*	*¹kyaʈʈaŋpa*	*¹maʈʈaŋpa*

Table 7

The forms involving a geminate retroflex consonant (*²uʈʈaŋpa* etc) are built on the oblique demonstrative stems *²ut* etc. The cluster /tr/ (which would be the expected come of e.g. *²ut-raŋ-pa*) appears to be disallowed in Tamang phonology. Mazaudon (1973: 152) reports that the opposition between phonemes /r/ and /ʈ/ is neutralised in favour of /ʈ/ in the Risangku dialect following dental and lateral consonants /t/, /n/, /s/ and /l/. It appears that the same neutralization occurs in the Indrawati Khola dialect, creating a cluster /tʈ/ in the simulative forms based on the demonstrative stem. In pronunciation the initial /t/ of this cluster is usually assimilated to the following retroflex /ʈ/, giving the outcome /ʈʈ/ (*²cuʈʈaŋpa* etc). It appears that the forms in plain *-³raŋ* can be nominal or adverbial, whereas the forms which end with the nominalizer *-pa* and adverbializer *-le* are explicitly nominal and adverbial respectively. For example:

(4) *¹maraŋpa*   *⁴tim*   *³so*   *¹to:-ci*
     like that   house   make   be.necessary-PFV
     [I] need [/want] to make a house like that one [down there].

(5) *²uraŋle*   *²tha:-pa*
     like that   cut-NOMZ
     [I] cut [it] like that.

4. Tamang demonstratives and spatial deictics: semantics

I will now discuss the semantics of the forms in more detail. The most interesting point here is the cleavage between the demonstrative and non-demonstrative deictic forms. It will therefore not be necessary to discuss all of the forms presented above, and I will confine the discussion to the basic nominal and adverbial (locative and directional)

demonstratives, the non-demonstrative adverbs, and nominalized forms derived directly from these.

4.1. Demonstrative forms

Most authors agree that the exophoric use of demonstratives (see section 2) is the most basic use (Diessel 1999: 110). Tamang data would appear to support this view, as all demonstrative forms when used exophorically have the full spatial force of their deictic base. Nominal demonstratives are very often used with human referents instead of the third person pronouns *¹the* and *¹the-na* (singular and plural respectively). Here are some examples of nominal demonstratives used adnominally and pronominally:

> (6)　*¹tocu*　　　*¹neːme*　　*¹cyaːko*
> 　　　1DEM　　　bird　　　look-IMP
> 　　　Look at that bird!

> (7)　*¹kyacu*　　　*²tai*　　*³hin-la*[7]
> 　　　3LDEM　　　what　　COPE-FUT
> 　　　What is that?

The demonstrative locative adverbs also have their full spatial reference when used exophorically:

> (8)　- *¹ŋyi*　　*³kilas*　　*²khanto*　*¹mu-la?*
> 　　　- I.GEN　glass　　where　　COPA-FUT?
> 　　　- Where is my glass?
>
> 　　　- *²uci*　　　　　*¹mu-l-e*
> 　　　- 2DEM.ADV　　COPA-FUT-EMP
> 　　　- It's there [close to you]!

> (9)　*¹siŋ*　　*¹toci=se*　　　　　*³pai-pa*
> 　　　wood　3UDEM.ADV=ABL　　bring.down-NOMZ
> 　　　[We] bring down wood from up there.

As mentioned in Section 2, exophoric demonstratives refer to entities which constitute (and whose location is) new information in the discourse. The 2P forms are also used anaphorically to refer to an entity or place which is already activated in the discourse, as in the following examples:

> (10)　*²ut=ta*　　　*¹ʈaŋka*　　*¹pin-ci*　　*²ose?*
> 　　　2DEM=DAT　　money　　give-PFV　　so?
> 　　　So did [you] give him/her [the] money?

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[7] The TAM morpheme *-la* generally means future, however when used with the dysfunctional copula verbs *³hin* and *¹mu* it has present/immediate time reference. I still gloss the morpheme as FUT above all for consistency.

(11) *²ŋoima*   *cautara=i*   *¹ni-ci*   *²uci=se*
day.before.yesterday   Chautara=LOC   go-PFV   2DEM.ADV=ABL
¹yampu=i   *¹ni-ci*
Kathmandu=LOC   go-PFV
The other day [he/she] went to Chautara. From there [he/she] went to Kathmandu.

This usage appears to reflect a common cross-linguistic tendency noted by Anderson and Keenan (1985) that if a language has a "middle" demonstrative term (which in person-oriented systems means close to the addressee), this is often preferred for anaphoric reference. Another interesting example of the "endophoric" semantics of the 2P base *²u* is the word *²ose* 'so, and then, therefore', whose etymology appears to be the 2P base followed by *=se*, the ablative (as well as ergative and instrumental) case marker, with regressive vowel harmony with the vowel *e* in *=se* causing the vowel of the base *²u* to lower to *²o*. This is an example of "discourse deictic" usage, as it appears that the whole previous proposition is referred to by the base *²u*, and the fact that the present utterance is in natural consequence (either logically or temporally) to that is indicated by *=se*. This suggests that the bare deictic bases were once more productive than they are now.

The other point which follows logically from the semantics of the bases but should be highlighted is the fact that the person-centred semantics of the 2P base "outrank" the altitudinal semantics of the environmental bases. That is, these will always be used to refer to something close to the addressee even if he/she is some distance uphill or downhill from the speaker. For example, (12) was shouted at me and one of my language consultants as we were walking along a path far below its speaker. It was in fact this exchange that made me realize that *²ucu* was an addressee-centred rather than a distance-oriented "medial" form.

(12) *²ucu*   *⁴lap*   *¹kyar*   *⁴pit-o*   *¹le*
2DEM   bull   3LDEIC.ADV   send-IMP   EXH
Send that bull across [the hillside] please!

The spatial semantics of the bases are also evident from the range and restrictions of usage on the adverbial demonstratives with deictic verbs 'come' and 'go',[8] as the following elicited examples show:

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[8] The semantics of the Tamang verbs *¹kha* 'come' and *¹yu* 'come down' involve a telic movement, of which the location of the speaker is the ultimate hypothetical destination. The verb *¹ni* 'go' can involve a destination, or can simply indicate departure either from the location of the interlocutors, or from another location. *¹kha* and *¹yu* can therefore be considered more closely tied to the deictic centre than *¹ni* is.

(13)   *²ci:/²cinto ¹kho* : 'Come here/this way'
(14)   **²ci:/²cinto ¹niu* : *'Go here/this way'
(15)   *²uci/¹toci/¹kyaci/¹maci/²onto/¹totto/¹kyatto/¹matto ¹niu* : 'Go there/that way'
(16)   **²uci/¹toci/¹kyaci/¹maci/²onto/¹totto/¹kyatto/¹matto ¹kho* : *'Come there/that way'
(17)   *²ucise/¹kyacise/¹macise ¹khaci // ¹tocise ¹yuci*: '[I] came from there'
(18)   **²ci:se ¹khaci* : *'[I] came from here'

The fact that *²ci:* and *²cinto* are incompatible with an imperative of 'go' and the rest are incompatible with 'come' is fully consistent with the semantics of the forms, which indicate movement towards the deictic centre, that is towards the speaker in the first case, and away from the speaker in all the others.

4.2. Non-demonstrative forms

The situation is quite different with the non-demonstrative adverbs *¹tor, ¹kyar* and *¹mar*. Not only do they have no restrictions regarding movement towards or away from the indicated area, there are also no restrictions with regard to the deictic centre. This can be seen with the following elicited paradigms, all of which are grammatical and felicitous:

(19)   *¹tor ¹kho / ¹niu* : 'Come / Go above'
(20)   *¹kyar ¹kho / ¹niu* : 'Come / Go across'
(21)   *¹mar ¹yu / ¹niu* : 'Come [down] / Go below'
(22)   *¹tor ¹nici / ¹torse ¹yuci* : '[He/she] went / came (down) from above'
(23)   *¹kyar ¹nici / ¹kyarse ¹khaci* : '[He/she] went / came from across'
(24)   *¹mar ¹nici / ¹marse ¹khaci* : '[He/she] went / came from below'

These examples appear to indicate that in this set, the environmental semantics of the deictic bases override the personal semantics; as if they still had the meaning of '3rd', or away from both speaker and addressee, it would not be possible to say something like *¹kyar ¹kho*. They indicate only general areas which are fixed by the location of the interlocutors, which constitutes a deictic centre but only in "absolute" terms on a vertical axis.

While this would indicate that the speech situation is the most natural, default deictic centre for these forms, it is also possible to project this centre in a manner which is not possible for the demonstrative forms. First, the deictic centre of the deictic adverbs can be fixed at a location (the "ground", see section 2) other than the natural deictic centre represented by the speaker and addressee:

(25)   *⁴kyam=se*   *¹tor*   *¹ni*   *¹to:-pa*
        road=ABL   3UDEIC.ADV   go   be.necessary-NOMZ
        You have to go uphill from the road.

(26)   *⁴kyam=se*   *¹toci*   *¹ni*   *¹to:-pa*
        road=ABL   3UDEM.ADV   go   be.necessary-NOMZ
        You have to go up there from the road.

In (25), the deictic centre for *¹tor* is the road which has the role of the "ground", indicating that one should go uphill from that point, whereas in (26) with the demonstrative adverb *¹toci*, the deictic centre is fixed at the current location of speaking. There is no "ground" in this sentence and the "*origo*" is the default deictic centre, that is the location where the utterance takes place (see Levinson 1983: 64). Therefore, while for the demonstrative forms the deictic centre can only be the current location of speaking, the non-demonstrative deictic forms can have the current location of speaking *or* another location as their deictic centre.

It is also possible to alter the deictic centre of the non-demonstrative forms by changing its scale, which means essentially the magnitude of the location which serves as the "*origo*" for deictic reference. As mentioned in section 3.3, the adverbs *¹tor, ¹kyar* and *¹mar* can only be used for areas on the same side of the valley where the interlocutors are located. For locations on the facing hillside on the other side of the valley bottom, a separate term *¹kyamsaŋ* is used, and locations over the ridge behind the speakers are referred to by *³kyap* (which also means 'back'). Therefore the limits of these terms (in this, the most typical usage) are set by the hillside where the interlocutors are located. In a paper which discusses environmental deictic systems at some length, Bickel (1994) refers to such usage as "small scale geomorphic", meaning that their usage is determined by the cline of the actual hillside on which the interlocutors are located. This contrasts with the demonstrative environmental forms, whose reference is not attached to any geographical feature and is determined only by verticality, that is altitude relative to the interlocutors, and therefore can be placed in the "ecomorphic" category.

If the interlocutors are outside, the slope of the hillside where they are located constitutes the area onto which environmental concepts are mapped. This can be different inside a house, which constitutes its own bounded area where deeper inside is equated with 'up' and the entrance with 'down' (note that there are separate terms for the upper floors). Therefore *¹tor ¹kho* (literally 'come above') can be used if the speaker wishes to call someone who is near the entrance of the house towards the fire and back wall, even though both interlocutors are on a horizontal surface, the floor of the house. It should also be noted that even when inside a house, people can still use the terms in a "geomorphic" manner with reference to the slope of the hill outside, and whether such expressions should be interpreted with reference to the internal ecology of the house or the larger scale of the physical environment depends on the pragmatic context.

The deictic centre can also be moved up to a larger scale, which Bickel (1994: 7) calls "large-scale geomorphic". This is when a large geographical feature -- most commonly a mountain range -- is conceived as the extreme end of an axis, and the deictic centre is extended to the region (for instance, the valley or ridge) where the interlocutors are situated. Locations out of the conceived region and situated in the general direction of the end point (in the case of Tamang, the Himalaya) are referred to as 'up' and those in the opposite direction as 'down'. As the valley of the Indrawati is closed at the top and the Indrawati River leads directly up to the mountains, there are few places which would be referred to by *¹tor* by this definition (though a few notable places which are considered closer to the Himalaya such as the sacred lakes at Panch Pokhari, or regions such as Langthang and the district of Rasuwa to the north are referred to in this way). Many places, however, are referred to with this use of *¹mar*, which probably begins at

Melamchi (the town at the entrance to the valley), encompasses Kathmandu, the Himalayan foothills (although some are higher than the Indrawati valley itself), and the Indo-Gangetic plain, and may perhaps include most of the rest of the world! For instance, it is possible to refer to the location of something in the UK as *¹mar* and I imagine it would also be possible for other countries:[9]

(27)   *¹mar*   *⁴kyat*   *¹yaŋ-pa*   *¹wa?*
         3DDEIC.ADV   work   be.available-NOMZ   Q
         Can [I] find work below [ie. in the UK]?

From these examples it should be evident that the deictic centre of the forms *¹tor, ¹kyar* and *¹mar* is flexible both in terms of its scale and its projection to anchors other than the interlocutors. The deictic centre of demonstrative terms is not flexible in either of these ways. The non-demonstrative nature of *¹tor, ¹kyar* and *¹mar* is also evident if we compare examples of the adnominal forms derived from them with two kinds of adnominal demonstratives. The equivalent forms are shown in table 8:

Deictic reference	Demonstrative	Nominalized demonstrative adverb	Nominalized deictic adverb
1	*²cu*	*²ci:pa/²cucipa*	-
2	*²ucu*	*²ucipa*	-
3U	*¹tocu*	*¹tocipa*	*¹torpa*
3L	*¹kyacu*	*¹kyacipa*	*¹kyarpa*
3D	*¹macu*	*¹macipa*	*¹marpa*

Table 8

The first column of data comprises the basic demonstratives, the middle column a set of nominals derived from the locative demonstrative adverb, and the rightmost column a set of nominals derived from the non-demonstrative deictic adverb. The forms in the middle column indicate an entity 'belonging to' the location indicated by the deictic base; so for instance the phrase *¹toci-pa ³mi-pakal* (3UDEM-NOMZ person-PL) would translate as 'the people from up there'. The forms in the rightmost column indicate entities at a higher, level or lower altitude to the interlocutors which are not necessarily specific; for instance *¹torpa ⁴tim* (3UDEIC-NOMZ house) would translate as 'an uphill house' (from wherever the deictic centre is set). As mentioned in Section 3.2, nominal demonstratives can be adnominal or pronominal. The nominalized adverbial forms are typically adnominal, although it is also possible to pronominalize them (thus making them specific if they are not already) by placing the topic marker *⁴ca* afterwards, so *¹kyacipa ⁴ca* and *¹kyarpa ⁴ca* would mean 'the one from across there' and 'the one

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[9] This "large-scale geomorphic" use of deictic adverbs appears to be common feature of many Tibeto-Burman languages of the Himalaya (see Bickel and Gaenszle 1999), and is even used in Nepali. For instance, someone in Kathmandu talking about someone who has gone to the hills can say *māthi ga-yo* (above go-PFV.3P) 'he/she went above'.

across' respectively [10]. In the following examples all the deictic forms are used adnominally:

(28) ¹*macu*   ³*kara=i*   ⁴*lap*   ¹*meː-cim*
    3DDEM   field=LOC   ox   plough-EXPER
    Oh, [they] have ploughed that field [down there].

(29) ¹*maci-pa*   ³*kara=ki*   ²*sapru*   ³*cyapa*   ¹*are*
    3DDEM.ADV-NOMZ   field=GEN   soil   good   NEG.COPA
    The soil in the field down there is not good.

(30) ⁴*wa*   ¹*mar-pa*   ³*kara=i*   ²*suː*   ¹*toː-ci*
    wheat   3DDEIC.ADV-NOMZ   field=LOC   plant   be.necessary-PFV
    [We] should plant wheat in a lower field [not an upper one].

In (28), the speaker gestures to indicate the specific field which he/she is talking about; likewise in (29) he/she gestures to indicate a specific field through reference to its location. However, while ¹*marpa* in (30) may refer to a specific field, it does not necessarily have to, and could refer to any field (or even fields as plural is not an overtly marked category) which is located downhill from the speaker, at an unspecified distance. Example (30) would therefore not require a gesture to realise its full communicative force. This is another indication of the fact that ¹*tor,* ¹*kyar,* ¹*mar* and their derived forms are not demonstrative.

5. Conclusions
The structural and pragmatic differences between the behaviour of forms built upon the personal and environmental bases, which were listed at the end of Section 2 and discussed in detail in Sections 3 and 4, show that there is a significant distinction between the behaviour of the person-centred and environment-centred bases. It is possible that the environment-centred bases may have different historical origins from the person-centred ones, perhaps beginning their life as adverbs before becoming incorporated into the base system (I am currently looking at cognate data from related languages to investigate this possibility, but it is beyond the scope of this paper to discuss it here).

But regardless of origins, it appears that the formal patterns and restrictions reflect the fundamental semantic properties of the bases themselves. All are used to constitute demonstrative forms, however only the environmental bases can be used for non-demonstrative forms. This greater flexibility of the environmental forms indicates that their semantics are quite different from the person-centred forms. Levinson's terms "relative" and "absolute" (see Section 1) capture this distinction well. While the person-centred deictic reference points alternate on every utterance exchanged by the interlocutors and are therefore "relative" according to who is speaking, the environmental forms are "absolute" as they are always set according to the location of both interlocutors and do not change according to who is speaking.

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[10] The form ⁴*ca*, which Mazaudon (2003) analyses as "contrastive topic marker" in the Risangku dialect, also appears to have nominalizing properties. As Honda (2007) points out, it is almost certain that there is a historical relationship between this form and the demonstrative morpheme -*cu*.

Another way of looking at the "absolute"/"relative" split is through the concept of personal reference: while 1P and 2P alternate between the interlocutors (in the same manner as 'I' and 'you'), 3P (equivalent to 'he' etc.) is always 3P. Indeed, it appears that the environmental system in Tamang is a sub-system of the person-based system. As mentioned earlier, the addressee-centred demonstrative forms are used if the speaker is indicating an entity or place which is close to the addressee, even if the addressee is clearly up or down from the speaker (on the hillside, upstairs in the house, up a tree etc.), while the environmental forms are only used for points which are considered remote from both speakers. This clearly points to the relationship between spatial deixis and person. In the Tamang system, personal reference is the primary determining factor of spatial deixis, and the environmental forms constitute a sub-system which operates entirely inside the "3rd person" category (that is, with reference to neither speaker nor addressee). This can be schematised as in table 9, where the heavy outline around the 3P forms indicates the environmental subsystem:

Person reference			
1	2	3	
^2cu	^2u	^1to	Up
		^1kya	Level
		^1ma	Down

Table 9

It may be the fact that 3rd person reference is an inherently vaguer category to the speaker and addressee (as it doesn't involve them directly) which allows for the greater versatility of the 3P bases to be used for non-demonstrative forms ($^1tor, ^1kyar, ^1mar$), and for those forms to be used with reference points ("anchors", which can also be considered "3rd" as they do not relate to speaker or addressee) other than the natural deictic centre constituted by the interlocutors. The same reason may allow those forms, when they are used with the default deictic centre (i.e. location of the interlocutors), to be projected quite easily between the "ecomorphic" and "geomorphic" conceptual categories discussed in Section 4, and between "small-scale" and "large-scale geomorphic" by altering the magnitude of the deictic centre. None of these conceptual variations causes any change in form but they are versatile to interpretation according to context, reflecting the greater versatility of the "3rd" category than the 1P and 2P categories. The greater tendency to irregularity amongst the 1P and 2P forms might perhaps be explained by the fact that because they are regularly alternate between speaker and addressee, they are more unstable and therefore more prone to renewal (see Nichols 1992: 262).

Tamang's demonstrative system exhibits an interplay between personal elements which, as Benedict (1983: 76, see footnote 6 above) proposes, may be very old in Tibeto-Burman, and environmental elements which appear to be motivated by the mountainous nature of the environment where the language is spoken. While verticality is well-known to be an important semantic category in many Himalayan languages (see Bickel and Gaenszle 1999) and has been described in many Tibeto-Burman languages of the region (see Section 1), it would be interesting to look in more detail at how environmental deictic categories interact with deictic reference to person in other

genetically related languages or even areally related ones (such as Nepali) which are spoken in the steep Himalayan environment. This would be a fruitful path for future research.

Abbreviations used

ABL	ablative	GEN	genitive
ADV	adverbial	IMP	imperative
COPA	attributive copula	LOC	locative
COPE	equative copula	NEG	negative
DAT	dative	NOMZ	nominalizer
DEIC	deictic	Q	question
DEM	demonstrative	1	speaker-centred
EMP	emphatic	2	addressee-centred
EXH	exhortative particle	3U	environmental, up
EXPER	experiential	3L	environmental, level
FUT	future	3D	environmental, down

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