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The Grammaticalization of Relational Nouns in Zoogocho Zapotec¹

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1. Introduction

The grammaticalization of prepositions from relational nouns (body part terms for human and animal bodies used in spatial description) is an issue which has received a great deal of attention from descriptive and comparative linguists. In Zoogocho Zapotec, human body part terms form a nascent grammatical category which has not undergone the amount of semantic bleaching (abstraction) which has occurred in many languages (members of this class are mostly still not used in a grammatical sense, which, as we will see, is a major defining criterion for the category of preposition), and which is not uniform in the status of its members. Some body part nouns do have generalized locative uses; yet even in these cases there is still both the potential for interaction with the base metaphorical system and the canonical, fixed use which makes them differ from locative prepositions in a language like English, or the varieties of Valley Zapotec discussed in Lillehaugen (2003) and Munro (2002).

Furthermore, while it is given that arbitrary, language-specific categories are necessary, it is also necessary to acknowledge that forms which straddle these arbitrary categories exist and provide a description of them. Such a multi-factorial approach, as explicitly taken by Comrie (1989) in his discussion of definitions and categories and adjectival and substantival properties of Russian numerals, which can be used to 'establish criteria that correlate with the focal values' (ibid. 107) of clearly definable categories, will also enable the description of the 'continuum separating those prototypes from one another, much as with colour terms, even though here we are clearly dealing with grammatical categories' (ibid. 109). The grammar will therefore be both static, and 'emergent' in the sense of Hopper (1987). In this paper, I will attempt to describe the extent to which relational nouns as a lexical class have been grammaticalized and what the basis for that grammaticalization is and also where select individual lexical items which are difficult to categorize fall on the cline and what the reasons for their positions are.

2. Initial description and textual exploration of relational nouns in Zoogocho Zapotec.

The primary body part terms used as relational nouns are: *ni* 'foot, below'; *yichgh* 'head, above'; *dxoalao* 'face, around'; *kwit* 'side, beside'; *lee* 'belly, middle'; *lho* 'intestines, inside'; *kwitlee*

¹ First and foremost, the author would like to thank the community of San Bartolomé Zoogocho for their help and understanding. I would especially like to thank Alberta Martinez Marcial for her patient instruction. The members of my doctoral committee, Bernard Comrie, John A. Hawkins, and Pamela Munro, deserve much gratitude for having worked through various unpolished versions of this paper. I would also like to thank Brook Lillehaugen for stimulating discussions and gracious sharing of her work. Any errors are obviously my own.

‘middle of side’; *dxoa* ‘mouth, in front of’; *lao* ‘eye, in front of, to’; *kuzhe* ‘back, behind’; and *zxa* ‘buttocks, below’. I have examined and quantified their various uses, which will be enumerated shortly, based on a corpus of over 2000 clauses. I looked at their primary use as body part terms, as in (1) and (2) below.

- (1) gw-e-le’i-kse=do² dxoalao=be’ do gxe do
 pot-freq-see-emph=2sgexp face=3inf indef tomorrow indef
 wizhghe
 day_after_tomorrow
 ‘You will see his face tomorrow or the day after tomorrow.’
- (2) na’ zha yeshe ye nia=dxo
 and stat.prick thistles foot=1plincl
 ‘And the thistles pricked us in the feet.’

I examined their use when used to describe a part of an item as in (3) and (4) below.

- (3) na’ b-zu=e’ yetgha dxoa trapish=en’
 and comp-put=3f cane mouth mill=det
 ‘And they put the sugar cane in the mouth of the mill.’
- (4) za b-zu=e’ azulejo yichgh=en’ na’
 just comp-put=3f tile head=3inan demdist
 ‘He had just put tiles on the roof (its head).’

I also inspected their use when used to describe a location in relation to a part of an item (5, 6).

- (5) na g-loo=be=ba’ lho danh
 now comp-insert=3f=3an inside geninan
 ‘She put it in it.’
- (6) nak g-on=to y-e-dxogh=to yichgh=e’
 how pot-do=1plincl pot-freq-exit=1plincl head=3f
 ‘How are we going to do it so that we leave there by his head?’
 (This was taken from a text in which children are instructed in a traditional dance, ‘La danza de los tigres’, and in which they are going to exit the stage by someone’s head. Thus, it is in an extended relation to the body part.)

² I used the following abbreviations: 1sg=first person singular, 1sgfsf= first person singular fast speech form, 1plincl=first person plural inclusive, 1plexcl=first person plural exclusive, 2sg=second person singular, 2sgexp=second person singular experiencer, 3an=third person animal, 3f=third person formal, 3inan=third person inanimate, 3inf=third person informal, and=andative, clinan=inanimate classifier, clsm=small classifier, comp=completive aspect, cont=continuative aspect, demdadv=demonstrative adverb, demdist=distal demonstrative, det=determiner, dir=directional, emph=emphatic, freq=frequentative, geninan=inanimate generic noun, indef=indefinite, poss=possessive, pot=potential, stat=stative. The following glossing conventions are used: (=) is used for clitic boundaries, (-) is used for word-internal morpheme boundaries, (.) is used for suppletive forms, and () is used when one Zoogocho Zapotec lexeme corresponds to multiple English lexemes.

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I also looked into those cases where, instead of just marking a location in relation to a part, it marked a more general location.

- (7) b-e-zhinh=be' lao xa-xna=be'
 comp-freq-arrive=3inf face father-mother=3inf
 'She arrived in front of her parents.'
- (8) dx-bezh-ks=a=nda' lao dio
 cont-cry-emph=1sg=1sgfsf face god
 'I cried in front of god.'

I attempted to find instances in which the body part term could potentially be deemed to be a grammatical preposition, and found none. In all cases, the use of *lao* in constructions such as (9) and (10) is constrained to situations where the object of the relational noun is either directly in face-to-face contact or metaphorically in face-to-face contact. The term *lao* and all other body part terms do not have abstract dative-like uses, as will be seen below in section 6.

Body part terms can also quite frequently become parts of noun-noun collocations which have fixed meanings, as in the following.

- (9) b-e-z=e' zgh-ed=e' kapiya chi=e' da
 comp-freq-go=3f comp.and-arrive=3f chapel of=3f clinan
 zoa dxoa bla'o
 stat. stand mouth zapote
 'She left and went to her chapel which is at Zapotesmouth (a location in the village).'

Finally, I examined the incorporation of body part terms into verbs, quite common both within Otomanguean and crosslinguistically. Some of these uses are relatively transparent, as in (10).

- (10) to bi kuñad chi=a' 0-zhiaha-lao=be'
 one clsm in law of=1sg pot-go-eye=3inf
 'One of my in laws went in front.'

The repetition of *lao* in (11) is used as a means of specifying location.

- (11) 0-zhia-lao meka=n' lao=a'
 pot-go-face Mika=det eye=1sg
 'Mika went in front of me.'

There are also other transparent uses such as (12).

- (12) kabi 0-sue=dxo 0-za-nia=dxo
 neg pot-handle=1plincl pot-walk-foot=1plincl
 0-shinh=dxo tlaclul=le
 pot-arrive=1plincl Tlacolula=dir
 'We aren't going to handle walking to get to Tlacolula.'

The meaning of these incorporated roots can become quite opaque as in (13), which also exemplifies the use of *lao* in phase verbs.

- (13) na' ze-lao g-lez=en
 demdist stat.stand-eye comp-stand_up=3inan
 'There it stopped (standing).'

I noted each instance of the each of the body part terms I have been discussing in a corpus of over 2000 clauses. I classified each instance according to the criteria I have just discussed (bp=body part, p=part of object, loc=locative in relation to an object, rel= more generalized relational, prep=prepositional with grammatical uses, n+bp =nounbody part compound, v+bp = verb+body part compound) in an attempt to determine the degree to which both each individual item and the group as a whole had been grammaticalized.

Table 1: Textual usage of body part terms

	<i>bp</i>	<i>p</i>	<i>loc</i>	<i>rel</i>	<i>prep</i>	<i>n=bp</i>	<i>v=bp</i>	Total
<i>nia</i>	9						2	11
<i>yichgh</i>	3	3	8					14
<i>dxoalao</i>	7							7
<i>kwit</i>			7					7
<i>lee</i>	2	2	3	4				11
<i>kwitlee</i>	1		9					10
<i>dxoa</i>	2	7	3			1		13
<i>zxan</i>	2	2	16	10				30
<i>kuzhe</i>	5	10	8	1				24
<i>lao</i>	2	6	20	24			35	87
<i>lho</i>	2	1	5	26		2		36
Total	35	31	79	65	0	3	37	250

As seen in the chart above, *lao* is used by far the most of any of the body part terms currently in use, thereby confirming other studies of body part terms in Zapotecan languages. Furthermore, it is used less referring to the body part and more referring to a location. It is by far the most grammaticalized of any of the body part terms. Next was *lho* followed by *zxan* and *kuzhe*. Note that these are the next most grammaticalized members of this set, and their predominance in this study is probably a result of this. It would seem that it is much rarer to talk of body parts than it is to talk of locative relations. Furthermore, it would appear, however, that *nia* and *dxoalao* were among the least grammaticalized elements of this set, followed by *yichgh*, *kwitlee*, *dxoa*, and

finally *lee*. With respect to their uses, it is hard to claim any real generalizations. It was very difficult differentiating between locations and relations. This is something which needs to be cleared up in the future. The SBZZ body part terms do indeed show the range of variation which one would expect from a lexical class which was in the process of being grammaticalized.

3. The cognitive development of body part terms in Zoogocho Zapotec

Heine et al. (1991) list the following stages as a typical conceptual path through which body parts develop into spatial concepts in African languages. This is meant to model the cognitive development from concrete object to spatial description, and is not meant to represent categorical changes.

(14)	STAGE	CONCEPTUAL DOMAIN
0	Body part of X	OBJECT
I	Subpart of X, spatially defined	OBJECT/SPACE
II	Space as part of and adjacent to X	SPACE/OBJECT
III	Space Adjacent to X	SPACE (ibid. 130)

All of these stages are present in Zoogocho Zapotec, as seen below.

(15) Stage 0:

(a)	nadxen	0-sala	yichgh=to	ka'
	afterwards	pot-throw_back	head-1plexcl	demadv
	'Afterwards we will throw our heads back like this.'			

Stage I:

(b)	za	b-zu=e'	azulejo	yichgh=en	na'
	just	comp-put=3	tile	head=3inan	demdist
	'He had just put tiles on the roof (its head).'				

Stage II:

(c)	nak	g-on=to	y-e-dxogh=to	yichgh=e'
	how	pot-make=1plexcl	pot-freq-exit=1plexcl	head=3f
	'How are we going to do it so that we leave there by his head?'			

Stage IV:

(d)	to	gonh	pintw	zoa	yichgh=en	na'
	one	bull	spotted	stand	head=3inan	demdist
	'One spotted bull is standing there in front of it.'					

It will be useful to first discuss the metaphorical mappings which occur in the use of body part terms as locative expressions. To begin with, the basic model is indeed that of the human body, as mentioned by MacLaury (1989) for Ayoquesco Zapotec. Novel body part terms based on terms for an animal's body are for the most part resoundingly rejected by native speakers⁴. Objects described in relation to animals can use the canonical orientation of the animal as a

³ Once again note that this is from a task in which speakers were asked to describe scenes to each other (the man and tree task) and in which there is a bull in front of a cart. The front of a cart is its head, and thus the present description.

⁴ For example some words, such as *xkogoba* 'its neck' cannot be used in describing objects at all, whereas other terms such as *xbanhen* 'its tail' can only be used in very restrictive environments (in one case, to describe a single gully coming off of a ravine).

model for the description. For example, the word *kuzhe* can refer either to a human back or to an animal back. As humans canonically are upright and their back is behind their point of view, the generalized use of *kuzhe* in describing spatial relations refers to things which are behind other things (with in front of and behind defined either in reference to the speaker or to a reference point like the door of a house). In contrast, an animal is canonically on all fours and as such its back is upwards. Thus things that are on an animal's back will be described as being *kuzhe=ba* 'on its back' as in example (16). Note first that this is an instance of Stage I above, and furthermore that one would not be able to say this in any other way using the body part terms. (All of the other terms would potentially be ambiguous.)

- (16) to=ba' dxi kuzhe=ba=n'
 one=3an stat.sit back=3an=det
 'One of them is on the other's back.'

The human model is predominant and is even used in most cases describing animals, as in the following.

- (17) na' pshina' yixe=n' zeghe=ba' dx-zxlonhgh=ba'
 and deer wild=det comp.go=3an cont-run=3an
 kuzhe=ba'
 back=3an
 '...and the deer went running behind it(a dog).'

It is also important to acknowledge that the model of the human body, when metaphorically mapped to objects in this construction is often mapped in an incomplete fashion. When I was first attempting to learn about the use of relational nouns, I asked one of my teachers if I could describe some crows on top of a tree as being *yichgh yag* 'head of tree', and was told that that would be impossible given that 'trees do not have heads'. As it turns out, a large part of the problem was with the choice of tree. It was a pine tree and as such one would describe those crows as being *zxiine yag* 'nose of tree' or *punt che yag* 'point of the tree'. One could potentially say *yichgh yag* if they were above the tree, but that was still deemed to be odd and it would be better to say *lao yag* 'eye tree' or one of the other two options discussed above.

In a similar vein, one can see body part terms which are not normally used in locative constructions being used in locative constructions for individual lexical items. As an example of one such extension, take the word for 'nose', *zxiin*= just mentioned in the previous paragraph. In San Bartolomé Zoogocho, many of the traditional sandals or *yelh* come to a point in the front, like a pair of cowboy boots. When one is describing that part one can use the phrase *zxiin yelh* 'nose of sandal'. One can then use that term to describe something which is on top of that area or directly in front of it. Now, interestingly, when one puts a sandal up on its nose (holding it there, of course), and something is below the nose, one can still say that it is *zxiin yelh*. Similarly, if the sandal is placed on its back, and something is either suspended above it or put on the tip of the shoe one can still say *zxiin yelh*.⁵ This term goes through all of the cognitive stages which Heine defines.

⁵ Of course, one could potentially say *zxan yelh* 'under the sandal' or *yichgh yelh* 'above the sandal' to describe either of these situations as well.

- | | | |
|------|--|-------------------|
| (18) | STAGE | CONCEPTUAL DOMAIN |
| | 0: Body part of X | OBJECT |
| (a) | dx-ak=da' zxiin=a'
cont-feel=1sg nose=1sg
'My nose hurts.'
I: Subpart of X, spatially defined OBJECT/SPACE | |
| (b) | puntiagud n-ak zxiin yelh
pointy stat-be nose sandal
'The point of the sandal is pointy.'
II: Space as part of and adjacent to X SPACE/OBJECT | |
| (c) | dxi to caj yes zxiin yelh
stat.sit one box cigarettes nose sandal
'A pack of sandals is on/in front of the sandals.'
III: Space Adjacent to X SPACE (Heine et al. 130) | |
| (d) | zehe to yishe zxiin yelh
stat.hang one paper nose sandal
'A piece of paper is hanging above the sandal.' | |

These last two points, on the potential novel locative uses of body part terms and of the limitations to the application of body part terms to certain lexical items, indicate that the metaphorical system is very active in the grammar of body part terms in Zoogocho Zapotec. The final point which I will discuss here with respect to the conceptual origin and limitations of relational nouns is the issue of canonical relations or intrinsic reference. Certain items, such as the shoes which have just been described, or, for example a leaf which has a pronounced curve and a spine, like a banana leaf, have parts that are typically labeled in a certain, invariant way.

For example the banana leaf, *lahaga yelha*⁶, can be described as having a front and a back, labeled *lhee lahaga* 'stomach leaf/front of leaf (without spine)' and *kuzhe lahaga* 'back leaf/back of leaf (with the stem running down the leaf)'. Once it is so labeled, things described with respect to the leaf will always refer to these parts, regardless of the orientation of the leaf. If the leaf is placed on top of a package of cigarettes with the stem-side down, and one asks where the cigarettes are, they will be described as being *kuzhe lahaga*. Similarly, if the smooth side is placed down on top of the cigarettes, the cigarettes will be described as being *lhee lahaga*. Once again, the use of other body part terms is possible, but these are what I was told were preferable.⁷

4. The lexical classification of body part terms

I will attempt to discuss ways in which one might go about classifying the body part terms we saw above. To begin with, note that nouns and prepositions form a continuum, with nouns as described above on one end of the continuum, and prepositions as described above on the other

⁶ I will refer to it as *lahaga* 'leaf' and not specify that it is a banana leaf, as it is redundant.

⁷ Note as a point of comparison, in English, if one is describing an object with respect to a person who was standing with their side facing the speaker, to say that that object was *behind* someone could mean two things: it could mean that it was behind the person with respect to the speech act participants, or it could mean that it was to the rear of the person (at the person's back). In Zoogocho Zapotec, one would preferably say *kuzhe* 'behind the person' preferably for those instances where the item was at the person's back, as it does not have the generality which English *behind* has. There has been a great deal of work done on absolute versus relative systems for spatial descriptions at the Max Planck Institute for Psycholinguistics in Nijmegen and elsewhere. (See Levinson (1996) among others.)

end of the continuum. As an initial approach, one might consider this continuum to be something like the following.

(19) nouns locational adverbs relational nouns prepositions

Returning now to Comrie's discussion of defining categories in terms of prototypes, I will attempt to come up with a multi-factorial chart by examining definitions of nouns and prepositions which have been arrived at and then positing them as being on either end of the continuum. This section owes a great deal to the discussions in Heine et al (1991), Hollenbach (1990, 1995), Lillehaugen (2003), and MacLaury (1989).

The nominal criteria which will be considered are the following: possession, cooccurrence with demonstratives, ability to be the sentential subject either with or without being possessed, ability to be modified by an adjective, and quantification. The last three are a bit tricky. While they make sense in Heine et al.'s discussion of Hausa, there are some inherent difficulties in the case of Zoogocho Zapotec. To begin with, when used as parts of the body, these nouns are always possessed, so whether or not they are able to be the subject without taking genitival modification is a moot point as they will always take genitival modification.

One issue which might be considered again at this junction is the issue of metaphor in the grammaticalization of body part terms. When used metaphorically, the original characteristics of a set of source concepts will not necessarily transfer to the target domain. Thus, one would potentially be remiss to say, in a discussion of the metaphorical transfer from the human body to locative constructions, that because a certain thing which might have been able to be said about the human body cannot be said in the locative construction that this means that one *a priori* claims that two different lexical classes exist. Metaphorical mappings are not one to one, onto mappings (otherwise known as isomorphisms), to use the mathematical terms. There are likely to be some semantic cooccurrence restrictions on the interaction of the source and target domains of any metaphorical mapping, and one should not be surprised if a mapped term does not have all the properties of the original. For example, while one may talk of the foundations of a theory and one might construct a theory like a building, one generally does not construct tall theories (Lakoff and Johnson 1985).

In a similar vein, I should note that, when used to describe location, it is very difficult to come up with contexts where relational nouns can be described with adjectives. It is questionable whether relational nouns could be modified in this way at any of the points in their historical, cognitive, and linguistic development. If one considers the discussion above on metaphor theory, it would be a case where one does not map all of the elements or potential combinations of a source domain to a target domain. The test is, however, very useful in determining whether a relational noun/preposition still can be used nominally, as all of the relational nouns can, by themselves, be used with adjectives when being used as body parts or parts of an object. Similar difficulties exist for the quantification of relational nouns.

The prepositional criteria I will consider are: prenominal position, expression of a relation between one or more noun phrases and each other or the predicate, and freedom of application. Finally, I will distinguish between prepositions which can take pronominal clitics and prepositions which cannot.

The following are the main groupings of lexical items that I will be testing.

- (20) I. Body part terms used to label parts of the human body
yichgh=a'
 head=1sg
 'my head.'
- II. Body part terms used to describe parts objects
zxan yishe
 buttocks quern
 'bottom of the quern'
- III. Body part term used to describe part of and space adjacent to an object.
 nak g-on=to y-e-dxogh=to **yichgh=e'**
 how pot-make=1plexcl pot-freq-exit=1plexcl head=3f
 'How are we going to do it so that we leave there by his head?'
- IV. Locations
lizh=a'
 poss.house=1sg
 'my home'
- V. Body part terms used to describe locative relations (Body part locatives)
zxan mes=en'
 buttocks table=det
 'below the table'
- VI. Locative prepositions not related to body part terms
ladgho nia=be'
 between foot=3inf
 'between his feet'
- VII. Relational prepositions
lenh=a'
 with=1sg
 'with me'

I will be testing the following criteria. Property A, a nominal property, is whether the item can be the sentential subject.

- (21) A. Sentential subject⁸
- (a) nala nia=be'
 stat.hang foot=3inf
 'His feet hung.'
- (b) *nala lenh=a'
 stat.hang with=1sg
 *'With him hung.'⁹

Property B, also a nominal property, is whether an item can be modified by an adjective.

⁸ Note that, among the word types are being tested, all of them with the exception of some of the locations and some of the non-body part prepositions must be possessed in order to use them as a well formed complement.

⁹ Interestingly, although the possessive preposition by itself cannot act as the sentential subject, if it is followed by a determiner it can. *nala chia', (ok) nala chi=a'=n 'mine hung'

- (22) B. Adjective
 (a) yichgh zxen chi=a'
 head big of=1sg
 'my big head'
 (b) *gadxol zxen nia=be'
 between big foot=3inf

Property C, yet another nominal property, deals with whether a particular lexical item can be quantified.

- (23) C. Quantification
 (a) chupe ni=a'
 two foot=1sg
 'My two feet'
 (b) *chupe gadxol bedo¹⁰
 two between Pedro

The next two criteria which will be tested are actually irrelevant, given the post nominal syntactic structure of demonstratives and determiners. Unfortunately, due to the post-nominal placement of demonstratives and determiners, one cannot know what is being modified, i.e. whether it is the whole PP or RelNP or whether it is the noun.

- (24) D. Demonstrative
 lizh=o' na'
 poss.house=2sg demdist
 'Your house there'

- (25) E. Determiner marker
 yezh=en'
 town=det
 'the town'

The next criterion which will be tested will be whether a pronominal clitic can attach to the lexical item. Most of the lexical items which are being discussed will be positive for this test.

¹⁰ I have collected data like the following:

- (A) lho chupe shaa dao
 inside two casseroles dim
 'inside two little casseroles'
 (B) chupe lho shaa dao
 two inside casseroles dim
 'Inside two little casseroles'

Note that this is for the most grammaticalized of the putative relational nouns. Also, note that neither of these means 'the two insides of the little casseroles'. Otherwise, constructions like this are unheard of. However, I will be forced to put a ? in the box corresponding to relational nouns for this criterion until I have more data.

- (26) E. Pronominal clitics
 (a) ladgho=dxo
 between=1plincl
 'between us'
 (b) trasde neto
 behind 1plexcl
 'behind us'
 (c) *trasde=to
 behind=1plexcl

The next criterion I will test, a property of prepositions, will be if the particular lexical item will be able to be inserted into a sentence whose core argument structure is already filled.¹¹

- (27) G. Freedom in syntax
 (a) sh-cho=a'
 cont-cough=1sg
 'I coughed.'
 (b) *sh-cho=a' bedo
 cont-cough=1sg Pedro
 *'I coughed Peter.'
 (c) sh-cho=a' galha bedo
 cont-cough=1sg near bedo
 'I coughed near Peter.'
 (d) sh-cho=a' lizha=a'
 cont-cough=1sg house=1sg
 'I coughed in my house.'
 (e) sh-cho=a' yezh=en'
 cont-cough=1sg town=det
 'I coughed in town.'
 (f) sh-cho=a' lao=o'
 cont-cough=1sg eye=2sg
 'I coughed in front of you.'
 (g) b-id=a'
 comp-come=1sg
 'I came.'
 (h) b-id=a' zxghozxo
 comp-come=1sg Zoogocho
 'I came to Zoogocho'
 (i) *b-id=a' bedo
 (j) b-id=a' lao bedo
 comp-come=1sg eye pedro
 'I came to Peter.'

Examples (g) through (j) show that directional verbs do not necessarily require a prepositional complement, but can take more general locations as well. The final test which I

¹¹ For example, an intransitive verb for which there is already a subject.

will apply will be whether the lexical item, in expressing a relation between two items, expresses an intrinsic relationship as described above.

- (28) I. Intrinsic
 (a) kuzhe bedo
 back Peter
 'at Peter's back' (no matter what orientation Peter has to a speech act participant)
 (b) trasde bedo
 behind Peter
 'behind Peter' (could vary depending on Peter's positions with respect to the speaker or hearer, much like English prepositions)

Taking these lexical groupings and grammatical criteria, I arrived at the following table.

Table 2. The noun preposition cline

	I	II	III	IV	V	VI	VII
A	+	+	+	+/-	-	-	-
B	+	+	+	+	+ ¹²	-	-
C	+	+	+	+	?	-	-
D	+	+	+	+	*	*	*
E	+	+	+	+	*	*	*
F	+	+	+	+	+	+/-	+
G	-	-	+	+	+	+	+
H	*	*	+	*	+	-	-

(A + means that a particular criterion was successfully tested, a - means that the test was not successful, +/- means that a particular group of lexical items varied, a ? means that the data was inconclusive, and a * means that a particular test was inapplicable.)

Items which are used to describe a part of/space adjacent to an object seem to pattern both like nouns and like prepositions. While it would appear that body part terms used to describe locative relations pattern more closely with prepositions, it must also be noted that they also pattern with nominal locations. One possibility, as mentioned above is that the metaphorical extension, possible before a change of category has taken place, applies only to a limited portion of the source domain. All of this is what one would expect for a transitional lexical class. It will

¹² In contrast with Tlacolula Zapotec as described in Lillehaugen (2004), it appears that body part locatives can be modified, and used without further specification as in the following:

nia	gashe	che	mes-en'	dxi	to	be'ko'
foot	yellow	of	table-det	stat.sit	one	dog

'The dog is sitting at the yellow leg of the table.'

Note that the addition of the adjective requires that the alienable possession construction is used, as described in Sonnenschein (2004).

be useful to compare briefly, the situation in Zoogocho Zapotec with the situation in Valley Zapotec, a language grouping in which relational nouns have been much more grammaticalized.

5. Comparison with Valley Zapotec

In this section, I will briefly compare my findings in Zoogocho Zapotec with what has been said about ‘The Categorical Status of Body Part Prepositions in Valley Zapotec’, a 2003 UCLA Master’s Thesis by Brook Lillehaugen. In this insightful work, Ms. Lillehaugen comes up with a variety of compelling reasons to consider the body part terms in Valley Zapotec to be prepositions, and not relational nouns. Her data compares nicely with what has been discussed so far. I have paraphrased her main reasons for considering these terms to be prepositions in Valley Zapotec as the following.

- (29) a) Their ability to be used with intransitive verbs, where normal NP’s lack that ability (Lillehaugen 2003:14).
b) The fact that certain verbs (especially positional verbs) require body part prepositions (and not just any body part term but only those are grammaticalized) as complements to express the ground (ibid. 17).
c) The fact that body part prepositional phrases enter into coordinate structures with other prepositional phrases (ibid. 18).
d) The fact that certain uses of body part terms are infelicitous as descriptions of parts of objects but can be used as prepositions with those same objects (ibid. 18-19).
e) The fact that no novel body part terms can be extended to become prepositions (ibid. 20).
f) The fact that when parts of objects are named in Valley Zapotec languages, these names do not correspond to locative descriptions (ibid. 20-22).
g) The fact that the canonical orientation of an object does not seem to affect locative constructions (ibid. 22-23).
h) The fact that certain structures are structurally ambiguous (ibid. 23-24).
i) The fact that directional verbs require prepositional complements (ibid. 25).

Note that, with respect to her first argument, intransitive verbs in SBZZ can also take locations, both relational nouns and non-relational nouns. Her second argument also does not apply to SBZZ locative verbs, as they can either take body part nouns (and novel body part terms as well), demonstratives, or can appear bare. I have no data on her third argument at this point. Her fourth argument is partially valid for SBZZ body part terms; however, in those cases where the body part terms are infelicitous, most speakers do prefer to use other ways of describing the location without using the infelicitous terms. Her fifth argument is not valid at all for SBZZ. Novel body part terms can be extended in Zoogocho Zapotec. Her sixth argument is also not valid for SBZZ body part terms as when they are used to name parts of objects, this naming can then be extended to locative descriptions. With respect to her seventh argument, it is definitely the case that in SBZZ the canonical orientation of an object affects the way in which location is described.

Her eighth argument deserves a bit more explanation. Consider the data she bases this on.

- (30) Nàa' ca-cwaà=a' làa'iny yudòò'. (San Juan Guelavia Zapotec)
 I PROG-paint=1s in church
 'I am painting in the church.'
 'I am painting the inside of the church.' (Her 16) (ibid. 24)

Compare also the following data from Heine, Claudi, and Hunnemeyer (Heine et al. 135).

- (31) me-kpɔ e-me
 1sg.see 3sf.POSS-IN
 (i) 'I saw its interior'
 (ii) 'I saw inside it.' (Their 8c) (ibid. 135)

There is similar evidence from Zoogocho Zapotec as well, such as (34)

- (32) sh-na=ba kuzhe=ba
 cont-look=3an behind/back=3an
 'It_i is looking at its_j back'
 'It_i is looking behind it_j.'

Heine et al. analyze this as being 'an inherent characteristic of transitional stages in grammaticalization: when a new structure (i.e., an adverbial morphosyntax in this example) is introduced, the old structure (a nominal morphosyntax) is generally still in use, the result being overlapping' (ibid. 135-136). One might therefore consider this a similar case. Finally, her ninth argument is not valid for Zoogocho Zapotec body part terms. As has been seen above, verbs like *go* and *come* in Zoogocho Zapotec, which encode directional information do not necessarily require a prepositional complement.

Another argument which Pamela Munro has used to claim the San Lucas Quiavini Zapotec word for face, *loh*, to be a preposition (Munro 2002:23), are its non-locative uses, as in (33)-(35).

- (33) Loh Jwaany b-zi=a'=ih. 'I bought it from Juan'
 face/from Juan perf-buy=1s=3s.prox (her 52)
- (34) B-zhùu'azh=a' gueht loh bèe'cw. 'I tore up the tortilla for the dog'
 perf-tear=1s tortilla face/for dog (her 53)
- (35) Zyuàa'll=ru' Rrodriegw loh Lia Oliieb
 tall=more Rodrigo face/than Ms. Olivia
 'Rodrigo is taller than Olivia' (her 54) (ibid. 23)

In Zoogocho Zapotec, there are no such dative uses. Based on these comparisons, I feel confident in saying that the corresponding terms in Zoogocho Zapotec are not prepositions, but are rather something else, something I will label 'relational nouns'.

6. Conclusion

In conclusion, I have found that, while they are definitely a separate lexical class from garden variety nouns, the lexical class I have been calling body part locatives and will now call

relational nouns are also distinct from prepositions in the language. That they share adverbial morphosyntax is unimportant. I consider the semantic and cross-linguistic generalizations to have shown a nascent lexical class, and one which fits in its own well defined point on the noun-preposition continuum, and shares many qualities with non-body part, non prepositional locatives. Comparison both within the Zapotec language family and outside the family leads me to call these terms 'relational nouns', being careful to keep in mind that they form a chain, as described in Heine et al. (1991) and are definitely being grammaticalized on their way towards being prepositions, but have not yet arrived there.

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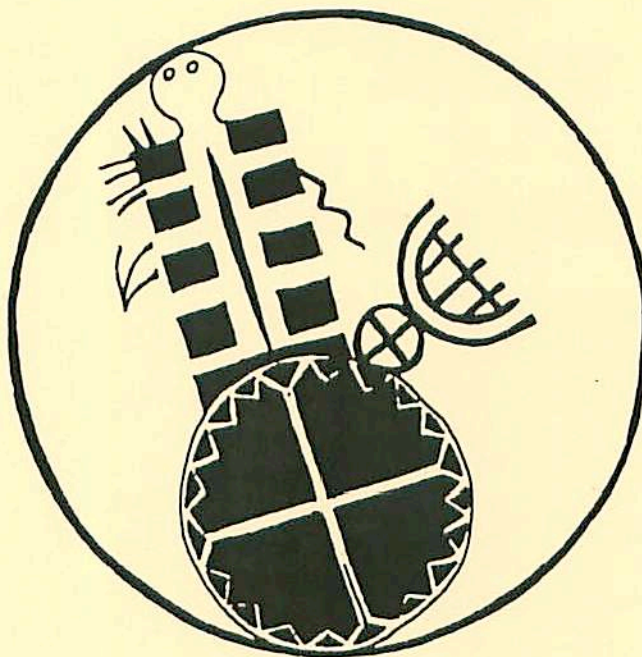
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REPORT 13

**SURVEY OF CALIFORNIA AND
OTHER INDIAN LANGUAGES**



**CONFERENCE ON OTOMANGUEAN AND OAXACAN
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INTRODUCTION

This volume of Survey reports is a sample of the papers heard at the Conference on Otomanguean and Oaxacan Languages (COOL), which took place at UC Berkeley March 19-21, 2004. There is more scholarly investigation being done on Otomanguean languages and other languages of Oaxaca today than ever before, yet unlike other groups such as Uto-Aztecanists and Mayanists, Otomangueanist and Oaxacanist scholars have not had a regular forum in which to meet and share their ideas. In 2000 a one-time conference took place at UCLA called *La Voz Indígena de Oaxaca*, organized by Pamela Munro, G. Aaron Broadwell, and Kevin Terraciano. As a result of this conference many of the participant linguists were able to make new and fruitful contacts with each other and several proposed that the conference should become a recurring event. With the help of the UC Berkeley Graduate Assembly, Graduate Division, Center for Latin American Studies, and the departments of Linguistics, Anthropology, and Ethnic Studies, four years after the original UCLA conference COOL was finally able to follow in its footsteps. Now there are plans for a third conference to be held very appropriately in the city of Oaxaca at the Centro Cultural Santo Domingo in 2006, organized by Alejandro de Ávila. We all hope that this will become an on-going event and it appears that COOL is on its way to becoming a regular, biannual and international conference.

Rosemary Beam de Azcona
COOL 2004 Organizer

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