

Semantic Extensions and Grammaticalization in Upper Necaxa Totonac: the body part *laka* 'face'

Sonia Suárez Cepeda

Extensiones Semánticas y Gramaticalización en el Totonaco de Necaxa Superior,
Mexico: la Parte del Cuerpo *laka*- 'Cara'

Resumen

En este trabajo se presenta evidencia de cómo la distribución del morfema *laka*- que se refiere a la parte del cuerpo 'cara' en el Totonaco del Necaxa Superior (TNS), México, revela un proceso de lexicalización y gramaticalización. En TNS los morfemas que se refieren a las diferentes partes del cuerpo son construcciones referenciales. El significado literal de los términos de las partes del cuerpo se obtiene a partir de relaciones entre el todo y la parte (i.e. el cuerpo y sus partes) y se puede extender a diferentes dominios conceptuales tales como espacio y relaciones topológicas. El morfema *laka*- 'cara' ha sufrido una serie de extensiones semánticas a los dominios de 'parte/objeto' de objetos inanimados que proyectan una forma similar a la cara (i.e. superficie plana). Una segunda extensión semántica se observa en el uso de *laka*- como metonimia para indicar proyección espacial. Finalmente, el tercer cambio gramatical que ha sufrido el morfema *laka*- ha determinado una modificación de su categoría léxica (i.e. sustantivo) por una categoría sintáctica, más abstracta y menos definida semánticamente (i.e. marcador de valencia de verbo). Este proceso demuestra que los morfemas gramaticales derivan de morfemas léxicos que alguna vez fueron morfemas independientes y que, a través de un proceso de lexicalización y gramaticalización, se han convertido en formas gramaticales (*grams*), afijos, o marcadores gramaticales que se anexan a la raíz verbal.

Palabras clave: lexicalización, gramaticalización, partes del cuerpo, lenguas polisintéticas, valencia verbal.

Abstract

In this paper we present evidence of how the distribution of the body-part (BP) morpheme *laka*- 'face' in Upper Necaxa Totonac (UNT) reveals a process of lexicalization and grammaticalization. In UNT all body parts are reference-point constructions. The BP *laka*- has undergone a series of semantic extensions following a path that goes from the concrete BP term 'face' to a more abstract, referential term, to finally become a grammaticalized form to mark verb valence. From the body domain, the BP term core meaning *laka* 'face' has been extended to refer to some analogous part of inanimate objects bearing similar body-like shape. A second extension involves metonymy and the extension of the BP term to indicate space projection. Finally, we propose that *laka* has still undergone a third change that has determined a syntactic shift from its noun category to that of a valence increaser marker encoding the direct object properties in the complex verb form. These last two usages enable us to reconstruct and motivate a pattern of extensions, which have lead the *laka*- morpheme to perform highly grammatical functions. Namely, they involve a change from a major lexical class noun to a more abstract less-clearly defined grammatical category marking relations of valence. This process shows evidence of how inflectional elements are fragments of earlier independent words that have been 'bleached out' through lexicalization and grammaticalization processes becoming affixes, adpositions, and grams as valence markers.

Key words: lexicalization, grammaticalization, polysynthetic languages, verb valency.

In this paper we present evidence of how the distribution of the body-part (BP) morpheme *laka* 'face' in Upper Necaxa Totonac (UNT) (1) reveals a process of lexicalization and grammaticalization from literal part/whole relations through various figurative usages to grammatical usages at the most complex level (i.e. a valency increasers). In UNT all body parts are reference-point constructions. The basic part-whole construction is the literal usage. However, the inclusion of body parts in some verbal predicates increases the verb valency by adding a second landmark (as an instrument) which uses the primary landmark (i.e. the object) as a reference point (Klint 2002). The BP morpheme *laka*- has undergone a series of semantic extensions following a path that goes from the concrete BP term 'face' to a more abstract, referential term, to finally become a grammaticalized form to mark verb valency. From the body domain domain, the BP term core meaning *laka* 'face' has been extended to refer to some analogous part of inanimate objects bearing similar body-like shape. A second extension involves metonymy and the extension of the BP term to indicate space projection, i.e. the extension of the meaning of *laka* 'face' to s 'place' to refer to the position of another object into a 3D space. Finally, we show that *laka* has still undergone a third change that has determined a syntactic shift from its noun category to that of a valency increaser marker encoding the direct object (DO) properties in the complex verb form. These last two usages enable us to reconstruct and motivate a pattern of extensions which have lead the *laka* morpheme to perform highly grammatical functions. Namely, it involves a change from a major lexical class noun to a more abstract less-clearly defined category that marks grammatical relations of valence.

The paper is organized as follows: Section 1 deals with an overview of the main characteristics of Upper Necaxa Totonac as a Mesoamerican language and a detailed analysis of the BP terms and their usage. Section 2 presents a close examination of the different semantic changes via metaphor and metonymy proposed for the BP term *laka* 'face'. Section 3 refers to its lexicalization process in terms of active zone and search domain. Section 4 presents evidence for the BP *laka*- as a locative and projective gram in complex predicates and as a valency increaser as a result of a process of grammaticalization of the BP. Finally, we draw some general conclusions on the previous data and analysis.

Background

Upper Necaxa Totonac is a member of the Totonacan-Tepahuan languages spoken in the Sierra Norte of Puebla State, Mexico. This group constitutes a generic isolate with no affiliations to other languages of Mesoamerica. Upper Necaxa Totonac is spoken by around 3,000 people in the Necaxa River Valley in the Sierra Norte of Puebla State, Mexico (Beck 2000: 214). Like many other languages of Mesoamerica, Upper Necaxa Totonac uses body-part (BP) terms in locative expressions, which have undergone semantic extensions to other notionally related areas.

UNT BPs present one type of part-whole relation based on the notion of visible or perceptually salient qualities of a body part. These lexemes have been segmented from a pre-existing whole of a person. These BPs share the features of the whole as monomorphemic units and can productively form lexicalized combinations.

The BP class of lexical items in UNT is formed by bound monomorphemes, which co-occur with verb roots or can form compounds. Table 1 lists some of the BPs as monomorphemic parts that can be used in semantic extensions. This paper will refer to the BP term *laka* ('face'), and its uses.

<i>Ak(a)-</i>	→ 'head'
<i>Laka</i> -/la'ba	'face'- → '2D, flat surface; related to visibility'
<i>Pa:-</i>	'belly' -→ '3D, not flat, container-like'
<i>mak-</i>	'body' -→ 'circular, spherical'
<i>pu:</i>	'vagina'-→ 'center, interior'
<i>tan-</i>	'buttocks'-→ 'flat, base-like'
<i>be:n</i>	'back' -→ back flat part'

Table 1. Examples of monomorphemic body parts in UNT.

BP morphemes are bound roots, which cannot stand-alone. In order to function independently, they must be nominalized by suffixation of *-n* (after vowels) and *-m'* (after consonants).

<i>laka-n</i>	<i>táni'</i>	<i>makni'</i>
<i>laka</i> +NM	<i>tán</i> +NM	<i>mak</i> +ni'
'face'	'buttocks'	body

As lexical categories, BPs can be interpreted as nominals as they cannot be affixed with verbal categories of person or time/aspect markers (Levy 1999: 138). Also, BPs as independent nouns, are always marked by possessive morphology reflecting the fact that they indicate a part-whole relationship (Klint 2002). The genitive phrase takes the form of Possessive marker+body part lexeme+nominalizer (POS+BP+NM). As independent nouns, BP terms are always inflected for possession and take 3SG POS marker *ix-* (2), as seen in (A.1, A2).

(A.1)	<i>ixlakan</i>	<i>Pedro</i>	(A.2)	<i>ixlakan</i>
	<i>ix</i> + <i>laka</i> + <i>n</i>	<i>Pedro</i>		<i>ix</i> + <i>laka</i> + <i>n</i>
	3SGPOS+face+NM	<i>Pedro</i>		3SGPOS+face+NM
	'Peter's face'			'his face'

These monomorphemic BPs can combine with each other to form compounds, or lexicalized combinations (Levy 1999, Aschman 1973) where each of the components can be easily identified, and the final full form results in a precise compositional description. These lexical combinations can range from Noun+Noun compounding to Noun+Noun+Adj forms and the final resulting form is a 'packing-up' of specific information with a new meaning, as seen in (B), or in some cases unpredictable, as in (C).

- | | | | |
|-----|--|-----|---|
| (B) | <i>la'hapu:tú</i>
la'ha+pu:+tú
face+back+side
'back side' | (C) | <i>la'hapu:ta:ti</i>
la'ha+pu:+ta:ti
face+back+base.like
'pyramid' |
|-----|--|-----|---|

In the following section we present the different paths for semantic extensions for the morpheme *laka-*, which have resulted in a lexicalization process from a more literal referential BP term to a more abstract and metaphorical morpheme. Most stages along this path of extension have created lexicalized forms that preserve the meanings of the BP at that particular stage. Although this BP is a reference-point construction in basic part-whole relations, it can also be used a complex predicates increasing the verb valency by adding an instrument object (i.e. a second landmark), which is related to the object of the transitive construction. The paths of change of the BP *laka-* from part-whole relations to valency increasers are summarized in Diagram 1.

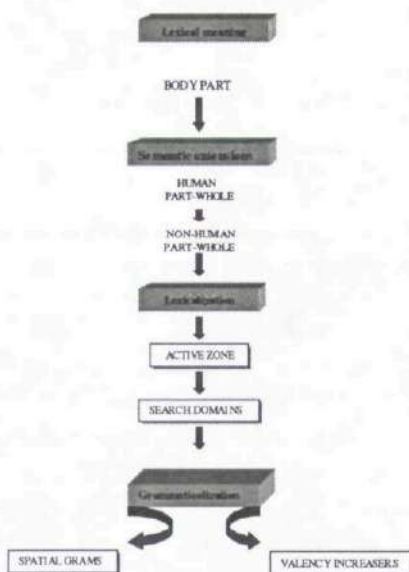


Diagram 1. Lexicalization and Grammaticalization paths proposed for BP *laka-*.

Semantic extensions

Human Part-whole relations: laka- à body domain

As shown in (A.1, 2) BPs are used as inherently possessed nouns when referring to part of the body. In its basic lexical concrete meaning the morpheme *laka-* refers to the body part *lakan* 'face', as seen in (D).

- (D) *animalthunká ixwaní'; cha: xmantunká ixlakán*
 animalh+tunká ix+wan+í': cha: x+man+tunká ix+lakán
 animal+very PST+become+PF PRT 3PO+self+very 3PO+face
 'He was/looked much of an animal in his face'

However, *laka-* is a highly productive morpheme, which can also form compound expressions denoting adjacent parts of the body. This process can be seen as a unidirectional synecdoche change of the whole (i.e. 'face') to name one of its parts (i.e. 'cheeks'). Hence, 'cheek' functions as part of the whole (Wilkins 1996). These relations can be explained as chains in paronymies, where a part is characterized by its position and function within a larger whole, i.e. the conception of the whole (i.e. *lakan*) makes possible the conception of its parts (e.g. cheek) (Langacker 1997). Compounds describing 'part-whole' relation follow a head-right order, as seen in (E), (F), and (G).

(E) <i>lakalukút</i> laka+lukút face+bone cheekbone	(F) <i>lakasikwalán</i> laka+sikwalán face+saint 'pupil of the eye'	(G) <i>kila'bastapún,</i> ki+la'ha+stapún 1PO+face+wheat 'my eyes'
--	--	---

The central anatomical properties of the morpheme can be extended to other sub-category profiling the most salient feature of that original category. One of the most common occurrences is the conflation 'eye' & 'face'. Eyes and face are both roundish, and spatially contiguous (Andersen 1978; Hinkson 1999; Svorou 1993; Wilkins 1999). Spatial contiguity motivates not only polysemy on a synchronic level but it also allows for derivational relations. The face is the most salient part of the head, and its physical contiguity to the eyes can motivate metonymic extensions.

(H) <i>lakakatzán</i> laka+ katzán face + ache 'have an eye-ache'	(I) <i>lakalbkatni</i> laka+lhkat+ní face+measure+NOM 'To signal someone with the head or the eyes; to make eyes to someone'
--	---

Other metaphorical extensions of *laka* seem to have been motivated by the particular location of the face and its relation to the eyes. Eyesight emanates from the human body, and is directed towards the outer world. In UNT *laka* can be metaphorically invoke eyesight.

Laka combines with the verb *wan* 'say' to form a verbal predicate denoting the face as the seat-of the organs of visual perception (and of expression of emotions): the eyes, as seen in (J) and (K).

(J) <i>nalakawanána'</i> na+laka+wan+nán+a' FUT+face+say+DT+IMPF:2SUBJ 'You will see'	(K) <i>lakatzukumá:lb puská:t</i> laka+tzu+ku+ma:lh puskat face+small+move+PRG woman 'The woman is making eyes'
--	--

Other types of metaphors within the body domain are those related to emotions. In this case, the body part where the emotion is felt or expressed motivates a SEAT-OF-EMOTION metaphor. These locations are language specific; thereby the location of emotion can be construed as being anywhere in the body (Hinkson 1999). In UNT, *laka* is the part-of-the body that denotes an emotion, mainly, affection and volition. Therefore, it can be lexicalized into the verb predicate to indicate the BP that could be physically affected or involved, as observed in (L) and (M).

- (L) *laka+bé:*
 Face+uncover
 'To feel passion/desire for something/someone'
- (M) *lakaskín*
 laka+skin
 face+ask.for
 to want something'

Some prefixes have become lexicalized and are no longer compositional, as shown in (M). In this example the *laka-* indicates the fear is expressed by this BP (i.e. the salience of this particular BP in a feared situation). The association does not invoke the participation of the BP itself, but the location of the expression.

- (N) *camá: mistú xa: juxkut{un porké lakaxikwán*
camá: mistú xa: jux+kutún porké laka+xikwán
 that cat NEG descend+DSD because face+fear
 'the cat doesn't want to come down because it's afraid of falling'

The core meaning of *laka-* is concrete (face) and the referents denoted could be non-human entities, which invoke a schematic representation of the BP involved. This figurative use of BPs as metaphor-like expressions follow some regularities across languages, as it seems to reveal shared cognitive processes underlying human behavior. These lexical regularities present two distinctive phenomena: 1) not all BPs can be used in figurative labeling, 2) only those figurative names of constant semantic content are used (Brown & Witkowski 1981: 118).

Non-human part-whole relation: BP laka- à part of an object

Figurative labels for body parts are always built on perceived similarities and associations between body parts and other entities in the physical world. These associations are based on perceptual constraints, which can be more or less evident (e.g. *egg* à testicle) or less so (e.g. *small girl* à pupil of the eye). However, the limited number of objects in the physical world that can be in some way associated with body parts also constraints the types of figurative uses. Therefore, when lexical and physical /perceptual constraints are considered together, restrictions on the figurative naming of body parts are even more evident, as they must be lexically encoded (i.e. the BP must be present in the expression), and it must be relatively salient, and unmarked in the language (Brown & Witkowski 1981).

An active metaphorization process can be observed in UNT where the concept of 'face' or its salient characteristics are extended to new referents or imposed on new entities outside the human body domain which intrinsically lack bodies and faces. Therefore, polysemy is the norm for lexical units. Langacker (1987) proposes a network model for lexical units where each node has different categorizing relationships. Lexical units can be more abstract, non-specific and basic to its meaning while others are referential extensions.

In the following examples of referential extensions (Brown 1999) the shape of the body part can be abstracted to denote objects perceived as having a similar flat shape i.e. 'flat and frontal surfaces', as presented in (O.1, O.2, O.3).

- | | | | | | |
|-------|---|-------|--|-------|---|
| (O.1) | <i>Lakapibá'lba'</i>
laka+pi+há'lha'
'face'+chest+big
'large flat surface' | (O.2) | <i>lakapú:n</i>
laka+pu:+n
'face'+ <i>atd</i> +NOM
'photo, picture' | (O.3) | <i>lakamatzá:t</i>
laka+matzá:t
'face'+salt
'plain, salted tortilla' |
|-------|---|-------|--|-------|---|

This paronymic relationship is extended to non-human objects creating a schematic representation of the body part. In most languages, figurative naming is preferred over literal description of the object as it serves a double purpose. In addition to serving the function of identifying the object or concept, figurative names have an attention-getting function, as they come to mind more readily than the descriptive ones as they allow equating the labeled object or concept to a BP, as observed in Diagram 2.

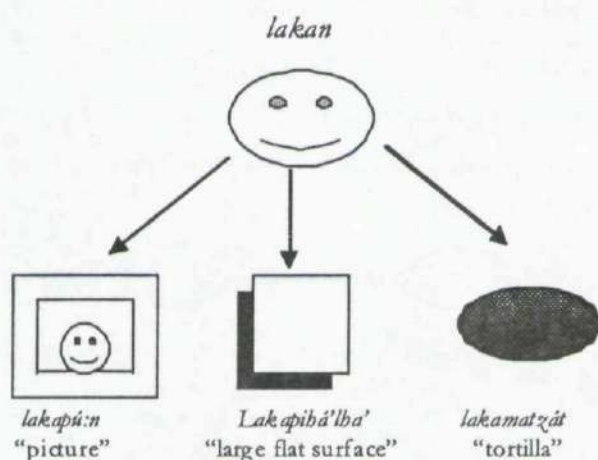


Diagram 2. Schematic representation of *laka-n* and its extensions for non-human objects.

Some BPs can be used as incorporated lexical items in verb predicates to instantiate one type of 'part-whole' relation. That is, they stand for 'visible, salient parts' of a pre-existing entity (i.e. persons). As 'part-of-a whole' relation in a verbal predication, they can take the possessive marker to indicate its location relative to the 'whole' (i.e. the reference object). In some other cases, the locative marker *nak-* is used to govern the relation between the BP term and its reference object. The entity that represents the 'whole' serves as a referent to establish a point of location, (i.e. 'at the back of', 'at the front of' 'on the top of'. The construction functions like a locative complement (3), as seen in (P).

- (P) *nak ixlakatú:n Juan ya: chixchú'*
 nak ix+lakatú:n Juan ya: chixchú'
 LOC 1POS+front Juan stand man
 'The man is in front of Juan' (Levy 1999: 140)

Also, this meaning is generalized by metaphorical extension into a more general spatial relation to mean 'front'. This process leads to a lexicalization path through which *laka-* can become 1) the

active zone in a predicate, 2) a topological spatial term indicating location and destination, i.e. 'be-on', 'go-at/to', and 3) a term in a motion predicate profiling a projective spatial relation, i.e. 'x facing y'.

Lexicalization process

*BP*laka- -à *Active Zone*

Langacker (1987) has proposed the term 'active zone' for the salient subpart of the meaning of a predicate, which is directly involved in the interaction of entities. For example, the term 'foot' could be the active zone of the predicate 'kick' in some languages. In UNT, BPs can be lexicalized into the verb predicate to specify the target of an action. In transitive verbs, the BP does not affect the valency of the verb and only profiles the part of the body involved in the action, as seen in (Q.1, Q.2).

(Q.1)	<i>naklakalásán</i> na+k+laka+las+á+n FUT+1SUB+face+slap+IMP:2OBJ 'I am going to hit you in the face'	(Q.2)	<i>lakpa:lásli'</i> lakpa:+lás+li' check+slap+CMP 'He hit him on the check'
-------	--	-------	--

In this active zone schema, the landmark (lm) is the 'face' or the 'check' as the targets of the action (i.e. 'slap' and 'hit'), as seen in Diagram 3.

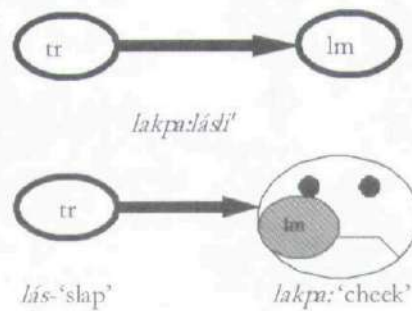


Diagram 3. Active zone uses of *laka-*

Lexical motion verbs can encode movement away from a point of reference in a given Figure/Ground asymmetry. Langacker (1987) proposes that verbs in general elaborate an abstract verb schema, or mental space. This mental space, as a cognitive domain, is designated by two dimensions of imagery (i.e., a profile and a base). By DOMAIN, Langacker refers to an integrated conceptualization, which is the result of a cognitive processing. It is equal to a mental experience, and it refers to the cognitive processing of new and old concepts, to sensory, kinesthetic and emotive sensation. A speaker observing an objective reality gets a mental experience and construes a conceptual structure that may become a linguistic expression. By PROFILE, Langacker means a cognitive operation that is the responsible for the growth of hierarchies. The profile is like the head that imposes certain salient characteristics on the base. The BASE is the cognitive structure a predication presupposes. Thus, the profile is the substructure of that base that is made prominent to indicate which is the entity the expression (predication) designates (Langacker 1987).

Human beings tend to instantiate events in a dimensional construal. They construct mental models on the basis of the entities' relations and properties (Johnson & Laird 1983; Levett 1989). Such events are encoded by verbs profiling a process in a given context (i.e. in the space-time dimension). Verbs of motion such as 'go' or 'come' are concepts indicating a movement in a spatial event (i.e. a movement in or from space *x* to space *z* by agent *y* with regard to a reference point, a path. PATHS are courses that moving entities followed from the beginning of their movement until the end. They reflect the way in which human beings interact with entities while we perform a specific movement, and the experience we extract from this interaction (Svorou 1993).

Search Domains

BP *laka* -à spatial projection

In UNT body-parts terms are used as locatives, expressing basic spatial concepts such as 'on top', 'in front of', or 'next to'. They express relations between objects in a specific spatial domain. In these constructions BPs are used to elaborate the search domains of composite expressions.

Topological relations as in (R) refer to the SIDE-REGION and have originated from the body-part term naming the 'shoulder', as observed in (R).

- (R) *nakwilí: xpe'hxtún mésa*
 na+k+wilí: x+pe'hxtún mésa
 FUT+1SG.SUBJ+put 3PO+shoulder table
 'I will put it next to the table'

The BP term for 'head' has given rise to a lexicalized term meaning TOP-REGION, as seen in (S).

- (S) *bru xakpún mesa wilh*
 libru x+akpún mesa wilh
 book 3PO+top.of.head table sit
 'the book is on the table'

These examples could also be explained as a 'setting-participant' relation in which the participant (body part) denotes a specific location (Langacker 1987). Also, the properties of the shape (or object) referred to establishes a structural similarity between the object and the BP. This anthropomorphic model to conceive space in relation to BP (Heine et al. 1991, Svorou 1993) is found in those societies where the human body is used as a source for understanding space. The basis of the evolution of some specific BPs to express spatial relations is related to the dimensional construal by which human beings relate the physical world and its space relations to their body.

PB *laka* -à Topological dynamic space relation

The notion of 'direction or movement towards an entity and anteriority' (Svorou, 1993) can be explain as an extension of these relational object-part terms to locate entities with respect to other entities which are contiguous or adjacent to the referred relational object. Heine (1989) and Heine, Claudi and Hunnemeyer (1991) refer to this process as a 'categorical metaphor', that is, the extension of a term used to describe part of an object (in this case, the BP *lakan* 'face') to describe an spatial

relation OBJECT > SPACE. In other words, changing from the conceptual domain of the object (i.e., the body) to that of space in a dynamic way.

In terms of the relation trajector (tr) and landmark (lm) (Langacker 1987), this process is done by expanding the relevant region of the gram (in this case the BP *laka* 'face'), to another domain where the tr is not adjacent to the landmark. This is the expansion of the region of the object (Landmark) from its own boundaries to boundaries that go beyond its physical domain. DIRECTION TOWARDS involves movement of a tr so that if it is not stopped, it would reach the lm. (Svorou 1993). *Laka* is used in verb predicates to indicate this relation, as observed in (T.1) and (T.2).

(T.1)	La'htalakatzunáji: La'h+ta+laka+tzu+naji ALL+INCH+face+small+TRANS 'To get closer'	(T.2)	la'htalakapa'hsú:lh la'h+ta+laka+pa'h+sú:lh ALL+INCH+face+3SG.SUBJ.COMP 'he got closer to my house'
-------	---	-------	--

Grammaticalization

It has been claimed that grammatical morphemes (i.e. grams) derive from lexicalized forms. Inflectional and derivational elements in words are in fact fragments of earlier independent words, which have been compounded or bound to the root words (Robin 1967; Svorou 1993). Grammaticalization as a theory which explains these processes has provided substantial evidence on how grammatical forms as well as grammatical meaning evolve from lexical meaning, following universally determined paths (Bybee & Pagliuca 1987; Givón 1975; Heine et al. 1989; Svorou 1993; Traugott & Heine 1991).

Recent research on grammaticalization of spatial grams has shown that appositions, spatial affixes and case inflection may represent different stages on a grammaticalization process. Spatial grams are used in most languages to communicate locus of situations, or to express grammatical notions such as tense and aspect, or causality (Radden 1985; Svorou 1993; Traugott 1978)

In this paper we have shown how the variety of uses of the BP *laka* 'face' enables us to reconstruct and propose paths of extensions, which lead to highly grammatical functions. In fact, we propose that *laka-* can be used to encode spatial relation, acting as a spatial/directional gram in motion predicates. The *laka-*gram constitutes the result of a 'bleached out' version of its original source (i.e. a BP term). As we observed in (F) the term for 'eye' in UNT derives from that of 'face' as a process of conceptual transfer: 'eyes' and 'face' are both roundish and spatially contiguous. However, BPs can also give rise to directional grams, where terms such as 'eye' may be used to indicate direction 'to, towards' or the BP 'hand' indicate origin 'from' (Svorou 1993).

In UNT the BP *laka-* has undergone a path of grammaticalization into 1) a topological marker (gram) where a spatial projection of the search domain (i.e. BP *laka-*) is motivated and 2) as a valency increaser morpheme when used in transitive constructions with instrumental and causative markers.
BP laka- -à gram profiling projective spatial relations

As a projective location marker *laka-* involves a frame of reference, which can be inherent to the reference object or inherent to the viewer (Pederson et al. 1998). In this case, the face (or eye) stands for the front region of the body. This partition reflects the speaker interaction with the world and

with each other. Canonically, we interact face-to-face. When the terms 'face' or 'eyes' are used to indicate front region, the reference is relative to the location of the body part respect to the rest of the body (i.e. the front region as the part that interact with the world). Svorou refers to this spatial projection as a functional characteristic of the body part extensions (Svorou 1993).

Basic to the meaning of *laka* as a gram is its profiling of an ANTERIOR/FRONTAL spatial relation between the tr and the lm. It is the viewer's frame of reference, his visual perception, which determines the front, as seen in (U.1, U.2, U.3).

- (U.1) *lakaa'n*
laka+a'n
face+go
 'To have the face looking at a different location from where the speaker's is located'
- (U.2) *laka lakaa'yalh*
laka+a'+yalh
face+go+be.standing
 'To be standing looking on one direction (as indicated by the position of the face)
- (U.3) *a'ntaya:'*
laka+a'n+taya:'
face+go+turn.around
 To turn around standing/ To look at one direction

Laka in the motion predicate *a'n* 'go' profiles a DIRECTION AWAY FROM the speaker, (i.e. away from the deictic center of reference). Hence, a change in the verb semantics reverses this relation into the opposite one: in the predicate *min* 'come' *laka* profiles an ANTERIOR relation, as seen in (V) (4).

- (V) *Lakamintayá:*
Laka+min+ta+yá:
 'face'+come+INCH+stand
 'To be standing facing the speaker'

In some other cases, the attribution of anteriority for entities which are regions or locations (i.e. houses, squares, etc.) is also inherent to the observer's point of view. In this case, *laka* would profile an ULTERIOR relation between the object of reference and the speaker. Both the observer's inherent orientation and the 'face' of the object of reference face away from the observer, as seen in (W).

- (W) *nakha:lha'xká:n nalakaa'ntayá: chick*
nak+ha:lha'+xká:n na+laka+a'n+ta+yá: chick
 LOC+big+ water FUT+face+go+INCH+stand house
 'The house will face the water' (away from the speaker)

However, a change of the verbal predicate (*min* as 'come') implies a shift towards the deictic center, i.e. the speaker.

- (X) *lakamintayá:ma:lb chick*
 laka+min+tayá:malh chick
 'face'+come+take+PRC house
 'They are making the house facing this way' (towards the speaker)

Finally, the notion of 'being visible to the point of reference' is also profiled by *laka* in some relational predicates. In most of these relations the projective notions are without an overt reference point.

- | | |
|--|--|
| <p>(Y.1) <i>Lakawawí:lb</i>
 Laka+wa+wi:lh
 'face'+be+sit
 'To be sitting in a visible position'</p> | <p>(Y.2) <i>a'ntzá lakawawilapálb</i>
 a'ntz laka+wa+wila+pá+lh
 there face+say+sit+RPT+CMP
 'There it appeared again'</p> |
|--|--|

In UNT predicates, the role of the BP gram is to mark orientation and the properties of the Ground or referred object. In the case of the gram *laka*, this orientation is expressed as a Figure/Ground relationship, where the Figure (i.e. object) can be in contact with the Ground (i.e. flat surface). In this predicate, the most salient part is that encoded by the BP, i.e. *face*. UNT verbal predicates use these grams encoding BP properties to describe the shape of the referred object (i.e. Ground).

Due to these locative references, BP terms can be interpreted as grams used to refer precise locations respect to the object (i.e. figure). These expressions of locations do not refer the orientation of the object (i.e. figure) respect to the reference object (i.e. ground) They entail search domains where the relationships of 'X place ON/IN/AT Y' or 'X located with respect to Y' are understood in reference to the properties profiled by the ground (i.e. reference object) in the whole predication. If the figure (i.e. X) is 'pictures', the verb predicate will profile the verb form for 'hanging' as being determined by the nature of the ground (i.e. Y) which is the BP expressing the 'flat surface' properties of the 'wall'. Hence, the locative reference (i.e. X 'hanging' on Y) would be determined by the shape of the Ground (i.e. *laka* 'face' = 'flat surface'), as seen in (Z).

- (Z) *Lakata:la:waká:*
 Laka+ta:la:+waká:
 'To throw/shoot stones at something that is hanging'

Different meanings can be conveyed through the different semantic relations profiled in each verb complex. The BP is always the salient semantic component of the whole predication as it 'profiles' a given characteristic of the predicate. This can be an action performed by the BP (i.e. something intrinsically related to the BP properties), as seen in (AA).

- (AA) *Lakamín*
 Laka+mín
 Face+come
 'look, face towards here'

The BP gram allows the object to have a primary or more salient role (Mithun 1984) because it adds more specific information about the reference object. That is, the BP gram profiles that part of the predicate where the effect of the action takes place (Levy 1999: 146). This is a 'part to shape'

semantic extension in the sense that the BP encodes the affectedness of the undergoer/patient or DO (i.e. theme). The BP expresses a specific location (i.e. the ground or reference object) that is being in some way affected by its relation with the figure (i.e. object), as observed in (AB).

- (AB) *lakata:la:wa:ká:*
 laka+ta:+la:+wa:ká
 face+hit+REC+something hanging
 'to hit with a stone something that is hanging from above'

This BP predicate could be analyzed as a result of a grammaticalization process in which BP are used as lexical sources of adverbial-like elements to establish relationships between the verb and the object NP. However, most of these inherently possessed BP terms with a locative function still preserve some of their lexical properties as nouns if used alone. That is, they are marked for possession, on one hand, but they need to affix a nominalizer *-ni*' to stand as independent nouns. Therefore, it seems that the BP *laka-* can behave as a lexicalized form or as a gram (i.e. prefix) that can be attached to verbal complexes to express locative notions. While their semantic properties remain the same, pragmatically, these extensions seem to be motivated by the speakers' need to relate the shape of the referred object to some salient category in human cognition (i.e. an anthropocentric type of reference).

BP *laka-* a Valency increaser

In some instances, a single verb can accommodate different element types in the focus position. Such focusing properties as defined as valence of a verb. Traditionally, the term valence has been used to refer to a number of distinct elements that occur with a verb. Valence here is used in terms of the particular case assignments that a verb has, by allowing a fixed number of certain elements to be associated with it.

In UNT, the BPs *lakan* 'face', *makán* 'hand', *be:* 'back', and *pu:* 'vagina' can act a valency increasers when co-occurring with other syntactic markers. They pattern along with other valency increasing morphemes such as instrumental *li:* - and the causative *ma:* -, and the applicative *ní:* -.

- | | | | | | |
|--------|-----------------|--------|----------------------------|--------|----------------|
| (AC.1) | <i>wi:li:ní</i> | (AC.2) | <i>Li:wí:li:ní:lh</i> | (AC.3) | <i>ixmakán</i> |
| | wi:li:+ní | | li:+wí:li:+ní+lh | | ix+makán |
| | put +APPL | | INST+put+APPL+CMP | | 3PO+hand |
| | 'he hit him' | | 'he hit him with his hand' | | |

In (AC.2) the instrumental *li:*-indicates a second element in the predicate. In terms of Figure-Ground relations (Talmy 2000) the Ground (i.e. 'him') is demoted and the Figure (i.e. 'his hand') is given a primary focus. In this particular case, the instrumental *li:* - combined with the Figure (i.e. 'his hand') act as a valency increaser by placing the focus on both the giver + instrument (i.e. 'he' + 'his hand'). We can analyze this process as a BP acting as a complementary element in the predicate that increases the verb valency.

In terms of Trajector (tr) and Landmark (lm), the instrumental *li:* - in (AC.2) qualifies how the tr affects its lm, by adding a second and more specific lm. The BP adds another lm by using the primary lm as a reference point for the second one, as observed in Diagram 4.

partitive meaning: the lexical meaning as a BP term restricts their function as locative markers (i.e. *lakan* 'face' is used to mark locations of reference objects that have a similar physical property).

As we have observed, the semantic change and extension of the *laka*- from a BP term into a lexicalized item marking locative reference and into a gram marking valency increase is achieved through a change or shift in the lexical category of the BP term. We can explain this shift as resulting from a grammaticalization process of the BP *laka*-. The motivation for the extension of anatomical parts into the space domain through lexicalization is probably drawn by the prototypicality of some core BP terms and their resemblance with referred locations (i.e. flat places are prototypical within the domain of location). This reason could account for the use of *laka* 'face' as a locative marker.

As for the continuum leading to the resulting grammatical change, we can say that the figure-to-ground relation forms the basis of this change. The lexicalized BP term based on a figure – ground relationship simplifies the expression of location. *Laka* is used to name areas of shallow depth, such as 'walls', 'flat surfaces' 'hanging cloth'. In this type of relation, the BP term specifies the shape of the location and its relation to a ground. In motion predicates, *laka* seems marks direction and goal. Although this concept does not pertain to the semantics of this BP term, it could be the resulting meaning of a process of grammaticalization: a BP term or gram that encodes location as well as directionality.

Finally, a higher grammatical function such as that of a valency increaser can be explained as resulting from an Active zone/whole relation as well as search-domain/landmark relation. There has been an extension of the 'part' (i.e. BP) to create an object slot in the predicate that relates the 'part' to the 'whole' by adding a second landmark. In UNT, BPs provide an excellent source for grammaticalization process, especially for those encoding higher and complex grammatical not only because of their perceptual salience, but also their properties as reference-point constructions.

Notes

(1) UNIF= Upper Necaxa Totonac Electronic Fieldwork developed by David Beck is the primary source of data for this paper. To contact the author email to dbeck@ualberta.ca.

(2) The following grammatical abbreviations are used: APPL=applicative, POS=possessive, FUT=future, SUBJ=subject, SG=singular, PST=past, PF=perfect, RPT= 'round trip', NOM=nominalizer, DT=ditransitivizer, IMP=imperfective, PRG=progressive, CTD= 'contained within', LOC= locative, ALL=allative, INCH=inchoative, TRANS= 'transport', COM=completive, CLS=classifier, REC=reciprocal. All these abbreviation corresponding to Beck's UNIF.

(3) Paulette Levy (1999: 139) uses the term 'adverbials' to refer to the syntactic functions performed by these locative markers, as lexical adverbs or prepositional phrases.

(4) A similar meaning is found in Mixtecan (Hollenbach 1995: 178)

Bibliographic references

Beck, D. (2000). "The syntax, semantics and typology of adjectives in Upper Necaxa Totonac". In *Linguistic Typology*, N° 4. 213-250.

_____ (in progress). *Upper Necaxa Totonac Dictionary*. Project database carried out by Dr. D. Beck, 1998-2003. Upper Necaxa Totonac community, Mexico. Data collected from native adult Totonac speakers.

- Brown, C. (1999). *Lexical Acculturation in Native American Languages*. Oxford: Oxford University Press.
- Brown, C. & Witkowski, S. (1981). "Figurative language in a universalist Perspective". In *American Ethnologist*, N° 8. 596-615.
- Egesdal, S. (1981). "Some ideas on the origin of Salish lexical suffixes". In *University of Hawaii Working Papers in Linguistics*, N° 13.2. 3-19.
- Frawley, W. (1992). *Linguistic Semantics*. Hillsdale, New Jersey: Lawrence Erlbaum.
- Heine, B.; Claudi, U. & Hünnemeyer, F. (1991). *Grammaticalization*. Chicago: Chicago University Press.
- Hinkson, M. (1999). *Saktsen Lexical Suffixes: A study in the conceptualization of Space*. Ph.D. Dissertation. Simon Fraser University.
- Hollenbach, B. (1995). *Semantic and Syntactic Extensions of Body-Part Terms in Mixtecan: The Case of 'Face' and 'Foot'*. In *IJAL*, N° 61. 168-90.
- Kinkade, M. D. (1996). "The relation between lexical suffixes and lexical compounding in Upper Chehalis". In *American Anthropological Association, 95th Annual Meeting 35th Conference on American Indian Languages*.
- Klint, R. (2002). *The grammaticalization of BPs in Upper Necaxa Totonac*. Manuscript.
- Levinson, S. (1994). "Vision, shape, and linguistic description: Tzeltal body-part Terminology and object description". In *Linguistics*, N° 32. 791-855.
- _____ (1998). "Relativity in Spatial Conception and Description2. In Gumperz, J. & Levison, S. (Eds.). *Rethinking Linguistic Relativity*. Cambridge: Cambridge University Press.
- Levy, P. (1999). "From 'Part' to 'Shape': Incorporation in Totonac and the issue of Classification by verbs". In *IJAL*, N° 65. 127-75.
- Langacker, R. (1987). *Foundations of Cognitive Grammar. Theoretical prerequisites. Vol I*. Stanford: Stanford University Press.
- MacLaury, R. E. (1989). "Zapotec Body-Part Locatives: Prototypes and Metaphoric Extensions". In *IJAL*, N° 55. 119-54.
- Mithun, M. (1984). "The evolution of noun incorporation". In *Language*, N° 60. 847-892.
- Pederson, E. et al. (1998). "Semantic Typology and Spatial Conceptualization". In *Language*, N° 74. 557-89.
- Saddock, J. (1986). "Some notes on noun incorporation". In *Language*, N° 62. 19-31.
- Svorou, S. (1993). *The Grammar of Space*. Philadelphia: John Benjamins.
- Talmy, L. (2000). *Towards a Cognitive Semantics, Vol II, Typology and Process in Conceptual Structuring*. Cambridge, MA: MIT Press.
- Wilkins, D. (1996). "Natural tendencies of semantic change and the search for cognates". In Durie, M. & Ross, M. (Eds.). *The Comparative Method Reviewed*. New York & Oxford: Oxford University Press.

Fecha de recepción: 22/05/03 · Fecha de aceptación: 02/09/03