On the Evolutionary Paths of Locative Expressions
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The Annual Proceedings of the Berkeley Linguistics Society is published online via eLanguage, the Linguistic Society of America's digital publishing platform.
Spatial location has been traditionally studied indirectly as a consequence of studying the structurally coherent categories of prepositions and case inflections. This particular semantic domain, however, is expressed by a diverse selection of means - within one, and across languages - ranging from grammatical, closed-class items, such as adpositions (prepositions and postpositions) and case inflections, to open-class items, such as adverbs and nouns. According to the same tradition, languages are different in surface form only (Lyons 1968), implying that each language "selects" a particular means of expressing locative notions from a basket of universally-available means.

There are some problems with this theoretical orientation. First, while it is true that location tends to receive grammatical expression across languages, and in many languages closed-class items (prepositions and case inflections) share structural properties, it is not the case that members of a closed class, such as prepositions, express meaning in the same semantic domain. Also, the set of meanings expressed by prepositions in one language is not the same as the set of meanings expressed in another. As a consequence, comparison of languages based on structural similarities would result in a view according to which languages are very different from each other in expressing locative notions. Second, this theory does not explain nor predict why a language utilizes one particular means of expression over another, thus implying an unmotivated, arbitrary system of selection. Third, this theory faces great difficulty in explaining how a form expressing some locative notion can be used lexically and grammatically at the same time. A theory that presupposes a strict categoriality of forms has a hard time dealing with peripheral effects.

Recent theoretical innovations regarding grammatical categories, proposed by Bybee & Pagliuca (1985, in press), and Bybee (1985b), require MEANING to be the driving force of any linguistic activity. Within a specific semantic domain, languages are diverse in the means of expression they employ. The reason for this structural diversity is that different means of expression reflect different evolutionary stages that languages are at in a particular synchronic stage. Grammatical forms develop out of lexical forms via a gradual process of fusion and phonological erosion accompanied by semantic generalization. The paths of development of forms within a semantic domain are universal. Partial synonymy exists because the forms are in different developmental stages.

Following the alternative view, and as a test of its general theory, I argue that expressions of location, such as "in", "in
front of", "in back of", "outside", evolve in a specific way following a predictable path, going from concrete and specific to abstract and general in both semantic and morphological domains. Nouns referring to concrete entities evolve to become adpositions and bound affixes with no referential ability, by gradually losing structural autonomy and meaning specificities, and by undergoing concomitant phonological erosion.

Diachronic and cross-linguistic studies by Kahr(1975), Givón(1975), and Heine & Reh(1984) have shown that universally there are a number of sources for locative adpositions including nouns, verbs, adverbs, adjectives and participles. In this paper I will concentrate on the nominal source of locative expressions without that being a statement for primacy, greater frequency or typological distinction (although the latter might turn out to be true) as occurring in the languages of the world, but simply a restricting device for a very wide domain. These studies have shown that new locative expressions can emerge from combining already existing adpositions or case inflections with nouns. In addition, Miller's (1985) data from a variety of languages show that prepositions not only develop from nouns, but that they share certain syntactic and morphological properties with nouns on a synchronic level.

The theory of the evolution of grammatical meaning proposed by Bybee & Pagliuca, which I outlined earlier, provides the theoretical support for the reconstruction of universal evolutionary paths of locative expressions. The assumption that the evolution of linguistic material is gradual leads to the representation of that evolution as a continuum where various points, in a stroboscopic view, are intervals and constitute stages only for the purpose of clarity of presentation. The other assumption - that meaning is the driving force of any linguistic change - requires there to be two aspects of the continuum of the evolution of locative expressions, represented by two continua, one of the evolution of meaning and the other of the evolution of the form, which must be thought of as being parallel.

I will start with the presentation of the continuum of the morphological evolution of locative expressions.

MORPHOLOGICAL EVOLUTION OF LOCATIVE EXPRESSIONS

FIGURE 1: Morphological evolution of locative expressions - nominal source

LEXICAL

------------------------------------------>
noun > genitive construction > adverb > adposition > bound affix

GRAMMATICAL

According to Figure 1, lexical material in the form of a noun becomes grammatical in the form of a bound affix after first passing through a stage where it is frequently used in genitive constructions as the "possessed" noun, followed by a stage where
it behaves as an adverb, and then by a stage where it is an adposition. The underlying dimension of this continuum is the AUTONOMY of the evolving material: lexical forms, which are syntactically autonomous and relatively free to appear in many positions, become grammatical by becoming dependent on some lexical form and by assuming a fixed position, passing through intermediate levels of autonomy. The claim that this continuum makes is that the various stages are ordered, so that lexical material cannot become grammatical without passing through the intermediate stages. The empirical support for adjacent stages of the proposed continuum comes from a number of unrelated and randomly-selected languages.

Noun > adposition

Many languages have adpositions which are homophous with nouns. Data from ten languages are given in Appendix A. Here, I will demonstrate with data from two languages only.

In Abkhaz (Hewitt 1979), a NW Caucasian language, the noun a-c'ə "mouth" is used as a postposition with locative meaning as in (1):

(1) a-vok'zəl a-c'ə də-q'o-w+p'
the-station 3spro-mouth he-be- (stat.)
"He is at the station"
The noun āpxə "front" is also used as a postposition as in (2):

(2) a-yən- [a]-āpxə də-t'o-w+p'
the-house-[3spro]-front he-sit- (stat.)
"He is sitting in front of the house"

And the noun ə-šta "trace, footprint", compounded with a more general bound locative affix, expresses the notion 'behind', as in (3):

(3) a-yən- ə-šta-x' də-q'o-w+p'
the-house-3spro-trace he-be- (stat.)
"He is behind the house"

Vai, a Mande language of the Niger-Congo family, provides further evidence for the nominal source of adpositions. This language has been described (Welmers 1976) as having relational nouns, which can be used as nouns, as in (4), and as postpositions, as in (5):

(4) sěŋə ma kpàndi'ə
rock's surface is hot
"The surface of the rock is hot"

(5) ka'áá bə sěŋə ma
snake is-at rock's surface
"The snake is on the rock"

The noun ɔ̄ "inside", which demonstrates its nominal character in (6), is behaving as a postposition in (7):

(6) laa ɔ̄ nọs'ə
pot's inside dirty
"The inside of the pot is dirty"
(7) ȁnû bê fêŋ lândà kënè ɔ
they be-at eat house's inside
"They're eating in the house"

Furthermore, the noun k̄pàâ "buttocks", in a compound form with
the ɔ "inside" form in (7), gives the nominal form kpââ'ɔ,
which specifies the area behind something; in (8), this compound
has a prepositional meaning:

(8) ȁ nûû'â kënè kpââ'ɔ
he hid tree's buttock-in
"He hid behind the tree"

The other eight languages on which I have data relate the
nominal and adpositional uses of those terms along similar lines.
The adpositions are either identical in form with the nouns, as
in the Abkhaz examples (1) and (2) and the Vai examples (4)
through (7), or they appear in a compound complex with some other
locative affix, as in the Abkhaz example (3) and the Vai example
(8), depending on the available mechanism in each language.

Kahr (1975), Givón (1975), Miller (1984), and Heine & Reh
(1985) provide more examples of adpositions emerging out of nouns
from many more languages.

The genitive construction stage

Givón has suggested a genitive construction stage in the
evolution of postpositions from nouns in Niger-Congo languages,
and Heine & Reh support this claim for other African languages.
This phenomenon seems not to be restricted to the languages of
Africa, however. The general idea is that there is a genitive/
possessive marker mediating between the adposition and the noun
that acts as its object. The position of the marker seems to
vary, appearing either on the adposition or on the object of the
adposition, corresponding to head-marking and dependent-marking
patterns proposed by Nichols (1986). But let's look at some
examples.

In Abkhaz, all postpositions carry an affix which expresses
3rd person singular, refers to non-humans and is used as an
indirect object pronoun affix. This affix marks the possessed
noun in phrases like (9), but it is also present as an affix on
the postposition in (10).

(9) ȁ-la a-xê
the-dog 3sPro-head
"The head of the dog"

(10) a-xê ơcâ'-kâ a-ye'nê a-ye'nê+c'q'a yê-x̄mär-we-yt'
the-child-(pl) the-house (3sPro)-house+in they-play(dyn)(fin)
"The children are playing inside the house"

A similar pattern appears in Tajik (Miller 1985), an Indo-
Iranian language, where prepositions which are identical in form
with nouns form prepositional phrases, as in (12), obligatorily
via the "izafet" construction, which also relates the possessor
and the possessed, as in (11).
(11) kitob-i rafikam
book -(iz) my comrade
"My comrade's book"
(12) berun -i xona
exterior-(iz) house
"outside the house"

The Abkhaz and Tajik patterns would be examples of head-marking languages. Other languages that exhibit similar phenomena are Hungarian, as in (13), and Hausa, as in (14) (Kahr 1975).

(13) közepe "in the middle of" < köz- *ep- en
space poss locative
in between marker marker

(14)i. (a) kâ-n têbûr
head-gen table
"on the table"
ii. cîki-n dâki
stomach-gen house
"inside the house"

The dependent-marking pattern is exemplified by languages like Vai, which obligatorily marks the possessor, as in (15)i., or the object of adpositional phrases, as in (15)ii. below.

(15)i. sêngê mà kpândî'â
rock's surface is hot
"The surface of the rock is hot"
ii. kà'áá bè sêngê mà
snake is-at rock's surface
"The snake is on the rock"

The object of the adposition is also marked in Kannada(cf.(16)), with the genitive case suffix, also used for possessors (McCormack 1966).

(16) mane-ya hora-ge
house-(gen) exterior-(dat)
"outside the house"

Other languages that exemplify this pattern are cited by Givón, and include Fula, Ewe and Ijo.

An interesting example of a language that actually does not have any marker for genitive in adpositional phrases, but where the corresponding relation is implied, is Papago (Mason 1950). Papago exhibits a pronominal/nominal suffix -ga, which marks possession as in (17),

(17)i. n-'o'be-'ga
I-enemy-(poss) we-owl -(poss)
"my enemy"
ii. ha-e tcu'k-u'de-'ga
they- the owl - (poss)
"their owl"

but which has a restriction on its use: it cannot be affixed to nouns denoting body parts, kinship terms or manufactured objects, where the sense of possession is more or less inherent or natural. In other words, -ga marks alienable possession. Since body parts are very frequently treated in discourse as being possessed inalienably (Hopper & Thompson, 1984), and since, as we will see later on, it is body part terms that are very frequently used as adpositions, there is good reason for the lack of a marker for genitive/possessive, as is shown in (18)i. and ii., since the notion is inherent to the meaning of the nouns.
(18)i. ki· -ba•c0  
   house-breast  
   "in front of the house"  
ii. 'a•c•ki -'koA  
   arroyo-forehead  
   "at the edge of the arroyo"  

**The adverb > adposition sequence**  

As I mentioned earlier, the adverbial and adpositional uses emerge almost simultaneously. I consider as adverbs expressions that relate some entity to some given place by pointing at it deictically or anaphorically, and as adpositions, expressions that relate some entity to some place which is explicitly mentioned. In most languages I studied, the majority of locative adpositions can be used as adverbs. In some languages adverbs and adpositions have the same form. Compare the Abkhaz examples in (19).

(19)i. a-x•c•-k0•a  
   a-yənə  
   a-yənə+c'q•a  
   ya-x•mər-we-yt'  
   the-child-(pl) the-house (3sPro)-house+(loc) they-play-(dyn)(fin)  
   "The children are playing inside the house"  
ii. a-x•c•-k0•a  
   a-yənə+c'q•a  
   ya-x•mər-we-yt'  
   the-child-(pl) (3spro)-house+(loc) they-play-(dyn)(fin)  
   "The children are playing inside"  

In others, however, the adpositions seem to have an additional locative marker, not present in the adverb. Compare, for instance, the Tigre forms below (Leslau, 1945):

<table>
<thead>
<tr>
<th>Adverb</th>
<th>Preposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>la•al &quot;upwards&quot;</td>
<td>mən la•al &quot;above, over&quot;</td>
</tr>
<tr>
<td>taħat &quot;downwards&quot;</td>
<td>mən taħat &quot;under, below&quot;</td>
</tr>
</tbody>
</table>

The strongest evidence for the development of adpositions from adverbs comes from historical data on languages such as English and Greek. According to the OED, in English, across, a compound of the preposition a "in" and the noun cross, first appears in the late 15th century as an adverb meaning "in the shape of a cross, crossing each other". Only later, in the following century, does it occur as a preposition with motion verbs meaning "from side to side of". behind has had a similar history: it is a compound of the OE preposition bi/be plus the adverb hindan (hind "back"+adv.suff.-ana). In the 10th century it functions as an adverb with the meaning "in the place whence those to whom the reference is made have departed", and only later, in the 13th century, it acquires a prepositional function and means "in a place left by".

In Modern Greek, all of the compound prepositions are formed with an adverb, which is or comes from an Ancient Greek adverb, plus one of the prepositions apo, or s(e), which are very general in their use covering many relational notions (Andriotis 1983). Some examples are given below.

<table>
<thead>
<tr>
<th>AG Adverb</th>
<th>MG Preposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>andikri &quot;opposite&quot;</td>
<td>andikri s' &quot;opposite&quot;</td>
</tr>
<tr>
<td>péran &quot;yonder&quot;</td>
<td>péra s' &quot;over at&quot;</td>
</tr>
<tr>
<td>hamáj &quot;on the ground&quot;</td>
<td>hámo s' &quot;under&quot;</td>
</tr>
<tr>
<td>epáno &quot;on top&quot;</td>
<td>páno s' &quot;on top of&quot;</td>
</tr>
<tr>
<td>opisó &quot;in back&quot;</td>
<td>piso apo &quot;in back of&quot;</td>
</tr>
<tr>
<td>ékso &quot;out&quot;</td>
<td>ékso apo &quot;out of&quot;</td>
</tr>
</tbody>
</table>
Additional evidence comes from Melanesian Pidgin English (Hall 1943), where most prepositions are complex, formed by an adverb plus a very general preposition $\text{lan}$ which expresses location.

<table>
<thead>
<tr>
<th>adverb</th>
<th>preposition</th>
</tr>
</thead>
<tbody>
<tr>
<td>antap</td>
<td>antap $\text{lan}$</td>
</tr>
<tr>
<td>arade</td>
<td>arade $\text{lan}$</td>
</tr>
<tr>
<td>$\omega$s$n$it</td>
<td>$\omega$s$n$it $\text{lan}$</td>
</tr>
<tr>
<td>awtsajt</td>
<td>awtsajt $\text{lan}$</td>
</tr>
</tbody>
</table>

The genitive > adverb sequence

The only evidence for the claim that the genitive construction stage precedes the adverb stage would be cases in which an adverb would bear a marker of genitive construction. This kind of evidence can be found in head-marking languages which have a genitive marker present in relational expressions. In Abkhaz, indeed, such a marker exists as is shown in (20).

(20) $a-x\omega c\bar{\delta}'-k\bar{\alpha}$ $a-y\omega n\bar{\alpha}+c'q'a$ $y\omega-x\omega m\bar{\delta}r-\bar{\omega}t'$
the-child-(pl) (3spro)-house+(loc) they-play-(dyn)(fin)
"The children are playing inside"

The adposition > bound affix sequence

Evidence for the adposition > bound affix sequence comes from data showing adpositions becoming bound affixes to verbs. In Abkhaz the postposition $a-c\bar{\delta}$ "at", as in (1), appears as a preverb with various meanings: a locative meaning for things on the face in (21), as a progressive marker in (22), and with a metaphorical meaning in (23).

(21) $a-pac'-\bar{\alpha}$ ($\bar{\delta}$-$y\omega$+$c'\bar{\delta}$ $-w+p'$
the-moustache (it)his+face-on-(stat)
"He has a moustache"

(22) $a-x\omega m\bar{\delta}r-ra$ $d-a+c\bar{\delta}-w+p'$
the-play-(masd) he-it+in-(stat)
"He is playing"

(23) $a\bar{\delta}\omega a \bar{\alpha}-m-\bar{\delta}a-ba- t\bar{\delta}'$ ($\bar{\delta}$-$l+c\bar{\delta}$ $-w+p'$
word saying the-not-see-(gerund)(it)her+mouth-in-(stat)
"She is a fine/eloquent speaker"

In Chechen, a NE Caucasian language, the postposition $\bar{\delta}u$ "in" as in (24), has started 'migrating' towards the verb, as in (25), the latter being the preferred structure (Nichols, 1986:84).

(24) $\bar{\delta}a-j-n\bar{\alpha}$ $\bar{\delta}u$ $\bar{\delta}eikar$ tasan
tea-(dat) in sugar(nom) sprinkle(inf.)
"Put sugar in tea"

(25) $\bar{\delta}eikar$ $\bar{\delta}a-j-n\bar{\alpha}$ $\bar{\delta}u$-tasan
sugar(nom) tea-(dat) in-sprinkle(inf.)
"Put sugar in tea"

Furthermore, from the history of English we can see the development of the Old English preposition $\text{bi}$/be to a prefix, in forms like $\text{behind, before, below, etc.}$ According to the OED, in Old English the preposition had two forms: the accented $\text{be}$ and
the unaccented bi/be, and they were used as adverbal particles of place. In Middle English, the accented form developed into the preposition bi/by, while the unaccented form be- was retained only as a prefix on verbs and nouns, as it is today.

According to the theory presented earlier, the bound material should be reduced in form. Although this is hardly the case in the examples we just saw (except the English one) in languages with case inflections this is true. Case inflections are usually monosyllabic and so reduced that they bear no similarity to a lexical form. Such is the case with the Turkish locative case inflection and its allomorphs (Lewis 1967).

- de ev-de kaldı "he has stayed in the house"
- da tarla-da kaldı "he has stayed in the field"
- ta kitap-ta "in the book"
- tte serha-tte "in the frontier"

THE EVOLUTION OF THE MEANING OF LOCATIVE EXPRESSIONS

The stages of the evolution of locative expressions that were presented do not make much sense unless there is some motivation for the succession of each stage. I propose that the motivation for morphological/syntactic change is the change in meaning that the forms undergo following a predictable path as is represented by Figure 2.

FIGURE 2: The evolution of the meaning of locative expressions

nominal source

object
abstraction
metaphorical extension

part of object
inherent
perspectival

location in contact w/ part of object
inherent
perspectival

location near part of object
inherent
perspectival

According to Figure 2, a noun which refers to a concrete entity starts being used in contexts where it denotes a part of an object, WHICH particular part is more or less predictable from the original semantics (see below). In a later stage, it denotes a location in contact with a part of an object, and only after that can it denote a location near the part of an object. At this point the noun can be used in semantic domains other than spatial location, to denote other grammatical relations, to introduce embedded clauses and to convey metaphorical relations. In the last three stages, whenever an assymetrical axis of orientation, such as the front-back or the up-down axes, is required for the interpretation of locative notions, the inherent interpretation, which takes into consideration the configuration of the object
used as the reference frame, comes before the perspectival, which depends on the viewer's position with respect to that object.

An example from the development of the English locative expression in front of will illustrate the various stages. According to the OED, the noun front was borrowed from Latin in the 13th century with the meaning "forehead". A century later it was found used in a possessive construction the front of to denote the foremost part of objects, for instance in buildings where the inherent front is the entrance side, and later on to denote any side of the building depending on the viewer's perspective. Not until the 17th century is it found in a locative expression (in the front of) to denote a location in contact with the front part of an object. And only later, in the 18th century, was it used to specify a location near the front part of an object, finally acquiring the meaning of its present form in front of.

Assuming the continuum in Figure 2, I argue that it is not odd that nouns referring to concrete entities become markers of locative relations, if we consider the kinds of nouns that undergo this development. Three classes of nouns can be distinguished according to their referents: the BODY-PART class, which includes nouns that refer to the head, mouth, back, breast, etc., the OBJECT-PART class, which includes nouns meaning front, top, edge, middle, etc., and the ENVIRONMENTAL LANDMARK class, which includes nouns referring to things such as sky, canyon, field, house, etc. (See Appendix B for a more detailed list). A common property of all these nouns is that they can have a relational meaning. While this is obvious for object-part nouns like front, inside, top, which require some reference frame for their interpretation, it is not so obvious for body-part and environmental nouns. Body-part nouns, however, as Hopper & Thompson (1984) have suggested, very frequently appear in discourse as non-individuating, non-manipulable entities, as a part of a whole, carrying a relational notion in their inherent semantics. As for the environmental landmarks, their position with respect to other environmental elements assures the relational character of the nouns that describe them. Thus, this particular property of the nouns, which allows them to denote not only an object but also the relative position of the object, makes them appropriate ancestors of locative expressions.

Furthermore, the evolution of such nouns into locatives seems a natural consequence of their character. If the entities denoted by the nouns are most of the time perceived as being parts of wholes, then the genitive markers and constructions in locative expressions are nothing more than the reflection of the part-whole relations. Even the extension to denote a similar part of any object and the metaphorical use to indicate a location in contact or non-contact with that part of the object, seem to be natural consequences of the relational character of the nouns. Once it has reached the stage where it denotes some location, the form has lost its concreteness, now expressing a relation which
is abstract. This particular property makes it appropriate for appearing in many contexts in discourse where location is expressed but also where other semantic domains, such as time, are expressed. Its frequency of use over many contexts strips it of its specificities thus leaving it with only a very general meaning. It is at this point that the form has become grammatical, and that phonological erosion and allomorphy become apparent.

An interesting parallel to the evolution of the meaning of locative expressions is provided by the literature on the acquisition of locative expressions. Studies on different languages done by Kuczaj & Maratsos (1975), Johnston & Slobin (1979), Tanz (1980), Johnston (1981,1984) and others show that children exhibit parallel cognitive and linguistic development in the comprehension and production of locative expressions which is amazingly similar to the evolution of meaning of such expressions proposed here. Johnston (1981) isolates some stages of cognitive development according to which the 15-18 months olds conceive of objects as having an independent and relatively permanent existence. When they reach two years of age, they start to construct relationships among objects that are the natural consequences of their inherent properties. During the 30-42 months period they start constructing relationships that do not depend on specific object properties, but rather take into consideration frames of reference and landmarks. At first these relationships involve only whole objects which are likely to be in actual contact. Later on, children can make use of object parts as landmarks and understand that objects might be related even if they do not touch. English children follow a similar linguistic development and the meanings they express with spatial prepositions emerge in an order that is PARALLEL to the emergence of non-verbal locational concepts. The order of acquisition suggested by Johnston (1984) is:

on - in - under - next to - back object invisible - back inherent

front featured - inherent - back deictic - front visible

front deictic.

Everything I have mentioned above suggests that the comparison of languages, if it is to bring coherent results has to take into consideration a diachronic dimension. Languages are similar in the way they evolve because the paths of change are universal and are governed not only by linguistic principles but by more general cognitive principles. Furthermore, the postulation of semantic domains as islands of linguistic activity allows for a comparison of languages on a more general basis, without requiring the artificial classifications traditionally imposed on linguistic forms.
NOTES
1. At first sight, manufactured objects seem not to fit with the body parts and kinship terms in exemplifying inalienable possession. If, however, we consider inalienable possession as a graded notion, then the three categories of entities are similar: body parts, due to their natural attachment to the body, are the best examples of inalienable entities; kinship terms express genetic/social relations and are second best examples, while manufactured objects are even more distant from inalienable possession, but still within the domain of their creator, as if they were carrying his "signature", being his product.

APPENDIX A

ABKHAZ (Hewitt, 1979) [NW Caucasian]

a-ç'ö "at" < a-ç'ö "mouth"
'âpxa "in front of" < âpxa "front"
a-z-aa-ay-g' a-ra "near to" < a-g'ö "heart"
a-ye-nò-c'q'a "inside" < a-yò-nò "house"
à-šta+x' "behind" < à-šta "trace, footprint"
a-xà+x' "above/over" < a-xà "head"
à-k' co a "on" < à-k' co a "top"
à-vara "beside" < à-vara "side, flank"

preverbs
-çra- "inside" < a-ç'ra "stomach"
-x'da- "inside" < à-x'da "neck"
-ša- "on" < à-šap'o "foot"

VAI (Welmers, 1976) [Mande, Niger-Congo]

mà "on" < mà "top surface"
fe "along" < fe "edge"
tè "between" < tè "half"
ì "in" < ì "inside"
kpàâl'ò "behind" < à kpâa "his buttocks"
kà'ò "under" < à kà'ò "his back, area behind him, area under him"

jàa "in front of" < àjà "his eyes"

PAPAGO (Mason, 1950) [Uto-Aztecan]

-e'da "in" < 'e'da "interior < 'e'eda "blood"
-ba'cO "in front of" < bacO "breast"
-koà "at the edge of" < koà "forehead"
-ca'gi'D "between" < ca'gi'D "canyon"
-huhuta "on the side of" < huhuta "heart"

TIGRE (Leslau, 1945) [Semitic]

'asår "after" < 'atr, 'asr "trace" (Semitic & Ethiopic rt.)
haqo "after" < Arab. haqw, Geez haqwe "loins, inferior part"
('òt) ra'as "on, above" < ra'as "head"
('òt) sàmùt "at the side of" < Geez sàmù "flank", Amhar. sàm "flank"

BURIAT (Poppe, 1960) [Ural-Altaic]

xažuu-da "beside" < xažuu "side"
MELANESIAN PIDGIN ENGLISH (Hall, 1943)

arade/arare lɔŋ "along/beside" < arade/arare "edge"
insajd lɔŋ "inside of" < insajd "inside"

YAGARIA (Renck, 1975) [Central New Guinea]

hitagipi' "underneath" < hita"bed" + gina"opening" + pi"in"
agovetulo "on top of" < agovetu "top"

VIETNAMESE (Thompson, 1965) [Mon-Khmer, Austro-Asiatic]

trong "inside" < trong "inside"
trước "in front of" < trước "front"
trên "above, on top of" < trên "top"

KANNADA (McCormack, 1966) [Dravidian]

mēle "on top of" < mēl "top"
horag(e) "outside" < hora "exterior"
(v)olag(e) "inside" < (v)ola "interior"

ENGLISH [Indoeuropean]

beside < be + side
aside < a + side
behind < be + hindan (hind "back" + adv.suf. anna)
in back of < back
in front of < front
on top of < top

APPENDIX B: NOUNS THAT DEVELOP INTO ADPOSITIONS

BODY-PART NOUNS: head, heart, anus, mouth, face, neck, ear, forehead, back, loins, rib, body, breast, chest, blood, foot, waist, belly, stomach.

OBJECT-PART NOUNS: front, edge, top, back, bottom, side, flank, end, middle, entrance, circumference, outside, interior, exterior, upper space, space in between.

ENVIRONMENTAL LANDMARKS: field, ground, canyon, sky, house.

REFERENCES


ACKNOWLEDGEMENTS
I would like to thank Bill Pagliuca for his valuable comments on this paper, and Joan Bybee for earlier discussions on this topic, and both of them for their support and patience.