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# The Postposition *bok* in the Arara language

Shirley Souza

*In languages, the category of adpositions typically comprises a small class of morphemes that serve to locate one entity, the 'trajector', with reference to another entity, the 'landmark' within three-dimensional space. Adpositions tend to be highly polysemous. In this paper I consider the postposition **bok** in the Arara language. This postposition has a variety of disparate usages. My goal is to show how the meanings illustrated by these usages are related within a network.*

## Introduction

The Arara people live in the left margin of the Iriri River, the main tributary of the Xingu River, in the Amazon Rain Forest, in the state of Para, Brazil. Outsiders call them by the name Arara (Macaw) but they call themselves Ugoroŋmo 'you and me, plural'. For the purposes of this paper, I refer to their language as the Ugoroŋmo language. This language belongs to the Cariban family and is spoken by less than 300 people.

## Postpositions

Postpositions are one subset of adpositions and typically consist of a small class of items in the grammar of a language (Langacker 1992:287). Taylor (1988:303) says that postpositions "serve to locate one entity (the trajector, or TR) with reference to another entity (the landmark, or LM) within three-dimensional space". In other words, postpositions profile atemporal relations between some trajector and the landmark that anchors it within a particular domain (Langacker 1999:35). As is well documented from many languages, postpositions are highly polysemous (cf. Bennett 1975; Brugman 1989; Hawkins 1984; Cuyckens 1996; Dirven 1993). They often display both grammaticalized and metaphoric usages and, even in their grammaticalized usages, they are still meaningful (Langacker 1992:307).

The Ugoroŋmo language has several postpositions, such as: **na** 'heading back down from an upwards path', **bu** 'by', **toite** 'from', **umbap** 'above', **wo** 'to', **wyna** 'to', **podap** 'inside', **womno** 'underneath', **ge** 'with', **ak** 'with', **aktji** 'into', and **bok** 'on'.

For the purpose of this paper I consider only the postposition **bok**. This postposition has a variety of disparate usages as shown below in (1) – (5). These include spatial usages and temporal ones, as well as some causal and metaphorical usages. Other usages present an oblique nominal as a central clause participant. My goal is to show how the meanings illustrated by these usages are related within a network.

## The postposition *bok*

As sentences (1) – (5) illustrate, **bok** has many usages reflecting a wide range of meaning.

(1) i-du-n-be                      oringo **bok**  
3-jealousy-Poss-Cop    pan    of  
'He is jealous of the pan.'

(2) iyi    ø    **bok**  
tree Cop    in  
'It/he/she is in the tree.'

(3) marapa     **bok**  
       oar         with  
       'He is making a (canoe) oar.'

(4) o-mum-tji     **bok** ty-ej  
       2-head-Poss on   3-put  
       'Put it on your head!'

(5) t-orebu-n     **boŋ**<sup>1</sup>-ne  
       3-heart-Poss on-only  
       'Only his/her heart is beating.'

**Bok** may designate the source of the feeling of jealousy, as in (1), or physical location, such as the juncture of a branch and tree trunk, as illustrated by (2). **Bok** also may refer to a specific function. Consider, for example, its usage when paired with **marapa** to indicate an action of fabricating a discrete physical object (3). This can be construed as a concrete causative usage. In its usages meaning 'on', there is an intrinsic, minimal vertical path that relates the landmark of **bok** to its trajector (4). **Bok** also has a metaphorical usage. The sense of 'only (-ne) the heart is beating' in example (5) means that the person is dying.

Taylor (1988) notes that there are six parameters that can be relevant to the semantic analysis of prepositions. These relate to both the nature of the landmark (LM) and that of the trajector (TR). They include the following: size, shape, the contact between landmark and trajector, the orientation between TR and LM, the relation between them (static or dynamic), and the role of an observer. I account for the meanings of the postposition **bok** largely in terms of these six parameters.

To begin, the landmarks for **bok** in sentences (1) – (5) display the following characteristics: **oriŋgo** 'pan' in (1) is construed as a physical object, as is **marapa** 'oar' in sentence (3). In sentence (2), **iyi** 'tree' is construed as a complex surface and, in (4), **omumtji** 'your head' is the name of a body part.

The contact relations between the TR and the LM for these sentences are as follows: in sentence (1) there is no physical contact between the landmark (**oriŋgo** 'pan',) and the clausal trajector **i-** of **idunbe** 'he is jealous', and, in (5), **erebun** 'his heart' is intrinsic to the trajector's body, i.e. the metaphor is metonymically based. In contrast, there is physical contact between the landmarks **iyi** 'tree', **marapa** 'oar', and **omumtji** 'your head' and the corresponding trajectors in sentences (2) – (4). Note that the TR is not mentioned overtly in the clauses of (2) and (3). The speaker deduces from the context that the TR is: it/he and he/it respectively.

The nature of the TR and the LM varies along several parameters. For example, in sentence (2), the TR is smaller than the LM. In this case, the clausal trajector is located within the physical expanse of the tree. In both sentences (2) and (4), the TR is supported by the LM. Finally, in sentence (2), the landmark of **bok** is overtly symbolized, but there is no overt linguistic material that corresponds to the clausal trajector.

We can now turn to additional examples. In sentences (6) and (7), **bok** means 'about/' 'because of'.

(6) karei                    i-guri-de-ly            **i-bok**  
       non-indigenous 3-angry-Vblzr-RP 3-caus  
       'The non-indigenous became angry about that.'

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<sup>1</sup> There is a phonological rule which says: Any voiceless dorsal obstruent becomes a nasal consonant before a nasal consonant. The point of articulation of the first segment is preserved.

- (7) t-otji-t                    **pok**    kuri-m-be  
       3Rfl-house-Poss    caus    angry-?-Cop  
       'He became angry because of his own house.'

In these causative usages, the postpositional phrase designates the source of bad feelings. The domain is that of emotions. The TR *i-* of (**iguridely**, **kurimbe**) and the LM (**i-** 'that', **totjit** 'his own house') are not in physical contact, but they are in decided mental contact. Conceptually, the bad feelings arise from within the the consciousness of the sentient clausal trajector. In short, the postpositional phrases **i-bok** and **t-otji-t bok** spell out the reason for the anger described in these two sentences. Both the TR and LM are within the perceptual field of the observer and the Trajector of the clause establishes mental contact with some perceived troublesome situation evoked by the postpositional phrase.

In sentence (8), **bok** is expressing the reason for fighting between two people.

- (8) pylepte **bok**    od-aby-nangry-Nmo  
       knife    of    Refl-fight-Cont-Pl  
       'They are fighting because of the knife.'  
       'They are fighting over the knife.'

The clausal TR is a multiplex human congregate, encoded as the plural suffix **-ŋmo** in the verb **odabynangryŋmo** 'they are fighting' and the LM of **bok** is (**pylepte** 'knife') Again the full set of interactions within a global setting are within the perceptual field of the observer. There may or may not be any contact between the multiplex Trajector and the Landmark. The postpositional phrase **pylepte bok** designates the reason for the fight.

In sentence (9), the usage of **bok** appears, at first sight, to be basically locational.

- (9) moŋu                    **bok**  
       milk/breast    at  
       '(Baby) is nursing.'

The highest-level domain is that of mothering a child. The lower level domain is that of the human body. Although the clausal TR (baby) is not mentioned overtly, in the overall conceptualization, based on my encyclopedic knowledge of the situation, I can say the following: there is physical contact between the TR (the baby) and the LM of **bok** (**moŋu** 'milk/breast'). Although **moŋu** means 'milk' or 'breast', its meaning gets extended metonymically to designate 'mother'. The complex conceptualization of nursing motivates the scenario that is evoked by (9). The TR (baby) is smaller than LM (mother). Thus, the clausal TR is supported by the LM. These relationships are depicted diagrammatically in Figure 1.

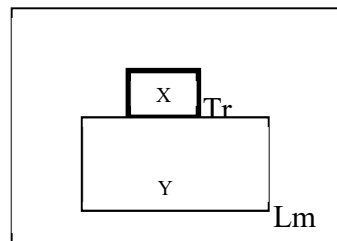


Figure 1. Baby nursing.

In sentence (10), **bok** again seems to express a locative usage.

- (10) tawe    **bok** oreme-tke-ly        karei  
 monkey at miss.shoot-Rep-RP non-indigenous  
 'The non-indigenous missed many shots at the monkey.'

The domain evoked in (10) is that of hunting. As the meaning of the entire clause indicates, the clausal TR (the non-indigenous person) was supposed to have used an instrument to make contact with the LM of the postpositional phrase (monkey) but the TR did not reach his goal, i.e. he missed many shots. The TR is larger than the LM. In (10), **bok** presents its object as a main clause participant, thus this usage signals much more than a simple location.

In sentences (11), and (12) the usage is locative.

- (11) y-**bog**-ebara  
 1-on-Neg  
 'It is not with (on) me.'
- (12) mubin        **bok** lon-ba        pygyrimam-be  
 little.brother at    Emp-Emp    dirty-Cop  
 'That (cloth) that is on my little brother is dirty.'

The domain of instantiation for the usages of **bok** illustrated in (11) and (12) is that of the human body. **Bok** signals spatial proximity in (11). The use of the Negative places the unmentioned clausal trajector outside the immediate neighborhood of the landmark of **bok**. In sentence (12), as in both (9) and (11), the clausal trajector is not overtly mentioned. It is implicit and refers to cloth. Although the trajector is not mentioned precisely, in the complex conceptualization that motivates this usage, there is contact between it and the landmark (y- 'me', *mubin* 'little brother'). The TR is smaller than the LM and is supported by it. These relationships are represented pictorially in Figure 2.

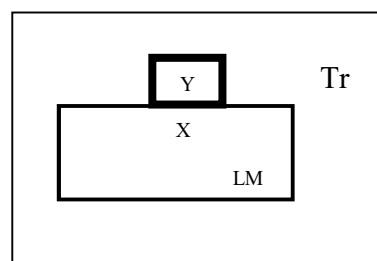


Figure 2. Dirty cloth on brother

In sentence (13), the usage of **bok** is locative.

- (13) potpyri e(t)-tadam-y-n-ba jeme y-**bok** kogonje  
 wood.tick pull.out-Rep-Ev-RP-Emp mother 1-on yesterday  
 'My mother pulled out many wood ticks from me yesterday.'

The domain is again that of the human body. The postpositional phrase **y-bok** specifies the global setting for the event being described. Within this setting, there is physical contact between the clausal Landmark (**potpyri** 'wood tick') and the postpositional LM (**y-** 'me'); part of the individual clausal landmark is inside the skin of the landmark of **bok**. The clausal landmark is smaller than the postpositional landmark and is supported by the LM, as depicted in Figure 3.

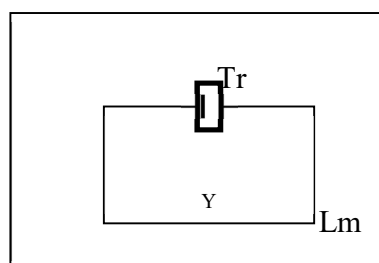


Figure 3. Pulling wood ticks off me

In sentence (14), the meaning of **bok** is the simple association of two entities in three-dimensional locative space.

- (14) ø-emia-ry **bok**  
 3-hand-Poss on  
 'It is on his/her hand.'

As in the previous three examples, the domain is that of the human body. The clausal TR (that is not specified) is in contact with the LM (**emiary** 'his hand'). The TR is supported by the LM.

In sentence (15), the usage is locative.

- (15) o-pu-n j-etji-t, o-**bok** ka-k  
 2-foot-Poss Rel-house/covering-Poss 2-on Q-3  
 'Is your slipper on your foot?'

The domain is again that of the human body. The observer here is considering the physical contact between the trajector of **bok** (*opun jetjit* 'your slipper') and the landmark of **bok** (*o-* 'you'). The trajector of **bok** is supported by its landmark and the physical extension of the bodypart in focus includes sufficient area to subsume the physical expanse of the slipper. For all practical purposes, we can say that the region of the "active zone" of the 2<sup>nd</sup> person possessor and the size of the trajector of **bok** are the same. The second person singular object of the postposition is paired with the second person singular possessor prefix on the nominal root **pu** 'foot'. In short, **o-pu-n** elaborates in greater detail the overt landmark of the postposition. The size, contact and support aspects of this scenario are graphed in Figure 4.

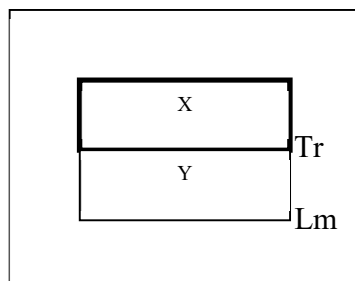


Figure 4. Slipper on a foot

In sentence (16), and (17) the usage is locative.

(16) *oroŋ bok*  
ground on  
'It/he/she is on the ground.'

(17) *omori ø-epi-ø bok kumyk uro*  
tree 3-bark-Poss on DP I  
'I stayed on the tree bark.'

The location described in (16) is an exterior region (cf. Sovorou 1993:12-20). Although the clausal trajector is not overtly specified in (16) there is contact between it and that exterior region (*oroŋ* 'ground'). This situation evokes an intrinsic vertical orientation to the spatial relationship between the implicit clausal trajectory and the postpositional landmark. Another exterior region is illustrated in (17). Here both the clausal trajector and the landmark of *bok* are specifically mentioned (*uro* 'I' and *omori epi* 'tree bark'). As in (16), there is an intrinsic vertical orientation to the spatial relationship holding between the clausal trajectory and the landmark of *bok*. In both (16) and (17), the Trajector is supported by the Landmark, and is smaller than it, i.e. the postpositional phrase specifies the global setting within which the spatial relationship ensues.

In sentence (18), the usage of *bok* is grounded in the speaker's view of things.

(18) *koko i-boŋ-no-tpyn*  
1.uncle 3-prior.to-Nom-Nom.P  
'My uncle was born before him.'

This usage takes us into the domain of time and the viewer's vantage point on the time line finds him looking backwards against the grain of the natural flow of time to a conceived reference point, from which he then establishes mental contact with an event located even earlier on that time line. The kind of contact that ensues between the TR (*koko* 'my uncle'), and the LM (*i* 'him') is a mental contact of the sort discussed by Langacker in his characterization of reference point constructions (Langacker 1999:171–174). In the case at hand, the reference point is the time when the landmark was born and the target is when 'my uncle' was born. This situation is presented diagrammatically in Figure 5.

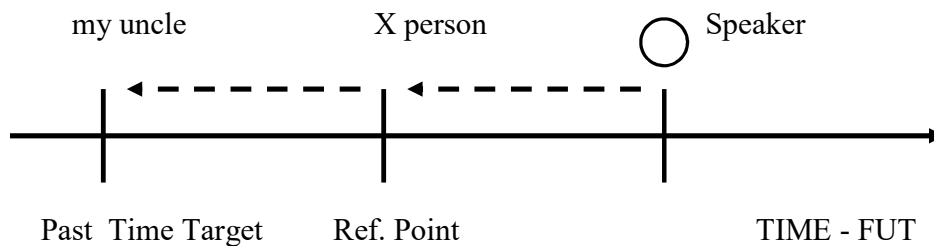


Figure 5

Figure 5 shows clearly that there is no physical contact between the TR and LM. The kind of contact that links the clausal trajector and landmark of **bok** is mental contact. The speaker is in the present talking about his uncle's birth that happened in the past. His reference point is the time of birth of another person. His uncle was born at a time before the birth of that reference point person.

In sentences (19) and (20) the usages of **bok** involve intrinsic contact between the Landmark of the postposition and the clausal trajector.

(19) toromo **bok** ka-k  
brazil.nut Q-3  
'Does he eat brazil nuts?'

(20) abat **pok** uro  
tapioc.cake I  
'I eat tapioc cake.'

In these usages, the domain of instantiation is that of gastronomy. The usage of **bok** with food implies contact at the mouth, i.e., the people are eating it. The LMs of **bok** (**toromo** 'brazil nut', **abat** 'tapioc cake') are both smaller than the clausal TRs (he, I). The TR (**uro** 'I') is more prominent than the LM. These two usages can be construed as presenting the eaten object as a main clausal participant, but it does so in a periphrastic construction.

In sentence (21), a second temporal usage of **bok** anchors something to a specific location on the time line.

(21) ody **bok** ydelon  
what? at today/now  
'What day is today?'

There is no contact between the clausal trajector (**ydelon** 'today/now') and the landmark of **bok** (**ody** 'what'). This is a static usage, but one whose conceptualization involves some complexity. This includes the idea of a time cycle that incorporates a set of like entities, as well as the conceptualization of an answer that evokes the choice of one entity from that set of temporal entities. The time cycle is that of the month and the contained entities are individual days placed in an ordered sequence from temporally first to temporally last.

In sentence (22), the injecting of serum almost makes this look like a reflexive usage.

(22) soro **bok** an moŋ-gy  
serum in Rht Aux-Imperf  
'Wasn't he taking serum (rhetorical)?'



Here the situation is similar to that described by (15). Although the person is taking serum, the focus is placed on the serum which is the landmark of **bok** and the person in view is the clausal TR. The contact between the trajector and the landmark is quite different from that invoked by (15). The taking in of the serum apparently comes via a needle with the subsequent result that the serum finds its way throughout the person's circulatory system. LM is smaller than TR. Again, the postpositional phrase presents its landmark as a central clausal participant via a periphrastic construction.

In sentences (23) and (24), the usages of **bok** imply disruption of locative contact.

(23) O-aŋde-ly murei **bok**  
 3-fall-RP chair from  
 'He fell down from the chair.'

(24) ody **bok** n-aŋde  
 what? from 3-fall  
 'Where did he fall down from?'

The domain of instantiation is that of 3-dimensional space. In both cases, a directional movement is inherent to the verb meaning 'to fall'. The starting point of the path taken by the unfortunate clausal trajector of (23) is signalled by the postpositional phrase **murei bok**. In (23) the clausal trajector (he) is construed as being initially supported by the LM (chair). The directionality implied by the verb imposes a spatial dislocation from that initial position and that dislocation initiates a vertically downward path. The clausal trajector is focal participant in this scenario. That trajectory may be of indefinite extension. Sentence (24) provides a second instance of a WH-word functioning as the underspecified landmark of **bok**.

In sentence (25), **bok** appears to signal the source (causative) of a feeling of fear.

(25) wano **bok** omoro y-uno  
 why? caus you 1-afraid  
 'Why are you afraid of me?'

The highest-level domain here is that of human social interactions. The more restricted domain is that of the emotions. In this usage, **bok** can be glossed as 'on X grounds'. There is no intrinsic physical contact between the clausal TR (y- 'me') and the LM of **bok** (grounds of the fear designated by the main verb **uno**). Conceptually, however, there is a clear idea of impending danger and the mental contact that the addressee is maintaining with that percept. There is also mental contact between the speaker and his/her perception of something in the demeanor of the addressee that clues him in to the state of mind of the addressee.

Sentence (26) presents us with an additional wrinkle in the locative usages of **bok**.

(26) oremi O-egu-n **bok** kumyk tjimna  
 fish 3-liquid-Poss by DP 1e  
 'We lived on the coulee.'

To begin, the name of the fish is the same as the name of the coulee. This is probably a metonymy since both the fish and the coulee are part of the same Idealized Cognitive Model =ICM (Lakoff 1987:77). The Landmark postpositional phrase (**oremi egun** 'the coulee') signals the global setting for the distant past living situation of the Trajector (**tjimna** 'we (excl.)'). Thus, the usage of **bok** here is linked to an external region. There is no current physical contact or containment between the clausal trajector and the Landmark, yet there is certainly a conceptualization of a previous temporal span in which there was.

In sentence (27), **bok** evokes an activity that is being realized at a physical location.

- (27) *tapeda bok*  
 paper on  
 'He/she is studying.'

This location is an exterior region that is construed as a surface. This is the global setting for an activity. A specific activity is evoked by encyclopedic knowledge for one purpose for which paper is used. The LM of **bok** is smaller (*tapeda* 'paper') than clausal TR (it is implicit, he/she). The implied clausal TR is viewed as making perceptual contact with the LM of **bok**, and subsequently making mental contact with the contents of what is written on the paper.

## Conclusions

A careful consideration of the usages of Ugoroꞗmo **bok** shows that the basically stative relations that it profiles reflect in various ways the characteristics cited by Taylor (1988) that are commonly associated with adpositions. Among the relationships between the two focused entities evoked by **bok**, we have noted the following: with respect to size of the clausal trajector *vis à vis* the Landmark of **bok**, both TR and LM may either be the same size or one may be larger than the other. Size goes both ways. In terms of prominence, in Langacker's model, Trajectors are more highly focused than Landmarks. What obscures this in several of the Ugoroꞗmo examples is that they are sentence fragments and do not have an overt clause and clausal trajector with them. Another factor is that there may or may not be any physical contact between the clausal trajector and the landmark of **bok**. Usages of **bok** that display no physical contact between the two focused entities, nonetheless often show that there is mental contact between the clausal trajector and the landmark of **bok**. Containment of the clausal trajector by the landmark of **bok** is clearly relevant to several of these usages. As a special case of the trajector being inside the landmark region, an entire postpositional phrase may specify the global setting for the event being described by the whole sentence.

Some of the examples we have seen show that the stative relationship between the clausal trajector and the landmark of **bok** is one of physical support. Conceptually speaking, this intrinsically involves a vertical orientation of the trajector *vis à vis* the landmark of **bok** as well as a force dynamics effect, i.e. the force of gravity. The vertical path implicit in this situation may well be minimal or defective, but it is implied by the usage of **bok** glossed as 'on'. In short, although the positions vertical or horizontal are not crucial to many usages of this postposition, they are definitely intrinsic to a significant number of particular usages of **bok**.

Some of the extended usages of **bok** appear to clearly evoke a reference point model as described in Langacker (1999, ch. 6). In example 18, both the speaker's vantage point and his reference point is in the domain of time. The speaker uses that reference point to locate the primary focal participant at an earlier point in time.

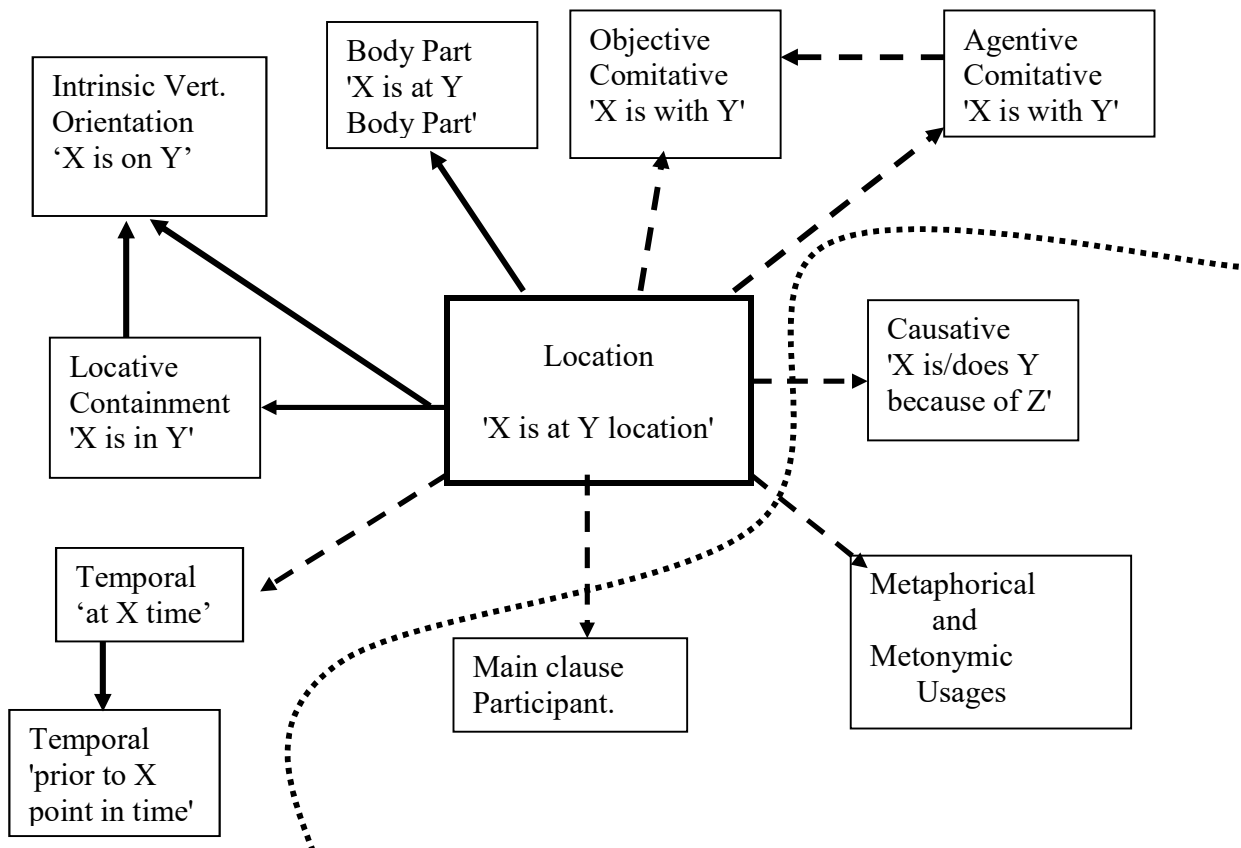
As is common with adpositions, we have seen several instances in which **bok** presents its landmark as a main clausal participant via a periphrastic construction, i.e. sentences (10), (19), (20) and (22). In addition, we have observed one instance of a causative usage of **bok**, i.e. sentence (25). In several cases, the postpositional phrase with **bok** signals the global setting for the entire action or scenario that the sentence describes, e.g (13), (16), (17), (26) and (27).

In terms of absolute position within 3-dimensional space, the locative usages of **bok** show that its landmark may be located in different positions *vis à vis* its trajector. A salient characteristic of the semantics of this postposition is the presence or absence of contact between its trajector and landmark when the usages are not metaphorical, emotional, or temporal.

In terms of dynamicity, the relation between the trajector and **bok** is often static and locational. Nonetheless, there are apparently two ways of bringing dynamicity into the picture. For one, in several cases, **bok** presents its trajector as a central clause participant whose role may be that of a direct object or

patient. A second way is by the choice of a prototypical motion verb, as illustrated by examples (23), and (24). However, in these examples the motion is related to the verb 'fall' and the postpositional phrase signals the starting point of the path taken by the moving entity.

Another salient property of **bok**, again typical of adpositions is its polysemy. It displays many different meanings in its various usages. These meanings can be modelled as a network.

Figure 6: Network of meanings of *bok*

Based on an analysis of the meanings of the examples illustrating usages of the postposition **bok** above, I propose a network of its meanings as shown above. The prototypical meaning of the postposition **bok** is given in the bolded box in the middle of the network, that is, "location: 'X is at Y'", e.g. (16), and (17). Three other meanings in the network are linked directly to the prototypical meaning. One is the Body Part usage: 'X is at Y Body Part', e.g. (9), (11), (12), (13), (14), and (15). The second meaning in the network linked directly to the prototypical meaning is the Locative Containment 'X is in Y', e.g. (2). Both the prototypical meaning 'X is at Y location' and the Locative containment meaning sanction fully the usages of **bok** that mean 'X is on Y' (4), (16), (17), and (26). The other meanings in the network are generally extensions from the prototype and the locative containment usage. One extension is the 'Objective Comitative 'X is with Y'; this conventionally means that a person is making something, e.g. (3). The other extended meaning "Agentive Comitative 'X is with Y'", appears to have almost the same meaning as the Objective Comitative and means that a person is eating something, e.g. (19) and (20) or is

engaged in some habitual activity, e.g. (27). The other meaning linked to the prototypical meaning is the Temporal usage 'at X point in time', illustrated by sentence (21). This is an extension because it involves a shift of domain from the spatial to the temporal. It fully sanctions the conceptually more complex Prior Time usage illustrated by (18). Another extended meaning is the 'Causative usage 'X is Y because of Z'. This is quite complex conceptually and seems to reflect some kind of grammaticalization process or metonymy. These usages are related to the bad feelings caused by something, e.g. (1), (6), (7), and (8). Other usages illustrated by the data in this paper reflect metonymic and metaphorical motivations: for example, the metaphorical sense that if only the person's heart is beating, that means that he is dying, e.g. (5). Two metonymies are what motivates in part the usages of **bok** exemplified by (9) and (26). Finally, several of the usages of **bok** show that its landmark gets presented as a central clause participant in a periphrastic construction. Sometimes the central participant is subject, as in (5); in other cases it is either the direct object or patient, as evidenced by (10), (19), (20) and (22).

#### Abbreviations used for the Ugorongmo language examples

1	First person	Neg	Negative
2	Second person	Nom	Nominalizer
3	Third person	Nom.P	Nominalizer Past
3O	Third object	Pl	Plural
1e	First plural exclusive	Poss	Possession
Aux	Auxiliar	Q	Yes-No question particle
Cont	Continuative	Rel	Relativizer
Cop	Copula	Rep	Repetitive
DP	Distant Past	Rfl	Reflexive
Emp	Emphatic	Rht	Rhetorical particle
Ev	Epenthetic vowel	RP	Recent Past
Imp	Imperative	Vblzr	Verbalizer
Imperf	Imperfective		

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