

Lexical Resources in Wolof and English for Talking of Time in Terms of Space

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1. Introduction

This paper is a brief excursion into one area of the Wolof lexicon. (Wolof is an Atlantic language of the Niger-Congo family, spoken mostly in Senegal and The Gambia, West Africa, by about 8 to 9 million people). I use conceptual metaphor theory (Lakoff & Johnson 1980, 1999) to structure a description of how certain Wolof words are used to talk about temporal relations in terms of space and motion, in *motion metaphors of time*. The findings will be briefly compared with English. The major motion metaphors of time in Wolof are discussed, but no attempt is made to treat all of the words that are used in these metaphors. The purpose is to advance the study of the Wolof lexicon, and to look at patterns of semantic extension across two languages. This topic is interesting because metaphors that construe time in terms of space are productive and systematic, and they occur in a wide variety of languages (see for example Haspelmath 1997, Traugott 1975). Thus the current paper advances a well-established trend in the study of semantic extension, and contributes to the study of lexical semantics in African languages.

1.1. Conceptual Metaphor

It is common in many languages to talk about temporal relations in terms of spatial relations. Examples from English include sentences like *We are getting close to summer*, and *When we get farther down the road, we'll arrange to have a meeting*. In these examples, an experience of time is talked about as if it were an experience of motion: The location of the people who are experiencing motion corresponds to the present moment, and a location towards which they are moving corresponds to the future. An example from Wolof is given in (1) below.¹

¹ Following is a list of abbreviations used in this paper: I first person (etc.); AND andative; ANT anterior; ART article (usually indefinite); att. attested in use; AV altered valence; CAUS causative; COND conditional; DEF definite; DIST distal; EMPH emphasis; FOC focus; GEN genitive; IMPF imperfective; LOCPREP locative preposition; MID middle voice; NEG negation; NONSBjt non-subject; OBJ object; PD possessed; PFCT perfect; PL plural; PRSNTTV presentative; Q question marker; REL relativizer; SBJT subject; SFOC sentence focus; VC verbal complement (= the morpheme *a*, which marks a construction in which the following verb is a complement of the preceding one).

The following conventions pertain to the examples: In brackets at the end of the example, the source is given, including the identification of the speaker, usually by an initial. A lowercase *s* before the initial means that the speaker was from Saloum in rural Senegal; *d* means that the speaker was from Dakar, the capital of Senegal; *f* means that the speaker was a female. APS is Paap Alasaan Sow, who is my main consultant, and to whom I extend a special thank you. He is a native speaker of Wolof from northern Senegal who has also lived in the south and in the capital, and now lives in the USA. (He also speaks English and French). After a speaker's initial(s) I include a notation that allows me to find the example in my field notes where applicable. The word *constructed* is included under a gloss in cases where the example in question was constructed in elicitation. If the example was attested in spontaneous speech, that is indicated with the abbreviation *att*.

The Wolof data are transcribed in the official Senegalese system (see Fal et al. 1990). In the Senegalese system, letters have approximately their IPA values except for the following: *é* tense mid front vowel; *e* lax mid front vowel; *ë* high central vowel; *a* low central vowel; *à* longer low central vowel (before complex consonants); *ó*

- (1) Li ci gannaaw, xam nga paase nañ ko.
REL LOCPREP back know PFCT2 go.beyond PFCT1.PL 3OBJ

Léegi ñungi dem ci kanam.
now 1PL:PRSNTTV go LOCPREP front

‘That which is behind, you know we’ve passed it. Now we’re going ahead.’ [s MJ, Ba:109]

In example (1), the speaker is explaining his metaphorical orientation to temporal experience, with the past behind him and the future in front, in which he is metaphorically moving forward. This is the same metaphorical orientation indicated by the English data explained in the preceding paragraph, and also by the translation of (1).

These data are evidence for a conceptual correspondence between two kinds of experience. Technically, “kinds of experience” are characterized as a *frames*; that is, “specific unified frameworks of knowledge, or coherent schematizations of experience” (Fillmore 1985:223). The vocabulary in (1) comes from a frame in which a person moves relative to other entities. In this frame, as the person moves she *passes* other entities which are then *behind* her. Ordinarily, if she is moving in the direction she is facing, she can be said to be moving *ahead*. We will use the general term RELATIVE MOTION for this frame, in which an entity moves relative to other entities.² The frame that provides the vocabulary for a metaphorical expression is called the *source* frame.³ The frame that the expression is actually used to talk about is the *target* frame. In this case the target frame involves concepts such as PAST, PRESENT, and FUTURE. Let us call this frame EGO-CENTERED TIME. In the metaphor exemplified by (1), the *past* is talked about as if it were located *behind* ego, the *present* is talked about as if it were *ego’s location*, and the *future* is talked about as if it were *ahead* of ego. The term *ego* is used to designate the point of view of the person who is having an experience of past, present, or future; or the point of view from which a spatial scenario is construed. Ego is a *deictic center* (cf. Fillmore 1982). Source-frame concepts are said to *map onto* target-frame concepts. Data such as those in (1) are evidence for the set of *mappings* shown in Table 1 below. This set of mappings is known as Moving Ego metaphor (Boroditsky 2000; Clark 1973; Fillmore 1997; Lakoff & Johnson 1980, 1991). In the table, the arrow is read ‘maps onto’, and *co-location* means ‘location at the same place as’.

SOURCE FRAME

RELATIVE MOTION

TARGET FRAME

EGO-CENTERED TIME

Space ahead of ego	→	Ego’s future
Ego’s “here”	→	Ego’s “now”
Ego’s arrival at a place	→	Occurrence of a time
Co-location	→	Simultaneity
Space behind ego	→	Ego’s past
Change in degree of proximity	→	Change in degree of immediacy of the expected or remembered time

Table 1. The MOVING EGO metaphor (Clark 1973; cf. Moving Observer in Lakoff and Johnson 1999 Chapter 10; Núñez 1999; Núñez & Sweetser 2006; Sweetser 1988)

tense mid back rounded vowel; *o* lax mid back rounded vowel; *ñ* palatal nasal; *j* voiced palatal stop; *y* palatal approximant; *q* geminate [q]. In the case of long vowels, a single diacritic stands for the whole segment; e.g. *óó* = [o:]. Word-final stops are devoiced. Capital and lower case letters have the same value. (Wolof does not have lexical tone).

² The source-frame semantics of example (1) also involve concepts of body-based orientation which are being glossed over at this point. More detail on this issue and most of what is discussed in this paper can be found in Moore (2000).

³ In the theory of conceptual metaphor, a metaphor is normally considered to involve correspondences between *domains* rather than frames as I have it here. *Frame* and *domain* can be considered equivalent for the purposes of this paper (see Moore 2006).

If an expression is understood relative to mappings such as those in Table 1, it is termed a *metaphorical expression*, even though it may not sound metaphorical to ordinary speakers. The mappings themselves are a *conceptual metaphor* —a set of conceptual correspondences that allow people to use vocabulary from one frame to talk about another. The systematicity with which spatial vocabulary is used to talk about time is one kind of evidence that a conceptual phenomenon is involved. For example, a spatial experience in which something is ahead, we go past it, and then it is behind us maps consistently to temporal experience with the temporal semantics summarized in Table 1. The productivity of the vocabulary allowed in metaphorical expressions is another kind of evidence; e.g. we can talk about *moving forward into*, *moving ahead into*, *moving toward*, or *getting closer* to the future, all with the same meaning based on the spatial schema shared by the semantics of these expressions.

In addition to Moving Ego, the metaphors discussed in this paper are Moving Time, and SEQUENCE IS RELATIVE POSITION. (Metaphors are often stated in the format TARGET FRAME IS SOURCE FRAME.) In Moving Time, times metaphorically move relative to ego or some other reference point.⁴ An example of Moving Time is *Summer is gone and winter is coming* (Section 2.2). In SEQUENCE IS RELATIVE POSITION, times are metaphorically “located” relative to each other, but they do not “move” relative to each other, as in *Hours of eating and drinking followed the wedding ceremony* [c.f. FrameNet website: <http://framenet.icsi.berkeley.edu/>] (Section 2.3). (Note that if I *follow* you, I do not necessarily change position relative to you —I can stay behind you and maintain the same distance.) Section 3 is the conclusion.

We will see that most of the differences between Wolof and English have to do with word meanings rather than metaphor mappings. This is to be expected if the metaphors consist of conceptual correspondences that are not language or culture specific. We now turn to the Wolof data.

2. Metaphorical expressions in Wolof

2.1. Moving Ego

2.1.1. *Gannaaw* ‘back’; *paase* ‘go beyond’; *kanam* ‘face, front, ahead’

In this section we will see that Wolof and English are similar in some respects regarding the Moving Ego metaphor, and we will see a case in which they are different. Let us start with the source-frame vocabulary that appears in (1) above. The Wolof word *gannaaw* ‘back’ has a polysemy structure that is very similar to that of the English word *back*, including the use which designates the body part. Because of space limitations we will proceed directly to a use of *gannaaw* that instantiates the frame of RELATIVE MOTION. In example (2), *gannaaw* designates the space behind a moving person, who plays the role of ego, since it is from his perspective that the place spoken of in the example is *ci gannaaw* ‘in back’. The spatial relation coded by *ci gannaaw* in (2) is precisely analogous to the temporal relation coded by *ci gannaaw* in (1). That is, all of the source-frame entities and relations map unproblematically onto their counterparts in the target frame. This includes the role of ego, which is associated with the speaker in this example. In example (2), I give a word-for-word translation of the Wolof in double quotes following the data, and then a more idiomatic translation in single quotes. This is done throughout the paper except in cases where the word-for-word translation of the Wolof is nearly identical to what would be expected in the English.

- (2) ... Makaan bi daal, ci gannaaw laa ko gis.
 place the EMPH LOCPREP back NONSUBJ.FOC1 3OBJ see
 “The place — it was in back that I saw it.”
 ‘It was back there that I saw the place.’ [s INJ. Taped interview]

⁴ A spatial *reference point* is a physical entity relative to which something is understood to move or be located. A temporal reference point is a time relative to which another time is determined. For example, if I say *I drank tea after lunch*, the time that I drank tea is determined relative to the time of lunch; lunch is thus a temporal reference point.

An example of *paase* ‘go beyond’ is given in (3) below. In this example the person who is supposed to imagine himself moving and looking for something on his left after he gets past the bridge is in the role of ego. Again, the source-frame use in (3) is precisely analogous to the target-frame use in (1).

- (3) Boo paasee pom bi mungi ci sa càmmooñ.
 when go.beyond:ANT bridge the 3:PRSNTTV LOCPREP your left
 ‘When you pass the bridge it’s on your left.’
 ‘It’s on your left after the bridge.’ (Giving directions.) [att.] [Kaolack]

The final lexeme from example (1) to be exemplified here is *kanam* ‘face, front, ahead’. The example in (4) was attested near a market in Dakar. The relation *kanam* ‘ahead’ is determined relative to the person who is walking along the road and has asked for directions. This person is in the role of ego, since spatial relations are construed from her perspective (not that of the speaker, who was sitting still and facing a different direction).

- (4) a. Q: Fan lañuy fi jaaye leket?
 where NONSUBJ.FOC.3PL:IMPF here:sell:AV gourd
 ‘Where do they sell gourds around here?’
 b. A: Ci kanam, sa càmmooñ.
 LOCPREP front your left
 ‘Ahead, on your left.’ [att. Dakar, Tilleen 1997]

Again, the spatial relation coded by *ci kanam* in (4) is precisely analogous to the temporal relation in (1). Furthermore, the scenario of (4) is a good example of the *experiential motivation* (Lakoff & Johnson 1980) of Moving Ego. An experiential motivation is a source-frame experience that motivates the target-frame semantics of the metaphor. In the scenario of (4), there is a place ahead of ego where she expects to arrive and find gourds in the immediate future. There is thus a correlation in ego’s experience between a place *ahead* of her and a *future* time. This correlation motivates the metaphorical mapping of the region ahead of ego onto ego’s future (Sweetser 1988). The previously discussed examples with *gannaaw* ‘back’ (2) and *paase* ‘go beyond’ (3) involve essentially the same correlation: In (2), a place that is *behind* ego is a place where he was located in the *past*. Similarly, in (3), a place that ego has passed is a place where he was in the past.

2.1.2. Moving Ego and *tollu* ‘be equivalent to’, ‘{be at/get to} a point equivalent to’

In the preceding section, the Wolof data are similar to English. In this section we look at a case that is rather different involving *tollu* ‘be equivalent to’, ‘{be at/get to} a point equivalent to’. Initially, it is not obvious how the source-frame semantics of *tollu* are relevant to the Moving Ego metaphor. The ‘be equivalent to’ use of *tollu* is exemplified in (5) below.

- (5) Gis naa benn xaal wu tollu ni basketbal.
 see PFCT1 one watermelon REL be.equivalent like basketball
 ‘I saw a watermelon that measured like a basketball.’
 ‘I saw a watermelon the size of a basketball.’ [Constructed. APS, Hai:120]

The relevance of the lexeme *tollu* to the Moving Ego metaphor can be seen in the next example, where *tollu* is used in a frame of *translational motion* (i.e. ‘going from one place to another’) and has the sense ‘be at/get to a point equivalent to’. Example (6) below is spoken from the point of view of a bicycle rider who was approaching a parked car from behind when the driver opened the door. (The bicyclist then crashed into the open door). The bicycle rider is in the role of ego since spatial and temporal relations are construed from his perspective.

- (6) Bi ma tollook taatu woto bi [tollook = /tollu-ee-ak/]
 when 1SBJT be.equivalent:ANT:with rear:PD car the
 la ubbi buntam
 NONSBJT.FOC3 open door:GEN
 “It was when I got to a point equivalent to the rear of his car that he opened his door.”
 ‘He opened his door right when I got to the rear of his car.’ [Constructed APS, Hai:121]

Once *tollu* is used to talk about getting to a certain point on a path, the combined semantics of measurement and movement can be extended via the Moving Ego metaphor to temporal uses in which the mover and the path are metaphorical, as in (7) below, where the speaker is saying that it is easy to find a room at the university in the summer.

- (7) Jamano yi ñu tollu néeg du fa ñàkk.
 times the.PL 1PL.SBJT be.equivalent room IMPF:NEG there be.lacking
 “The times which we are at a point equivalent to, rooms are not lacking there.”
 ‘These days, there’s no lack of rooms there.’ [att.] [APS]

Example (7) is analyzed as instantiating Moving Ego because the only spatial uses that provide an analogy to the temporal use in (7) involve ego moving so as to become located at some point, as in (6), where the subject of *tollu* changes location. In (7) the speaker and addressee, coded by *ñu* ‘we’, are analyzed as being in the role of ego because they are having the experience of time that the sentence talks about.

To summarize, *tollu* is a verb of measurement that can be used in a scenario of translational motion. The translational-motion use makes *tollu* appropriate for the Moving Ego metaphor. English does not have a lexical item like *tollu*, but it does have expressions that similarly highlight the notion that ego is metaphorically progressing from point to point through time, and construe the present moment as a point that contrasts with other points in the progression. Compare the English expression *at this point in time*, as in *At this point in time, it will be easy to reserve a room*.

2.2. Moving Time

2.2.1. Ego-centered Moving Time and the Wolof lexeme ñów ‘come’

Let us look first at the Wolof lexeme *ñów*, which is very similar to its English translation *come* (on which see Fillmore 1997). In (8) below, *ñów* in the Wolof data has the same assumed default meaning as *come* in the translation—that Jim is moving toward the location of the speech act and is expected to arrive there. This default meaning is due to the deictic semantics of *ñów*. The role of ego is not expressed linguistically in (8), but it is presumed (based on the deictic properties of *ñów*), in the absence of contextual indications to the contrary, to be instantiated by the speaker and her interlocutors.

- (8) Jim mungiy ñów.
 Jim 3:PRSNTTV:IMPF come
 ‘Jim is coming.’

In (9) below, we see an example of the Ego-centered Moving Time metaphor with the lexeme *ñów*, in which the temporal target-frame is precisely analogous to the spatial source-frame. Just as the spatial semantics of *ñów* and *come* are very similar in (8), so are the temporal semantics of those two words in (9), in which a future time is spoken of as if it were an entity that is expected to arrive at the location of the speech act. In this example, the speaker and addressee (who are not coded linguistically) are in the role of ego, because it is relative to their “now” that Tabaski is expected to occur soon. It is not unexpected that ego should lack linguistic coding in this context, since presupposable aspects of the situation of speech often lack overt linguistic coding (see for example Langacker 1991). The mapping for Ego-centered Moving Time is given in Table 2 below.

- (9) Tabaski mungiy nów
 Tabaski 3:PRSNTTV:IMPF come
 ‘Tabaski is coming.’ (Tabaski is a major holiday; cf. *Christmas is coming*.)
 [Positive Black Soul]

SOURCE FRAME		TARGET FRAME
RELATIVE MOTION		EGO-CENTERED TIME
An entity moving toward Ego	→	A time in Ego’s future
Ego’s “here”	→	Ego’s “now”
Arrival of the entity at ego’s location	→	Occurrence of a time
Co-location	→	Simultaneity
An entity moving away from Ego	→	A time in Ego’s past
Change in degree of proximity	→	Change in degree of immediacy of the expected or remembered time

Table 2. The EGO-CENTERED MOVING TIME metaphor (Cf. Clark 1973, Lakoff & Johnson 1999, where this metaphor is called Moving Time)

Moving Ego and Ego-centered Moving Time are similar in that they both map “here” onto “now” and have to do with the relation of future and past times to the present. Thus, they are both spoken of as *ego-centered* metaphors. The two metaphors contrast, however, in their metaphorical direction of motion. While Moving Ego depicts the present as metaphorically moving toward the future, Ego-centered Moving Time depicts the future as moving toward the present. The motivation for the “future to present” metaphorical direction of motion in Ego-centered Moving Time can be seen in the scenario of example (8): A person who is moving towards us correlates in our experience with our expectation of his future arrival. As he moves towards us his projected arrival time becomes sooner and sooner, and when he finally arrives the anticipated future event has become an actual present event.

In summary, we have seen a clear case of Ego-centered Moving Time, and a very high degree of similarity between Wolof and English in the structure of both the metaphor and of the words *nów* and *come*.

2.2.2. Ego-centered Moving Time and *jot* ‘reach’, ‘fit’, ‘catch’, ‘get’

While *jot* ‘reach’, ‘fit’, ‘catch’, ‘get’ cannot be fully explained in terms of metaphor, it is useful to work with a partial analysis in terms of Ego-centered Moving Time. We will see that *jot* has an interesting range of uses that are relevant to temporal experience in several ways. The temporal use of *jot* has not been included in the above list of glosses because there is no easy way to characterize it in a word or short phrase. Instead, an example is given below to help orient the reader.

- (10) Jot na de. Tisibaar jot na.
 Reach PFCT3 EMPH early.afternoon.prayer.time reach PFCT3
 “It has reached. Tisibaar has reached.”
 ‘It’s tisibaar.’ [about 2:15 p.m.]
 (Said upon hearing the call to prayer.) [att.] [s Xi:17]⁵

Before discussing example (10), let us look at the various uses of the verb *jot*.⁶ For each use, the arguments of the verb will be identified by grammatical function and semantic role. The first three uses (11-13) are not likely to represent source frames for Ego-centered Moving Time, since they do not involve translational motion.

In (11) below, *jot* takes a Reacher subject and an object that is Reached.

⁵ The standard Wolof pronunciation is *tisbaar* rather than *tisibaar*.

⁶ There is also an auxiliary *jot*, which is not treated here.

- (11) Jotuma ko. ACHIEVING CONTACT
 JOT:NEG:1 3OBJ
 ‘I can’t reach it.’ (A child cannot reach a branch of a tree.) [att.] [s AM]

In the Measurement use in (12) below, the body is replaced by a rope. The subject of *jot* is a Target of Comparison, and the optional object is a Standard of Comparison.

- (12) Buum gi jot na. MEASUREMENT
 Rope the reach PERF.3
 ‘The rope reaches.’
 [Moore 1997]

Jot can also be used to compare three-dimensional things, as in (13) below, where *jot* can no longer be translated ‘reach’. The subject is a Target of comparison (e.g. ‘shoes’ in [13]) and the object is a Standard of comparison (e.g. ‘me’ in [13]), the same roles as in (12) above. As is the case in (12), the grammatical object is optional.

- (13) Dàll yi jotuñu ma MEASUREMENT
 shoes the.PL JOT:NEG:3PL 1OBJ
 ‘The shoes are too small for me’
 [Fal et al. 1990:57 under *dàll*. My translation of French gloss.]

The next uses are the ones that could conceivably have to do with source frames for Ego-centered Moving time, since they involve translational motion. For these uses, I will comment on which argument would fill the role of ego if the frame in question were to function as a source frame for the Ego-centered Moving Time or Moving Ego metaphor (but I will argue below that *jot* does not instantiate Moving Ego).

In (14) below, the Mover subject is in the role of ego, and the object is a Location.

- (14) Boo demee ba jot Puut ARRIVING AT A GOAL
 when.you go:ANT to.the.point.of JOTPuut
 ‘‘When you have gone to the point of reaching Puut’’ ‘‘When you go and reach Puut....’’
 ‘When you reach Puut....’ (*Puut* is a town.) [Constructed APS]

In (15) below, the subject and object are both Movers. In general, either the subject or the object could fill the role of ego in the Catching use of *jot*.

- (15) Gaynde gi jot na ko. CATCHING
 Lion the JOT PFCT3 3OBJ
 ‘The lion (has) caught her.’ [Constructed APS, Moore 1997]

In (16) below, the subject of *jot* is a stationary Recipient and the object of *jot* is an inanimate Mover. In the Getting use of *jot*, the animate recipient is presumably in the role of ego.

- (16) Jot naa sa bataaxal. GETTING
 JOT PFCT1 your letter
 ‘I got your letter.’

Since *jot* has translational motion uses and since translational motion provides source frames for temporal metaphors in Wolof, it is reasonable to suggest that (10) may be structured by Ego-centered Moving Time or Moving Ego. Of these two, the only possibility is Ego-centered Moving Time. In order to see that this is so, note that Ego-centered Moving Time and Moving Ego both involve a notion of ‘now’, which is metaphorically ego’s location. Temporal change is depicted in one of two ways (Lakoff & Johnson 1999). Ego’s location may move (because ego is moving) relative to another place, as in *We have arrived at the end of the semester* (Moving Ego). Alternatively, some entity may move

relative to ego, as in *The end of the semester has arrived* (Moving Time). In temporal expressions such as (10), *jot*'s only argument is a time, and if *jot* is predicating (metaphorical) motion at all, it must be this time that is metaphorically moving and ego's "now" that remains unexpressed. This is reasonable in that the "here and now" often remains unexpressed linguistically (cf. example [9] 'Tabaski is coming'). Thus examples such as (14) and (15) in which the subject of *jot* is a Mover may represent the source frame. However, we cannot make an argument for a fully motivated metaphor as we did in the case of *ñów* 'come' above. The problem with the scenario of (14) is that it is ego that is moving. Example (15) 'The lion caught her' has the advantage that an entity moves relative to ego, as in the Ego-centered Moving Time metaphor. However example (15) has the disadvantage that ego is depicted as moving, which is not part of the Ego-centered Moving Time metaphor.

To summarize, it is possible to analyze temporal *jot* as instantiating the Ego-centered Moving Time metaphor, and we would miss something important if we ignored this, since *jot* has translational motion uses, and the Moving Time metaphor is well-attested in Wolof.⁷ However, there is no source frame scenario that provides a completely systematic analogy as is the case with *ñów* 'come' and other lexemes we have seen. Moving Time thus provides only a partial account of the temporal semantics of *jot*. For a fuller account, we can look to various semantic components in the different physical senses of *jot* that are relevant to the temporal meaning and may have contributed to it over a long period of gradual evolution, some of the steps in which may no longer be apparent. Some of these semantic components are briefly mentioned and discussed in impressionistic terms.

The Measurement use is relevant to the Temporal use of *jot* in that both involve a standard and target of comparison. For example, in (10) the current time (target) is judged to be equivalent to the recurring time of day known as *Tisibaar* (standard). That is, to judge that the current time is *Tisibaar* (2:15 p.m.) is to measure time. The 'Catching' use could be relevant because it is possible that Wolof speakers sometimes construe times as catching them, as in the next example.

- (17) Waxtu nelaw mooy fu ma gëmméentu jot-e.
 Hour sleep 3SUBJ.FOC:IMPF where 1.OBJ drowsiness reach-AV
 "Time to sleep is wherever drowsiness catches up with me."
 "Time to go to sleep is whenever drowsiness catches up with me."
 [Constructed. APS, 52099]

Finally, the 'Getting' use could be relevant because existence is sometimes talked about in terms of possession; for example, in English we can say that a state *obtains*. In Wolof, the verb *am* 'have' is used in some contexts to mean 'exist'. So it could be that when a time "occurs" as in (10) it is spoken of as 'obtaining' or 'coming into existence'.

Indirect evidence that the collection of senses described above for *jot* is semantically coherent comes from Mandinka, a Mande language spoken in the same area as Wolof, in Senegal and The Gambia.⁸ The Mandinka word *sii* has almost the same polysemy structure as *jot*; as is the case with *jot*, *sii* has the following uses: 'achieving contact', 'arriving at a goal', 'measurement', 'catching', and the temporal use 'occurrence of a time'. The fact that this polysemy structure is shared by two languages that are not closely related suggests that this structure is something more than a historical accident of a particular language: presumably, the various uses described above—including the 'occurrence of a time' use—are semantically related to each other. (Not all Niger-Congo languages or even all Senegambian languages have this polysemy).

In using a word for 'reach' in the Moving Time metaphor to comment on the current time of day, Wolof speakers are doing something with no close equivalent in English, since English speakers do not say things like **Noon has reached*. (Though they can say things like *We have reached noon*, using the Moving Ego metaphor, or *Noon has arrived*, using the Ego-centered Moving Time metaphor but not the word *reach*).

⁷ The term *temporal jot* is used here as a matter of convenience for the temporal *jot* that is discussed in this paper, even though there is more than one sense of the word *jot* in Wolof that is temporal. Analogously, the term *temporal fekk* is used below even though there is more than one temporal sense of *fekk*.

⁸ The Mandinka data are from Gambian Mandinka, mostly from my field notes.

2.3. SEQUENCE IS RELATIVE POSITION

2.3.1. SEQUENCE IS RELATIVE POSITION ON A PATH: *jiitu* ‘go ahead of’ and *topp* ‘follow’

This section is concerned with the lexemes *jiitu* ‘go ahead of’ and *topp* ‘follow’, as in the next example.

- (18) Janq bi daa jiitu; ñu topp ci moom
 girl the SFOC3 go.ahead 3PL.SUBJ follow LOCPREP 3EMPH
 ‘The girl went ahead; they followed her.’ [Constructed APS]

Jiitu and *topp* occur in a metaphor called SEQUENCE IS RELATIVE POSITION ON A PATH, seen in (19) and (20) below.⁹ The semantics of *jiitu* and *topp* in this metaphor are very similar to those of the English *precede* and *follow* in the translations of the examples.

- (19) Lolli moo jiitu tereet.
 Lolli 3SBJT.FOC go.ahead.of trading.season
 ‘Lolli goes ahead of the trading season.’
 ‘Lolli precedes the trading season’ (*Lolli* is a season.) [s MJ, 122397]
- (20) Noor moo topp ci tereet.
 dry.season 3SBJT.FOC follow LOCPREP trading.season
 ‘The dry season follows the trading season.’ [s MJ JTDOC:7]

In (19) and (20), the sequence of the seasons is independent of the notions ‘present’, ‘future’, and ‘past’ (cf. Traugott 1975). That is, the temporal relationship between the seasons is the same regardless of the time at which it is considered, just as the spatial “go-ahead-of/follow” relationship in (18) does not depend on the point of view from which the scenario is observed. Thus, the semantics of SEQUENCE IS POSITION ON A PATH do not involve ego or her point of view, and no ego is postulated in the mapping. The “path” in the source frame is just the trajectory of the moving entities, on which they occupy different linear positions as they go from one place to another. The mapping for SEQUENCE IS POSITION ON A PATH is given in Table 3 below.

SOURCE FRAME		TARGET FRAME
ORDERED MOTION		SUCCESION
Moving entities at different points on a (one-dimensional) path	→	Times in sequence
An entity that is ahead of another entity	→	A time that is earlier than another time
An entity that is behind another entity	→	A time that is later than another time

Table 3. The SEQUENCE IS RELATIVE POSITION ON A PATH metaphor (Moore 2006)

Because ego is not involved in SEQUENCE IS RELATIVE POSITION ON A PATH, there is no reason to expect this metaphor to have the “future ahead” orientation of Moving Ego. By contrast, the motivation for mapping the entity that is ahead onto the earlier time comes from an observation about entities moving on a one-dimensional path: if two or more entities are moving single file on a path, the one that is *ahead* arrives wherever they are going *first* (Svorou 1994). Notice that this observation does not depend on the perspective from which the moving entities are viewed.

Summarizing, we have seen that Wolof *jiitu* ‘go ahead of’ and *topp* ‘follow’ participate in a metaphor that construes times in sequence as entities on a path. This is the same metaphor that

⁹ The data analyzed here as instantiating SEQUENCE IS POSITION ON A PATH are usually included under Moving Time in the literature (Clark 1973 etc.).

structures the temporal semantics of English *follow*.¹⁰ In the next section we will see a closely related metaphor in Wolof that English does not have.

2.3.2. SEQUENCE IS RELATIVE POSITION IN A STACK: *tegu* ‘be put on’

In this section we look at the lexeme *tegu* ‘be put on’, seen in a spatial use in the answer in (21) below.

(21) Q: Naka la téere yi tegaloo?
How NONSBJT.FOC3 book the.PL be.stacked
‘How are the books stacked?’

A: Aawo Bi moo jiitu, Njaaxum tegu ci.
Aawo Bi 3SBJT.FOC go.ahead Njaaxum put:MID LOCPREP
‘Aawo Bi goes ahead; Njaaxum is put on it.’
‘Aawo Bi is first; Njaaxum is next.’ [Constructed APS, 021899]

The lexeme *tegu* ‘be put on’ in temporal uses is virtually synonymous with *topp* ‘follow’ —they both have a meaning that is very close to the temporal meaning of *follow* in English. The temporal use of *tegu* is exemplified in (22) below, which also shows the semantic similarity of *tegu* and *topp*.

(22) Bis bu njëkk bi mooy altine;
Day REL be.first the 3SBJT.FOC:IMPF Monday

bi ci {tegu/topp} —talaata.
REL LOCPREP {put:MID/follow} Tuesday
‘The first day is Monday, the one that {is put on/follows at} it —Tuesday.’
‘The first day [of the week] is Monday; the next day is Tuesday.’ [Constructed APS]

The mapping for SEQUENCE IS RELATIVE POSITION IN A STACK is given in Table 4 below.

SOURCE FRAME		TARGET FRAME	
VERTICAL PLACEMENT		SUCCESION	
Entities in a stack	→	Times in sequence	
An entity that is placed on another entity	→	A time that is later than another time	

Table 4. The SEQUENCE IS RELATIVE POSITION IN A STACK metaphor

The motivation for this metaphor is that when items are placed in a stack, an item that is placed *later* is placed *on top of* an item that is placed earlier. SEQUENCE IS RELATIVE POSITION ON A PATH and SEQUENCE IS RELATIVE POSITION IN A STACK both involve mappings from order in the source frame to sequence in the target frame. The two metaphors are structurally similar even though the kinds of motion and position involved in the two source frames are different. The case of SEQUENCE IS RELATIVE POSITION IN A STACK is the clearest case I have found in which Wolof has a temporal metaphor of the type studied in this paper that is absent from English. By the same token it is the clearest case in which there is a notable difference between metaphorical expressions in the two languages that is due to metaphor structure rather than lexical structure.

¹⁰ The reason I do not mention *precede* in connection with this metaphor is that it is possible to argue that *precede* has a primarily temporal meaning and thus does not involve metaphor.

2.4. Other-centered Moving Time: *fekk* ‘become co-located with’

The final case to be examined involves a subtle lexical contrast between Wolof and English, involving the Wolof lexeme *fekk* ‘become co-located with’ (i.e. ‘become located at the same place as’) and the English lexeme *find*. *Fekk* is exemplified in (23) below.

- (23) Añ bi fekk na ko fa.
 lunch the become.co-located.with PFCT3 3OBJ there
 “The lunch became co-located with her there.”
 ‘She was there [e.g. at home] when the lunch got there.’ (This could be said in a context in which someone brought a lunch to someone at her home). [Constructed APS, 030398]

In the valence exemplified in (23), *fekk* takes a Mover subject, an object that is a Located Entity, and a locational complement that is a Location. In the frame that is associated with this valence of *fekk*, the Located Entity is at the Location when the Mover arrives. In the temporal use of *fekk*, the subject is a metaphorical Mover. The temporal use is exemplified in (24) below, which was attested in rural Senegal at the place of business of a public telephone service. I had asked if there had been a telephone call for me at two o’clock, and example (24) was used to tell me that the attendant had not been there at that time.

- (24) Dëes ëer fekku ko fa.
 two o’clock become.co-located.with:NEG.3 3OBJ there
 “Two o’clock didn’t become co-located with him there.” “Two o’clock didn’t ‘find’ him there.” ‘He wasn’t there at two o’clock.’ [att. 1997]

This anecdote makes the point that the Wolof sentence in example (24) above is stylistically unmarked in a casual encounter between strangers. Listening and interacting in Wolof-speaking communities, I have noticed that speakers use the constructions in (24) above and (26) below in ordinary conversation and casual interaction between strangers in order to say that a given person was or was not at a given place at a given time. By contrast, the English translation of (24) with *find*, i.e. *Two o’clock didn’t find him there*, would be stylistically marked as a way of saying that a clerk was not in his office at two o’clock. While English does have this construction with *find*, it is stylistically marked as literary, as in (25) below.

- (25) Summer found Vincent in Paris.

Let us look at the metaphor that structures temporal expressions with *fekk/find*, and then examine the lexical semantics of these two words in order to arrive at a hypothesis as to why the *fekk* construction should be stylistically unmarked while the *find* construction sounds literary. The metaphor in question construes a time as a physical entity that arrives at some location where a certain state obtains, as in (24 - 26). The metaphor is called *Other-centered Moving Time* (in contrast to *Ego-centered Moving Time*) because the temporal reference point, e.g. *midi* ‘noon’, is some time other than ego’s “now”.

- (26) Midi fekk na ko fa.
 Noon become.co-located.with PERF3 3OBJ there
 “Noon became co-located with him there”. “Noon ‘found’ him there.”
 ‘He was there at noon.’

The mapping for *Other-centered Moving Time* is given in Table 5. In the mapping, the term *reference time* denotes an identifiable time such as *midi* ‘noon’ in (26).

SOURCE FRAME		TARGET FRAME	
RELATIVE MOTION		RELATIVE TIME	
A Mover	→	A reference time	
A Place	→	The time that a state obtains	
Arrival of the Mover at the Place	→	Occurrence of the reference time	
Co-location of the Mover and the Place	→	Partial simultaneity of the reference time and the time the state obtains	

Table 5. The OTHER-CENTERED MOVING TIME metaphor

I will argue that one reason temporal *fekk* constructions in Wolof are stylistically unmarked is that *fekk* is a verb of motion and temporal *fekk* constructions simply depict times as moving entities, which is conventional in ordinary conversation in Wolof (as in English). By contrast, in English, *find* denotes the cognitive experience of becoming aware of something, so temporal *find* expressions construe times as having a cognitive experience (as well as moving), and it is somewhat marked in English to construe a time as having a cognitive experience. Constructions that do so, such as (25) above and (27) below, have been called *setting-subject* constructions by Langacker (1991: 345).

(27) Summer saw an increase in gasoline prices.

To see that *find* denotes a cognitive experience, note that I could say that *I found my keys on the table* if I spotted them there, even if I had not moved at all.¹¹ In order for *find* to be felicitous, I must have become aware of my keys, but I did not necessarily move. In support of the claim that *find* denotes a cognitive experience but *fekk* does not, note further that while there is nothing odd about (23) above in Wolof, a word-for-word translation into English with *find* sounds odd: *The lunch found her there*. The oddness is due the fact that a lunch is not normally expected to have a cognitive experience. Let us further confirm that *find* can denote translational motion in addition to a cognitive experience. This is seen in a sentence like *I found the bowl in the kitchen*, which would be likely to mean that I went to the kitchen, became co-located with the bowl there, and also became aware of it.

The contrast between *fekk* and *find* is illustrated in (28a) and (28b) below. Sentence (28a) with *fekk* does not just mean that the Mover did not perceive the Located Entity, but specifically that the Located Entity was not there. Conversely, sentence (28b) with *find* is compatible with a scenario in which someone went to somebody's home but did not find the person there, even though he was actually there, perhaps in the back yard.

(28) a. Dem na seeti ko waaye fecku ko fa.
 go PFCT3 visit 3OBJ but become.co-located.with:NEG 3OBJ there
 "She went to visit him but she didn't become co-located with him there."
 'She went to visit him but he wasn't there.' [Constructed APS, 030398]

b. She went to visit him but she didn't find him there.

Fekk predications are not compatible with a scenario in which the Located Entity is not at the Location when the Mover arrives. Thus example (29) below is an outright contradiction (indicated by the star).

(29) *Bi mu fa ñówee, munga fa woon,
 When 3SBJT there come:ANT 3:PRSNTTV:DIST there PAST
 waaye fecku ko fa.
 but become.co-located.with:NEG 3OBJ there
 "When she got there, he was there but she didn't become co-located with him there."

¹¹ Also see the FrameNet website.

‘*When she got there, he was there, but he wasn’t there when she got there.’ [Constructed APS, 91999]

By contrast, a translation of (29) with *find*, as in (30) below, while perhaps odd out of context, is not an outright contradiction.

(30) When she got there, he was there, but she didn’t find him there.

Summarizing, the same metaphor occurs in both Wolof and English, but there is a stylistic difference between its instantiation with *fekk* in Wolof and with *find* in English. This difference is motivated by differences in the lexical semantics of the two verbs: while *fekk* is essentially a verb of motion and location, *find* is primarily a verb of cognition (and optionally also a verb of motion and location).

3. Summary and conclusion

This paper is a brief sampling of the lexical semantics involved in Wolof metaphors that depict temporal relations in terms of motion. The sample is by no means exhaustive. (Notably, only one verb of ‘passing’ was discussed with respect to Moving Ego, and these verbs were not discussed at all with respect to Moving Time.)

The metaphors and lexemes involved are summarized in Table 6 below.

METAPHOR	LEXEMES INVOLVED
MOVING EGO	<i>gannaaw</i> ‘back’; <i>paase</i> ‘go beyond’; <i>dem</i> ‘go’; <i>kanam</i> ‘face, front, ahead’; <i>tollu</i> ‘be equivalent to’, {be at/get to} a point equivalent to’
EGO-CENTERED MOVING TIME	<i>ñów</i> ‘come’; <i>jot</i> ‘reach’
SEQUENCE IS RELATIVE POSITION ON A PATH	<i>jiitu</i> ‘go ahead of’; <i>topp</i> ‘follow’
SEQUENCE IS RELATIVE POSITION IN A STACK	<i>tegu</i> ‘be put on’
OTHER-CENTERED MOVING TIME	<i>fekk</i> ‘become co-located with’

Table 6. Metaphors discussed in this paper and the lexemes that instantiate them¹²

Perhaps the most notable generalization to be made is that Wolof and English tend to have the same motion metaphors of time. The only clear-cut case of an exception to this is SEQUENCE IS RELATIVE POSITION IN A STACK. In some cases, the Wolof and English lexemes that instantiate motion metaphors of time are very similar. In other cases, there are interesting differences in the semantics of the lexemes that instantiate a given metaphor in Wolof and English, notably in the cases of *tollu* ‘be at/get to a point equivalent to’, *jot* ‘reach’, and *fekk* ‘become co-located with’.

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¹² This paper does not address the question of how many lexemes instantiate each metaphor.

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