Metaphor, linguistic practice, and the temporal meanings of *gannaaw* 'back' and *kanam* 'front' in Wolof

KEVIN EZRA MOORE

University of California, Berkeley

1. Introduction

That certain semantic extensions but not others occur in particular languages requires explanation (cf. Sweetser 1990; Heine et al. 1991; Hopper and Traugott 1993; Bybee et al. 1994). One area that has been studied in this regard is the extension of FRONT/BACK terms to time (Traugott 1975; Svorou 1994; Haspelmath 1997, Yu 1998). This paper focuses on the word for the body part 'back' in Wolof (Niger-Congo; Senegal and Gambia). *Gannaaw* 'back' has extended semantically to mean both 'earlier than' and 'later than', whereas the only temporal meaning of the Wolof word for 'front', *kanam*, is 'later than'. Based on a study of synchronic usage and polysemy patterns I offer a hypothesis on why, given certain physical/spatial uses, *gannaaw* should have the temporal meanings it does. Temporal uses of *gannaaw* and *kanam* are exemplified in 1 below. (In the examples I often give a word-for-word translation in double quotes preceding the idiomatic translation in single quotes.)¹

- 1) a. *ci gannaaw la ñów.*
 LOCPREP back/behind NONSUBJ.FOC.3 come
 "At back she came." i) 'She came a while ago.' or ii) 'She came afterwards.'
- b. *mungi ñów ci kanam.*
 3.PRSENTTV come LOCPREP face/front/ahead
 "She's coming at front." 'She's coming later.' not 'She is coming beforehand.'

Current theories of metaphorical extensions of spatial to temporal terms would lead us to expect FRONT and BACK terms to have symmetrical meanings. This expectation is fulfilled where the 'earlier than' or 'past' meaning of *gannaaw* (example 1a, interpretation (i)) is opposed to the 'later than' or 'future' meaning of *kanam* (1b), but the 'later than' meaning of *gannaaw* (1a [ii]) appears anomalous in this regard.

The account that I will give is situated in the conceptual metaphor theory of Lakoff and Johnson (1980). But an understanding of the metaphor structure involved does not alone provide a satisfactory solution to the problem. What we need in addition is the idea of *linguistic practice* (Hanks 1990, 1996a, 1996b); i.e., an understanding of how meaning is produced through situated interactive language use. The ideas involved in the study of linguistic practice have a lot in common with those of the grammaticalization theorists mentioned above in that *context* is of central importance in grammaticalization. Important work on the relationship between context and metaphor in grammaticalization has been done by Heine, Claudi, and Hünemeyer 1991, and by Taub 1998. This paper differs from previous work by relating details of context to details of metaphor structure.

2. Background on *gannaaw*

Gannaaw has quite a range of uses, including 'back', 'space behind', 'absence,' 'except,' 'in addition,' 'since', (and various idiomatic uses) in addition to the temporal uses 'past' and 'later than'. I will discuss this range of uses briefly in order to show that, despite some similarities, *gannaaw* is unlike English *after* in important ways. Also, we have to keep it in mind that the account that I will offer in this paper identifies only one current of motivation in a complex web of influences on the 'later than' meaning of *gannaaw*.

Gannaaw is not a primarily temporal term. To give an idea of this, consider the following data. In a sample of two Wolof texts (Ab [a novelette] and Ep [transcribed oral performance]) totaling about 79,200 words, there were a total of 88 tokens of *gannaaw* and only about 16% of them (14 tokens) were temporal. (All 14 were instances of the 'later than' use.) Compare this with the English word *after*. Of 300 tokens of spoken *after* randomly selected from the COBUILD corpus, 225, or 75% were temporal (cf. the tables in 14 and 15 below). The most frequent use in the Wolof sample was the 'since' use, which accounted for about 24% of the tokens. The 'since' use is the subject of an insightful study by Stéphane Robert (1997).

One thing the above data suggests is that the ordinary way to say 'after' in Wolof does not involve *gannaaw*, and that is indeed the case. An unmarked way to say that one event happened after another uses the *anterior* construction, in which the first event is referred to by a subordinate clause, as in example 2 below.

- 2) *bi loolu am-ee, Mbaarik Bô daldi sol dállam.*
when DISCREP happen-ANT Mbaarik Bô PRTCLE don shoes:GEN
 "When that had happened, Mbaarik Bô put his shoes on."
 'After that happened, Mbaarik Bô put his shoes on.'
 [Diop 1995:78. Spelling has been normalized. The translation in single quotes is from the original, p. 104.]

That the ordinary way to say 'after' in Wolof does not involve *gannaaw* is confirmed by the following observations. Consultants do not offer *gannaaw* constructions as translations of *after* constructions, nor are *gannaaw* constructions the typical way an 'after' meaning is expressed in spontaneous speech. Examinations of texts show that appearances of *gannaaw* with a 'later than' meaning tend to be restricted to certain contexts rather than appearing wherever a 'later than' meaning is expressed. Dictionaries (Fal et al. 1990; Munro and Gaye 1997; Gamble 1991a; Faye 1996) and grammars (Diouf and Yaguello 1991, Gamble 1991b, Njie 1982, Sauvageot 1965) do not list *gannaaw* constructions as a way of saying *after* or *après*.²

3. Metaphor theory

This investigation is situated in the theory of conceptual metaphor following Lakoff and Johnson 1980, 1999; Sweetser 1990, Turner 1991, Grady 1997, Yu 1998 and others. A metaphor in this theory is a one-way correspondence between concepts in different domains. Such correspondences, sometimes called metaphorical mappings, enable people to talk and think about one kind of experience in terms of another. For example, there is a conceptual metaphor called UNDERSTANDING AS SEEING in which seeing corresponds to, or maps onto, understanding. By means of this metaphor we can talk about experiences of understanding as if they were experiences of seeing and say things like *I see what*

you mean, *That's a clear argument*, or *That reasoning is opaque*. The correspondences involved in this metaphor are summarized in the table below. The domain from which vocabulary and conceptual structure are taken is called the Source domain, and the domain which is being construed in terms of the Source is called the Target. Elements of the Source are said to map onto ("→") the Target.

3) UNDERSTANDING AS SEEING

Source		Target
Person who sees	→	Person who understands
Thing seen	→	Thing understood
Aids to seeing	→	Aids to understanding
Impediments to seeing	→	Impediments to understanding

Previous works (e.g. Lakoff and Johnson 1980, 1999; Haspelmath 1997, Yu 1998) suggest that an account of expressions in which a FRONT word means 'earlier than' or a BACK word means 'later than' should be given in terms of the Moving Time metaphor. I assume that the following version of the Moving Time metaphor is relevant to Moving Time expressions using words for FRONT or BACK (cf. Moore forthcoming; Svorou 1994).

4) The FRONT/BACK Moving Time metaphor. E.g., "When they call, tell them to call back on the following day."

Person or thing farther in the direction of motion.	→	Earlier point or period of time.
Person or thing less far in the direction of motion.	→	Later point or period of time.

In addition to the fact that *kanam* 'front' does not have the 'earlier than' meaning that Moving Time would predict for Wolof, assuming the Moving Time metaphor as the sole motivation for 'later than' *gannaaw* would predict that *gannaaw* should mean 'after' in a fairly unrestricted fashion across contexts, but *gannaaw* does not behave that way. In the next example we see the Moving Time metaphor used in Wolof to talk about the sequential relation between two days. Here Wolof uses *topp* 'follow' in a fashion quite parallel to English. But *gannaaw* cannot be used to paraphrase the *topp* 'follow' expression — If *gannaaw* participated in the Moving Time metaphor like English *after*, we would expect to be able to paraphrase *bis bi ci topp* 'the following day' with *?bis bi ci gannaawam* 'the day after', but we cannot.³

Context (invented): The speaker has just said the Wolof equivalent of "That day, they gave us our diplomas." The example below is a possible continuation.

- 5) a. *bis bi ci topp ñu dem mbumbaayi*
 day REL LOCPREP follow we go party:ALL
 'The following day we went out and partied.'

The next example is not a possible continuation of "That day they gave us our diplomas" for the same consultant.

- b. *?bis bi (ci) gannaawam ñu dem mbumbaayi.*

day REL (LOCPREP) *back*.3GEN we go party:ALL
 Intended: The day after, we went out and partied.

4. The Ego Opposed strategy

There is a way to motivate the use of FRONT or BACK words in temporal expressions without appealing to Moving Time (Hill 1978, Traugott 1975). This involves the Ego Opposed locational strategy for spatial relations, exemplified below, which is typical in both Wolof (cf. Robert 1997) and English. According to this strategy, something which is in front of the observer (call it the *reference point*) is treated as if it were facing the observer (*Ego*). An entity (call it the *figure*) which is between the reference point and Ego is spoken of as being *in front of* the reference point, and an entity on the other side of the reference point is said to be *in back of* it.⁴ (In general, I will use the word *figure* to refer to something whose location or temporal status is in question, and the terms *reference point* or *reference object* to refer to the entity relative to which the status of the figure is determined. When I say "reference point" I do not intend any claims about the dimensionality of the entity referred to. *Figure* and *reference point* are equivalent to Talmy's (1978) *figure* and *ground*.)

- 6) *big bi mungi ci [kanamu/gannaaw] bwat bi.*
 pen the 3PRESENTATIVE LOCPREP front:PD/back box the
 'The pen is in front/back of the box.' [Q:62]

However, since *kanam* 'front' as well as *gannaaw* 'back' participates in spatial utterances that are structured by the Ego Opposed strategy, we still have not got an explanation for why *gannaaw* can mean 'later than' but *kanam* cannot mean 'earlier than'. But if we look at certain communicative practices involving *gannaaw*, a clear contrast with *kanam* emerges. Furthermore, these practices motivate some of the details of how 'later than' *gannaaw* is used.

5. Experiential grounding

In the *experiential grounding* (Lakoff and Johnson 1980, 1999; Grady 1997) of a metaphor, the Source and Target concepts occur together in a single experience; that is, they are *correlated*. This grounding in experience is what motivates people to talk and think about the Target in terms of the Source. If we look at the groundings for the various temporal senses of *gannaaw* 'back' and *kanam* 'front' together, we will see that the 'later than' meaning of *gannaaw* and the lack of an 'earlier than' meaning for *kanam* are actually quite well motivated. The following is a typical scenario in Senegalese daily life.

Someone, let us call her Binta, is walking down the road in an outdoor market. She does not know where the gourds are, so she asks a man who is seated by the side of the road the question in 7a below. He replies with the utterance in 7b. In using the word *kanam* the man by the side of the road *indexes* (Hanks 1990) the shared understanding that he and Binta have that she is walking through the market in a certain direction (cf. Clark 1996). That is, he appeals to their shared awareness of that aspect of the situation. *Ci kanam* in this context means 'ahead', and the utterance in 7b can only mean that the gourds are ahead of the woman, farther down the road in the direction in which she has been going. This spatial scenario is precisely analogous to the temporal metaphor in 1b (*Mungi ñów ci kanam* 'She's coming *later*'). In the spatial scenario, the place down the road is correlated in experience with the expected future time that Binta will arrive there. This motivates

the use in 1b where *kanam* refers to the future. Temporal uses of the word *ahead* in English in expressions like *There's trouble ahead* are motivated in the same way.

7) a. Q: *fan lañuy fi jaaye leket?*
 where NONSUBJ.FOC.3PL:IMPF here sell:VAL gourd
 'Where do they sell gourds around here?'

b. A: *ci kanam, sa càmmooñ* (cf. 1b)
 LOCPREP front your left
 'Ahead, on your left.'

Now let us imagine that the man by the side of the road had responded to Binta's question as in 7c below, also a typical phrase used in direction giving. This phrase is ambiguous, and the two interpretations correspond to the two temporal meanings of *gannaaw*. Interpretation (i) 'Over there behind you' is based on the same bodily schema as 7b involving Binta's motion through the marketplace: Her front is associated with where she is going and her back is associated with where she is coming from. This is precisely analogous to interpretation (i) of the metaphorical expression in 1a (*Ci gannaaw la ñów* 'She came a while ago.') In this case it is the experiential correlation between places Binta has passed on the road and the past moments when she was at those places that motivates the 'past' meaning of *gannaaw*. This mapping of BACK onto 'past' is also found in English, in expressions like *Back in 1967, San Francisco was a hippie Mecca*.

7) c. A': *fale ci gannaaw* (cf. 1a)
 over.there LOCPREP back

(c) is ambiguous:

- i) 'Over there behind you.' [090998]
- ii) 'Over there' [behind something]. 'Just around the corner.'

It is a scenario in which interpretation (ii) of 7c is appropriate that I am proposing as the Source of 'later than' *gannaaw*. (cf. example 1a, interpretation (ii) *Ci gannaaw la ñów* 'She came afterwards'). In this scenario, the speaker of 7c shares Binta's perspective and indexes a reference object in their shared visual field (a building, perhaps), saying that the item Binta is looking for is behind this reference object.

In this scenario, the reference object is correlated in experience with the time Binta makes mental contact with it (Langacker 1987). She expects to arrive at the place where the figure is at a *later* time. This is precisely analogous to temporal expressions like 1a(ii) (*Ci gannaaw la ñów* 'She came afterwards'), in which the figural time is said to be *later than* the (unstated) reference time. Let us call this the Ego Opposed temporal metaphor. The mapping is given in 8 below.

8) *The Ego Opposed temporal metaphor*. (RP = Reference Point; F = Figure)

A physical RP on a (conceived) path leading → A temporal reference point.
 to F.

A place (F) beyond the RP on the path. → A later point or period of time.

We have just seen two different strategies for locating things in space:

One strategy, exemplified by 7b and 7c(i), uses the human body as reference object in a scenario in which the owner of the body (e.g. Binta) is going somewhere on a path. (From now on I'll use the word *Ego* to refer to the person — Binta in this example — who is having the experience of space or time in question.) In this Source experience, the relations FRONT/AHEAD (*kanam*) and BACK/BEHIND (*gannaaw*) are both exploited for the purposes of telling people where things are located. The mapping of this scenario onto temporal experience is called the Moving Ego metaphor (cf. Clark 1973).⁵

The other strategy, exemplified by 7c(ii), uses as reference object something that is located in Ego's perceptual field and is endowed with a FRONT/BACK orientation based on Ego's viewpoint. This strategy of direction giving exploits the BEHIND (*gannaaw*) relation but not the IN FRONT OF (*kanam*) relation. The hypothesis that this type of strategy is the relevant experiential grounding explains why *gannaaw* but not *kanam* is used in temporal expressions that employ the Ego Opposed strategy. The viewpoint based semantic property of *gannaaw* discussed here is relevant also to the other senses of *gannaaw* mentioned near the beginning of the paper. It is discussed extensively in Robert's (1997) analysis of the 'since' sense of *gannaaw*.

The explanation I am offering is somewhat unusual within metaphor theory because it is stated in terms of particular communicative practices (Hanks 1996a). For example, in the case of *fale ci gannaaw* 'over there behind [something]' as in 7c(ii), the utterance depends for its meaning on the specific way the speaker appeals to the addressee's knowledge of the situational context of utterance. Particularly, the speaker assumes that she and the addressee will pick out the same contextually salient reference object at the moment of utterance and interpret it in the same way in terms of the addressee's desire to get to a particular location.

One may of course wonder why *gannaaw* has this particular direction-giving use and *kanam* does not. The explanation for this probably has to do with the fact that the direction-giving strategy in question is used in cases where the figure is occluded by the reference object. If the figure were in front of the reference object, it would also be in front of the interlocutors and could just as well be referred to by indexing the front of the interlocutors (rather than some other reference object) or by ostension with a gesture; e.g., *Munga fale* 'It's over there' (pointing).

The above account motivates the fact that *gannaaw* has a 'later than' use while *kanam* lacks an 'earlier than' use. The account also predicts that 'later than' *gannaaw* expressions should reflect the viewpoint-dependent nature of the Source experience. In fact, the experiential grounding as stated above predicts that 'later than' *gannaaw* expressions should involve an anchoring of the temporal relation in the "here and now," but this is not always what we find. After we survey the range of uses of 'later than' *gannaaw*, I will elaborate my account of the experiential grounding of the Ego Opposed temporal metaphor so that the type of viewpoint related restrictions we observe for 'later than' *gannaaw* will be better motivated.

6. Viewpoint-establishing contexts and the range of 'later than' uses of *gannaaw*

The use of 'later than' *gannaaw* expressions tends to be viewpoint dependent in the sense that when speakers use the expressions they have a tendency to appeal to the speaker-addressee shared awareness of the situational or discourse context of utterance. This tendency is attested to by native speaker judgments and my own impressionistic observations of how *gannaaw* is used in spontaneous speech. Further evidence comes from text counts in which I counted tokens of 'later

than' *gannaaw* in a corpus of about 180,000 words of written text (including transcribed oral performance and other spoken texts, novelettes, and the example sentences from the Fal et al. dictionary), and about two and a half hours of spoken interviews that I tape recorded during my fieldwork in rural Senegal 1997-98. The results of the text counts are summarized near the end of the paper. In the current section we review the various viewpoint-establishing contexts in which *gannaaw* appears. Finally, I will mention cases in which *gannaaw* appears in contexts that are not viewpoint-establishing.

The first type of appeal to the situation of utterance that we will see is in fact an appeal to the "now" of the speech act. That is, the reference point of *gannaaw* is denoted by a deictic word like *lii* 'this', *tey* 'today', or *suba/ëllëg* 'tomorrow', as in the next example. The phrase *gannaaw suba* (or *gannaaw ëllëg*) is a set phrase that means '(the) day after tomorrow'. Temporal deictic words such as *suba* 'tomorrow' amount to about twenty-one percent of the words whose referents play the role of reference point of *gannaaw* in the text count.

- 9) *taw na tey de, waaye bu tawoon suba, mbaa*
 rain PERF today EMPH but if/when rain:PAST tomorrow, or
gannaaw suba dana baax ci ñun lool.
back tomorrow FUT good LOCPREP us very
 'It rained today, but if it rained tomorrow, or the day after tomorrow, it would be very good for us.' [att.] [US 101597]

Another type of appeal to the situation of utterance is one in which the reference point of *gannaaw* is highly accessible (in the sense of Ariel 1990) from previous discourse as in the next examples. In 10a below, the discourse-referential demonstrative *loolu* 'that' explicitly indexes the addressee's knowledge of the immediately preceding discourse. In 10b the reference point of *gannaaw* is coded by zero, which is recognized as a marker of high accessibility crosslinguistically (Givón 1995).

- 10) a. *ginnaaw loolu, biram dellusi ca dëkk*
back DISCREP Biram return:VEN LOCPREP.DIST village
ba, taxaw ca digg pénc ma
 the stand LOCPREP.DIST middle gathering.place the...
 'After that, Biram came back to his village, stood in the middle of the public gathering place ...' (*Ginnaaw* is a variant of *gannaaw*.) [Kesteloot and Mbodj 1983:113]

- b. *gannaaw ñu dem ci dë ton*
back they go LOCPREP two ton
 'After that they went to two-ton trucks. (I.e., they started using two-ton trucks. Immediately before (b), the speaker had said that the first trucks that were used could carry the equivalent of ten donkey loads.) [att.] [FS 101597]

The discourse-referential demonstrative *loolu* did not turn up very frequently in the text-counts, accounting for only about six per-cent of the tokens. However, it is my impression that *gannaaw loolu* 'after that' is one of the more typical uses of 'later than' *gannaaw*. The phrase seems to occur often in spontaneous discourse and it turns up frequently in elicitation. The impression that there is something

special about the phrase *gannaaw loolu* is supported by the fact that Gamble's (1991a) dictionary includes *gannaaw loolu* as an entry glossed 'after that' but no other entry for *gannaaw* as a temporal term. Instances in which the reference point of *gannaaw* is coded by zero amount to the most frequently occurring type in the text counts, at almost thirty per-cent of occurrences of 'later than' *gannaaw*.

A rather different type of viewpoint-establishing context occurs in cases where the reference point of *gannaaw* is the first clause of the anterior construction as in the next example. Note that *gannaaw* is optional in this case.

- 11) (*gannaaw*) *bi Kondoron bi demee*
 (back) when Kondoron the go:ANT
la alal ju bare feeñu
 NONSUBJ.FOC.3 wealth REL be.abundant appear
 "(After) when Kondorong had left, the abundant wealth appeared."
 'After/when Kondorong had left, the man got rich.' [AS, 091798]

This is the same anterior construction that was exemplified in 2 near the beginning of the paper as an unmarked way to say 'after' in Wolof. Since the construction is a way of saying 'after', it requires the conceptualizer (speaker or addressee, cf. Langacker 1987) to view the referred-to events in a particular sequence. The function of *gannaaw* is to emphasize this already-established viewpoint rather than to independently assert a relation of sequence. Tokens of the *gannaaw*-plus-anterior construction account for about 19 per-cent of the tokens of *gannaaw* in the text count.

Finally, we come to uses of *gannaaw* that are not predicted by the generalizations offered in this paper. The reason 12 below is not predicted is that the temporal relations it refers to do not involve any particular viewpoint. In Moore (to appear) I have more to say about what accounts for examples like 12 below.

- 12) *gannaaw timis, gee. Gannaaw gee rekk*
back dusk post.dusk.prayer back post.dusk.prayer only
guddi.
 night
 'After dusk, [is] the post-dusk prayer. After the post-dusk prayer then, [is] night.' [att.] [PG 101197]

Unpredicted tokens of 'later than' *gannaaw* like those in 12 account for about 19 per-cent of the tokens in the text count.⁶

7. More on the experiential grounding of 'later than' *gannaaw*

The experiential grounding involving the phrase *fale ci gannaaw* 'over there behind' in the marketplace scenario sketched in Section 5 is plausibly the essential type of motivation for uses of *gannaaw* that mean 'later than'. In the marketplace example (7c[ii]), the spatial relationship between the figure and the reference object is salient for Ego at the particular moment she conceptualizes it from her viewpoint. A scenario with the temporal and spatial immediacy of this marketplace scenario appropriately motivates metaphorical expressions like *gannaaw suba* 'day after tomorrow' that are based in Ego's "now." However, the marketplace-type scenario is less appropriate for the other *gannaaw* expressions we saw in Section 6, in which

Ego's "now" is not necessarily relevant to the temporal relation referred to by the expression.

Example 13 below involves essentially the same direction-giving strategy that we saw regarding the marketplace scenario and *fale ci gannaaw* 'over there behind' in 7c(ii) in Section 5 above. Like the marketplace scenario, the "location on route" direction-giving scenario exemplified in 13 below is involved in a typical communicative practice in Senegal. Example 13 occurred in the US in spontaneous conversation as a native speaker of Wolof was explaining to me where a certain lake is in Senegal.

- 13) *ci gannaaw Pikin bala ngay jot Tëngéej*
 LOCPREP back Pikin before you:IMPF reach Rufisque
 "behind Pikin before you reach Rufisque."
 'after Pikin, before you get to Rufisque.' [AS 082299]

In the marketplace scenario (7c[ii]), the reference object of *gannaaw* is salient and immediate in the perceptual field of the interlocutors. This is analogous to the way the understanding of 'the day after tomorrow' is based on the concept of 'today' which is immediate in experience. By contrast, in order to understand 13, the hearer must transport herself in imagination to Dakar — it is only from this perspective that the lake is "behind/after" a place called Pikin and before the town of Rufisque. On the account I am proposing, this sort of "transported viewpoint" or viewpoint shift (called *transposition* in Hanks 1990) is directly analogous to the viewpoint shift in 1a(ii) or 10a (*ginnaaw loolu...* 'after that...') in which the conceptualizer comprehends a temporal relation from an imaginary point that is earlier than both the temporal reference point and the figure.

Viewpoint shifts such as that exemplified in 13 are not unconstrained; for example, 13 would not be said to an addressee in Rufisque. Ego Opposed *gannaaw* expressions — spatial and temporal — depend on a shared viewpoint. This dependence accounts for the tendency observed in Section 6 for 'later than' *gannaaw* to occur in viewpoint-establishing contexts. The data alluded to in Section 6 is summarized in 14 below.

8. Text-count data

14) Environments in which 'later than' uses of *gannaaw* occur in texts.

env.	P	F	U	Jf	Ta	Ep	Dt	Ab	Fal	Tot	%	sub
temp.	0	0	1	1	2	1	0	4	1	10	21.3	VE
<i>loolu</i>	0	0	0	0	2	0	0	0	1	3	6.4	77%
zero	0	2	0	6	2	0	0	1	3	14	29.8	
Ant.	0	0	0	0	3	5	1	0	0	9	19.1	
-----	----	----	----	----	----	----	----	----	----	-----	-----	----
person	0	0	0	0	0	2	0	0	0	2	4.2	NV
other	6	0	0	0	1	1	0	0	1	9	19.1	23%
Total:	6	2	1	7	10	9	1	5	6	47	99.9	100%

The contexts are indicated in the left-hand column, identified by the element that denotes the reference point: Temp = temporal deictic, e.g., *suba* 'tomorrow'; *loolu* = the discourse referential demonstrative 'that'; Ant. = the anterior construction; *person* means that a person was the reference point of *gannaaw*; the

other category consists mostly of non-deictic timeword reference points, as in example 12 above.

The sources of the data are in the top row. Single letters represent the names of consultants in the tape-recorded data. The other sources are as follows: Jf = Ndam 1997; Ta = Kesteloot and Mbodj 1983 & Kesteloot and Dieng 1989; Ep = Dieng 1993; Dt = Démb ak Tey; Ab = Je_ 1992; Fal = Fal et al. 1990. Tot = total. Sub = subtotals; e.g., 77% for those tokens of *gannaaw* that occurred in a viewpoint establishing (VE) context, listed above the dashed line in the table. NV stands for 'contexts that are not viewpoint establishing'.

The data summarized in the table in 14 show that 'later than' *gannaaw* has a strong tendency to appear in viewpoint-establishing contexts, which account for 77% of the tokens. A comparison of this data with data from English (in the table in 15 below) shows that the tendency we have observed with *gannaaw* is not a property of all words that mean 'later than'. It is also interesting to note that the lack of dependency on viewpoint-establishing contexts that we observe in the case of English *after* is what would be predicted if the metaphorical motivation for the 'later than' meaning of *after* involves the FRONT/BACK Moving Time metaphor.

15) Spoken tokens of *after* in English.

Occurring in viewpoint-establishing contexts	22%
--	-----

Not occurring in viewpoint-establishing contexts	78%
--	-----

The total sample was 225 tokens of *after* meaning 'later than', taken from 300 spoken tokens selected randomly from the COBUILD corpus. The remaining 75 tokens did not have the meaning 'later than'.

9. Conclusions

The fact that *gannaaw* 'back' has an "extra" temporal sense compared to *kanam* 'front' at first seemed mysterious. However, when this extra temporal sense is considered alongside certain typical spatial uses of *gannaaw*, the mystery disappears. Furthermore, we have begun to understand some of the factors that govern the contexts in which *gannaaw* occurs with the meaning 'later than'. Conceptual metaphor theory provides a basis for understanding how *gannaaw* means 'later than', but only in conjunction with a theory of linguistic practice.

Notes

* I would like to acknowledge the help of the following people: Ibrahima Ba, Collin Baker, Khady Diop, Jean-Léopold Diouf, David Howe, Christopher Johnson, Jim Jóob, Libasse Niang, Kyoko Hirose Ohara, Ibu Njaay, Keebaa Njaay, Momat Njaay, Omar Njaay, David Peterson, Stéphane Robert, Paap Alassane Sow, and Eve Sweetser. And I'd like to thank Paap Alassane Sow twice, for providing both data and insight. Author's email: moore@socrates.berkeley.edu.

¹ The following abbreviations have been used in the glosses:

AFF Affirmation; ALL Allative; ANT Anterior; att. = attested in use (as opposed to elicited); AUX An imperfective auxiliary, realized as *di* or *-y*; DISCREP Discourse referential demonstrative; DIST Distal; EMPH Emphasis; FOC Focus; FUT Future; GEN Genitive (Third person possessor); IMPF Imperfective; LOCPREP Locative preposition; NONSUBJ Nonsubject; PD Possessed; PERF Perfect; PL Plural; PRSNTTV Presentative; PRTCLE Particle; REL Relativizer; SUBJ Subject; VAL Valence-altering suffix; VEN Venative.

For the most part, examples are transcribed according to the official Senegalese transcription system (cf. Fal et al. 1990). Values of the Senegalese symbols are listed below. In all

cases not mentioned, the Senegalese symbol has the IPA value. é = [e]; e = [ɛ]; ë = a high "schwa"; a = (a low central vowel); à = a more open ǎ; ó = [o]; o = "open o"; ñ = palatal nasal; j = voiced palatal stop; y = [j]. Capital and lower case symbols have the same value. Geminates are indicated by doubling the symbol in question except for *q* which represents [q:]. In the case of long vowels, a single diacritic modifies both symbols. For example, óo represents [o:]. Word-final stops are devoiced.

² Gamble 1991a lists *gannaaw loolu* as meaning 'after that'; this relates to a point that will be discussed below. *Dictionnaire wolof-français* (Fal et al. 1990) does list one entry of *gannaaw* as "part[icule] de liaison 'Après, comme, puisque'," but this suggests that the temporal semantics are not felt to be central, since *après* 'after' is grouped under the same entry as *comme* 'as' and *puisque* 'since'. In fact, in her investigation of the *comme/puisque* use of *gannaaw*, Robert (1997) claims that "'after' is expressed with another [i.e. other than *gannaaw*] morpheme (*bilba*)"

³ Strictly speaking, *after* participated in the Moving Time metaphor at an earlier stage of English but does not any more -- that does not affect the point of the illustration.

⁴ See H. Clark 1973, Fillmore 1997, Rubba 1994. Vandeloise (1991:39) and Hill (1978) call Ego Opposed *mirror image*. Cf. Allan 1995. Levinson 1996 calls it a *relative strategy*.

⁵ Lakoff and Johnson 1980 call this metaphor TIME IS STATIONARY AND WE MOVE THROUGH IT.

⁶ The table in 14 below notes that 23% of the tokens of 'later than' *gannaaw* appear in contexts that are not viewpoint-establishing. The discrepant 4% can be given a separate account based on the fact that their reference object is a person.

References

- Allan, Keith. 1995. The anthropocentricity of the English word(s) *back*. *Cognitive Linguistics* 6. 11-31
- Ariel, Mira. Accessing noun-phrase antecedents. London: Routledge.
- Bybee, Joan, Revere Perkins, and William Pagliuca. 1994. The evolution of grammar. Chicago: University of Chicago Press.
- Clark, Herbert. 1973. Space, time, semantics, and the child. In Moore, T. E. (ed.) *Cognitive development and the acquisition of language*. New York: Academic Press.
- Clark, Herbert. 1996. *Using language*. Cambridge: Cambridge University Press.
- Démbak Tey. Undated. CENTRE D'ETUDE DES CIVILISATIONS, DAKAR.
- Dieng, Bassirou. 1993. *l'Épopée du Kajoor*. Dakar: Centre Africain D'Animation et d'Echanges Culturels, Editions Khoudia.
- Diop, Samba. 1995. The oral history and literature of the Wolof people of Waalo, northern Senegal: the master of the word (griot) in the Wolof tradition. Lewiston: The Edwin Mellen Press. [African Studies Volume 36.]
- Diouf, Jean-Léopold and Marina Yaguello. 1991. *J'apprends le wolof: damay jàng wolof*. Paris: Karthala
- Fal, Arame; Rosine Santos, and Jean Léonce Doneaux. 1990. *Dictionnaire wolof-français*. Paris: Karthala.
- Faye, Souleymane. 1996. *Dictionnaire usuel français-wolof: "micro dico."* Dakar: IFAN [Université de Dakar]
- Fillmore, Charles J. 1997 [1971]. *Lectures on deixis*. Stanford: CSLI Publications.
- Gamble, David P. 1991a. *Gambian Wolof - English dictionary*. Brisbane, California.

-
- Gamble, David P. 1991b. Elementary Gambian Wolof grammar. Brisbane, California. [Gambian Studies No. 25]
- Givón, T. 1995. Functionalism and grammar. Amsterdam: Benjamins
- Grady, Joseph. 1997. Foundations of Meaning: Primary metaphors and primary scenes. University of California at Berkeley doctoral dissertation.
- Gumperz, John and Stephen Levinson (eds.) 1996. Rethinking linguistic relativity. Cambridge: Cambridge University Press.
- Hanks, William. 1990. Referential practice: Language and lived space among the Maya. Chicago: University of Chicago Press.
- Hanks, William. 1996a. Language and communicative practices. Boulder: Westview Press.
- Hanks, William. 1996b. Language form and communicative practices. In Gumperz and Levinson (eds.)
- Haspelmath, Martin. 1997. From space to time: Temporal adverbials in the world's languages. München: Lincom Europa.
- Heine, Bernd; Ulrike Claudi, and Friederike Hünemeyer. 1991. Grammaticalization. Chicago: The University of Chicago Press.
- Hill, Clifford. 1978. Linguistic representation of Spatial and Temporal Orientation. Proceedings of the Fourth Annual Meeting of the Berkeley Linguistics Society.
- Hopper, Paul and Elizabeth Traugott. 1993. Grammaticalization. Cambridge: Cambridge University Press.
- Jen, Maam Yunus. 1992. Aawo bi. Dakar: IFAN Cheikh Anta Diop; Agence de Coopération Culturelle et Technique (ACCT).
- Kesteloot, Lilyan and Chérif Mbodj. 1983. Contes et mythes wolof. Nouvelles Editions Africaines.
- Kesteloot, Lilyan and Bassirou Dieng. 1989. Du tieddo au talibé: contes et mythes wolof II. Paris: Présence Africaine; Agence de Coopération Culturelle et Technique; Institut Fondamental d'Afrique Noire.
- Lakoff, George and Mark Johnson. 1980. Metaphors we live by. Chicago: University of Chicago Press.
- Lakoff, George and Mark Johnson. 1999. Philosophy in the Flesh: The Embodied Mind and Its Challenge to Western Thought. New York: Basic Books.
- Langacker, Ronald. 1987. Foundations of cognitive grammar 1. Stanford: Stanford University Press.
- Levinson, Stephen. 1996. Language and Space. Annual review of Anthropology. 25. 353-82
- Moore, Kevin E. Forthcoming. Deixis and the FRONT/BACK opposition in temporal metaphors. (Conference paper.)
- Moore, Kevin E. To appear. Point of view and metaphorical mappings from spatial to temporal concepts in Wolof. Berkeley: University of California doctoral dissertation.
- Munro, Pamela and Dieynaba Gaye. 1997. Ay baati Wolof: a Wolof dictionary (revised edition). Los Angeles: Department of Linguistics, University of California. [UCLA occasional papers in linguistics, number 19]
- Ndaw, Séex Aliyu. 1997. Jigéen faayda. Dakar: Organisation Sénégalaise d'Appui au Développement.
- Njie, Codou Mbassy. 1982. Description syntaxique du wolof de Gambie. Dakar: Les Nouvelles Éditions Africaines.

-
- Robert, Stéphane. 1997. From body to argumentation: grammaticalization as a fractal property of language (the case of Wolof *ginnaaw*). In A. Bailey, K. Moore and J. Moxley (eds.), *Proceedings of the twenty-third annual meeting of the Berkeley Linguistics Society*, February 12-17, 1997: Special session on syntax and semantics in Africa.
- Rubba, Jo. 1994. Grammaticalization as semantic change: a case study of preposition development. In: William Pagliuca (ed.), *Perspectives on grammaticalization*. Amsterdam: Benjamins.
- Sauvageot, Serge. 1965. *Description synchronique d'un dialecte wolof: le parler du Dyolof*. Dakar: IFAN (Institut Fondamental d'Afrique Noire.)
- Svorou, Soteria. 1994. *The grammar of space*. Amsterdam: Benjamins.
- Sweetser, Eve. 1990. From etymology to pragmatics: metaphorical and cultural aspects of semantic structure. Cambridge: Cambridge University Press.
- Talmy, Leonard. 1978. Figure and ground in complex sentences. In: Joseph H. Greenberg (ed.), *Universals of human language* 4. Stanford: Stanford University Press.
- Taub, Sarah. 1998. The relation between grammaticalization and Event Structure metaphor: evidence from Uighur auxiliaries. In: Jean-Pierre Koenig (ed.), *Discourse and cognition: bridging the gap*. Palo Alto, CA: CSLI press.
- Traugott, Elizabeth Closs. 1975. Spatial expressions of tense and temporal sequencing: A contribution to the study of semantic fields. *Semiotica* 15, 3: 207-230. Mouton Publishers.
- Turner, Mark. 1991. *Reading minds: The study of English in the age of cognitive science*. Princeton: Princeton University Press.
- Vandeloise, Claude. 1991. *Spatial prepositions: a case study from French*. Chicago: The University of Chicago Press.
- Yu, Ning. 1998. *The Contemporary Theory of Metaphor: A Perspective From Chinese*. Amsterdam: Benjamins.