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AUXILIARIES IN AFRICAN LANGUAGES: THE LINGALA CASE

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1 The problem

In 1978, Mufwene described a number of Lingala items which he referred to as "auxiliaries" (1978:102). One year later he appears to have changed his mind. In a paper jointly published with Bokamba, entitled "Are there modal-auxiliaries in Lingala?", these two authors argue that the question raised in the title of the paper must be answered in the negative, that is, that there are no auxiliaries in this language. Their discussion is concerned with the set of seven "putative modal-auxiliaries" listed in Table 1, which are used "to fulfil a formal grammatical role which in other languages is performed by a specific set of finite-form verbs or by special verbal-inflectional affixes" (Mufwene & Bokamba 1979:253).

N.B. The term "modal-auxiliary" is a bit misleading since, of the seven items discussed, only one has a modal function while all others may be described as aspectualizers, i.e. as elements marking primarily aspectual distinctions.

Table 1. "Modal-auxiliaries" in Lingala (Mufwene & Bokamba 1979)

Form	Verbal semantics	Grammatical function
ko-tika	'abandon, leave'	egressive
ko-sila	'finish, end'	egressive, terminative
ko-úta	'come from'	egressive, terminative
ko-kóma	'arrive'	ingressive
ko-banda	'start, begin'	ingressive
ko-zala	'be'	durative
ko-koka	'fit'	potentiality (ability)

The items listed in Table 1 exhibit a number of properties which quite a number of scholars might consider to be strongly suggestive of an auxiliary status, like the ones presented in Table 2.

Table 2. Properties of "modal-auxiliaries" in Lingala according to Mufwene and Bokamba (1979) (not applicable to the main verb uses of the relevant items)

- (a) They express a grammatical function (p. 244, 246),
- (b) they take infinitival verbs as their complement,
- (c) they do not passivize (p. 249),
- (d) they cannot take purposive complements with mp6 (te) 'in order to' (p. 249),
- (e) they do not take verbs inflected in the subjunctive as complements (p. 250).

The questions that one might wish to raise are in particular: (i) How is the fact to be explained that Mufwene referred to one and the same kind of entities as "auxiliaries" in 1978, but as "verbs" one year later? (ii) Which of the two terms employed, "verb" or "auxiliary", is more appropriate to describe the nature of the items in question?

It would seem that this change in terminology is not based primarily on the kind of linguistic data considered but rather on the theory adopted. Furthermore, both terms may be said simultaneously justified and unjustified and that, in order to understand the nature of these items, a different framework is required, one that parts with the notion of discrete categorization as a sine qua non for linguistic description.

2 Properties of the "modal-auxiliaries"

Mufwene (1978) does not elaborate on treated the items listed in Table 1 as "auxiliaries"; most likely, he simply conformed with orthodox notions of grammatical description prevalent in African linguistics and, hence, he adopted the terminological convention established by previous Lingala grammarians such as Guthrie (1951) Everbroeck (1958). That Mufwene and Bokamba (1979) abandoned this tradition and proposed a contrasting description is due primarily to the fact that they decided to adopt a model expounded by Ross (1969), McCawley (1971), ${\tt Huddleston}$ (1976b) and others according to which there is no semantic or other formal grammatical property in terms of which auxiliaries can be defined as a category distinguishable from the category of verbs. On the basis of this model, Mufwene and Bokamba had to conclude that the "modal-auxiliaries" of Lingala are to be classified as full verbs, especially since these items clearly exhibit more verb-like features than corresponding English items do that have traditionally been referred to as auxiliaries. In doing so, they ignored alternative approaches, like the one proposed by Chomsky (1957) and adopted by most students working within the generative-transformational paradigm, according to which there is a cross-linguistic category called "auxiliary" or "AUX".

The discussion presented by Mufwene and Bokamba (1979) suggests that they had in fact good arguments in favor of their analysis: The presence of the properties listed in Table 2 does not constitute a necessary and sufficient condition for defining these items as a category of its own; rather these properties are also encountered with items that are unambiguously classified as full verbs. Thus, with reference to the five properties listed in Table 2, Mufwene and Bokamba observe:

- (a) The "modal-auxiliaries" also occur as full/independent verbs and the denotation in both cases is "not that much different" (p. 246). (b) The "modal-auxiliaries" are neither more nor less constrained than "other verbs" with regard to nominal vs. verbal-argument alternations. A verb like kolinga 'like/love', for example, may alternate in the same way as do "modal-auxiliaries", it may, e.g., take infinitival complements, as in (1):
- (1) Pólo a-ling-í ko-mela míngi. Paul he-like-NPERF INF-drink much 'Paul likes to drink a lot.'
- (c) The inability to passivize is not confined to the "modal-auxiliaries", it also applies to a number of motion verbs such as ko-kenda 'go' and ko-zónga 'return'. (d) The inability to take purposive mpó (te) complements is not confined to "modal-auxiliaries" either, it is also found with some full verbs like ko-linga 'like/love' or ko-bóya 'refuse'. Furthermore, some of the "putative modal-auxiliaries" such as ko-kóma 'arrive' and ko-banda 'start' may in fact have such a purposive complement. From the evidence available it would seem that in those cases where these "modal-auxiliaries" can take a purposive

complement, it is not their grammatical but rather their lexical use which is invoked, that is, in such cases they are used as main verbs rather than as "auxiliaries". An example is provided in (2).

- (e) The inability to take verbs inflected in the subjunctive as complements once again is not restricted to "modal-auxiliaries", it is also characteristic of verbs such as ko-kenda 'go' and ko-yá 'come'.

To summarize, the position maintained by Mufwene and Bokamba (1979) appears to be well founded, in that the "modal-auxiliaries" of Lingala share most of their defining properties with at least some items clearly behaving like full verbs in every respect.

There are, however, a few problems that need to be accounted for, especially the following: Why do the "modal-auxiliaries" exhibit a clearly grammatical function when used with non-finite verbal complements, and why are they used as main verbs in other contexts, that is, what accounts for their twin-role as grammatical markers on the one hand and as lexical items on the other? And why did previous authors, including Mufwene himself, classify these items as auxiliaries in the first place?

I will now try to deal with these questions by proposing a framework that is meant to take care of them. This is the framework of grammaticalization theory.

3 The conceptual basis

One major strategy employed by man to deal with his environment is to conceive and express experiences that are less easily accessible or more difficult to understand or describe in terms of more immediately accessible, clearly delineated experiences (Lakoff & Johnson 1980). This strategy entails in particular that complex contents are expressed by means of less complex and more basic contents, and abstract concepts by means of more concrete concepts. Grammatical concepts are fairly abstract: they do not refer to physical objects or

kinetic processes; they are defined primarily with reference to their relative function in discourse. Research on the genesis of grammatical expressions suggests that grammatical categories do not emerge ex nihilo, rather they are almost invariably derived from the domain of concrete concepts, and grammatical morphology tends to develop out of lexical structures, especially out of such categories as nouns and verbs (see Heine, Claudi & Hünnemeyer 1991 for references).

However, quite a number of conceptual processes leading to the development of grammatical categories do not concern linguistic units such as words or morphemes but rather more complex conceptual entities. For example, in the grammaticalization of perfect aspects in a number of European languages, at least two markers were involved: an auxiliary 'have' or 'be' and a marker of non-finiteness, which typically was a passive participle morpheme; and progressive aspect constructions in many languages world-wide even involve three distinct morphological elements: an auxiliary verb, a nominalization marker, and a locative morpheme. The same complex construction can be observed, for example, in the English future marker be going to.

Perhaps the most striking example is that of the Latin verb habere 'have' which in the Romance languages has given rise to perfect markers on the one hand and to future markers on the other. What accounts for this divergent development is the fact that it was not the verb habere which was grammaticalized, rather grammaticalization involved entire periphrastic constructions: the construction habere + perfect passive participle gave rise to perfect expressions, while habere + infinitive periphrasis was responsible for the development of future constructions (see below).

That such complex forms of linguistic marking are not anomalous in any way becomes clear when one looks at the cognitive structures underlying grammaticalization. In Heine, Claudi and Hünnemeyer (1991, Cha. 2) a distinction is made between source concepts and source propositions. While the former refer to concrete objects, processes, or locations, i.e. to simple concepts, the latter may be viewed as events or minimal scripts; they relate to propositional contents expressing states or dynamic

situations which appear to be basic to human experience and are encoded linguistically by means of predications typically involving one argument and two participants. The most common propositions identified so far are listed in Table 3. They have been defined on the basis of cross-linguistic generalizations on constructions giving rise to expressions of tense, aspect, and modality. The question of whether these propositions can be defined as universally relevant cognitive structures would seem to require further research; concerning a discussion of some of these propositions in a different framework, see Binnick 1976.

Table 3. The main source propositions for grammatical categories of tense and aspect

Conceptual form

(a) "X is at Y"

(b) "X moves to/from Y" (c) "X does Y"

- (d) "X wants Y"
- (e) "X becomes Y"
- (f) "X is (like) a Y"
- (g) "X is with Y"
- (h) "X has Y"
- (i) "X stays in a Y manner"
- (j) "X does-Y does-Z"

Proposed label

Locational Proposition
Motion Proposition
Action Proposition
Volition Proposition
Change-of-State Proposition
Equational Proposition
Accompaniment Proposition

Accompaniment Proposition Possessive Proposition

Manner Proposition Sequence Proposition

There is considerable variation in the shape any of these propositions may take in a given language. In (a), for example, instead of a copula verb 'be', postural verbs such as 'sit', 'stand' or 'lie', or durative verbs such as 'live' or 'stay', are found in some languages, and the label "at" stands for a variety of locative notions, such as 'in', 'on', 'under', etc.

The Locational Proposition (a) is most commonly used to develop progressive aspects; in fact probably accounts for more progressive constructions the languages of the world than all propositions taken together. The main associations between source propositions and resulting grammatical categories are listed in Table 4. Note that these propositions are not the only source structures employed to develop grammatical categories of tense, aspect and modality.

Table 4. Source propositions and the most common grammatical functions derived from them

Locational Proposition

Motion Proposition Action Proposition Volition Proposition Change-of-State Proposition Equational Proposition

Accompaniment Proposition Possessive Proposition Manner Proposition Sequence Proposition progressive, ingressive, continuous ingressive, future progressive, continuous ingressive, future ingressive, future progressive, perfect, future progressive perfect, future progressive perfect, future progressive progressive, perfect, terminative

In the following paragraphs, concrete concepts or propositions giving rise to the expression of grammatical concepts are referred to as source items and the latter as target items. When an expression used for a lexical source concept is transferred to also designate a grammatical target concept then the result is ambiguity since one and the same expression refers simultaneously to two different concepts. Subsequently, the expression may be further extended to contexts where it no longer refers to the source concept but is exclusively a marker of the target concept. The structure underlying the transition from a full verbal concept to a grammatical concept can be described as in Figure 1.

Figure 1. An Overlap Model of conceptual shift

Stage: I II III

Type of concept: Source Source Target Target

Note that the stages distinguished in Figure 1 are not to be understood as discrete or prototypical entities; they are merely a convenient descriptive means of segmenting what is more appropriately analyzed as a chain of grammaticalization (Heine 1990). The data presented by Mufwene and Bokamba (1979) suggest, for example, that the Lingala items listed in Table 1 are located between Stage I and Stage II when followed by a nominal complement, but close to Stage III when followed by a non-finite verb.

The structure sketched in Figure 1 has both a diachronic and a synchronic dimension: diachronic in that the development from Stage I to III is likely to reflect a historical process, and synchronic in that Stage I presents the most concrete and Stage III the most abstract concept or, in other words, Stage I presents the lexical and III the grammatical meaning, with II combining both meanings.

The Overlap Model, as I will call the structure presented in Figure 1, does not only apply conceptual transfer, rather it applies to other domains of language structure as well. Once a given expression is transferred from source concept target concept, that is, from denoting a verb to carrying a grammatical function, it. loses in properties characteristic of its former category and acquires the properties of grammatical markers. overlap Stage II entails that two different forms are employed as optional variants for the same function: one form exhibits a fully verbal morphosyntax and the other a reduced verbal morphosyntax, where "reduced verbal morphosyntax" means, e.g., that the relevant item may no longer passivize or form imperatives, no longer inflected for tense, aspect, etc., may no longer be governed by auxiliaries, and/or may not take a nominalizer or complementizer.

4 Properties of auxiliaries

in a We are now position to deal with the questions raised in the introduction. When talking about auxiliaries, we refer to one particular outcome cognitive process whereby concrete, propositional contents are employed expression of abstract grammatical concepts. major linguistic result of this process can be seen in the emergence of what I propose to call Verb-To-TAM chains with a concrete, verbal-lexical structure at one end and an extremely grammaticalized structure serving the expression of tense, aspect, and modality (TAM) at the other, as sketched in Figure 2.

Figure 2. Some properties of the endpoints of Verb-To-TAM chains (A = starting point, B = endpoint)

Domain A

Semantics: Full verbal meaning Grammatical

function

Syntax: High degree of Fixed position

variability

Morphology: Inflected for TAM, Invariable element

person, number,

negation, etc.;

Free word Affix

Phonology: Full form Reduced form

When viewed from the perspective of A, the starting point, auxiliaries tend to be described as de-categorialized or "defective" forms of verbs (Hopper & Thompson 1984; Heine, Claudi & Hünnemeyer 1990, Ch. 8.5). When viewed from the perspective of B, however, auxiliaries are likely to be described as grammatical markers exhibiting some peculiar verbal properties. This means on the one hand that an auxiliary is no longer a full verb but not yet a grammatical inflection either, and it is likely to exhibit properties that are characteristic of the intermediate stages between main verb and inflectional category, such as the ones mentioned with reference to Lingala, that is,

- it is part of a closed set of entities used to express notions such as tense, aspect, modality, etc.;
- while having a grammatical function, * its morphosyntax is verbal to some extent;
- since it is historically the main verb while the actual main verb is historically its complement, it is marked for person, number, negation, etc., while the actual main verb occurs in an invariable form;
- as a result of decategorialization, it occupies a fixed place in the clause and exhibits a reduced verbal behavior; for example, it may only associate with a restricted spectrum of verbal inflections, it may lack the ability to occur in non-finite forms, to passivize, or to form imperatives;
- in view of its erstwhile main verb status, it also exhibits the word order characteristics described by Greenberg (1963:67) and Steele (1978), in that it occupies that position in the clause that was

normally assigned to main verbs at the time when the grammaticalization process started;

- as a result of "auxiliary reduction" or erosion, it may be unable to carry distinctive stress or tone and tends to have a phonologically reduced form as an optional variant;
- being derived from a propositional structure, it may be part of a discontinuous marker which also includes elements that can be traced back to a nominalizing or adpositional morphology.

On the other hand, in accordance with the Overlap Model sketched in Figure 1, the auxiliary exhibits the variable behavior of grammaticalization chains, which accounts for much of its "amphibian nature" and means in particular that

- it has at least two different uses, one of which is a lexical and the other a grammatical one, or one showing a full and the other a reduced verbal morphosyntax, or one having a full and the other a phonologically reduced form, etc., and that
- two different meanings may correspond to one form, or two different forms may express one and the same meaning, etc. (cf. the "twin rôle" of auxiliaries; Abraham 1990:201).

A number of authors have experienced problems when confronted with the question as to whether auxiliaries should be treated as part of morphology or the syntax of a given language. might say that, the closer a given auxiliary, particular use of it, is located towards Point A in Figure 2, the more likely it is to be associated with the syntax of the clause, while auxiliaries located close to Point B are more suggestive of an analysis in terms of morphological parameters. It would be more appropriate to argue, however, that question is largely irrelevant: considering the overall nature of Verb-To-TAM chains, any decision of tracing a boundary between morphology and syntax must remain arbitrary to some extent.

4 Conclusions

If two scholars use the same methodology, apply it to the same kind of data within one and the same language and arrive at maximally contrasting conclusions, then this fact would seem to require an explanation. A paradigm case can be seen in the

controversies between McCawley (1975) and Jackendoff (1972), or between Pullum and Wilson (1977) on the one hand and Akmajian et al. (1979) on the other, or between Huddleston (1976a, 1976b) and Palmer (1979): while the former claim that English auxiliaries are main verbs, the latter insist that they are not, rather that auxiliaries constitute a category different from main verbs. Mufwene (1978) vs. Mufwene and Bokamba (1979) provides one out of the many similar examples that could be adduced from African linguistics.

Findings on grammaticalization suggest that both positions are at the same time right and wrong, and that such a controversy becomes redundant once one views auxiliaries as resulting from a cognitive process whereby grammatical functions are conceptualized and expressed in terms of concrete propositional contents. This process, which has both a diachronic and a synchronic dimension, leads to the emergence of grammaticalization chains having a lexical/verbal structure at one end and a grammatical structure at the other.

These observations suggest a characterization of auxiliaries that differs greatly from most previous definitions: auxiliaries may be defined as linguistic items located along the grammaticalization chain extending from full verb to grammatical marker of tense, aspect and modality as well as a few other functional domains; their behavior can be described with reference to their relative location along this chain. The Lingala items presented in Table 1 are located close to Point A of Figure 2, in fact much closer than their English counterparts, like be, have, will, shall, etc., are.

Mufwene and Bokamba are right to emphasize that it is not possible to define the "modal auxiliaries" of Lingala as a discrete class of linguistic items. Considering their chain-like structure, this is to be expected. Grammaticalization theory makes it possible to predict, however, that these items will increasingly lose in lexical properties and in phonetic substance, and will develop into proclitics and eventually into prefixes of the following main verb. This has happened in many other Bantu languages, where such verbs as 'come', 'arrive', 'go', 'start', 'finish', 'end', 'be', 'be able', 'abandon', 'leave', etc., have developed into

monosyllabic verbal prefixes whose only function is that of marking tense, aspect or modality, that is, into elements that are located closely to Point B of Figure 2. For example, the Swahili verb kw-isha 'to finish, end' has been grammaticalized to an aspect category (the "already-aspect"), with the effect that for many speakers of modern Swahili, the three sentences of (3) are functionally largely equivalent, where (3a) is closest to Point A, (3b) intermediate between A and B, and (3c) closest to Point B.

- (3) a. a- me- kw- isha ku- fika 'she has already s/he-PERF-INF-end INF-arrive arrived'
 - b.a- me- kw- isha fika
 - c. a- me- sha- fika

The verb-to-TAM chain is but one example of a category that, because of its amphibian nature, given rise to controversies over whether it is the source item, the target item, both, or neither which should be considered to be the basic linguistic description - the available literature is in fact full of similar examples. A particularly common one can be seen in what I propose to call the Noun-To-Adposition chain, which has a full-fledged noun or noun phrase at one end and an invariable grammatical marker, typically a preposition, postposition, or even a case affix, at the other (see Heine, Claudi and Hünnemeyer 1991:131-139).

A number of problems associated with auxiliaries have not been addressed in this paper. For example, I have not dealt with syntactic reanalysis, that is, with the question as to how clausal structures are in the process of grammaticalization reanalyzed (Heine & Reh 1984). In particular, should be it mentioned that in a number of languages, transition from auxiliary verb to grammatical marker has led to a drastic restructuring in basic word it has been responsible, e.g., for a shift from VSO to SVO order in the development from Middle Egyptian to Coptic, or from SVO to SOV order in a number of West African Niger-Congo languages (Claudi 1990).

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