

Nominalization and word order change in Niger-Congo

1. Introduction: word order in VPs and possessive constructions

Since the seminal work of Greenberg (1963a), word order universals have been a central topic in typological research. Especially well-studied is the phenomenon of cross-category harmony, or a universal preference for consistency in the placement of certain elements with respect to their heads within one language. Languages that use postpositions tend to have head-final possessive constructions (Possessor-Noun) and head-final verb phrases (OV); in languages that place adjectives before the noun demonstratives and numerals also tend to precede the noun, etc. (Greenberg 1963a; Dryer 1992; Haspelmath et al. (eds.) 2005). In this paper I look at just one of the family of word order universals, the word order isomorphism between possessive constructions and verb phrases. Languages tend to place both the possessor and the object either before the head of the noun phrase and the verb phrase, respectively (Possessor-Noun & OV), or after it (Noun-Possessor & VO), while the other two possible combinations of constituent ordering within noun phrases and verb phrases (Possessor-Noun & VO, and Noun-Possessor & OV) are typologically rare. This tendency has been known in linguistics since at least Schmidt (1926). According to Dryer (1988, 1992), it belongs to the few “real” word order universals that cannot be explained by genetic biases in the sample.

Research on word order universals has been dominated by two major approaches. Some studies explain the typological tendencies by functional factors, including, most notably, the notion of parsing efficiency that favors consistent placement of heads across different categories (Hawkins 1990, 1994, 2004; see also Kuno 1974; Frazier 1980, 1985). Others aim to explain them by general principles of organization of grammar. Such explanations often assume various kinds of parameters of directionality (Vennemann 1974; Travis 1984, 1989; Maxwell 1984; Haider 1986, *inter alia*), or rely on structural rules that

can be given a functionalist interpretation, such as rule schemas (Hawkins 1983) or parameters of branching direction (Dryer 1992).

Although the word order correlation between verb phrases and possessive constructions is a well-established generalization, there has been relatively little typological research on its diachrony. The approach advanced in this paper aims to explain this particular correlation not by universal functional or structural principles of organization of grammar but rather by principles of language change. Based on a case study of word order change in Niger-Congo, I suggest that the universal tendency for word order isomorphism of verb phrases and possessive constructions can be derived from a particular mechanism of change that involves reanalysis of possessive constructions with deverbal nouns as verb phrases. This development results in a transfer of certain structural properties from noun phrases to verb phrases. It is well attested in different languages and occurs regularly in languages with different genetic affiliation. I argue, based on data from Niger-Congo, that this type of reanalysis contributes to the uneven distribution of the harmonic (frequent) and disharmonic (rare) languages, i.e. of languages with and without the NP/VP word order harmony.

The paper is organized as follows. In section 2 I introduce the major word order types of Niger-Congo. Section 3.1 discusses the type of syntactic reanalysis that can introduce a new pattern of cross-category harmony into a language, illustrated by distribution of word order types within Niger-Congo. In section 3.2, I address the problem of establishing the real direction of word order change within Niger-Congo. Section 3.3 discusses exceptional word order pattern in constructions with deverbal nouns, providing additional evidence for their role in word order change. Section 4 concludes the paper.

2. Word order types of Niger-Congo

2.1. Basic word order

The Niger-Congo languages show considerable variation in their word order. This diversity is best described in terms of two independent parameters: (i) the ordering of the subject, object, and verb (discussed in this section), and (ii) the structure of the verb phrase (discussed in 2.2).

In a typical Niger-Congo language, the subject precedes the verb in a pragmatically unmarked declarative sentence. The languages vary, however, in terms of the relative ordering of the verb and its object. This variation can be subsumed under the following three major word order types: SVO, verb-second (V2), and SOV. The three types are briefly characterized below. The relevant fragment of classification of the Niger-Congo languages is provided in the Appendix.

- **Type SVO**

The majority of the Niger-Congo languages are consistently SVO in all clause types. This is the predominant word order pattern of Bantu and West Atlantic.

- **Type V2**

In a number of Niger-Congo languages, the ordering of the verb and its object varies depending on finiteness of the verb. Objects follow finite verbs (SVO) but precede non-finite verbs in sentences with auxiliaries (S-Aux-OV) and in infinitival clauses (OV). For example, in (1a-b) from Vata, the object precedes the lexical verb within the complement of a finite auxiliary, and the word order is S-Aux-OV (Koopman 1984: 28).

- (1) a. w'a lā mÓ dlá
 they PERF-A him kill
 'They have killed him.'
- b. 'n ká n'a gòl'i mlÍ pùt'u sà
 I FUT-A my mounds in grass remove
 'I will clear the weed from my mounds.'

In contrast to (1a-b), the examples in (2a-b) are in the imperfective and perfective aspects, respectively, which are expressed without auxiliaries. The finite verb precedes its object, resulting in the SVO word order (Koopman 1984: 27-8).

- (2) a. 'n l'e bĭ s'aká
 I eat now rice
 'I am eating rice right now.'
- b. 'n Ì s'aká
 I eat- PERF rice
 'I ate rice.'

This word order type is analyzed by Koopman in terms of head movement: finite verbs raise to an inflectional category, resulting in the S-V_{fin}-O pattern. On the other hand, whenever the finite position is occupied by an auxiliary, the verb appears within the VP and the word order is S-Aux-OV. The difference in the placement of finite and non-finite verbs is represented schematically in (5).

(3) Position of the verb in V2 languages

sentences with auxiliaries	S	Aux	[O	V _{non-fin}]
sentences with finite verbs	S	V _{fin}	[O	--]

Similar kinds of analysis (with various modifications) have been adopted for a number of verb-second Germanic languages (Platzack 1985; Sells 2001). Languages of the Kru type will be treated in this paper as languages with head-final verb phrases (OV) and verb raising.

• **Type SOV**

Finally, some of the Niger-Congo languages place objects before the verb in all clause types, independently of whether or not the verb is finite. This is the basic word order type of Mande, as well as of a small number of languages from other branches of Niger-Congo (e.g., Ijo). In (4a-c) with examples from Wan (Southeastern Mande); the object invariably precedes the verb (all examples from Wan come from the author's fieldnotes).

- (4) a. *nã* *ɨ̃* *p̄* *l̄*
 I.PRF PRF thing eat
 'I have eaten.' (with the perfect auxiliary)
- b. *Dèlòtɔ́* *á* *p̄* *l̄* *lé*
 Deloto COP thing eat PROG
 'Deloto is eating.' (with the progressive auxiliary/copula)
- c. *è* *p̄* *l̄*
 he thing ate
 'He ate.' (with a finite verb and no auxiliary)

In both SOV and V2 languages, the verb phrase is head-final. Unlike in V2, however, in SOV languages finite verbs do not raise to a syntactic position preceding the object. In

Wan, finite verbs do not share their position with auxiliaries but occur in the same position as non-finite verbs, following their object.¹

(5) Position of the verb in SOV languages

sentences with auxiliaries	S	Aux	[O	$V_{non-fin}$]
sentences with finite verbs	S		[O	V_{fin}]

The differences between the three major word order types of Niger-Congo are summarized in (6). They are distinguished by (i) the ordering of constituents within the verb phrase (SVO vs. V2/SOV), and (ii) the presence or absence of verb raising (V2 vs. SOV).

(6) Three major word order types of Niger-Congo

word order type	constituent ordering with the VP
SVO	verb-initial ²
V2	verb-final with verb raising
SOV	verb-final without raising

Not every language fits neatly in one of the three major word order types. Some Niger-Congo languages appear to be intermediate between SVO and V2 or between SVO and SOV. These are the languages that have the basic word order of S-(Aux)-VO but show traces of head-final verb phrase (OV); I discuss this mixed type in section 3.

¹ One could attempt to include SOV languages in the V2 type by positing a null auxiliary element for SOV clauses. This analysis, however, does not explain the fact that the form of the verb in the SOV construction may depend on tense, suggesting that the verb is indeed finite. In Wan, finite verbs in the simple past differ in tone from the non-finite forms used with auxiliaries (cf. 4a-b vs. 4c). This would be unexpected if the verb phrase functioned as a non-finite complement of a null auxiliary.

² The position of the object relative to the verb does not by itself provide evidence for verb raising in SVO languages. Such evidence may come from other kinds of data, such as the placement of adverbials, etc.; this issue is not relevant for the present discussion.

2.2. Structure of the verb phrase

Variation in the relative position of subject, object, and verb accounts for a significant portion of word order diversity of Niger-Congo, yet not for all of it. Most importantly, a different parameter determines which elements can form a syntactic constituent with the verb. Although this variation pertains to the structure of the verb phrase and has no direct effect on the basic word order, the two parameters are often confused and treated as one. Below I use examples from languages with head-final verb phrases to illustrate that the independence of the two parameters. In languages with head-final verb phrases (SOV and V2), the problem of identifying the structure of the verbal constituent amounts to determining which elements, beside the object, precede the verb, and which elements follow it.

- **The Ijo type**

Ijo is quite unique for Niger-Congo in having “pure” verb-final syntax. In Ijo, the verb is preceded not only by its object and postpositional arguments, but also by different kinds of adjuncts, as in the examples with locative and temporal adverbial phrases below (Givón 1975: 77).

- (7) a. oṃiṇi wáři-bi-ò tímí-mi
 they house-the-LOC stay-ASP
 ‘They stayed at the house.’
- b. kími-bi déin-bi-ò bó-mi
 man-the night-the-LOC come-ASP
 ‘The man came during the night.’

- **The Mande type**

Ijo is an extreme case in that it places a very broad range of elements in the preverbal position. At the other end of the spectrum are the Mande languages, where only one argument – the object – precedes the verb. In example (8) from Wan, the verb is preceded by its object but followed by its postpositional goal argument.

- (8) *è mǎŋ glā gwǎ é gó*
 3SG.SBJ rice took calabash DEF inside
 ‘He took rice from/into the calabash.’

This peculiar structure, often referred to as the SOVX word order type, has sometimes caused confusion in the typological classification of Mande: even though such languages seem to be SOV, all arguments other than objects are placed after the finite verb.³ I will treat the Mande languages as representatives of the SOV type with consistently head-final verb phrases but with an extremely reduced structure of the verbal constituent. In a language like Wan, the verb phrase consists only of the verb and its object. All oblique arguments appear as extraposed postpositional phrases, in a position external to the VP and following the main verb of the sentence. This structure becomes apparent in examples with embedded verb phrases. In (9), the main verb *ságlà* ‘start’ takes a verb phrase (‘climb the tree’) as its object. The postpositional argument of the embedded verb (‘in the tree’) does not appear after the verb that selects for it (*kúnǎ* ‘climb’) but rather after the main verb. As a result, the embedded verb is separated from its oblique argument.

- (9) S [O V]_{VP} PP
è kúnǎ ságlā yrē é gó
 3SG.NOM climb started tree DEF in
 ‘He began to climb the tree.’

Such discontinuities in the position of embedded verbs and their oblique arguments are systematic in Wan. All postpositional arguments of main and embedded verbs follow the main verb, often without having a fixed order with respect to each other. I interpret this as evidence that only the object forms a syntactic constituent with the verb, and verb phrases

³ The fact that such a wide class of arguments follow the verb may explain why some Mande languages are classified as VO in Greenberg (1963a: 109); this classification is repeated in Hawkins (1983: 332).

are consistently head-final (OV), even though all arguments other than objects follow the verb.⁴

- **The Kru type**

A number of languages with head-final verb phrases are intermediate between the Mande and the Ijo types. For example, Kru languages vary with respect to the position of locative goal phrases, which in some languages precede and in others follow the non-finite verb (Marchese 1986). The position of certain classes of adverbs in sentences with auxiliaries (S-Aux-OV) also varies, following roughly the division between Eastern and Western Kru: in Eastern Kru, temporal and manner adverbs tend to precede the verb, and in Western Kru they tend to follow it (Marchese 1986: 219-25).

In characterizing the major word order types of Niger-Congo, I distinguished between two independent parameters of word order variation: variation in basic word order, and variation in the structure of the verbal constituent. I cannot discuss in detail the latter parameter here but instead will focus on variation in word order type proper (SVO, V2, and SOV). I am particularly concerned with constituent ordering at the VP level, in complements of auxiliaries and embedded clauses. By restricting myself to the phrase-level constituent ordering, I bypass the problem of classifying “inconsistent” word orders, where the sentence ordering differs from that of the VP due to the presence of a specialized syntactic position restricted to finite verbs, as in V2 languages.

In what follows I show that in cases where the constituent ordering within a verb phrase and within the possessive construction do not match, the former tends to change under the influence of the latter. This tendency is explained by a universal path of development of new forms of the verb from constructions with deverbal nouns. Before turning to this discussion, I will summarize previously proposed reconstructions of the word order type of Proto-Niger-Congo.

⁴ Creissels (2005) observes that Mande languages in general lack double object constructions found in other branches of Niger-Congo. This once again points to the highly restrictive nature of the verbal constituent in Mande; I discuss the possible path of historical development of the structure of the Mande verb phrase in (Nikitina in prep.).

2.3. Proposed reconstructions

A number of paths have been proposed for the development of the word order types of present-day Niger-Congo. I can only mention some of them here; a comprehensive overview can be found in Gensler (1994). The earliest proposals (Hyman 1975; Givón 1975, 1979) suggest that SVO developed from an original SOV. On this account, the original word order type is preserved in its “pure form” in Ijo, where the verb follows all of its arguments, while other languages are at various stages of developing SVO. Givón (1975) argues that facts from the morphology of the present-day SVO languages reveal traces of earlier SOV syntax, and Hyman (1975) attributes the development of SVO to pragmatic postponing of constituents in discourse, or *afterthought*.

Williamson (1986) also suggests that Proto-Niger-Congo was an SOV language but proposes that the development of SVO could be due to constructions with verb serialization (S-V1-O-V2). The first verb of the series became an auxiliary (S-Aux-OV), and the second verb was then copied in the position immediately following the auxiliary (S-Aux-VO). After that, the auxiliary could be lost as redundant, with the result of some languages developing the SVO word order pattern. This account, however, does not explain why the lexical verb should be copied in the position following the auxiliary, or how this change affects the ordering of the object and non-finite verb when no auxiliary is present, i.e. in embedded clauses.

A somewhat different scenario is proposed by Marchese (1986) based on a study of Kru. Marchese agrees with the previous proposals that Proto-Niger-Congo was SOV but argues that the Kru family must have had a basic SVO order at a very early stage, with OV retained in embedded clauses. The S-Aux-OV construction developed later from an S-V1-[O-V2] construction and “has its roots in a basic SVO word order” (269): in the S-V1-[O-V2] construction, the complement consisting of a verb and its object (O-V2) follows the finite verb (V1). V1 then developed into an auxiliary, resulting in the S-Aux-OV pattern. Since at this stage the S-Aux-OV construction co-existed with SVO, it further developed in some languages into S-Aux-VO through the process of *exbraciation* of the object, i.e. through moving the object out of the “verb brace” formed by the auxiliary and the verb. Marchese’s analysis thus attributes the OV of embedded clauses and OV in constructions

with auxiliaries to two independent developments. Contrary to this, on the account adopted here the two instances of OV (in embedded clauses and in complements of auxiliaries) reflect a single parameter – the verb-final constituent ordering of the verb phrase, manifested with all non-finite verbs.

Another reconstruction of Proto-Niger-Congo word order, known as the *nominal periphrasis hypothesis*, makes a claim that is quite different from the hypotheses I have just summarized (Heine 1976, 1980; Heine and Reh 1984; Claudi 1993; see also Gensler 1997). The nominal periphrasis hypothesis draws on the fact that aspectual meanings are often expressed in Niger-Congo periphrastically with a nominalized form of the verb. In such constructions, an auxiliary verb takes a verb phrase as its complement. In some languages, the complement is marked with a postposition (cf. example (4c) from Wan, which literally reads “Deloto is *at* eating”). In others, the postposition developed into a suffix or was completely lost. The nominal periphrasis hypothesis attributes the appearance of OV word order to the influence of the head-final possessive construction (Possessor-Noun). On this view, the original word order of Niger-Congo was SVO, as it is preserved in most languages of the family. In some of the languages, however, OV has developed in the nominal periphrastic constructions *by analogy* with the nominal Possessor-Noun order. Such is, for example, the pattern we find in Kru in constructions with auxiliaries. By analogy, the nominal head-final word order was extended to all types of clause in Mande, resulting in the S-(Aux)-OV syntax.

The nominal periphrasis hypothesis is based on the notion of analogical change, by which the nominal word order pattern is transferred to verb phrases. A special role is played in this change by deverbal nouns, which are treated as “intermediaries” between nouns and verbs. Interestingly, the same correlation between the word order of NP and VP is discussed in Givón (1975: 90) as a result of “invasion of OV syntax into the noun phrase.” Similarly to the proponents of the nominal periphrasis hypothesis, Givón suggests that the construction responsible for this is verbal nominalization, but attributes the effect to an influence in the opposite direction (from verb phrases to noun phrases). In the next sections I propose a revised version of this analysis, show how it accounts for word order change in Niger-Congo, and discuss its consequences for the study of word order typology.

3. Word order change and deverbal noun

3.1. From NP to VP: the mechanism of change

Cross-linguistically, as well as in Niger-Congo, new forms of the verb derive from constructions with deverbal nouns. In particular, tense and aspectual form often develop from constructions with deverbal nouns where the temporal or aspectual meaning is expressed periphrastically, as in the following constructions from two different Niger-Congo languages. In such constructions, the deverbal noun is typically introduced by a copula ('be at the doing of x') or a finite lexical verb (most often, by motion verbs 'go', 'come', 'walk'), and it may also be marked by an adpositional or case marking (Marchese 1986; Claudi 1994).

- (10) a. Ewe (Kwa; Claudi 1994: 220)
me-le é -kpɔ dzi
1SG-be.at 3SG.POSS -see surface/on
'I am seeing him/her/it.' (Lit. 'I am on his/her/its seeing.')
- b. Tura (Mande; Bearth 1995: 96)
Tia yě nu-sɰ-gɰ
Tia 3SG-AUX come-NMLZ-interior
'Tia is coming.' (Lit., 'Tia is in coming.')
- c. Cedepo (Kru; Marchese 1986: 102)
ɔ mĩ tulubɔ mũ ma
he go.IMPF Monrovia go NMLZ
'He will go to Monrovia.' (Lit., 'He goes to Monrovia's going.')
- d. Kpelle (Mande; Welmers 1973 : 354)
a pâi 'kêi
he came it.do.NMLZ
'He's going to do it.' (Lit., 'He came to the doing of it.')

Constructions of this type tend to become conventionalized as standard expressions of aspectual meanings (Heine et al. 1993; Heine and Kuteva 2002). As a result, the originally nominal constructions tend to be reanalyzed as regular verb phrases. This process is often reflected in the loss of adpositional marking on the deverbal noun; for example,

postpositions that were originally part of the construction may develop into aspectual suffixes on the lexical verb or disappear altogether (Claudi 1994; also Bearth 1995; Kastenholtz 2003). This development may result in the creation of a new aspectual form of the verb.

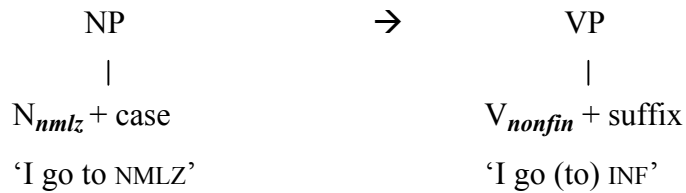
On the other hand, non-finite verb forms, such as infinitives and supines, also develop from deverbal nouns (often in a particular case form), typically due to syntactic reanalysis of purpose constructions. This development is widely attested both in Indo-European languages (Meillet 1931; Jeffers 1972; Disterheft 1980, *inter alia*) and in languages from other families (Aalto 1953: 21; Haspelmath 1989). The change can be illustrated with the following pair of examples from Kru (Marchese 1986: 126).

- (11) a. ϔ yi **II** **kā**
 he come **eat** **NMLZ**
 ‘He’s coming to eat.’ (purpose NP)
- b. ϔ yi **II**
 he AUX **eat**
 ‘He will eat.’ (future tense construction)

The example in (11a) represents a purpose construction with the regular deverbal noun. The complement of the finite verb functions as a noun phrase, and the verb ‘eat’ appears in a nominalized form. The future tense construction in (11b) is a result of reanalysis of the purpose construction in (11a): the lexical verb ‘come’ was reinterpreted as a future tense auxiliary, and what used to be a purpose NP was reinterpreted as a non-finite complement of the auxiliary, i.e. a VP. In this particular example, the nominalizer was lost, and the deverbal noun was replaced by the regular non-finite form of the verb. In other cases, the nominalizer (a free-standing word or a morpheme) can become reinterpreted as a marker of a new nonfinite form of the verb (Heine and Reh 1988: 252-3).

The development of VPs from originally nominal constructions can be represented schematically as follows.

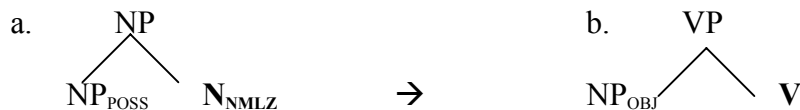
(12) Reanalysis of constructions with deverbal nouns as regular VPs



The change is due to conventionalization of an originally nominal construction (e.g., a directional NP) for the expression of a meaning associated with verbs, such as purpose or intention. In cases where the change creates a new morphological form, the new infinitive can be extended to other contexts and become the unmarked nonfinite verb form. Both the English *to*-infinitive and the German *zu*-infinitive, although periphrastic, and not morphological forms, became the major form of the nonfinite verb due to a similar development: both originated as purpose clauses (PPs) and were later reanalyzed as infinitives (VPs), entering into competition with the bare infinitive (Los 1999, 2005; also Abraham 2004; see also Heine and Kuteva 2002: 247-8).

In sum, new forms of the verb, both finite and non-finite, often develop from constructions with deverbal nouns. This process may have immediate consequences for the ordering of the verb and its object. In constructions with deverbal nouns, the object participant of the verb is typically expressed in the same way as a nominal possessor, i.e. in a possessive construction (cf. the expression of the object in 10a, where it is realized as a possessive pronoun). When a nominalization (of category N) is reinterpreted as a form of the verb (of category V), and constructions with that form are reinterpreted as VPs, what used to be a possessive modifier may be reinterpreted as the object (and be replaced by the form typical of objects).⁵ I represent the possible outcome of this development in 13, where a construction with a deverbal noun is reinterpreted as a verb phrase (cf. 12).

(13) Reanalysis of constructions with deverbal nouns as verb phrases



⁵ The parallelism between the possessive construction and the verb phrase is reinforced in Niger-Congo by the fact that in many OV languages possessors and objects are either not distinguished (see Innes (1967) for Mande) or only distinguished with pronouns.

This process is a powerful mechanism of transfer of nominal structural properties from possessive constructions to verb phrases, including constituent ordering. The language may further level out the differences between the VPs created by the reanalysis and constructions with other verbs; in some cases, however, the innovated nominal word order may be adopted for VPs, resulting in the identical word order pattern in verb phrases and in possessive constructions.

In what follows I demonstrate how this mechanism accounts for word order variation within Niger-Congo and how it contributes to cross-category harmony by allowing word order transfer from possessive constructions to verb phrases.

3.2. Niger-Congo: the direction of change

3.2.1. Against Proto-Niger-Congo as SVO

In the previous section I outlined a mechanism that can lead to word order change in languages with non-identical constituent ordering of possessive constructions and verb phrases. The idea that this mechanism accounts for a significant part of word order change in the Niger-Congo languages was developed in Heine (1976, 1980), Heine and Reh (1984), and Claudi (1993). Their analysis, however, was based on the assumption that Proto-Niger-Congo was SVO with head-final noun phrases (Possessor-Noun), which later developed, through the use of nominal periphrastic constructions, into V2 in languages like Kru and further into SOV in languages like Mande. On this view, the V2 languages represent an intermediate stage in the process of change from VO to OV syntax, where some, but not all verbal constructions have switched their ordering.⁶ The reconstruction of Proto-Niger-Congo as SVO is subject to several serious criticisms. In this section, I discuss arguments that have been raised against the nominal periphrasis hypothesis and show that although they are problematic for the actual direction of change proposed within that hypothesis (from SVO to SOV), they do not present a problem for the proposed

⁶ This is by itself a debatable assumption, since finite verbs quite often differ from non-finite verbs in their ordering pattern due to a differentiation between the lexical verb phrase and the finite functional projection, and there is no a priori need for a V2 language to develop SOV syntax.

mechanism of change, which still accounts in an efficient way for analogical word order transfer. Word order change through reanalysis of constructions with nominalization may proceed in either direction, verb phrases becoming head-initial (SVO) or head-final (V2/SOV) due to the same factor. I will argue that the nominal periphrasis hypothesis can accommodate the apparently problematic counterevidence once its assumptions regarding the direction of change are revised.

The first argument that casts doubt on the proposed reconstruction of Proto-Niger-Congo as SVO is of typological nature. For the nominal periphrastic constructions to initiate word order change, the language needs to have a combination of the Possessor-Noun construction and SVO word order. This combination, however, is not frequently found across languages, which suggests that it is relatively unstable. Proto-Niger-Congo could have introduced the Possessor-Noun construction, which would cause further word order changes. In this case, however, the reconstruction is not complete until a scenario is worked out that would account for this innovation, either by showing how the Possessor-Noun construction could develop language-internally or hypothesizing that it could be borrowed. Given these possibilities, the typological argument does not rule out the original hypothesis but suggests that the explanation is not entirely satisfactory.

Somewhat more challenging is the distribution of word order types across the different branches of Niger-Congo, which indicates that even if the proto-language was SVO, the change to verb-final verb phrase (which could be either a change to V2 or a change to SOV) must have happened at a very early stage in the history of the Niger-Congo family. Very few branches of Niger-Congo consist entirely of SVO languages, and traces of verb-final verb phrases, such as OV in some constructions with auxiliaries or in embedded clauses, are attested in almost all major branches. Such traces are found in all subbranches of Volta-Congo – they are present in Gur, Dogon, Adamawa-Ubangi, Kwa, Kru, as well as Benue-Congo (Gensler 1997; Gensler and Güldemann 2003; Güldemann forthcoming). Within Atlantic-Congo, Ijo is consistently head-final, and OV is attested in some Atlantic languages, such as Kisi (Childs 1995). Finally, Mande languages are consistently SOV, which leaves us with Kordofanian as virtually the only branch of Niger-Congo that possibly has no verb-final constructions. This suggests that the OV pattern either has developed independently in all different branches, or was present in the proto-

language early enough to be passed down to its descendant languages. The latter assumption comes close to reconstructing Proto-Niger-Congo as at least partially OV.

The claim that the Niger-Congo languages are *predominantly* SVO is often based on evidence from Bantu, which constitute a majority within Niger-Congo. Many Bantu languages, however, have developed rich verbal morphology, and this distinguishes them in important ways from other Niger-Congo languages, which are predominantly isolating. The fact that the object noun phrase follows the verbal complex in modern Bantu could therefore be unrelated to the word order properties that characterized Proto-Bantu at their isolating stage (Gensler 1994). On the other hand, as Gensler (1994: 13-15) points out, within the Bantu verbal complex the object agreement affix often precedes the verb stem. For example, in (14) from Swahili the subject morpheme precedes the tense/aspect prefix, which is followed by the object pronominal prefix.

(14)	ni	-li	-mw	-ona	'I saw him' (Swahili)
	Subj	Tns/Asp	Obj	Stem	
	S	Aux	O	V	

If the ordering of the bound pronominal morphemes within the verbal complex reflects the ordering of the corresponding free elements at the isolating stage, we can reconstruct to Proto-Bantu the familiar S-Aux-OV word order pattern, which is so commonly found in the rest of Niger-Congo. Gensler (1994) provides further evidence for this reconstruction by pointing out a few exceptions to the SVO word order in Bantu. The example in (15) is from Tunen, an isolating language spoken in Cameroon, in the area generally thought to be the homeland of Proto-Bantu. In Tunen, the object precedes the verb in sentences with auxiliaries, which again points to the head-final constituent ordering within the verb phrase.

(15)	Tunen	(Dugast 1971:171)			
	á	ndò	mianjó	menyàma	húlən
	he	AUX	me	meat	bring
	'He brings me meat.'				

The distribution of OV in different branches of Niger-Congo and the morphological structure of the Bantu verb do not support the reconstruction of SVO as the Proto-Niger-

Congo word order and suggest, on the contrary, that Proto-Niger-Congo already had verb-final verb phrases and that the change proceeded in the direction opposite to the one proposed in Claudi (1993). This alternative direction of change is consistent with Givón's reconstruction of Proto-Niger-Congo as OV, which is based mainly on morphological evidence (Givón 1975, 1979). It is also consistent with the fact that a change from head-final to head-initial verb phrase is apparently ongoing in a number of Benue-Congo languages. I address this issue in the next section, where I discuss languages that appear to be shifting from an original V2 pattern to SVO, due to the influence of the Noun-Possessor construction. This development is exactly the opposite of the one suggested by the nominal periphrasis hypothesis, and this again poses a problem for the originally proposed direction of change.

Finally, the hypothesis that the Mande languages have developed from the SVO type (Claudi 1994) is challenged by Creissels (2005). Pointing to the fact that Mande languages provide no evidence for an earlier SVO, Creissels concludes that their present-day SOVX pattern should be reconstructed to the level of Proto-Mande. This argument has serious implications for the reconstruction of Proto-Niger-Congo, since the Mande family is often assumed to be the first group of languages that separated from the rest of Niger-Congo (Welmers 1971).⁷ All this evidence suggests that an alternative reconstruction should be considered. Instead of abandoning the nominal periphrasis hypothesis, I propose to revise its assumptions regarding the direction in which the change proceeded, and show that the revised model accounts for a wider set of data in a more coherent way.

3.2.2. Reconciling the evidence

The change in the alternative direction can be explained by the same mechanism as the one originally proposed within the nominal periphrastic hypothesis, namely, by reanalysis of

⁷ Some scholars question the status of Mande as part of Niger-Congo. Similarly debatable is affiliation with Niger-Congo of Dogon, Atlantic, Ijoid. In the absence of conclusive evidence that would prove that Mande constitute an isolated family or belong to a linguistic family other than Niger-Congo, I will treat them as part of Niger-Congo, following Greenberg (1963b).

constructions with nominalization as verb phrases with a subsequent shift of verb phrases to the nominal constituent ordering. On this alternative view, Proto-Niger-Congo had head-final verb phrases (which is consistent with either the V2 or the SOV word order type) and head-final noun phrases (Possessor-Noun). This syntactic type is characteristic of modern Kru, as well as Mande. Reconstructing head-final VPs to Proto-Niger-Congo explains the fact that traces of the OV pattern are preserved in nonfinite constructions in most branches of Niger-Congo. The hypothesis that Proto-Niger-Congo was a verb-second language, like modern Kru, has an advantage of being consistent with the proposals to reconstruct both the S-Aux-OV and the SVO structures (Gensler 1994; 1997; Williamson 1989: 29). Word order in noun phrases (Possessor-Noun) is isomorphic in this type of language to that of verb phrases (OV).

Some of the descendant languages could later develop an alternative Noun-Possessor construction; this innovation could be due to contact or result from an expansion of an emphatic possessive construction (to be discussed below). In languages that have replaced the Possessor-Noun construction with Noun-Possessor, the newly developing nominal periphrastic constructions are expected to adopt the new nominal word order pattern (N-Poss).⁸ Due to the mechanism described in the previous section nominal periphrastic constructions tend to be reanalyzed as regular verb phrases. As a result, the word order of the possessive construction is transferred to the verb phrase, ultimately resulting in VO.

The considerations discussed above are consistent with the hypothesis that the Niger-Congo verb phrase was originally OV. This word order pattern is preserved in SOV

⁸ Development of new nominal periphrastic constructions is a productive process. It is part of a grammaticalization cycle, with old analytic constructions becoming morphological forms of the verb and new analytic constructions being introduced in the language. For example, although some periphrastic constructions apparently existed in Proto-Mande, they can no longer be reconstructed based on the present-day evidence (Bearth 1994; Kastenholtz 2003). This is similar to the problem of reconstructing the category of the infinitive to Proto-Indo-European (Disterheft 1980), which is also due to the process of cyclic replacement and reanalysis of the relevant morphological form.

and V2 languages (the latter have a separate position for finite verbs). In SVO languages, the original head-final verb phrase was replaced by a head-initial one (VO) due to the influence of the Noun-Possessor construction, which on this account is an innovation. The chart in (16) summarizes some data on word order in noun phrases and verb phrases in Kwa and some non-Bantoid Benue-Congo languages (for sources of data, see next paragraph). The chart reveals a strong correlation between the use of the (innovated) Noun-Possessor construction and a shift to head-initial verb phrases (VO). Only languages with Noun-Possessor have a restricted set of contexts where OV appears, while in languages without it, OV is the only pattern used with non-finite verbs, including sentences with auxiliaries.

(16) Correlation between the use of Possessor-Noun and traces of OV

	NP	VP
Ewe (Kwa)	Poss-N	S-Aux-OV
Gbe (Kwa)	Poss-Link1-N, N-Poss-Link2	OV with ‘start’, ‘stop’, ‘know’; in IP gerunds
Gwari (BC, Nupoid)	Poss-N	S-Aux-OV
Nupe (BC, Nupoid)	N-Poss , Poss-N in compounds	S-Aux-OV; some optional S-Aux-VO
Yoruba (BC, Defoid)	N-Poss	OV with ‘learn’, ‘know’, ‘want’; in gerunds; S-Aux-OV in dialects
Igbo (BC, Igboid)	N-Poss	OV with ‘know’; in gerunds; S-Aux-OV in dialects
Edo (BC, Edoid)	N-Poss	VO only (?)

The development of VO in languages that have innovated the Noun-Possessor construction could explain the correlation between the two parameters in (16). Only some of the Kwa languages have the Noun-Possessor construction, which they may have innovated. In Ewe, which has the Possessor-Noun construction, the verb phrase is strictly head-final, as demonstrated by the S-Aux-OV pattern with finite auxiliaries. Gbe (Fon) makes use of

both head-final (Poss-Noun) and head-initial (Noun-Poss) constructions, and head-final verb phrases appear in Gbe in complements of some matrix verbs ('start', 'stop', 'know'), as well as in some gerunds (Manfredi 1997: 102).

Within Benue-Congo, Nupe has apparently innovated the Noun-Poss construction and still has the earlier Poss-Noun pattern present in a number of lexicalized compounds (Hyman 1975: 132-3; Westermann 1927:191). The S-Aux-OV structure alternates in Nupe with S-Aux-VO when the object is nonreferential (Madugu 1995, reported in Manfredi 1997:100); this can be viewed as a shift toward a head-initial verb phrase. Yoruba, Edo and Igbo have replaced the Possessor-Noun construction with Noun-Possessor. Edo seems to have lost the head-final verb phrase, while Yoruba and Igbo can be characterized as VO with traces of earlier OV syntax. According to Manfredi (1997:102), the S-Aux-OV construction, although not attested in Standard Yoruba, is preserved in some dialects of Yoruba. At the same time, the head-final OV order is found in Yoruba in complements of verbs like 'know' and 'want', as well as in gerunds. In Igbo, the head-final ordering is found in complements of the verb 'know' (Manfredi 1997:99) and in gerunds. The S-Aux-OV construction is attested with future auxiliaries in dialects of Igbo (Manfredi 1997:99).

Overall, the languages that have introduced the Noun-Possessor construction have a restricted set of contexts in which OV is used. This correlation between the constituent ordering of noun phrases and that of verb phrases in the languages represented in (16) supports the hypothesis that the change from OV to VO could be a consequence of an independent change from Possessor-Noun to Noun-Possessor. But what could be a cause of the latter change? There are two possible ways in which the Noun-Possessor construction could be introduced, one involving contact with head-initial languages, the other, internal development of a head-final construction. The former scenario is proposed by Hyman (1975), who argues that the spread of the Noun-Possessor construction could be due to language contact:

What is interesting in the word order differences in the noun phrase is that the distribution of poss-N and N-poss does not correspond to genetic linguistic boundaries <...> In addition, Westermann (1927) reports that Gũ, a dialect of Ewe spoken in Dahomey (i.e., where Yoruba and Ewe dialects

meet) has the order of N-poss, although the more standard dialects have poss-N. (122)

Westermann (1927:192) proposes a structural reason for a change from Possessor-Noun to Noun-Possessor in a dialect of Ewe. According to his hypothesis, in Gũ, the original Possessor-Noun construction (also attested in other dialects of Ewe) coexisted with an emphatic variant, in which the noun stood in apposition with a combination of the possessor and a nominal with the meaning ‘property’ (“Noun Possessor-property”). The emphatic variant of this kind (“boat my-thing” for “my boat”) is attested, according to Hyman (1975:134), in various African languages (cf. Heine and Reh 1984: 273). What originally developed as an emphatic construction can then become a conventionalized, non-emphatic expression of possession (“boat my-own”) and can be further reduced to “boat-my”. This path is summarized in (17).

(17) From Noun-Poss to Poss-Noun (Westermann 1927; Hyman 1975:133-4):

my-boat > boat my-thing > boat my-own (boat-mine) > boat-my

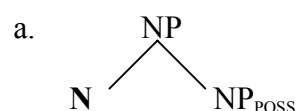
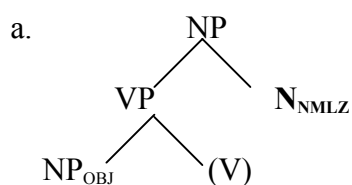
It seems quite plausible, given the evidence discussed in Hyman (1975), that the Noun-Possessor construction could develop in one of the languages of the region and then spread through contact, affecting constituent ordering of noun phrases and, subsequently, of verb phrases.

In sum, the revised direction of change (from head-final to head-initial verb phrase) matches the parallel development that seems to be ongoing (or recently completed) in some of the Benue-Congo languages, which appear to be switching the order of their verb phrases to VO after having innovated the Noun-Possessor construction. It is also consistent with the synchronic distribution of OV within Niger-Congo (discussed in 3.2.1), and in particular with the fact that it is found in most of its branches.⁹ The mechanism of change

⁹ A full account of all subtleties of word order variety of present-day Niger-Congo may have to refer to additional mechanisms of change, such as information structure (Manfredi 1997; Güldemann forthcoming) and considerations of afterthought (Hyman 1975). Like any other historical explanation, the model of word order transfer through reanalysis of

environments. On the other hand, the object participant is expressed in this construction in the same way as with verbs, and the constituent ordering is identical to that of a VP. This mixture of verbal and nominal properties is represented in (20a), where the same nominalized form instantiates a nominal head (determining the external syntax of the construction) and a verbal head (determining its internal composition). This construction contrasts with the regular NP, which does not instantiate the verbal component of structure and hence differs from nominalization in constituent ordering.

(20) Nominalizations and regular NPs from (18)-(19)



In the hybrid syntactic structure in (20a), the object participant is expressed with a deverbal noun as if it were an object of a verb; this construction is quite commonly found cross-linguistically (cf. Bresnan 1997; Bresnan and Mugane 2006, *inter alia*). In languages with head-final verb phrases that have innovated a Noun-Possessor construction, it is the only remnant of an older head-final construction. In this sense, the mixed category construction resists the word order change that affects other noun phrases: at least one type of noun (nominalization) still appears phrase-finally.

The ability to preserve the old pattern of constituent ordering explains the exceptional behavior of nominalization in (18). Historically, a number of Volta-Congo languages seem to have innovated the Noun-Possessor construction when the word order within their verb phrase was head-final (OV). The replacement of the earlier Poss-Noun construction with Noun-Poss was followed in some of such languages by a change from head-final to head-initial verb phrases (VO). In languages that have lost their Poss-Noun construction but have not completely replaced their head-final verb phrases (OV) with head-initial ones (VO), nominalizations sometimes remain the only instance of head-final nominal ordering in the language. Exactly this kind of development was proposed by Hyman (1975) for Nupe:

Although structurally ‘yam-buying’ is mod-N (more specifically, poss-N), when ordinary possessives (genitives) were subjected to the word order change (so that my yams became yams my), nominalizations were exempted <...> In Nupe, it is nominalization alone which has not shifted from Mod-N to N-Mod. (133)

What is most important for the present study is the exceptional behavior of nominalizations, which remain head-final in languages that have developed the Noun-Poss construction without completely losing the head-final verb phrase.¹¹

The ability of nominalizations to follow the verbal word order pattern points to a mechanism that imposes the verbal word order on a noun phrase within a mixed category construction. This mechanism, just like the one described in 3.1 (grammaticalization of nominal periphrastic constructions), contributes, although in a less direct way, to the identical ordering pattern in noun phrases and verb phrases. In a language that has innovated a possessive construction with constituent ordering that is different from that of verb phrases, the conservative nominal ordering (which is isomorphic to the verb phrase) is preserved in nominalizations. Preservation of that conservative ordering in constructions with nominalizations could, in theory, slow down the spread of the new nominal constituent ordering; the conservative pattern can later disappear or, on the contrary, expand to other types of noun phrase. Further research is needed to investigate the role of this mechanism in word order change.

4. Nominalization and development of word order correlations

Based on a case study of word order change within Niger-Congo, I discussed two ways in which constructions with nominalization contribute to word order isomorphism of noun phrases and verb phrases. On the one hand, nominalizations are frequently used in nominal

¹¹ At the same time, in many of these languages the use of OV, although still preserved in verbal complements of certain verbs, has shrunk compared to its use in Possessor-Noun languages, where it is typically found in all non-finite VPs, including at least some constructions with finite auxiliaries. In the Noun-Possessor languages, the S-Aux-OV construction tends to be replaced, under certain conditions, by S-Aux-VO.

periphrastic constructions, which tend to develop into a conventional way of expressing some meaning (typically, an aspectual category). As a result of this development, the construction often becomes reanalyzed as a regular verb phrase, with a subsequent transfer of the word order pattern of the possessive construction to verb phrases. On the other hand, some nominalizations resist word order changes that lead to conflicting constituent ordering of noun phrases and verb phrases. Such are nominalizations participating in mixed category constructions, which realize their object in a way typical of verbs. This tendency explains examples from languages in which nominalization is the only type of nominal construction that has not adopted an innovated word order pattern.

Both tendencies in the behavior of nominalization in the course of word order change contribute to the same universal word order pattern. Reanalysis of constructions with nominalization leads to the development of cross-category harmony between NP and VP, and the tendency of nominalizations to preserve the constituent ordering of the VP may delay the shift of a language to a new nominal word order, if this order results in the loss of cross-category harmony. Due to this tendency, both the head-final and the head-initial nominal construction can be maintained in the language, one used with regular nouns and the other with nominalized verbs. This creates a possibility of further changes in the distribution of the two constructions, or even of an eventual restoration of the older pattern.

The tendencies in the diachronic development of constructions with nominalization suggest a diachronic explanation for the emergence and stability of word order parallelism between the verb phrase and the possessive construction. The diachronic approach is an alternative to purely functionalist explanations or to purely structural accounts that were briefly discussed in the first section. Unlike the more general explanations in terms of processing efficiency, this account is construction-specific and is restricted to correlation between the possessive construction and the verb phrase. Interestingly, this correlation is among the strongest universals subsumed under the notion of cross-category harmony. It is, in fact, one of the few word order correlations that are attested in several independent linguistic areas and cannot be due to genetic biases in the typological sample (Dryer 1992). The mechanism of word order transfer through reanalysis of constructions with

nominalization could explain why this is so, since not every pair of elements have a corresponding construction that can serve as a channel for word order transfer.¹²

The diachronic account seeks to explain typological patterns by tendencies in language change. It explores how the universal pattern emerges and what structural properties contribute to its stability (cf. Bybee 1988; Aristar 1991; DeLancey 1994). This approach illustrates how tendencies in the development of specific constructions can suggest explanation for broader typological patterns.

¹² Other pairs of categories that are related by diachronic processes are adpositional phrases and NPs or VPs (Givón 1984: 228-30), and relative clauses and nominal modifiers (Aristar 1991).

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Appendix

Major branches of Niger-Congo (Gordon 2005; Bendor-Samuel and Hartell 1989, cf. Williamson 1989:21)

Language groups referred to in this paper are in bold. The numbers (only provided for the groups most relevant for this study) indicate the number of languages comprised by the language family; these numbers are based on the Ethnologue (Gordon 2005).

