

CIRCULAR INTERACTION BETWEEN LINGUISTIC DEPARTMENTS AND LANGUAGE DEPARTMENTS

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1. Introduction

The existence of the natural phenomenon language raised the urge amongst generative linguists to find an answer to Plato's problem: *How do we know so much given so little evidence*. What has been established so far is that first language acquisition is the shaping of the innate language ability by being exposed to one's mother tongue. This shaping basically means acquiring the lexicon and forming a set of syntactic, morphological, semantic and phonetic/ phonological rules enabling one to form sentences that have never been encountered before. What has not been (fully) answered yet is the question which rules are applied unconsciously within the above mentioned four basic disciplines of language to enable humans not only to acquire a mother tongue but also to be able to make native speaker judgements. In other words, the direct object of study of e.g. syntax, the linguistic discipline to which close attention will be paid in this paper, is human innate syntactic language ability which can only be studied indirectly by studying language, and in this particular case syntax, as such. Not only from a psycholinguistic viewpoint but also within sociolinguistics the object language plays a pivotal role. In the Western world, especially in countries featuring more than one language, sociolinguists have quested to provide solutions to the language problem of multilingual countries. Nelde (1991) proposes to de-emotionalise language by relating individual language behaviour to a free market economy. Although a country or administrative district should have one or more official languages for obvious reasons, Nelde (1991) proposes that the individualist principle that states that every speaker is allowed to use

the mother tongue should be adhered to. Not being forced to speak a particular language naturally entails the de-emotionalisation effect. A decrease in prejudices against non-native languages and cultures emerge which result in the willingness to learn a second language without having a hostile prejudice.

What will be done here, after having established that language is not only a socio-cultural phenomenon but also a natural phenomenon, is to illustrate by means of the existence of Case and thematic relations within the linguistic disciplines of syntax and semantics that there is a circular interaction between linguistic departments and language departments. Finding an answer to Plato's abovementioned problem entails that as many languages as possible should be studied and described in order to establish generalisations and parameters between languages. A descriptive and non-theoretical study of a particular language is the result of cooperation between language departments and linguistic departments. The former supplies data, the latter puts the data into perspective. However, linguistic departments do not only contribute at an intermediary level to language departments in organising data and by providing more insight into the differences and similarities between two or more languages that enables a second language acquirer to learn this language faster owing to more insight, which is imperative for second language acquisition and translation purposes, but also at an ultimate level by attempting to establish as to how human innate language ability functions. As soon as we know what kind of generalisations are set and what kind of parameters are formed, acquiring a first language, second language acquisition should come more natural. Even though "the solution" to the ultimate level is questioned by certain scientists, the solution would, however, imply the possibility of computer programmes set with generalisations and language specific parameters, enabling computers to use language creatively as native speakers do.

2. Case

Owing to descriptive studies, two kinds of Case are described, namely morphological Case and abstract Case. Afrikaans and English e.g. feature abstract Case, their respective subjects and objects do not undergo morphological changes to indicate Case in contradistinction to German and

Latin. The realisation of Case from a comparative angle has contributed to a better understanding for the second language acquirer as to what kind of Case is assigned to which NP and to contribute to theoretical development.

Within Government and Binding Theory as developed in Chomsky (1981) and Chomsky (1986) and later generative works, the definition of government is a prerequisite for Case assignment. In other words, Case is assigned under government. For a language such as English this entails that a Case assigning verb can only assign this Case under government. Government is defined in (1)

- (1) a. GOVERNMENT
 α governs β when α is a governor and when α m-commands β
 b. c-command:
 A c-commands B iff A does not dominate B and every X that dominates A also dominates B
 c. X assigns Case to a NP iff X governs the NP
 d. An overt NP must be assigned Case¹

Applying (a-d) to an affirmative clause in English results in the application that in *John likes Mary* the verb assigns Accusative Case to the object of the clause. The application of government in order to have licensed Case assignment seems straightforward. However, a more complicated clause like *Mary moved towards Peter* is problematical for the definition of government as according to the definition of government in (1) both the verb and the preposition assign Case to *Peter*. Hence the second language acquirer is confronted with the problem of what kind of Case is assigned to *Peter*, as the theoretical linguist is as for the latter (1) is in want for an adaptation. Comparative language study poses an answer to this problem. Languages featuring abstract Case like English and Dutch are not much help in contradistinction to languages with morphological Case such as German. Consider the German Example in (2).

- (2) Er schreibt mit einem bleistift
 he writes with a pen
 'he writes with a pen'

In German the verb *Schreibt* 'write' assigns Accusative Case whereas the preposition *mit* 'with' assigns Dative Case. The Article *einem* 'a' in (2) features Dative Case, witness the *-em* ending (Accusative Case assignment would have resulted in an *-en* ending). Based on German it is established that the preposition, in fact the constituent closest to the NP assigns Case to this NP. This entails that the definition of government should be adapted, to be more specific, the definition of government must be minimalised so that only the preposition (and not the preposition and the verb) assigns Case to the NP following the preposition. This is where the definition of minimality comes in as defined in (3).

(3) MINIMALITY²

A governs B iff there is no Z such that

- (i) Z is a potential governor for B
- (ii) Z m-commands B;
- (iii) Z does not m-command A

Introducing the definition of minimality to the definition of government yields the following result:

- (4) A governs B iff:
- (i) A is a governor
 - (ii) A m-command B
 - (iii) minimality is respected

The adapted definition of government in (4) prevents the verb in (2) to assign Case to the NP following the preposition. In this case, then, comparative language study not only contributes to theoretical scientific development but it also sheds light on the grammar of the foreign language for the second language acquirer. The potential Case assigner closest to the NP assigns Case to this NP.³

3.1. Thematic Roles

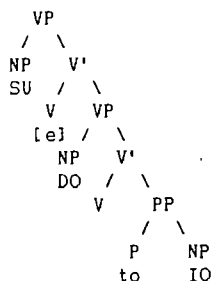
That comparative insight leads not only to isotheric interdisciplinary theoretical development but also to a better understanding as to how a foreign language works will be illustrated by means of serial verb constructions in African Kwa. Starting out with the former statement, it will be shown with the aid of serial verb constructions and triadic serial verb constructions, that although African Kwa might seem to be vastly different from English, it is not. The former verb construction is a syntactic phenomenon resembling coordination whereas the latter is a phenomenon known as a double object construction in English syntax. This information, however, is only useful to a second language acquirer when familiar with at least the basic principles of clause analysis. This is where linguistic departments come in. Basic clause analysis and comparative basic clause analysis lead to better insight. As stated above, the existence and consequently description of serial verb constructions in African Kwa also contributes to theoretical development. In particular, it will be demonstrated that Larson's (1988a) analysis of double object constructions cannot be upheld due to existing data and theory internal problems. What follows will be a demonstration of the fact that as many constructions are attempted to be elucidated by the same theoretical generations. Baker analyses triadic serial verb constructions in terms of double object constructions which themselves are generated in terms of the passive transformation. As pointed out above, this specific type of economy of derivation cannot be upheld.

The relationship between prepositional dative and double-object constructions, described as the dative alternation, and the question as to how this relationship should be reflected in a theory have defied an adequate solution in generative grammar, as developed in Chomsky (1986). Compare the following examples:

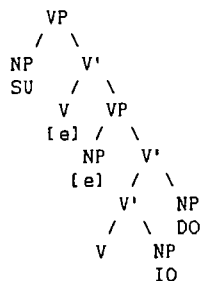
- (5). a. John gave a book to Mary
- b. John gave Mary a book

Larson (1988a) has proposed a transformational analysis of the relationship between (5a,b) according to which the prepositional dative construction is the base structure for both (5a) and (5b). The latter is derived from the former through an application of the Passive transformation below the level of the matrix clause. Larson (1988a) suggests that the structure in (6a) is the underlying structure to both (5a,b) (where SU=subject; DO=direct object; IO=indirect object). In (6a) the upper VP is generated in order to accommodate the agent θ -role. The double object construction is derived from this structure through passivisation internal to the lower VP. This leads to the absorption of the dative preposition. The structure of the double-object construction proposed by Larson is reproduced in (6b).

(6) a. dative construction



b. double-object construction



In the mapping of deep (D)-structure onto surface (S)-structure, V-movement into the higher V position, which is base-generated empty, takes place in both trees. The indirect object in the representation of the double-object construction (6b) in addition undergoes NP-movement into the specifier position of the lower VP.

Baker (1989:513) describes Serial Verb Constructions (SVCs) as 'constructions in which a sequence of verbs appears in what seems to be a single clause'. The clauses in (7) are Yoruba (an African Kwa language) SVCs. The examples are from Baker (1989:513).

- (7) a. Ó mú iwé wá
he take book come

- 'He brought the book'
- b. Bólá sè eran tà
Bola cook meat sell
'Bola cooked some meat and sold it'
- c. Fémí tí Akin subú
Femi push Akin fall
'Femi pushed Akin down'
- d. Títí rín ló ní, kò sáré ló
Tití walk go is not run go
'Tití left walking, not running'

Baker's (1989) analysis of SVCs argues in favour of Larson's (1988a) analysis of the dative alternation. Issue will be taken with Baker's (1989) claim that the properties of SVCs supports an analysis of double object constructions as proposed in Larson (1988a). An argument against both Larson (1988a) and Baker (1989) is the incompatibility of both analyses with Baker's Uniformity of Theta Assignment Hypothesis (UTAH).⁴

3.2 Serial verbs and double object constructions

Before presenting a transformational study of the serial verb in Twi, Stewart (1963:145) describes the following characteristics of SVCs in this language:

- (8). a. 'The subject, which must be the same in each of the underlying simple sentences if they are to be eligible for co-ordination in a serial verb sentence, is generally deleted in each sentence other than the first'
- b. 'If two or more successive underlying sentences have the same direct object, this direct object is deleted in each of the sentences other than the first in which it occurs.'

Baker (1989:515) points out that the subject sharing requirement of SVCs (8a) can be given a variety of potential analyses in current Government and Binding (GB) syntax. The object-sharing phenomenon in (8b) is 'still the most challenging aspect of SVCs for current syntactic theory'.

Baker (1989:518) invokes Chomsky's (1986) reinterpretation of the X' Convention codified in the Head-Licensing Condition (HLC) given in (9):

- (9). A category β is licensed if there is a set of categories $\langle \alpha_1 \dots \alpha_n \rangle$ such that:
- $\beta = \alpha_1$
 - α_n is a (properly licensed) maximal projection
 - for all i , $1 < i < n$, α_i immediately dominated α_{i-1} , and is a projection of α_{i-1} of the same or one greater bar-level

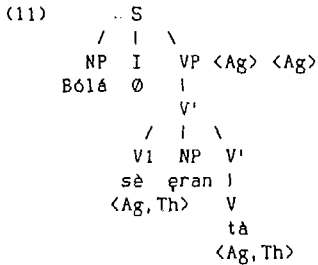
According to Baker (1989:518) 'the HLC requires that every head be traced up to a (single) maximal projection, whereas the X' Convention requires that every maximal projection be traced down to a (single) head. The HLC thus opens the possibility that a single maximal projection could license more than one head'.

This happens in serial verb constructions with a single VP headed by two (or even more than two in complex SVCs) verbs. Consider the example in (10) from Baker (1989:513).

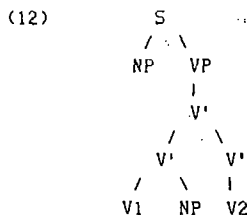
(Yoruba)

- (10) Bólá sè gran tà
Bola cook meat sell
'Bola cooked some meat and sold it'

Baker's (1989:513ff.) analysis of such a construction runs as follows. Two verbs share the same object which is *gran* 'meat' in the example in (10). For the semantic interpretation of the second language acquirer this means that both verbs θ -mark the object in the structure in (10) as in (11) where Ag=agent and Th=theme. In this tree representation the higher verb *sè* 'cook' directly θ -marks the object NP and the lower verb *tà* 'sell' indirectly assigns its θ -role to the same object NP by projecting its theme role to V'. Due to the Projection Principle both verbs obligatory assign a θ -role to the object NP which is an immediate constituent of a V' projection of both verbs.³ This accounts for the obligatory object sharing property of serial verb constructions.



The first drawback to Baker's (1989:520) analysis of SVCs, as presented in the example in (11), is the usage of ternary instead of binary branching tree representations. We refer to Kayne (1984) for an extensive discussion of strict binarity. Baker (1989:513) has chosen to disregard all syntactic structure that is not 'directly relevant to the matters considered'. This is true for the upper ternary branching in (11) even though the introduction of an intermediate I' level could turn the ternary tree representation into a binary one. However, a ternary branching tree representation for the lower branches dominated by V' and comprising V1, NP and V' has to be assumed for Baker's (1989) analysis of the serial verb construction because they are ternary. If we were to assume a tree structure that resembles the structures proposed for the serial verb construction in e.g. Stahlke (1970), Lord (1974) and Schachter (1974), in which strict binarity is adhered to, θ -role assignment would become problematical. Consider the example in (12).



As NP is not the sister of the projection of V2 it is not possible for V2 to θ -mark the NP object of V1. The Projection Principle is thus violated

because V2 cannot assign its internal thematic role. The structure in (12) also fails to account for the obligatory object sharing property of SVCs.

Based on the arguments forwarded in the previous paragraph we might claim that Baker's (1989) analysis of SVCs shows that strict binarity is untenable if taken as a universal property of syntactic structure. This entails that Baker's (1989) analysis could be adduced as evidence against binarism in syntax. In view of what is to follow it seems better to adhere to strict binarism and to take issue with Baker's analysis of SVCs instead.

In the case of triadic SVCs, i.e. SVC of which the final verb takes two internal arguments, in other words the final verb is a double object verb, it should be established which of the two internal arguments is shared with the other verb(s). The choice is not free. While the SVC in (13a), in which the theme argument of the triadic verb is shared, is grammatical, the example in (13b) is ungrammatical, in which the goal argument is shared.

George (1985:314)

- (13) a. Bàbá fí èwú fún ọba
 Baba took gown gave chief
 'Baba gave the gown to the chief'

Baker (1989:540)

- b. *Olú bá Fémí bún aṣọ
 Olu catch-up-with Femi present dress
 'Olu met Femi and gave her a dress'

Similar data was pointed out for the Benue-Cross language Gokana by Wagner (1985:305).

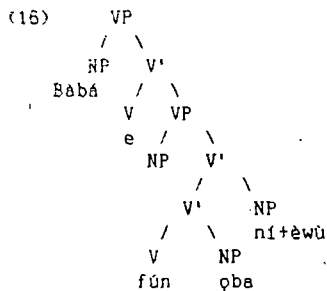
- (14) a. ɲín è tú kpá nè pábia
 child PAST take book give woman
 'The child gave the book to the woman'
 b. *ɲín è tú pábia nè kpá
 child PAST take woman give book

Baker (1989:540ff) attempts to account for these facts by using Larson's (1988a) analysis of double object constructions. This postulates a

structure in which the verb directly θ -marks the goal phrase, which is an immediate sister of the verb. The theme is located in a V' adjoined adjunct position as a consequence of the Passive transformation applied internal to the lower VP. Therefore the theme is not directly θ -marked by V⁰. It is indirectly θ -marked by the lowest V' which dominates the verb and the goal phrase at D-Structure. A D-Structure analysis of the Yoruba double-object construction in (15) looks as (16). (Prt=Particle in (15)).

George (1985:315)

- (15) *Bàbá fún ọba ní èwù*
 Baba gave chief Prt gown
 'Baba gave the chief a gown'



The theme argument will be shared by the verbs in a triadic SVC given that on Larson's (1988a) assumptions the theme role is assigned indirectly in the base structure of the double-object construction. The generation of (13a) is therefore unproblematical. The example in (13b) is ungrammatical because, according to Baker (1989), the goal would have to involve movement into the θ -marked object position of the higher verb. This would result in a violation of the thematic criterion as the goal would be θ -marked in two different positions.⁴

Violations of the thematic criterion cannot be avoided in Baker's (1989:fn. 14) analysis of the SVCs. An analysis of an example as in (17) is as in (18), where the subject *eyé* 'bird' receives its thematic roles in two different positions.

Yoruba; Carstens (1988)

- (17) Èyẹ̀ fò lẹ̀ s'òrí 1gí
 bird fly go to-top tree
 'the bird flew to the top of the tree'

- (18) bird_i [v. fly [v. go t_i]]

It will be assumed that an argument can be assigned two different thematic roles on condition that the assigners of the thematic roles are not identical. What we are to establish, then, is whether the example in (13b) is met as the example in (11). It appears that the θ -Criterion is satisfied. However, Baker (1989:544) notes that the Projection Principle is violated. The lower verb must θ -mark the higher object position, since it is an immediate constituent of V' (cf. the Projection Principle). (For the case at hand the lower V' should be replaced with the lowest-but-one V' in the tree in (16)). In triadic SVCs the lower verb should θ -mark the two NP positions internal to the lowest-but-one V' in (16) and the object position of the higher verb. (13b) is bound to violate the Projection Principle since a triadic verb is capable of assigning at most two internal thematic roles. Therefore (13b) is ungrammatical.

The structure of SVCs in conjunction with the Projection Principle predicts that ergative/unaccusative verbs should never occur as the second verb in a SVC in which the first verb is transitive.⁴ An ergative verb assigns only one θ -role. If it should assign this role to its sister within the lowest V', the lower verb fails to θ -mark the object position of the higher verb. This is a violation of the Projection Principle. However, the literature contains examples of the type in (19):

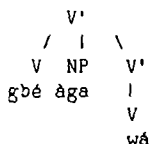
(Yoruba; Bamgboṣe 1973:21)

- (19) Olú gbé àga wá
 Olu took chair come
 'Olu brought a chair'

In Baker's (1989) analysis the example in (19) does not violate the Projection Principle. *àga* 'chair' is not assumed to be generated in the

sister-to-lower-V position. This NP is generated directly in its surface object-of-higher-V position as in (20).

(20)



The Projection Principle is not violated in (20). In this example the lower verb assigns a θ -role through its immediate projection V' to the NP position that is an immediate constituent of its V' .

At this point a number of questions will be dealt with in relation to the above. What should be established is why the goal of the lower verb in (13b) cannot be base-generated in the object-of-higher-verb position. The goal is prevented from being generated in that position because the goal is the direct argument of V in Larson's (1988a) account of the double-object construction. The goal would be indirectly θ -marked by the projection of the lower verb and the theme if the goal were to be generated in the object-of-higher- V position. This violates Baker's (1988a:46) UTAH which states that the mapping of thematic structure onto syntactic D-structure should be uniform..

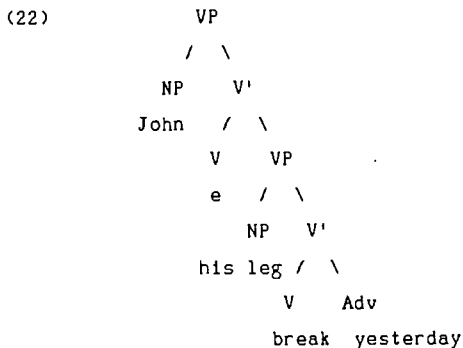
However, Larson's (1988a) assumptions for the analysis of the dative alternation and Baker's (1989) assumptions for SVCs are both incompatible with a uniform mapping between thematic roles and syntactic positions. The incompatibility of Larson's (1988a) arguments have been pointed out by Jackendoff (1988). They will be discussed here. Subsequently Baker's (1989) analysis of SVCs in connection with the UTAH will be proven faulty.

The assignment of the external θ -role agent is the first problem for UTAH. Jackendoff (1988:34) points out that 'with a two-argument verb such as *kill*, the agent is realized in D-structure within the verb's maximal Projection. But with a three-argument verb such as *give*, the agent is realized in D-structure outside the verb's maximal projection' since there

is no room for an external θ -role internal to the VP projection by *give*. Instead, the agent θ -role is assigned to the specifier of the higher VP, whose head is empty at D-structure. This entails (Jackendoff 1988:31) that in this case ' θ -marking has suddenly become a derived structure property'. *Give* cannot θ -mark its subject until after it has raised into the higher V position.

Larson (1988a:350) analyses modifiers not as adjuncts but as complements. Provided this assumption to be correct would entail a drastic change in descriptive grammars. In an example as (18) *yesterday* is generated in the complement of the verb *break*. The patient argument of the verb is generated in the specifier position of the lower VP in (22).

(21) John broke his leg yesterday



In an example without the adverbial modifier *yesterday*, the object, *his leg*, is generated in the complement of *break*. This abandons a uniform mapping of thematic roles onto syntactic D-structure.

Furthermore, the UTAH is irreconcilable with Baker's (1989) analysis of SVCs. To this end consider the example in (10) and (11). In a non-serial construction the verb *tà* 'sell' assigns its theme role directly to its object which is a sister of V^0 in the serial verb construction in (10). In the analysis in (11), *tà* 'sell' no longer directly assigns its theme role. Its immediate projection V' assigns this role indirectly to the sister of this V' . On this analysis there is no uniform syntactic position in which the theme role is projected. A verb may either assign this role directly

to the sister-of-V position or (as in SVCs) indirectly to the object-of-higher-V position. If on Baker's (1989) analysis of SVCs uniformity of θ -role assignment is impossible, an account for the ungrammaticality of (13b) is lost. Base-generation of the goal phrase in the object-of-higher-V position could only be prevented by invoking UTAH.

However, Larson's (1988a) and Baker's (1989) analyses do show a sense in which θ -roles are assigned in a uniform fashion. To this end consider a thematic hierarchy of the type in (23) (cf. Carrier-Duncan (1985); Larson 1988a:382-3).

(23) THEMATIC HIERARCHY

Agent > Theme > Goal > Location (and other obliques)

However, a thematic hierarchy erodes the claims regarding uniformity of θ -role assignment allows a particular θ -role to be generated in all kinds of structural positions, as long as it is higher in the tree than all roles lower on the scale and lower in the tree than all superior θ -roles. A specific set of θ -roles can hence be projected in the syntax in a host of different ways. The only restriction is that the thematic hierarchy must be obeyed. As the thematic hierarchy is at random (cf. hierarchical relationships between theme and goal in e.g. Jackendoff 1972 and Bresnan and Kanerva 1989 which is reversed in other thematic hierarchies) it cannot be concluded that there is not much uniformity in the mapping of θ -roles to syntactic structure.

4. Conclusion

Having established the importance of language (variety) from a sociolinguistic and psycholinguistic viewpoint, it has been shown by means of the syntactic phenomenon Case and the semantic phenomenon thematic theory which influences syntactic theory that language departments on the one hand and linguistic departments on the other hand have a circular influence on each other. Language description does not only lead to (isotheric) theoretical development but theoretical development itself leads to better insight enabling second language acquirers to learn their second language more effectively. The prerequisite in this case is, however, that the second language acquirer has a conscious, in the examples illustrated here, grammatical and semantic knowledge of the native language. This conscious knowledge itself is provided by linguistic departments. It has not only been shown that linguistic departments and language departments have a circular influence on each other but theory and description influence each other as well. Organised description is necessary for theory formation as it provides a data base with a clear overview, theory itself leads to better insights for descriptive purposes. In particular, it has been shown here that due to the fact that Larson's and Baker's theories have been pointed out problematical from a theory internal viewpoint, triadic serial verb constructions, though they can be described in terms of double object constructions at this stage cannot be generated in terms of double object constructions which themselves are generated in terms of passivisation. Even though circularity is the main topic here, the question *what existed first, the chicken or the egg* can be answered: human innate language ability. First language acquisition has a direct and non-circular influence on linguistics as first language acquisition is the reflection of human innate language ability.

5. Notes

- 1 cf. Chomsky (1985)
- 2 cf. Rizzi (1990)
- 3 Dutch children tend to make the following mistake:

(1) *Wim heeft meer dan mij
Wim has more than me

Dan is seen as a preposition, therefore the dative pronoun *mij* follows the preposition. As *dan* is not a preposition the correct sentence is:

(2) Wim heeft meer dan ik
Wim has more than I
'Wim has more than I have'

In (2) *dan* is followed by a pronoun carrying nominative Case.

5 The

4 The UTAH is defined as follows:

The Uniformity of Theta Assignment Hypothesis (UTAH)

Identical thematic relationships between items are represented by identical structural relationships between those items at the level of D-structure.⁵ Projection Principle is defined as follows:
Lexical Information is syntactically represented.

6 The thematic criterion is defined as follows:

Each argument is assigned one and only one theta role and each theta role is assigned to one and only one argument.

BIBLIOGRAPHY

Baker M

1988. *Incorporation : A Theory of Grammatical Function Changing*. Chicago: University Press.

1989. Object Sharing and Projection in Serial Verb Constructions. *Linguistic Inquiry*. 20(4):531-53.

Bamgbose A

1973. The Modifying Serial Construction: A Reply. *Studies in African Linguistics*. 4(2):207-17.

Belletti A and Rizzi L

1988. Psych-Verbs and Theta-Theory. *Natural Language and Linguistic Theory*. 6:219-352.

Bresana J and Kanerva J

1989. Locative Inversion in Chichewa: A Case Study of Factorization in Grammar. *Linguistic Inquiry*. 20(1): 1-50.

Broekman H and Dikken M den

1988. The Analysis of Incorporation in Eskimo. *Linguistics in the Netherlands*.

Carrier Duncan J

1985. Linking of Thematic roles in Derivational Word Formation. *Linguistic Inquiry* 16(1):1-34.

Carstens V

1988. *Yoruba Serial Verbs*. Talk presented at the 2nd Niger-Congo Syntax and Semantics Workshop, Cambridge MIT.

Chomsky N

1985. *Knowledge of Language*. Praeger. New York

1986. *Barriers*. Cambridge MIT Press.

George I

1975. *A Grammar of Kwa-like Verb Serialisation: Its Nature and Significance in Current Generative Theory*. Unpublished dissertation University of Los Angeles and California.

1985. Complex Verbs in Nupe and Yoruba. *Studies in African Linguistics*. 16(3):295-321.

Grimshaw J and Mester R

1988. Light Verbs and Theta Marking. *Linguistic Inquiry*. 19(2):205-32.

Jackendoff R

1972. *Semantic Interpretation in Generative Grammar*. Cambridge: MIT Press.

1988. On Larson's account of the Double Object Construction. Unpublished paper. Boston: Brandeis University.

Kayne R

1984. *Connectedness and Binary Branching*. Dordrecht: Foris.

Larson R

1988. On the Double Object Construction. *Linguistic Inquiry*. 19(3):335-92.

Leynseele van H

1975. Restrictions on Serial Verbs in Anyi. *The Journal of West African Languages* X:2 189-218.

Lord C

1974. Causative Constructions in Yoruba. *Studies in African Linguistics*. 5:195-204.

Nelde P

1991. *Language Conflicts in Multilingual Europe*. Brussels: KUB.

Oyelaran O

1982. On the Scope of Serial Verb Constructions in Yoruba. *Studies in African Linguistics*. 13:109-146.

Stahlke H

1970. Serial Verbs. *Studies in African Linguistics*. 1:60-99.

Stewart J

1963. Some Restrictions on Objects in Twi. *Journal of African Languages*. 2: 145-49.

Wagner D

1985. Objects in Gokana. *Studies in African Linguistics*. 9:304-8.