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THE SERIAL VERB CONSTRUCTION PARAMETER

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Trust in the Lord with all your heart, And
Do not lean on your own understanding. In
all your ways acknowledge Him, And
He will make your paths straight.

Proverbs 3: 5-6

ABSTRACT

This thesis investigates Serial Verb Constructions (SVCs) where two or more finite verbs along with their complements occur in a single clause without any form of coordination or subordination. Two basic questions are addressed: (a) what types of SVCs are there, and how are they to be distinguished from other similar constructions ? (b) what is the parameter that allows a language like Èdó to have SVCs, and not English or French ?

It is argued that true SVCs are those in which the verbs share internal as well as external arguments. Based on a battery of syntactic tests, it is proposed that there are two kinds of SVCs with distinct syntactic structures: resultative and consequential. This is contrary to the unified approach in previous works such as Baker (1989) and Collins (1997). It is argued that resultative SVCs are constrained to two verbs, the second of which is typically unaccusative, and they assign their internal theta roles to a single object--true internal argument sharing. Consequential SVCs are less constrained, and involve sequences of transitive verbs, with internal argument sharing realized via an empty category, *pro*, as the object of the second verb. Both kinds of SVCs contain two functional heads: an E(vent) head that binds the events denoted by the verbs which it dominates, and a Voice head that licenses the Agent of the events expressed by those verbs.

Some other constructions that have been classified as SVCs turn out to involve two separate clauses, each with their own E(vent) and Voice heads: covert coordinations, modal-aspectual verb constructions, and instrumental constructions. A syntactic structure for each of these non-SVCs is proposed.

Based on Pollock's (1989) approach to verb raising and the checking theory of Chomsky (1993, 1995), it is argued that SVCs can occur in languages where Tense (or other Infl categories) does not need to be checked. The parameter is as follows: non-SVC languages are those in which Infl must check features with the verb { English, French, Igbo, Chinese etc.}, versus SVC languages where it doesn't { Èdó, Yoruba, Ewe, Akan etc.}

Résumé

Cette thèse examine les constructions à verbes en série (SVC) où deux verbes fléchis ou plus, accompagnés de leurs compléments, se trouvent dans un seul syntagme sans aucun élément de coordination ou de subordination. Deux questions principales sont traitées: (a) quelles sortes de SVC y a-t-il, et comment les distinguer d'autres constructions pareilles? (b) quel paramètre permet des SVCs dans une langue telle que l'édó mais pas en anglais ou en français?

Je propose que les vraies SVC sont celles dans lesquelles les verbes partagent des arguments internes et externes. À l'aide d'un ensemble de tests syntaxiques, je montre qu'il existe deux sortes de SVC avec des structures syntaxiques distinctes: résultatives et conséquent. Ceci va contre les approches unifiées telles Baker (1989) et Collins (1997). Je propose que les SVCs résultatives sont contraintes par deux verbes, le deuxième étant typiquement inaccusatif, et qu'elles assignent leurs rôles théta internes à un seul objet, ce qui est un vrai partage de l'argument interne. Les SVC conséquent sont moins contraintes et comprennent des séries de verbes transitifs, où le partage de l'argument interne se réalise par l'existence d'une catégorie vide, *pro*, qui sert d'agent au deuxième verbe. Les deux sortes de SVC contiennent deux têtes fonctionnelles: une tête É(vénement) qui lie les événements exprimés par ces verbes et un tête Voix qui autorise l'Agent des événements exprimés par les verbes en question.

D'autres constructions qu'on a classifiées comme des SVC finissent par comprendre deux syntagmes différents, chacun ayant ses propres têtes É(vénement) et Voix: des coordinations indirectes ('covert') des constructions verbales modales-aspectuelles, et des constructions instrumentales. Une structure syntaxique pour chacune des ces non SVCs est proposée.

En me basant sur l'approche de Pollock (1989) concernant la montée des verbes et la théorie de vérification de Chomsky ('checking theory', 1993, 1995), je propose que les SVCs peuvent exister dans des langues où Temps (ou d'autres catégories inflectionnelles) n'a pas besoin d'être vérifié. Le paramètre est le suivant: les langues non SVC sont celles où INFL doit vérifier ses traits avec le verbe (le français, l'igbo, le chinois, l'anglais, etc.); les langues SVC sont celles où ceci ne se fait pas (l'édó, le yoruba, l'ewe, l'akan, etc.)

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Note on Orthography and Tones

The orthography employed in the writing of Èdó in this dissertation is generally consistent with the system recommended for the language in 1974 by the Ad hoc Mid-West Language Committee. There are, however, a few modifications that have been introduced:

(a) The use of *mw* for the labio-dental nasal approximant (cf. Agheyisi 1986). Thus, we can form near minimal pairs involving *mw* in *èmwán* “here” and its oral counterpart *vb* in *èvbá* “there”.

(b) Nasal vowel is consistently transcribed by an ‘n’ after the (nasal) vowel (cf. Stewart 1992) to represent nasality (a key feature of Èdó phonology) in the orthography. For example, *èmwá* is written as *èmwán*, and *àmè* “water” is written as *àmèn*.

(c) For typographical convenience, the two mid lax vowels are represented by underlying [e, o] rather than underdots (except in the spelling of Èdó where the capitalized È is to be understood as È).

(d) I will fully tone-mark all the lexical items and the sentences, thus departing from the tradition in which tone marking is confined exclusively to those forms which might remain ambiguous without the indication of tone (cf. Report of the Seminar on Èdó Orthography in 1974, Agheyisi 1986, etc.).

(e) Only two tones are marked namely, “ ´ ” for high tone and “ ` ” for low tone; intermediate or mid tone is left unmarked. In most cases, such mid or intermediate tone is realized as a downstep on the following tone (low or high). Downstep is represented in the orthography by an exclamation mark [!] (cf. Agheyisi 1986, Melzian 1937). Thus, for example, the word *ógheghè* “edible berries” in Agheyisi (1986) will be written as *óghé!ghè* which illustrates a downstepped low tone.

(f) I adopt the standard assumption that there is a distinction between lexical and grammatical tones (cf. Agheyisi (1986, 1990), Omoruyi (1991), etc.). All nouns, adjectives etc. have [fixed] lexical tones, while only verbs which are inherently toneless (maybe with default tones) bear grammatical tones (tense and possibly aspect, Amayo

1975, Omoruyi 1991, etc.). Put simply, a low tone on a monosyllabic verb indicates non-past tense, while a high tone expresses past tense. However, it seems that there is a further distinction that can be made based on the syllable structure of the verb (cf. Wescott 1963).¹

Basically, I will adopt the following spelling conventions for verbs:

- (i) One syllable verb with a single mora, e.g. bó 'build'
- (ii) One syllable verb with two moras, e.g. bòó 'comfort, console'
- (iii) Two syllable verb with two moras, e.g. kpòló 'sweep'

The Èdó Alphabet

a	b	d	e	<u>e</u>	f	g	gb	gh	h	i
k	kh	kp	l	m	mw	n	o	<u>o</u>	p	r
rh	rr	s	t	u	v	vb	w	y	z	

ABBREVIATIONS

Fut.	----	Future tense morpheme
IMP	----	Imperative (Aspect)
INFL	----	Inflection (subjunctive)
INCP	----	Inceptive marker
Iter	----	Iterative marker
Foc.	----	Focus marker
Cop.	----	Copula
cl.	----	Clitic
subj. cl.	----	Subject clitic
obj. cl.	----	Object clitic
neg.	----	Negation morpheme
Comp.	----	Complementizer
PRG.	----	Progressive (Aspect)

¹ I must admit that the issue of tense tones on verbs is a complicated one which deserves more attention than the scope of this thesis allows (cf. Amayo 1975, 1976).

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Chapter One

In Search of Serial Verb Constructions

1.1 Introduction

The serial verb construction (SVC) is one of the better studied phenomena associated with West African linguistics (cf. Christaller 1875, Westerman 1930, Ansre 1966, Bamgbose 1974, Sebba 1987, Baker 1989, 1991, Lefebvre 1991, Awoyale 1987, 1988, Manfredi 1991, Déchaine 1993, Collins 1997, Campbell 1989, Joseph and Zwicky 1990, Bodomo 1993, Cormack and Neil 1994, etc.).¹ However, in spite of over one century of grammatical analysis the SVC is still an ill-defined and often misinterpreted phenomenon. The following are typical examples from the Èdó language of the sort of things that are often called SVCs:²

- (1) a. Òzó dé èvbàré rhié nè Ìfuèkò
 Ozo buy food give to Ifueko
 'Ozo bought the food and gave it to Ifueko.'
- b. Úyì hiá lé èvbàré
 Uyi try cook food
 'Uyi tried and cooked the food.'
- c. Èsósà kòkó àdésúwà mósé
 Esosa raise Adesuwa be.beautiful
 'Esosa raised Adesuwa to be beautiful.'

¹ These references are not intended to be an exhaustive list of all papers on SVCs, but it is a sampling that attempts to reflect the diversity and range of work on so-called SVCs. Other relevant references are mentioned in the text.

² Èdó is famous world-wide for its Art works and for having one of the most enduring and greatest Monarchies south of the Sahara (AD 900 to the present day) (cf. Egharevba 1954, Igbafe 1979 etc.). It is a close neighbor geographically and genetically to one of the most discussed languages in the serial verb literature, Yoruba. Together with Igbo, Ewe, and Akan, they all belong to the Kwa group of the Niger-Congo Family (Greenberg 1963) also classified as Benue-Kwa (Elugbe and Williamson 1977, Bennett and Sterk 1977). More specifically, Èdó is spoken in Èdó State in the midwestern part of Nigeria by over a million and a half speakers (census 1991). In the older literature, it is also referred to as Benin or Bini. The label Èdó is itself saddled with different interpretations both in its lay (ethnic) and technical (linguistic) uses. For example, Egharevba (1954) claims that the indigenous name for Benin City (the capital of the Èdós) given it by one of its rulers (Óbá Éwuàré, 1440-1473) is Èdó. However, according to Agheyisi (1986), '... further ambiguity was introduced into the reference of the term Èdó as a linguistic label, when linguists decided to use the designation for the group of historically related languages and dialects spoken in various communities within and around the former Benin kingdom. To avoid this confusion, Èdó is now used for the single language spoken by the Èdó people excluding its close neighbors, while the term Èdoid now refers to the group consisting of Èdó and these neighbors (Elugbe 1979). Within this special group Èdó is classified as a North-Central Edoid language and it is an SVO language.'

- d. Ìsòkèn yá ábé fián émió!wó
Isoken take knife cut meat
'Isoken used the knife to cut the meat.'
- e. Ènó!sá rhié ùkéké gbén èbé
Enosa take pen write book
'Enosa wrote a note with a pen.'
- f. Òzọ lé èvbàré ré
Ozo cook food eat
'Ozo cooked the food and ate it.'
- g. Àbié!yúwà hīn èrhán kpàán àlímó
Abieyuwa climb tree pluck orange
'Abieyuwa climbed the tree and plucked an orange.'

These so-called SVCs are often given sub-labels which indicate the general semantic meanings that the verbs convey. For example, benefactive (1a), manner (1b), result (1c), instrumental (1d), purposive or instrument (1e), and concomitant/simultaneous/sequential (1f,g). The sentences in (1) roughly illustrate the range of SVCs that have been discussed in many other languages.³

There are four factors that seem to impede the development of an adequate theory of verb serialization, despite the considerable attention it has gotten. First, and perhaps the biggest problem with the term SVC, is the fact that in the course of the past century there is no systematic restrictive notion of serial verb phenomena nor of the parameter that allows some languages to have this sort of construction and not others. What obtains really are

³ The SVC phenomenon loosely defined as in the text has been ascribed to comparatively superficially similar constructions in a wide variety of languages. In this regard, according to Sebba (1987), there are references in the West African group to 'serial verbs' or possibly similar phenomena in Welmers (1973) for Efik, Junkun, Yoruba (see also Awobuluyi 1973, Bamgbose 1974), Nupe (cf. Hyman 1971), Fante and Akan (cf. Christaller 1875, Stewart 1963) Yatye (cf. Stahlke 1970), Ijo (cf. Williamson 1963), Kru (Givón 1975), Ewe (cf. Westermann 1930, Ansre 1966) Ga (cf. Lord 1973) Fon (cf. Lord 1973). It is crucial to observe the fact that there is no mention of Igbo (a core member of the West African Kwa group), and this is one issue that will be addressed in this thesis. In the East Asian group, references include Mandarin Chinese (cf. Li and Thompson 1973), Vietnamese, Thai, and Mon-Khmer (cf. Schiller 1991). Serial verbs have also been attested in the Caribbean Creoles such as Jamaican (cf. Bailey 1966), Sranan and Saramaccan (cf. Sebba 1987), Papiamentu (cf. Bendix 1972), Haitian (cf. Wingerd 1977). Furthermore, references to SVC languages also include New Guinean languages (Foley and Olson 1985) and Central American languages (cf. Craig and Hale 1988). Given the trend to find SVCs in a wide variety of languages, I do not assume that this is the entire range of languages but this array serves to provide a picture of the scope of languages for which there is the need to clearly and systematically work out syntactic tests that can be used to define SVCs.

descriptive definitions of SVC that lists some basic properties such as: (a) two or more verbs and their arguments co-occur without any conjunction, (b) these verbs must share the same subject, and (sometimes) the same object, (c) there is usually a single tense/aspect specification for the verbs. Consequently, in the absence of any systematic definition or set of restrictive criteria for determining SVCs there are claims ranging from it being a universally available phenomenon (cf. Déchaine 1993) to it being parameterized (Baker 1989, Collins 1997 etc.). The weakness of these claims is that there is no assurance that these superficial criteria pick out a natural class of structures. For the most part, clear, concise, systematic, and replicable tests for deciding what serial verbs are have not been worked out so far.

Second, it has been assumed that there is very little morphological inflection in many of the languages that have the serial verb phenomena. As a result, many analyses of so-called SVCs fail to systematically provide obvious language-internal evidence for verbal status. Thus, we cannot tell for sure if the verbal sequence called SVCs under the usual description actually lacks any marker of coordination or subordination. This observation can be illustrated with the sentence in (1b) in which the first verb *hiá* 'try' is a Control verb in English but there is no obvious morphological inflection in (1b) that suggests the same thing in Èdó. Furthermore, it can be difficult to tell if the things that are claimed to be verbal are indeed verbs in such languages. This is compounded by the fact that it is difficult to find non-syntactic criteria that distinguishes verbs from say adverbs or particles (cf. Ansre 1966, Bamgbose 1974, Awobuluyi 1973, Agheyisi 1986 etc.).

Third, based on the lack of overt morphology it has been difficult to differentiate SVCs from constructions in which there are sequences of surface verbs that involve clausal embedding, like Control constructions or causatives etc. The indication that there is more to the so-called SVCs than meets the eye comes from the fact that there are differences in the linear order of the verbs and their arguments, as summarized in (2).

- (2) a. NP V NP V (compare 1c and 1f)
 b. NP V NP V NP (compare 1a, 1e, and 1g)
 c. NP (V?) NP V NP (compare 1d)
 d. NP V V⁴
 e. NP V V NP (compare 1b)

Since there are no markers of coordination or subordination between the verbs in the different templates in (2), the question is which one is underlyingly SVC.

Fourth, and finally, there is a recent move that appears to disregard the descriptive definition of SVCs as constructions with two or more verbs without any marker of subordination and coordination. Thus, in languages such as Japanese (Nishiyama 1995), Korean (Lee 1993), Marathi (Pandharipande 1990), Gullah (Mufwene 1990), the significance of certain particles with clear conjunctive meanings have been down-played in the wave of analyzing SVCs cross-linguistically. This observation can be illustrated by the following sentences:

- (3) a. John-ga hammer-o tot-te Bill-o nagut-ta (Japanese, Nishiyama=8a)
 -Nom -Acc take-TE -Acc hit-Past
 'John took the hammer and hit Bill.'
- b. John-wa boosi-o nui-de Mary-ni aisatusi-ta (" =54)
 -Top hat-Acc take-TE -Dat greet-Past
 'John took off his hat and greeted Mary.'
- c. ku-nun koki-lul kwe-e mek-ess-ta (Korean, Lee=18)
 he-Top meat-Acc broil-L eat-Past.Dec.
 'He broiled the meat and ate it.'
- d. ku-nun kang-ul heyemchi-e kenn-ess-ta (" =19)
 he-Top river-Acc swim-L cross-Past-Dec.
 'He swam across the river.'

⁴ Common examples of this order include sequences of double-unaccusative verbs such as 'fall-break' or 'push-fall' (see the discussion of the sentences in 11 below).

In Japanese, one of the functions of the TE morpheme has been analyzed as conjunction (Uesaka 1996) while in Korean the -e morpheme has been argued to be INFL (Choe 1988) or Comp (Lee 1976), Yang 1976). However, such meanings are often ignored or re-interpreted by those who analyze sentences like (3) as SVCs, for example Nishiyama (1995), Lee (1993), Mufwene (1990) amongst others. Thus, overt conjunctions, covert coordinations (parataxis), and sentences involving particles that imply clausal embedding such as purposives or instruments are treated as SVCs, and this makes it difficult to have a restrictive definition of the notion of SVCs.

In the light of the foregoing discussion, the aims of this thesis are two-fold; (a) to provide clear and systematic tests based on robust empirical evidence that can distinguish the various kinds of SVCs from one another and from other constructions that appear on the surface to be sequences of verbs, (b) to establish and formulate the correct parameter that allows a language such as Èdó to have SVCs but not a language like English.

1.2 Previous Research

As a way to situate the focus of this thesis, I will only provide a brief general review of the way in which the literature on SVCs has developed and what sorts of questions about the phenomenon have been addressed at different times.⁵ More particular literature will be discussed as the occasion arises throughout the dissertation. In order to keep the review simple and focused, I propose to divide the discussion into two phases as follows.

1.2.1 Early Research

The earliest known description in West Africa of the serial verb phenomena is Christaller (1875) which observed that it is possible for "two or more verbs, not connected by conjunctions to have the same subject". Furthermore, it was proposed that these

⁵ Sebba (1987) has a thorough and near exhaustive review of the literature on SVCs.

sentences fall into two types: (a) Essential combinations, are those in which one verb is the principal, and another is an auxiliary verb, supplying, as it were, an adverb of time or manner, or forming or introducing a complement or adjunct; or the second verb is supplemental, forming a part of a verbal phrase. In these cases, the eventualities expressed by the two verbs are simultaneous and in an internal or inseparable relation or connection (Sebba 1987:6). On the other hand, (b) Accidental combinations are those where two or more predicates (verbs with or without complements or adjuncts) express different successive actions, or a state simultaneous with another state or action, but happen to have the same subject.

Since Christaller's grammar described the Twi language that is spoken by the Asantes and Fantes of West Africa, the first general outside impression was that the serial verb phenomena is localized to the languages of West Africa and especially to those of the Kwa group (cf. Westerman 1930). These early investigators were not concerned with grammatical-theoretical issues such as why does a sentence have more than one verb or what form are such verbs in; their primary concern was in writing pedagogical grammars that could facilitate interaction between the natives and the foreigners.

However, matters changed with the dawn of the generative enterprise in Chomsky (1957) which formalized the description of a sentence in terms of the notion of a set of Phrase Structure (PS) rules that characterize linguistic competence. The basic idea, then, and even till now, is that a sentence has one main verb or to express the same thing in another way, a clause has only one finite verb. This definition of a sentence or clause made the serial verb phenomena look like some kind of 'oddity' that did not fall within the traditional Euro-centered approach of this framework at the time.

I believe that a shift occurred in the analyses of the serial verb phenomena based on Chomsky (1965). By this time, it was widely accepted that transformations could create structures and then delete portions of them when certain conditions were met. Thus, for those who were interested in the analysis of SVCs, it was no longer vital to pursue the

issue of what allows a sentence to have two or more putative finite verbs that occur without an overt conjunction or subordinator in the phrase structure of some languages unlike English. In essence, by the transformational apparatus such verbal strings could very easily be formalized in terms of VP linearization or adjunction, i.e., coordination or subordination (Schachter 1974, but see Stahlke 1974, for criticism). The question of what allows two or more verbs per sentence in serial verb languages was assumed to be a non-issue by the transformational approach.

Stewart (1963) who is credited with the first generative analysis, introduced an interesting angle to the serial verb puzzle. He was concerned with how to account for the fact that there are missing subjects and objects when two transitive verbs occur. Here, the massive power of transformations to delete recoverable parts of structure came in handy.

However, it became obvious that there was no simple solution to the analysis of missing subjects and objects and in fact that there was no escaping the question of what allows two or more verbs to appear in a clause. Consequently, the analyses of the functional (grammatical) status of the verbs in series as well as the relations between them assumed primary focus. Ansre (1966) observed that some verb-like elements do not have a full set of verbal properties even though they occupy the position that verbs would normally occupy. This launched a new era in the analyses of the serial verb phenomenon in which the primary goal was to establish the different kinds of serial verbs based on the functional status of the verbs as well as the relations between them (cf. Bamgbose 1974, Awobuluyi 1973, Agheyisi 1986b etc.). At this point, people started to realize that the serial verb phenomenon was not restricted only to the languages of West Africa but can also be found in East Asian languages (Li and Thompson 1973, Lu 1977 etc.) and some Creoles (Williams 1976, Jansen, Muysken, and Koopman 1978 etc.). On the whole, functionally based classifications came up with two to seventeen different types of serial verbs, depending on the researcher.

Subsequently, a corresponding trend was begun by those opposed to the syntactic analyses, and serial verbs were analyzed and distinguished in terms of generative semantics and/or the semantics of the verbs (cf. Stahlke 1974, George 1975, 1976, Oyelaran 1982 etc.). Now, fourteen to twenty different types were recognized, but in practice the semantic typology never replaced syntactic analysis. According to Oyelaran (1982, fn. 3) 'semantic classification can be refined *ad infinitum* without ever reducing serial constructions to a minimal number of syntactic primes'. This quotation sets the tone for the goals associated with phase two of the analysis of SVCs. This is in light of the gains in the Principles and Parameters framework (Chomsky 1981) in which one of the basic goals was to investigate remote languages and constructions as realizations of UG (universal grammar) with a view to sorting out parameters of variation.

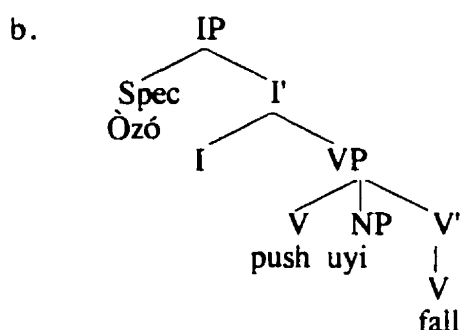
1.2.2. Principles and Parameters Approaches

The central goal of generative analyses of SVCs since the early 1980s has been how to account for a more restricted notion of what can be an SVC? and to find out the parameters of variation. Each analysis makes a different proposal based on what it assumes to be the relevant core of so-called SVCs rather than systematically providing tests for what is a SVC. In order to provide a standard for comparison with my analysis and proposals in this thesis, I will now briefly summarize some of the relevant points and assumptions from other analyses done within the Principles and Parameters theory as they relate to different aspects of the traditional definition of SVCs.

On Subjects, all analyses of SVCs have assumed, based on the traditional notion, that there is a single one for each construction in (2). Thus, the only variation that can be observed is in terms of theoretically-based claims about the position in which the subject is generated: Specifier of TP, or IP as in (4b) or VP (internal subject hypothesis) as in (5). However, the analysis of Objects has been more controversial for those who claim that the core of true SVCs are those that involve object sharing.

Two general approaches can be identified. The first is 'true' internal argument sharing and this approach assumes that there is a single structural object NP that is assigned the internal theta roles of both verbs. Therefore, the Èdó sentence in (4a), which illustrates object sharing SVC, would have a structure like (4b) (cf. Baker 1989, 1991):

- (4) a. Òzọ sùá úyì dé
 Ozo push Uyi fall
 'Ozo pushed Uyi down.'

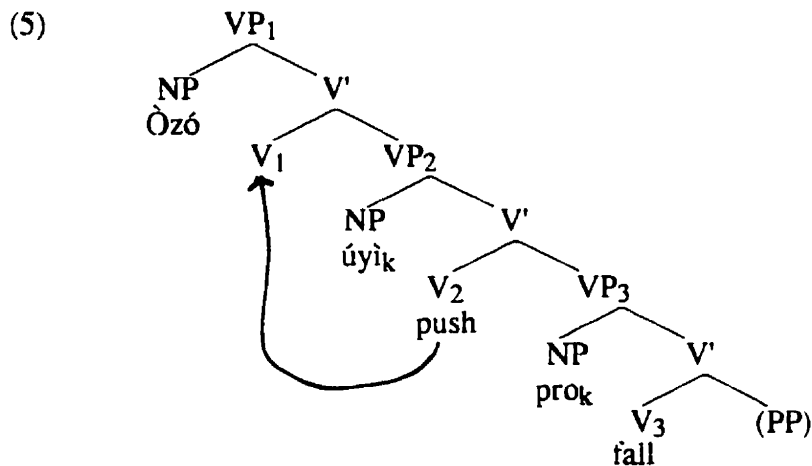


The basic claim that underlies Baker's (1989, 1991) structure in (4b) is that true internal object sharing arises because both verbs are within the projection of a single maximal projection (they are syntactic co-heads) and this allows them to assign their internal theta roles to a single structural position occupied by the object.⁶

The co-headed approach to object sharing contrasts with a second and now popular group which advocates that object sharing is mediated by an empty category. The analysis implied by this assumption is that there is no true internal argument sharing in the sense of Baker (1989, 1991) but rather there are two separate projections of VP, each with its own object argument: an overt one associated with the first verb and a null one linked with the second verb. The null object is then coreferential with the first object. There are, however, different assumptions about the nature of the empty category in the second VP: it could be the trace of A-movement or an A-bar trace of a null operator (cf. Carstens 1988, Law and

⁶ Lefebvre (1991) proposes that SVCs of the kind in (1d,e) are also co-headed from a lexico-semantic point of view, but these SVCs are co-headed in terms of meaning representation, and are inserted in separate VP projections in the phrase structure.

Veenstra 1992, Campbell 1996, etc.), or a controlled *pro* (Collins 1997, but see Baker and Stewart 1997b). Concerning the former proposal, I assume Collins (1997) convincing arguments that the empty category in these SVCs is neither the trace of NP-movement nor an A-bar trace/ null operator.⁷ Thus, based on Collins (1997) the representation for a sentence like (4a) is given in (5).



According to the structure in (5), there is really no true argument sharing as in Baker (1989) since in principle each verb assigns a theta role to a separate object NP and the fact that each verb heads a separate VP projection. Object sharing in this case refers to the control relationship between the overt object of the first verb and the null object of the second verb.

Déchaine (1993) has an account that is similar to Collins (1997) in terms of the double VP structure. However, the difference is that there is some notion of headedness that is associated with the verbs based on the analysis of bivalent projections. Therefore, the different kinds of SVCs would vary in terms of which verb is head. The explicit difference between Déchaine (1993) and Collins (1997), Baker (1989) is that her approach

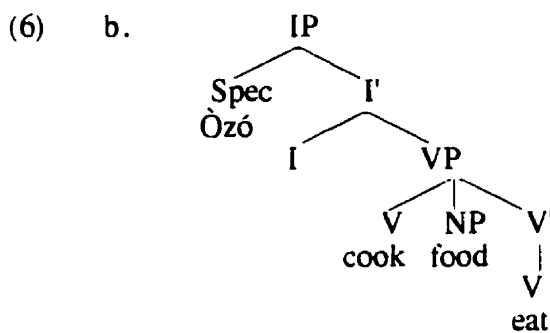
⁷ Collins (1997) argues convincingly that the empty category cannot be an A-trace because the structure it derives would violate one generalization about A-movement--the Chain condition of Chomsky and Lasnik (1993)--which is that the tail of an A-Chain cannot be assigned Case, contrary to fact in Ewe where the post-position *yi* can assign Case. Furthermore, Collins argues that the empty cannot be the trace of A-bar movement because none of the *wh*-diagnostics can be observed. For example, the empty category in SVC is not an unbounded trace like the one in successive cyclic movement.

recognizes the fact that there are different kinds of SVCs while the latter adopts a unified approach.

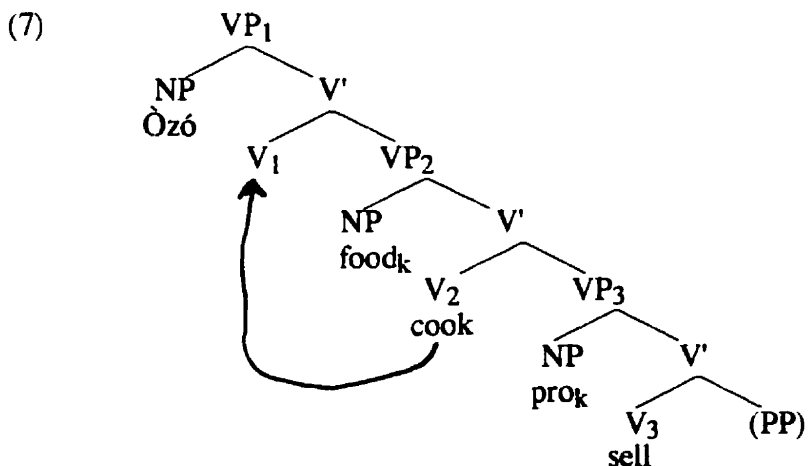
Thus, one important similarity between Baker (1989, 1991) and Collins (1997) is that both give a unified analysis of transitive plus result SVCs like (4a) and transitive plus transitive SVCs like (1f) repeated here as (6).

- (6) a. Òzó lé èvbàré ré
 Ozo cook food eat
 'Ozo cooked the food and ate it.'

For Baker, (6a) has the same structure as (4a) in which there is a single object without any empty category. This is illustrated in (6b).



Similarly, Collins (1997) assumes that the sentence in (6a) has the same structure and analysis as that in (4a) and so (6a) would have a structural representation as in (7) in which object sharing is mediated by an empty category, *pro*.



I should point out that one of the major results of this thesis will be to show that this is a spurious unification of the transitive plus result and transitive plus transitive SVCs. I will show that the two have quite different structures.

Turning now to the issue of what counts as SVCs (i.e., classification) the consensus seems to be that there should be a distinction between a class of 'true' SVCs and a class of covert coordinations (Sebba 1987, Déchaine 1993, Baker 1989, Collins 1997 etc.) the latter having essentially the same structure as VP coordinations in English, except there is no and between the VPs in this case. However, what exactly constitutes covert coordinations (CCs) or 'true' SVCs tends to vary very freely. Concerning the former, clear syntactic tests that will distinguish CC structures are lacking.⁸

In discussing the issue of what counts as 'true' SVCs there are those who have assumed that there is a discernible core which may be primarily the object sharing kinds (1a, 1c,d, and e) and marginally (1b,f) (cf. Baker 1989, 1991, Campbell 1996, Collins 1997 etc.). On the other hand, there are those whose analysis imply that primarily (only) the instrumental or manner kinds (1d and 1e) constitute 'true' SVCs (cf. Lefebvre 1991, Li 1991 etc.) . In part, I believe that the differences in choice of what is SVC reflects theoretical approaches to, and assumptions within, the Principles and Parameters theory. There are a few analyses that are in accordance with my proposed analysis such as Déchaine (1993:202) who propose a typology of four relevant kinds of SVCs based on the contrasts between Haitian, Igbo, and Yoruba . According to this account, Haitian has just the dative or benefactive type of SVC which is similar to the Èdó sentence (1a), while on the surface, at least, Igbo is said to have instrumental and multi-event or sequential kinds and these are similar to (1d) and (1f) respectively. Finally, Yoruba is said to have all four kinds of SVCs which also includes result as illustrated by (1c) in Èdó. The question, then,

⁸ The general idea that CCs are like VP conjunctions in English is seriously challenged by the fact that Coordinate Structure Constraint (CSC) effects as discussed in Ross (1967) are variable in CCs (see discussion of this point in p. 88, fn. 41 of Chapter two below).

is what are SVCs? The answer to this also illustrates another important result of this dissertation because I intend to show over a range of empirical and conceptual evidence that there are just two kinds of SVCs which must be distinguished from CCs. It is hoped that the discussion of this all-important distinction will clarify some of the overlaps and ambiguities from previous classifications.

One direct consequence of previous classifications of so-called SVCs is that it allows each account to make some specific proposals about the core question that SVC data poses for linguistic theory, namely, what is the parameter that allows such languages to have two or more putative finite verbs within a single clause? The proposals have ranged from the idea that it is the nature of INFL, e.g., that it can license multiple verbs (cf. Baker 1989, Déchaine 1993, Campbell 1996, Collins 1997), through a phrase structure parameter that allows co-headed VP structure (cf. Baker 1989, 1991) to SVCs being analogous to secondary predication (cf. Larson 1991). I suppose that each of these proposals have their legitimate merits, but none has been worked out in much detail. Apart from the discussion in Déchaine (1993), none of the proposed parameters has been amply demonstrated to apply to a range of languages, nor shown to actually derive from or directly map on to other well known principles of grammar (e.g. verb movement to Infl, theta/event role assignments, etc.) that are available, in principle, to all languages.

1.3 On the definition of SVCs

In light of the foregoing review of the literature on SVCs, it would seem that the initial task to perform in the analysis of this phenomenon is to find a way to distinguish in a principled way between the various surface so-called SVCs summarized in (2) and repeated here as (8).

- (8) a. NP V NP V
 b. NP V NP V NP
 c. NP (V?) NP V NP
 d. NP V V
 e. NP V V NP

In an echo of Christaller (1875), I propose to restrict the term SVCs to just two kinds; one in which the verbs exhibit functional asymmetry (e.g. as verb modifier, or co-heads), and another in which the verbs are simply a sequence of actions. Furthermore, following Stewart (1963) I assume that what is crucial in order to be classified as a true SVC is that there be a missing subject and object for one of the verbs.⁹ In other words, SVCs may be provisionally defined as a single clause in which two or more finite verbs occur without any marker of coordination or subordination, sharing a single structural (and semantic) subject and a single object.

This definition rules out, for example, (8e) as a true SVC string since this order would not allow for the object of the second verb to be shared. It also implies that in many instances, 'true' SVCs would have the linear order represented in (8a,d), while those in (8b,c) may be ambiguous between 'true' SVCs like (1a) and covert coordinations like (1g), both with surface NP V NP V NP structures.

1.3.1 Interpretation and Verb Sequencing Constraints

In this section, I will provide the initial empirical evidence in support of the definition of SVCs given above. This is based on the nature of restrictions on possible verb combinations and how such combinations force particular interpretations of the sentences. I will limit the number of verbs to two at this point in order to keep the discussion fairly

⁹ This reflects the major empirical claim that has been defended in some analyses as 'Internal argument sharing in SVCs' (cf. Déchaine 1986, Foley and Olson 1985, Baker 1989, and Collins 1997)

simple (see section 2.8 for discussion of restrictions on number of verbs). Consider the following sentences illustrating possible verb sequences:¹⁰

- (9) a. Òzó kòkó àdésúwà mósé transitive+stative
Ozo raise Adesuwa be.beautiful
'Ozo raised Adesuwa to be beautiful.'
- b. *Òzó kòkó àdésúwà vbiè transitive+unergative
Ozo raise Adesuwa sleep
'*Ozo raised Adesuwa to sleep.'
OK as 'Ozo raised Adesuwa and he (Òzó) slept.'
- c. Òzó sùá ágá dé transitive+unaccusative
Ozo push chair fall
'Ozo pushed the chair down.'
- d. *Òzó sùá úyì só transitive+unergative
Ozo push Uyi cry
'*Ozo caused Uyi to cry.'
OK as 'Ozo pushed Uyi and he (Ozo) cried.'
- (10) a. Òzó lé èvbàré rhié -- nè úyì transitive+transitive
Ozo cook food give to Uyi
'Ozo cooked the food and gave it to Uyi.'
- b. *Òzó lé èvbàré vbié transitive+unergative
Ozo cook food sleep
'Ozo cooked the food and slept.'
- c. *Òzó tètàá lé èvbàré unergative+ transitive
Ozo sit cook food
'Ozo sat down and cooked the food.'
- d. *Òzò dé rhàá òmó unaccusative+transitive
Ozo fall grab child
- e. Òzó gbé úzò khién transitive+transitive (=7a)
Ozo kill antelope sell
'Ozo killed the antelope and sold it.'

These sentences in (9-10) are representative samples of what appears to be fairly general observations. In general, observe that they illustrate the linear orders in (8a) and (8b) (I

¹⁰ In these sentences, a * before a sentence is meant to express the fact that the sentence is bad on the reading where the two verbs are within one prosodic unit (no pause or intonation break before the second verb). This is an important point because when there is a prosodic break between the verbs speakers usually indicate this by a pause and the interpretation associated with such sentence will be one of coordination (hence covert coordination) like (1f).

will come back to the discussion of (8d) shortly).¹¹ I propose that there are two basic kinds of SVCs : (a) resultative, (b) consequential.

Resultative SVCs are ones in which the action of the first verb brings about the result that is denoted by the second verb. This implies that there is a strict cause-effect relationship between the verbs and there is no time lapse between the eventualities that they express. Furthermore, there is the implication that the verbs in the resultative SVC are semantically ordered pairs such that the first verb must denote a cause or process and the second verb must define some kind of state or result. One consequence of this is that in an SVC expressing result, if the first verb is transitive the second verb will almost always be unaccusative but not unergative.

With this characterization of the resultative SVC in mind, observe that in (9a) the second verb is a stative verb and it expresses the result of the action denoted by the first verb (see Baker and Stewart (1997a) for discussion which suggest that stative verbs are unaccusatives in Èdó). (9a) with a stative second verb contrasts very sharply with (9b), in which the second verb is an unergative. In particular, it is important to note that (9b) is ungrammatical only if a resultative SVC reading is intended: otherwise the sentence can imply a sequence of events, Ozo raised Adesuwa and he (Ozo) slept, which does not involve object sharing and so is not SVC (according to my criteria set out above). This reading of two separate and distinct events is what I shall as characteristic of covert coordinations. Similar observations hold for the contrast between (9c) and (9d) in which a standard unaccusative verb is the second verb in the former while the second verb is an unergative in the latter. As you can observe, a resultative reading with object sharing is acceptable for (9c) but only a coordination of events reading is possible for (9d). Thus, these restrictions and interpretations of the verbs show that in the resultative SVC, the

¹¹ I will put aside (8c) and (8e) for now by pointing out that the question mark in (8c) refers to whether it is a verb or not (see Chapter seven for discussion of these two orders as reflecting non-SVC structures).

second verb is typically an unaccusative and that both verbs share subject and object arguments.

Consequential SVCs, on the other hand, are those in which the verbs express a natural sequence of events and they are temporarily ordered in a precedence-consequence iconic relation (Gruber 1992a,b). Thus, (10a) means that Ozo cooked the food and gave it to uyi, but it is possible that he could have sold it instead. Whereas in the resultative SVC there is a direct link between the action picked out by the first verb and the result which I have described in terms of cause-effect. In contrast, in the consequential SVC the action of the second verb is not a result directly caused by that of the first verb, but rather a more indirect consequence, the second step of an overall plan on the part of the agent. It is part of this (semantic) consequence relationship that the object of the second verb must be the same as the object of the first verb. Unlike the resultative, the second verb of a consequential SVC must always be transitive and this is true also for the first verb. Thus, in (10a) where both verbs are transitive they share the same subject and object. However, in (10b) where the second verb is an unergative verb, there cannot be object sharing and in fact, this sentence is interpreted as a sequence of events, Ozo cooked the food and then he (Ozo) slept. Once again, we observe that covert coordinations involve the conjunction of two separate and distinct events expressed freely by verbs without any restrictions as can be observed in both resultative and consequential SVCs. Furthermore, in (10c) in which the first verb is unergative there is also no object sharing reading, while an unaccusative first verb is simply ungrammatical (10d). (10d) is in a sharp contrast with (10e) in which there are two transitive verbs and the sentence is grammatical.

Consequently, I conclude that consequential SVCs are those in which two transitive verbs occur, sharing the same subject and object. Notice that the linear order (8a) and (8b) can occur as consequential SVCs; however based on the restriction that both verbs be transitive it follows that the linear order in (8d) can never be consequential SVC. This pattern is not ruled out for resultative SVCs, however, as shown in (11):

- (11) a. Òzó dé wú unaccusative+ unaccusative
Ozo fall die
'Ozo fell to his death.'
- b. *Ozo dé sàán unaccusative+unergative
Ozo fall jump
'Ozo fall and then he jumped.'
- c. Òzó sàán kpàá unergative+unaccusative
Ozo jump leave
'Ozo jumped out.'
- d. *Òzó sàán tín unergative+unergative
Ozo jump fly
'Ozo jumped and flew.'

In (11a) we observe that two unaccusative verbs can occur as a resultative SVC such that the first verb expresses a cause the result of which is Ozo's death. Thus, Ozo is the internal object of both verbs as well as the surface subject. However, (11b) with an unergative second verb is ungrammatical on the intended resultative reading where Ozo was about to fall and then he jumped, in other words the falling event could not have caused him to jump. This sentence only has the coordination of event reading, Ozo fell and he also (independently) jumped. The same contrast between unaccusative and unergative second verbs is illustrated in (11c) and (11d) where a resultative reading (in which the sole argument is shared) is acceptable when the second verb is unaccusative (11c) but not when it is unergative (11d). Thus, I conclude that the linear order in (8d) can be a true SVC only if the second verb is unaccusative and both verbs share the same argument.

Two basic questions emerge from this intuitive semantic distinction between resultative SVCs, consequential SVCs, and covert coordinations (CCs). (a) Why aren't examples like (1f) and (1g) structurally ambiguous between a covert coordination structure and a consequential SVC structure? (b) What prevents the sequence of two unaccusative verbs from being a consequential SVC. These and other related questions will form the basis for the fine-grain distinction between the two kinds of SVCs and covert coordinations in subsequent Chapters, especially in Chapter two.

1.4 Conclusion

This chapter proposed that there are two kinds of SVCs-- resultative and consequential-- and they must share the same subject and object. It is argued that while the second verb of the resultative SVC is typically unaccusative, both verbs of the consequential SVC are always transitive. Furthermore, it was proposed that covert coordinations are not SVCs in that there are two separate objects for the verbs and presumably two subjects, one of them being deleted under identity.¹² A salient confirmation of this distinction between SVCs and CCs is based on the fact speakers process true SVCs as one prosodic unit whereas a pause is usually present in varying degrees before the second verb in covert coordinations.

On the basis of these observations, let us proceed to the analysis of the substantive issues of this thesis as outlined in section 1.1 above, as well as those raised in the review of related literature.

1.5 Organization of the thesis

Chapter two presents most of the empirical core of this thesis by studying the behavior of different kinds of adverbs in SVCs which is used to illustrate the distinction between resultative SVCs and consequential SVCs, and covert coordinations. This distribution of adverbs is also taken to reveal the presence of certain lexical and functional projections in their structures. The discussion of the relevant tests will be presented in two related parts. The first part is based on the licensing of word-level categories like INFL-type (henceforth I-type) adverb. The rationale behind this test is based on the expectation that the licensing of word-level categories (I-type adverbs and pre-verbs) will provide insight into the functional structure of the clause.

¹² In a way, this is consistent with the observation in Déchaine (1993:236) that coordinate clauses always need an overt argument with each verb, either a pronominal or a full DP. Thus, I assume *a priori* that if transitive verbs occur as covert coordinations where there are two separate events and a pause before the second conjunct, then they must each have overt objects. I will come back to the conceptual underpinning of this assumption in section 2.5.1 of Chapter two when I discuss the issue of empty category in SVCs.

The second part of this general adverb-based tests adopts standard syntactic analysis of phrasal-level categories to account for the distribution of Noun-type (henceforth N-type) adverbs and locative PPs. The distribution of these word-level and phrasal-level categories present interesting structural challenges such as that relating to double VP shells and Larsonian-style verb movement, (Larson 1988). In addition, I also investigate the issue of object sharing-- how they are shared syntactically and the interaction of these object NPs with lexical and functional projections. The core of object sharing analysis vis-a-vis null objects will be examined in the light of Baker (1989), Rizzi (1986), Collins (1997), and Baker and Stewart (1997b). I will also examine the general assumption that there is a single subject for SVCs, and based on the analysis of this property I will further distinguish between 'true' SVCs and covert coordinations. Finally, I will discuss the aspectual properties associated with the syntax of certain events such as resultatives (cf. Pustejovsky 1991, Levin and Rappaport 1995, Tenny 1987 etc.) and show that they are quite different from consequential SVCs which do not display any well-defined aspectual features.

Chapter three deals with the predicate cleft construction in Èdó based on the basic analysis of cognate objects. The goal is to provide a structurally-based account of the notions "single" versus "double event" that have been loosely associated with SVCs, and also how the licensing of predicate clefts interacts with the distribution of adverb to justify the distinction between resultative and consequential SVCs, and amongst surface verb constructions.

Chapter four deals specifically with double objects constructions--and how they interact--or fail to--with resultative and consequential SVCs. DOCs present data on the basis of which I will examine the fine structure of the proposed lexical and functional projections (where the latter exist).

Chapter five deals with cross-linguistic ramifications of the distinction between resultative and consequential SVCs. The languages include Yoruba where the primary

interest is to show that my analysis accounts for certain cases that have been assumed to be problematic in the SVC literature. In addition, I examine Ìgbo, a language on which there is a lot of debate about whether there are actually SVCs, and what the relationship is to the rather large number of resultative V-V compounds. I will argue that resultative SVCs in Èdó show up as resultative V-V compounds in Igbo in a principled way. Finally, I will look at Chinese and show that it is similar to Igbo in many respects based on the proposed distinction between resultative and consequential SVCs. Thus, I will show that predictably Èdó resultative SVCs surface as resultative V-V compounds in Chinese.

Chapter six faces directly the question of what is the parameter that allows a language like Èdó to serialize but not a language like English. I will show that there are parameters that license serial verbs in Èdó and AP secondary predicates in a language like English on a fairly comparable basis. As in other works, the relationship between INFL and V will be central to the parameter. However, new facts from verb raising in the sense of Pollock (1989) will shed light on how best to state this.

Chapter seven shows how the various syntactic tests developed in the thesis can be used to clearly distinguish control sentences and causatives from true SVCs. Here, I argue against a traditional view that treats these constructions as manner or instrumental SVCs.

Chapter eight presents the conclusions from this thesis and summarizes its empirical discoveries: the distinction between true SVCs and the various other constructions, and the parameter that distinguishes a SVC language from a non-SVC language.

1.6 Significance of the Study

There are at least five areas in which this thesis contributes to knowledge. First, most of the empirical basis for the distinction between resultative and consequential SVCs are genuinely new discoveries in the analyses of SVCs. Second, one theoretical implication of the distinction between resultative and consequential SVCs is that the unified approach adopted in Baker (1989) and Collins (1997) must be rejected. Third, the methodology

adopted illustrates the elegance of investigating different aspects of one language where it becomes possible to see the interplay of micro parameters (cf. Baker 1996) between different constructions which can then be used to make comparisons cross-linguistically. Fourth, this thesis is the first generative analysis of the grammar of Èdó, on which there has been hitherto very little work (cf. Agheyisi 1990, Omoregie 1983, Amayo 1975). Consequently, this thesis is significant in the general task of describing less-studied languages by providing a systematic study of the syntax of Èdó, *inter alia* . Finally, in light of the detailed analysis of SVCs in Èdó, this thesis provides a great deal of important empirical facts toward the analysis of verb serialization cross-linguistically .

Chapter 2

Resultative vs. Consequential SVCs, and Covert Coordinations

2.1 Introduction

In Chapter one, I reviewed some of the problems that are related to having a concise definition of SVCs. In particular, I observed that the SVC phenomenon appears to be unconstrained under those analyses that identify SVC types simply on the basis of intuitions about what the combination of verbs express (cf. Oyelaran 1982). The other side of this problem is that some analyses recognize types/classes of SVCs but give a unified syntactic analysis anyway (Baker 1989, Collins 1997). These kinds of classifications and the analyses that underlie them fail in some respects to capture cross-linguistic empirical generalizations, for example why resultative SVCs consistently show up as resultative V-V compounds in Igbo and Chinese.

The goal of this chapter is to provide a battery of syntactic tests on the basis of which we can distinguish two different kinds of SVCs from covert coordinations (CCs). The basic claim to be defended is that SVCs are those constructions in which a single E head quantifies over verbs, and the verbs combine under a single Voice that licenses the subject (and Agent) that sets about a plan of one macro-event which may be resultative or consequential. Adopting a bottom-up approach, the tests to be discussed in this chapter are based on the behavior of different kinds of adverbs which will provide underlying evidence for the internal structure of the clause (lexical and functional projections).

2.2 Distribution and Licensing of Manner Adverbs

There are quite a number of recent theories that deal with the syntactic licensing of an adjunct category like adverb, two of which are relevant to the issues discussed in this chapter. For example, Travis (1988) proposes head (feature) licensing for certain adverbs, and Cinque (1997) argues that the hierarchy of adverbs follows from the distribution of

functional projections. More generally, I follow Parsons (1990) and assume an account in which adverbs are predicates of events that are denoted by verbs. This approach is based on Davidson (1967), who proposes that verbs explicitly stand for kinds of events, so that a sentence containing such a verb states implicitly that there is an event of that sort. Consequently, I assume that the presence of an adverb indicates that there is an event which it is predicated of, i.e., an adverb modifies (is predicated of) an event that is denoted by the verb.¹ Let us now illustrate these assumptions about the licensing of adverbs, against the background of manner adverbs in Èdó; first in simple sentences, and ultimately in SVCs.

Stewart (1996) proposes that there are two kinds of manner adverbs in Èdó and argues further that the two kinds of adverbs occur in mutually exclusive environments. The contrast is illustrated in (1) and (2):

- | | | | |
|-----|----|--|----------------|
| (1) | a. | Òzò giégìé kòkò ògó (*giégìé) | non-past tense |
| | | Ozo quickly gather bottle (*quickly) | |
| | | 'Ozo is quickly gathering the bottles (*quickly).' | |
| | b. | Òzò gié!gié kó!kó ògó (*gié!gié) | past tense |
| | | Ozo quickly gather bottle (*quickly) | |
| | | 'Ozo quickly gathered the bottles (*quickly).' | |
| (2) | a. | Òzò (*ègiégìé) kòkò ògó ègiégìé | non-past tense |
| | | Ozo (*quickly) gather bottle quickly | |
| | | 'Ozo (*quickly) is gathering the bottles quickly.' | |
| | b. | Òzò (*ègié!gié) kòkó ògó ègiégìé | past tense |
| | | Ozo (*quickly) gather bottle quickly | |
| | | 'Ozo (*quickly) gathered the bottles quickly.' | |

Adverbs of the kind in (1) can only occur to the left of a verb and occupy the position between the subject and the verb, but never in sentence final position. The other type of adverb illustrated in (2) can only occur at clause boundaries, in this case in a sentence final

¹ Although it is quite possible that not all adverbs are event related for example 'Frankly, I like broccoli' (Manfredi, p.c), but I will ignore this difference for the most part since there are predominantly only manner adverbs in Èdó.

position but never between the subject and the verb.² Observe further that while the adverb in (1) may vary in terms of tones, the one in (2) does not. In addition, there is a non-trivial morphological difference between these two: the adverb of the kind in (1) begins with a consonant, while that in (2) begins with a vowel. This morphological difference matches up very nicely with the difference between nouns and verbs or INFL words in the Èdó language: all nouns must begin with a vowel and all other lexical categories must begin with a consonant (cf. Agheyisi 1990, Amayo 1976, Omoruyi 1986a/b etc.).

Consequently, for descriptive clarity I propose to classify the adverb in (1) as an INFL-type adverb (henceforth I-type adverb) because it exhibits signs of being linked with tense both by its position and by varying for tense tones like verbs (see Stewart 1996 for discussion). Some other examples of I-type adverb include; *gèlé* (truly), *rhèhé* (early), *fèkó* (slowly, carefully), *zèégìé* (quickly) etc. The adverb in (2) I will call a Noun-type adverb (henceforth N-type adverb) since it shares the morphological trait of having vowel initial segment with nouns, and like nouns it does not tonally inflect for tense. Some examples of the N-type adverb include, *ègìégìé* 'quickness', *èzèégìé* 'quickness' etc. However, despite these differences I assume that both I-type and N-type adverbs are predicates of events.

As the contrast between (1) and (2) shows, there are syntactic conditions that regulate the distribution of both I-type and N-type adverbs. An I-type adverb can only occur as an adjunct to a syntactic position that is tense-related, i.e., a syntactic position where tense features can be checked (as reflected by tense tone copying). Based on the sentences in (1), one possible candidate to which the adverb can adjoin appears to be the verb. This is despite the fact that there is a T(ense) position between the subject and the verb which may be a potential candidate. However, we can confirm the fact that the adverb

² This kind of adverb may also occur in sentence initial position and it can also be fronted (topicalized) like nouns in the language, but I will not discuss the sentence initial position any further since it is not relevant in determining the internal structure of SVCs (but see p. 106 section 3.2.1)

does not adjoin to T from the sentences in (3) where T is overtly occupied by the future tense morpheme, *ghá* :

- (3) a. Òzó ghá gié!gié kó!kó ògó non-past tense
 Ozo FUT quickly gather bottle
 'Ozo will quickly gather the bottles. '
- b. *Òzó gié!gié ghá kó!kó ògó non-past tense
 Ozo quickly FUT gather bottle
 'Ozo quickly will gather the bottles. '

When T is overtly filled by the future tense morpheme as in (3a), the I-type adverb occurs between it and the verb.³ However, when the I-type adverb occurs to the right of T the sentence is ungrammatical (3b). Now, Kayne (1994) and others argue that there is no rightward adjunction to heads. Given this, the contrast between (3a) and (3b) implies that the I-type adverb is not generated in T leaving us then with the option that I-type adverbs adjoin to the left of the verb. While this proposal is a valid account of I-type adverb licensing, there is another possibility, based on the idea proposed in Travis (1994, forthcoming) that TP obligatorily dominates EP (Event Phrase). Under this structure, the I-type adverb can then left-adjoin to the head of the EP; it inflects for tense because EP is a tense-related functional projection (Travis 1994).

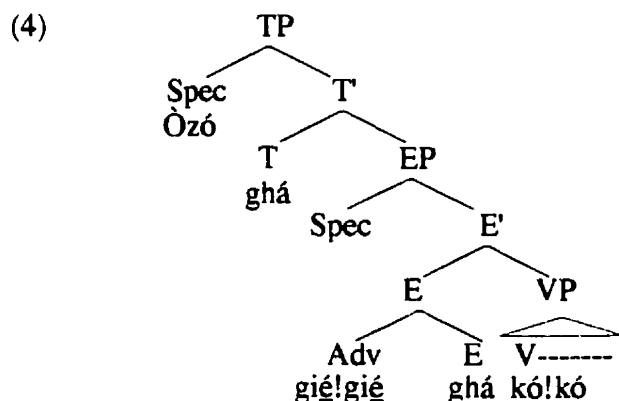
The empirical evidence in support of the idea that I-type adverb adjoins to the left of the head of the functional projection EP comes from the distribution of iterative morpheme relative to the presence of the I-type adverb. This is illustrated in (3c).

- (3) c. Òzó ghá gié!gié ghá kó!kó ògó non-past tense
 Ozo FUT quickly Iter gather bottle
 'Ozo will quickly gather the bottles repeatedly '

Observe that the adverb occurs between Tense head, that is occupied by the future tense morpheme *ghá* , and another homophonous morpheme *ghá* (imperfective) that is in a

³ Observe that both the verb and the I-type adverb now have a different tonal pattern from non-past sentence in (1). I will come back to this issue in section 2.7.1 (see also 2.7.2)

position before the verb.⁴ Therefore, based on (3c) we confirm that the I-type adverb does not left-adjoin to the verb since the iterative morpheme can occur between the adverb and the verb. Following Jackendoff (1990:29), I assume that iteration quantifies over an event and so I propose that in (3c) the iterative morpheme is generated in the head of EP. Therefore, we derive an adequate account of the position of the I-type adverb by saying that it is licensed as a left-adjunct to the head of the functional projection EP.⁵ The structural representation is given in (4) for the sentence (3c).



There is an interesting wrinkle to the structure in (4) which however does not undermine my proposed account of I-type adverbs but is worth mentioning here in anticipation of certain facts about *restructuring* to be discussed in chapter seven. This is the observation that under certain tenses namely, when T and EP spell-out both the features of tense and iteration, then the I-type adverb can occur as a left adjunct to the VP. The relevant examples are given in (5):

- (5) a. Òzó ghá!á gié!gié kó!kó ògó past tense
 Ozo past Iter quickly gather bottle
 'Ozo used to quickly gather the bottles (repeatedly).'
- b. *Òzó ghá!á gié!gié ghá kó!kó ògó past tense
 Ozo past Iter quickly IIter gather bottle

⁴ See section 7.2.1 for discussion of the two *ghás*

⁵ This also carries a further implication that both the I-type adverb and the iterative morpheme pick out events. I should point out that EP is the equivalent of "outer" AspP in Travis (1994) and so they are notational variants.

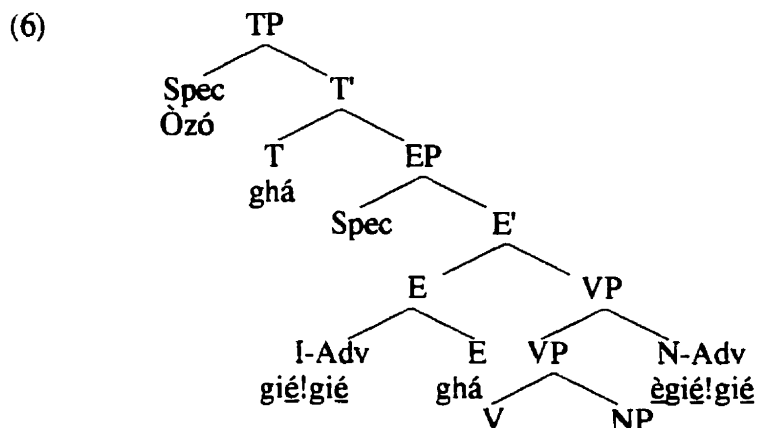
- c. *Òzó gié!gié ghá!á kó!kó ògó past tense
 Ozo quickly past Iter. gather bottle

In (5a), we observe that the I-type adverb occurs to the left of the verb after Tense. Observe, however, that the morpheme in Tense is more complex than that in (3c). While the one in (3c) is a simple form, the one in (5a) can be decomposed into 'ghá' (like 3c) and a vowel 'á'. Thus, in (5a) the downstep (floating) tone within the word indicates that it is a complex derived word. I propose that what we have in (5a) is the result of raising the head of EP into Tense and this brings about a situation in which the I-type adverb adjoins to the left of the verb. We can confirm this analysis based on the ungrammaticality of (5b) where we observe that the position of the raised head cannot be filled. Therefore, I conclude that the I-type adverb may adjoin to the left of the head of EP when it is itself not part of a complex head, otherwise it may then adjoin to the left of the verb which is also tense-related since it can bear tense features (e.g., tonally inflect for tense).

In the case of the N-type adverb as in (2), I propose that it adjoins to the right of a VP. This implies that right-adjunction is acceptable on phrases but not heads (cf. Baker 1996). As such the N-type adverb can be used to mark the right edge of a VP, where the VP projection is defined under standard assumptions as the minimal constituent of [V NP] (along with possible additional complements). In essence, therefore, I assume that the distribution of the N-type adverb would correspond in a straightforward manner with VP projections and this can then be used as a test to determine whether a verb and its complement project a phrase. This adjunction possibility of N-type adverb is illustrated in (6).⁶ This structure also shows the difference in terms of licensing between the two kinds of adverbs.⁷

⁶ It should also be noted that there is nothing in my theory of N-type adverb licensing that prevents it from being right-adjoined to the EP in (6). Although I allow this as a possibility, I am not sure if there is any meaning difference between the two positions (VP/EP) as has been argued for English VP-adjoined and PredP-adjoined adverbs (cf. Bowers, 1993). However, some indication of something similar can be observed in SVCs (p. 49, section 2.2.4)

⁷ In order to keep the representation simple, I do not include the fact that the I-type adverb can sometimes adjoin to the left of the verb in the context of the complex head bearing ghá!á and in fact I do not use this



One pertinent issue for this theory of adverb licensing is to determine whether an adverb can occur between the verb and its argument. For example, in both French and Icelandic an appropriate adverb can occur between the verb and its argument (cf. Pollock (1989), Laenzlinger (1994), Travis (1988)). However, the sequence of [V Adv NP] is ungrammatical in English (see Stowell (1981), Koizumi (1993), Pesetsky (1989) for discussions). Thus, the relevant question pertaining to the structure in (6) is whether Èdó is like French or English in terms of adverb placement, in other words can an adverb of any type come between a verb and its complement? Consider the sentences in (7):

- (7) a. *Òzó kó!kó gié!gié ògó
Ozo gather quickly bottle
- b. *Òzó kòkó ègié!gié ògó
Ozo gather quickly bottle

Based on the ungrammaticality of the sentences in (7), we can conclude that Èdó is not like French or Icelandic because neither the I-type nor the N-type adverb can occur between a verb and its NP complement.⁸ Now, given these background assumptions concerning the

tense marker as part of the general discussion, it was introduced simply to flag the analysis of EP restructuring in Chapter seven. The structure in (6) predicts that both the I-type and the N-type adverbs can co-occur and this is true (cf. Stewart 1996).

⁸ I will come back to this issue when I discuss the facts of verb raising in chapter six. Also, in section 3.3 I will extend the discussion to whether an N-type adverb can occur between [V + NP] and a cognate object which is analyzed as an event argument.

licensing of both kinds of manner adverbs, let us then examine the distribution of each type separately in SVCs.

2.2.1 I-type Adverb before First Verb

I begin this discussion by first considering the common position in which the I-type adverb can occur amongst SVC. Consider the following sentences:

- (8) a Òzó gié!gié kó!kó Àdésúwà mó!sé
 Ozo quickly raise Adesuwa be-beautiful
 'Ozo quickly raised Adesuwa to be beautiful.'
- b. Òzó gié!gié dú!nmwún èmà khié!nné
 Ozo quickly pound yam sell+PL
 'Ozo quickly pounded the yams and sold them.'
- c. Òzó gié!gié gbó!ó ívìn bòló ókà
 Ozo quickly plant coconut peel corn
 'Ozo quickly planted the coconut and [he] peeled the corn.'

As illustrated in (8), the I-type adverb can occur before the first verb in SVCs, resultative (8a) and consequential (8b), and covert coordination (8c). The question that arises here is what do these sentences mean, in other words what event or events are the I-type adverbs predicates of?

In (8a), the interpretation of the sentence is that both actions denoted by the two verbs were quick, i.e., the "raising" and "becoming beautiful" were quick. (8a) cannot have a reading in which only one of the verbs is modified apart from the other. Thus, it cannot be that only the "raising" is quick and not the "becoming beautiful". This integrity of interpretation implies that even though the I-type adverb structurally occurs to the left of the first verb, it must be the case that both verbs express the same event (a single event) which the I-type adverb is a predicate of. Given my theory of I-type adverb licensing as predicates of events, generated as left-adjuncts to the head of EP, I predict that it should be able to co-occur with the iterative morpheme in this kind of SVC. This prediction is borne out in (9) (I have switched examples simply because of pragmatics).

- (9) Òzọ gié!gié ghá suá ògọ́ dé
 Ozo quickly Iter push bottle fall
 'Ozo quickly pushed the bottle down repeatedly.'

In (9), both the action of pushing and falling are construed as a single event by the adverb and the iterative morpheme. Thus, the interpretation of (9) is that Ozo pushed the bottle down each time to bring about a cumulation of such events. So, it is instructive to observe that 'push-fall' in (9) denotes a single (resultative) event type as evidenced from the meanings of the iterative morpheme and the I-type adverb.

The interpretation of (8b) is similar to that in (8a).⁹ The interpretation of (8b) is that both the "pounding" and "selling" were quick. This sentence cannot have the interpretation in which, for example, only the first verb is modified Ozo quickly pounded the yam and then sold it (slowly). Based on the analysis of similar facts in the resultative SVC (8a), it follows that there must also be a sense in which the two verbs of the consequential SVC (8b) express the same event or parts of a macro-event which the I-type adverb in this position before the first verb is predicated of. Once again, the prediction that both the iterative morpheme and the I-type adverb can co-occur is borne out. This is illustrated in (10);

- (10) Òzọ gié!gié ghá dú!nmwún èmà khié!n
 Ozo quickly ITER pound yam sell
 'Ozo quickly pounded the yams and sold them repeatedly.'

(10) has the meaning that both the pounding and selling were quickly done over and over again (iterated). Given the assumption that iteration quantifies over events, there is a

⁹ I would like to draw attention to the fact that in both (8a) and (8b), the presence of the adverb seems to trigger tone spreading past the first verb unto the second. This fact indicates a similarity in the underlying properties of the functional head that immediately dominates the first verb. I will expand on this issue as we go along and particularly in sections 2.7.1 and 2.7.2, but see the immediate text for some discussion.

correspondence with the interpretation of the I-type adverb in this position which is that both verbs of the consequential SVC express a single event or parts of a macro-event.¹⁰

Now, let us compare the foregoing discussion with the covert coordination sentence (8c). There is a sharp contrast between SVCs and covert coordinations based on the fact that the functional head E in (8c) has a different scope interpretation with the I-type adverb. The only interpretation of (8c) is that the planting event was quick without any obvious implication for the event that is denoted by the second verb.¹¹ This interpretation is consistent with the fact that there is a conjunction of events and suggests a difference in terms of the nature of what the E position is quantifying over in SVCs and covert coordinations. Thus, the essential difference in terms of I-type adverb licensing and the iterative morpheme before the first verb seems to be that the E operator quantifies over both verbs and the events that they denote in both the resultative and consequential 'object sharing' SVCs.¹² However, the E operator in the covert coordination only quantifies over the first verb and the event that it denotes. I will put forward the semantic representation of these differences between the E operators in the different constructions until I have discussed similar facts regarding adverbs in the position before the second verb (section 2.2.2)

In the meantime, I should point out that the facts concerning events and I-type adverbs are, also, predictably matched by the quantification behavior of the iterative morpheme. The relevant example is given in (11);

¹⁰ Thus, it appears that this functional head E has similar properties in both resultative and consequential SVCs. One likely speculation for this similarity may be the condition that there should be a single object NP that simultaneously measures out the event denoted by each verb. The significance of this proposal comes from the contrast between these SVCs and the covert coordination sentence (8c). I will not comment on this proposal any further.

¹¹ Observe a phonological corroboration of this interpretation based on the observation that in (8c) the presence of the adverb does not trigger tone spreading past the first verb, unlike in the resultative (8a) and consequential (8b). Again, more on this in section 2.7.1 and 2.7.2 p. 84 ff.

¹² The difference in the nature of the quantification behavior of this E position between resultative and consequential will be made clear shortly.

- (11) Òzọ gié!gié ghá gbó!ó ívìn, bọlọ ókà
 Ozo quickly ITER plant coconut peel corn
 'Ozo quickly planted the coconut repeatedly and [he] peeled the corn.'

The interpretation of (11) is that the event of planting coconut was carried on again and again as he peeled the corn (once). It is important to note that there is a necessary pause before the second verb and this confirms that we are truly dealing with a case of covert coordination (distinct events coordination). Thus, (11) is just like the I-type adverb facts in that the iterative morpheme quantifies over the first verb only.

What we have seen so far from the behavior of I-type adverbs, which is consistently confirmed by the interpretation of the iterative morpheme, is that when they occur to the left of the first verb, they provide evidence for functional structure and the nature of event composition. Thus, in the resultative SVC (8a) the fact that the I-type adverb in the pre-first verb position implicates the action of both verbs suggests that there is a single event of which it is predicated. Similarly, in the consequential SVC (8b) the actions of the two verbs may be formally linked into a single complex event by the functional head E that occurs before the first verb. In the covert coordination (8c), there is a clear-cut sense of two distinct events brought out by these elements.

2.2.2 I-type Adverb before Second Verb

My task in this section is to use the same techniques as the previous section by putting the I-type adverb in the position before the second verb. There are three things I hope to show in this section. First, the distribution and licensing of I-type adverbs will provide evidence for functional structure between the verbs. Second, if we can justify that there is functional structure between the verbs then this should be evidence against the account of 'object sharing' in Baker (1989). This is because the E position would structurally split the two verbs thereby under-cutting Baker's account of true 'internal argument sharing', which is based on a doubly headed VP. Third and finally, I expect that

determining whether there is an E position before the second verb should provide evidence for the nature of event composition based on the view that adverbs are predicates of events (cf. Parsons, 1990). This should present a useful insight into the distinction between single versus double events SVCs (Givón 1991).

Consider the following sentences, illustrating the I-type adverb in the position before the second verb for each of the three constructions:

- (12) a. *Òzó sùá ògó gié!gié dé
Ozo push bottle quickly fall
b. *Òzó kòkó Àdésúwà gié!gié mó!sé
Ozo raise Adesuwa quickly be-beautiful
- (13) a. Òzó dùnmwún èmà gié!gié khién
Ozo pound yam quickly sell
'Ozo pounded the yam and quickly sold it.'
b. Òzó lé èvbàré gié!gié ré
Ozo cook food quickly eat
'Ozo cooked the food and quickly ate it.'
- (14) a. Òzó gbòó ívìn gié!gié bó!ló ókà
Ozo plant coconut quickly peel corn
'Ozo planted the coconut and he quickly peeled the corn.'
b. Òzó gbé èkhù gié!gié lá!á òwá
Ozo hit door quickly enter house
'Ozo hit the door and he quickly entered the house.'

As the data above shows, the I-type adverb cannot occur between the verbs in the resultative SVC (12), but it can occur before the second verb in the consequential SVC (13) and in the covert coordination (14).

According to my theory of I-type adverb licensing, (12) constitutes evidence that there is no E position between the verbs in the resultative SVC. We can quickly confirm this fact from the sentences in (15) with the iterative morpheme before the second verb:

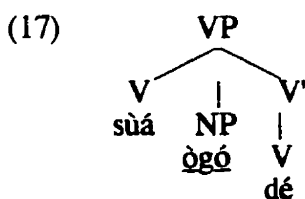
- (15) a. *Òzó sùá ògó ghá dé
Ozo push bottle Iter. fall
b. *Òzó kòkó Àdésúwà ghá mó!sé
Ozo raise Adesuwa Iter. be-beautiful

On the basis of the ungrammaticality of the sentences in (12) and (15) with I-type adverb and iterative morpheme which both require the presence of the functional head E in order to be properly licensed, I conclude that resultative SVCs lack an EP projection before the second verb. Given my treatment of adverbs as predicates of events, then the failure of the I-type adverb to occur in the position before the second verb suggests that this second verb does not by itself denote an event that is distinct from the first verb. It is therefore a desirable feature of my theory that the distribution of the I-type adverbs is consistent with the nature of event composition in the resultative SVC.

Thus, I propose that there is only one E position in the resultative SVC and this is because there is a single quantification over a single event. Therefore, it makes perfect sense that the E position where both the I-type adverb and the iterative morpheme are generated dominates both the first and the second verb. The semantic representation of a resultative SVC like (16a) would be as stated in (16b).

- (16) a. Òzó sùá ògò dé
 Ozo push bottle fall
 'Ozo pushed bottle down.'
- b. The resultative SVC
 $(\exists e) [\text{Push-Fall}(e) \ \& \ \text{Agent}(e, \text{Ozo}) \ \& \ \text{Theme}(e, \text{ògò})]$.

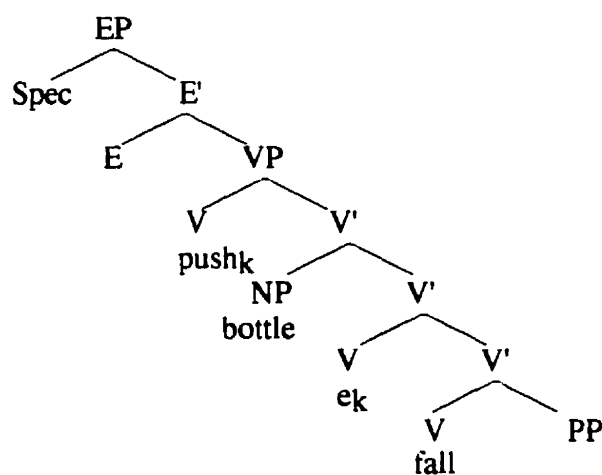
(16b) can be read in the following way, there is one event (e) and this event is a pushing-plus-falling and there is a single Agent of the event which is Ozo and there is also a single Theme which is the bottle, and either the adverb or the iterative morpheme is predicated of this single event. The observations about the resultative SVC are consistent with a doubly-headed VP structure of Baker (1989,1991) as in (17).



(17) is compatible with the semantic facts from I-type adverb and iterative morpheme. However, based on criticisms against this structure such as the fact that it is ternary-branching (cf. Larson 1991) in light of Kayne (1984), I propose a modification as in (18).¹³

The resultative SVC

(18)



In (18), the theta domain of the two verbs is the maximal projection VP that contains both of them. This results from a binding-chain between the top verb position and an empty verb position that is a sister to the V-bar projection that contains the second verb. Therefore, the object NP is in the same maximal projection, VP, that contains the two verbs and so it can be assigned their internal theta roles (cf. Baker 1989). The relations between the top verb and the empty verb in (18) mirrors the Government Transparency Corollary of Baker (1988) but without movement. Thus, (18) implies a non-distinctness between the first and second verb in the resultative SVC, as formalized in (19).

(19) X is distinct from Y only if no part of Y is a member of a chain containing X¹⁴

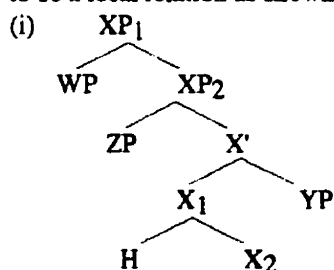
¹³ The analysis of subject NP will be presented in section 2.6.

¹⁴ The notion of part corresponds to the VP containing Y.

When (19) is applied to the structure in (18), we observe that the first verb is not distinct from the second verb because the bound empty verb is a sister of the V-bar containing the second verb, under the same VP.¹⁵ I will come back to the reason why I have adopted this binding-chain structure, rather than a Larsonian verb-raising account, when I discuss verb raising in Chapter six. Of primary relevance at this point is that the structure in (18) expresses the fact that the I-type adverb only occurs before the sequence of both the first and second verbs, which together share the same internal argument. Furthermore, the absence of an EP projection between the verbs is consistent with the claim that neither of the verbs in the resultative SVC expresses a distinct event. Thus, for example, an I-type adverb cannot be predicated of either of the verbs individually.

Turning now to the consequential SVC and the covert coordination sentences, we observe based on the data in (13) and (14) that they do contain an EP projection between the verbs. In the consequential SVC in (13), the I-type adverb occurs to the left of the second verb and the sentence has an interpretation in which only the event denoted by the second verb was quick. Thus, for example, in (13a) Ozo may have pounded the yam slowly but the selling event was necessarily quick. This proposal that there is an EP projection between the verbs in the consequential SVC is supported, once again, by the fact that an iterative morpheme can occur before the second verb (20);

¹⁵ Another version of this same relation is the head-head relation (Chomsky 1995:177) which is assumed to be a local relation as shown between H and X₂ in (i);



According to Chomsky (1995:177), the structure in (i) can only have arisen by the raising [in my case the binding-chain] of H to adjoin to X. Therefore, H heads a chain CH = (H, ..., t), and only this chain, not H in isolation, enters into head ϕ relations. For a head α , take $\max(\alpha)$ to be the least full-category maximal projection dominating α . Thus, in (i) $\max(H) = \max(x) = [XP_1, XP_2]$, the two-segment category XP which is the [VP] projection in (18).

- (20) Òzọ dùnmwún èmà ghá khié!n
 Ozo pound yam Iter sell
 'Ozo produced pounded yam and sold it repeatedly.'

What (20) means is the following: there was a pounding event (which brought about a large amount of pounded yam) and thereafter, Ozo sold the pounded yam in bits; although there was one pounding of yams, there were different events of selling the pounded yam. Thus, just like the I-type adverb before the second verb, the iterative morpheme shows that the intermediate E operator quantifies over the event position of the second verb only. Given my theory which treats each instance of adverb placement as being predicated of an event, it follows therefore that there is quantification over two events in the consequential SVCs and this is compatible with a structure in which there are two EPs. I will come back to the relationship between the two EPs after introducing comparable facts in covert coordinations (CCs).

In the CCs in (14), we observe that the I-type adverb occurs to the left of the second verb. The interpretation of (14a), for example, is that Ozo planted coconut (slowly) and he quickly peeled the corn. The fact that the I-type adverb can occur before the second verb is, once again in the light of my account of adverb licensing, interpreted as evidence of a functional projection dominating the second verb. This, in turn, implies that there is a separate event that is associated with the second verb. We can confirm these observations by putting the iterative morpheme before the second verb (21);

- (21) Òzọ gbòó ívìn ghá bó!ló ókà
 Ozo plant coconut Iter. peel corn
 'Ozo planted the coconut and he peeled the corn repeatedly.'

The interpretation of (21) is consistent with that of adverb modification in (14); only the event that is denoted by the second verb is quantified over, i.e., Ozo planted the coconut (one time) and he peeled corn over and over again. The conclusion is self-evident, that there are two distinct events as well in CCs.

Now that I have given the overall description of I-type adverb licensing and distribution in consequential SVCs and CCs, I want to go into the issue of the formal representation of the two E positions that have been identified and the relationship between them. The descriptive generalization seems to be the following: in the consequential SVC, the first E position quantifies over two events obligatorily even though there is a real sense that the second event exists and can be separately quantified over. In other words, it seems that the first E quantifies over a macro event that consists of two sub-events denoted by each of the two verbs. However, in the CC there is a quantification over two completely separate events since putting the I-type adverb before the first verb does not imply quantification over the second verb. Therefore, the most obvious question for an adequate formal representation of these facts is what is the relationship between the two E positions?

The answer to this question should provide a clear perspective on the nature of event composition in consequential SVCs and CCs. Happily, there is empirical evidence that can be used to determine the relationship between the two E positions. This is based on the possibility of having the same I-type adverb occur in the two Es in the same clause, and correspondingly whether there can be two separate instances of the iterative morpheme. First, the I-type adverb. The relevant examples are given in (22) and (23):

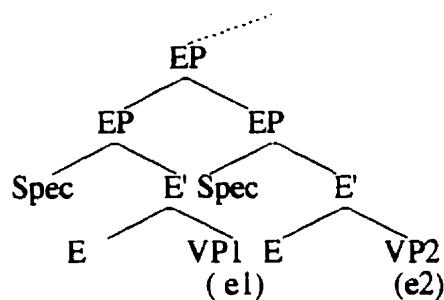
- (22) a. *Òzó gié!gié dún!mwún èmà gié!gié khié!n
 Ozo quickly pound yam quickly sell
 'Ozo quickly pounded the yams and quickly sold it.'
- b. *Òzó gié!gié lé èvbàré gié!gié ré
 Ozo quickly cook food quickly eat
 'Ozo quickly pounded the food and quickly ate it.'
- (23) a. Òzó gié!gié gbó!ó ívìn gié!gié bó!ló ókà
 Ozo quickly plant coconut quickly peel corn
 'Ozo quickly planted the coconut and he quickly peeled the corn.'
- b. Òzó gié!gié gbé èkhù gié!gié lá!á òwá
 Ozo quickly hit door quickly enter house
 'Ozo quickly hit the door and he quickly entered the house.'

This is a striking contrast between (22) and (23). It is ungrammatical for the same I-type adverb to occur before both verbs in the consequential SVC (22), while similar distribution is just perfect in the CC (23). The ungrammaticality of the sentences in (22) is unexpected under the analysis we have been assuming whereby there are two E positions and as such two events that would seem to have independent status. Clearly, (22) implies that there is complex interaction between the two E positions in the consequential SVC. However, there is no restriction in terms of co-occurrence of the same I-type adverb in CCs (23). The contrast between (22) and (23) implies, therefore, that there are truly two distinct events that are conjoined in CCs. Consequently, (23a) will have a semantic representation like (24a) and this may correspond structurally to EP conjunction on the basis of the evidence thus far, as in (24b).¹⁶

(24a) covert coordinations

$(\exists e_1)[\text{Planting}(e_1) \ \& \ \text{Agt}(e_1, \text{Ozo}) \ \& \ \text{Th}(e_1, \text{coconut})] \ \& \ (\exists e_2)[\text{Peeling}(e_2) \ \& \ \text{Agt}(e_2, \text{Ozo}) \ \& \ \text{Th}(e_2, \text{corn})]$.

(24b)



This leaves us at this time with the problem in (22) where we observe that two I-type adverbs of the same kind cannot occur within the same clause. I will very briefly discuss two possible explanations for this problem and show why they fail.

¹⁶ It is also possible that the CC may be a conjunction of two VPs, but since the I-type adverb is licensed by the functional projection EP I will stick to the conjunction of EPs, however, in the subsequent sections I will present evidence that the conjunction actually involve higher constituents, VoiceP and T'.

One possible explanation for the facts in (22) is to state a condition such that the lower E position is null just when the top E position is overtly filled. The problem that I find with this approach is that it makes the prediction that there cannot be two distinct I-type adverbs that can occur in the same clause. However, this prediction turns out to be false as the data in (25) shows:

- (25) a. Òzó gé!lé dún!mwún èmà gié!gié khié!n
 Ozo truly pound yam quickly sell
 'Ozo truly pounded the yams and quickly sold it.'
- b. Òzó gèlè lè èvbàré giègiè rè
 Ozo truly cook food quickly eat
 'Ozo truly pounds the food and quickly eats it.'

(25) shows that it is not true that two I-type adverbs cannot occur within the same clause. We can very easily confirm that *gèlè* is an I-type adverb based on the tonally represented tense contrast between (25a) (past tense with high tones) and (25b) (habitual tense with low tones). Thus, if we adopt the approach that the lower E position is null under any condition, we lose an account of the fact that two I-type adverbs can occur within the same clause in the consequential SVC. In fact, the data below in (26) showing the distribution of the I-type adverb *gèlè* 'truly' further illustrate the fact that there must be something else that is responsible for the ungrammaticality of these sentences that is not derived from the condition that there cannot be two I-type adverbs within the same clause:

- (26) a. *Òzó gé!lé dún!mwún èmà gé!lé khié!n
 Ozo truly pound yam truly sell
- b. *Òzó gèlè lè èvbàré gèlè rè
 Ozo truly cook food truly eat

I conclude that there must be something about the relationship between the two E positions that is not captured by stating a condition that the lower E position is inert when the upper one is filled. Consequently, I reject such an approach.

Another possible explanation for the ungrammaticality of (22) and (26) comes from adopting some of the ideas about adverb licensing in Cinque (1997). Based on this approach, the claim would be that the adverbs *gélé* and *giégìé* are licensed in hierarchically ordered functional projections. This sort of explanation would rely on the adverb order in (25) as the basic reflection of functional hierarchy which is, accordingly, violated when the same adverb is repeated twice within the same clause as in (22) and (26).

Attractive as this approach may seem, it also makes incorrect predictions. For example, it predicts on the basis of (25) that it would be ungrammatical to have a consequential SVC where the order between the two adverbs is reversed, and this is contrary to fact. This is illustrated in (27):

- (27) a. Òzò gélé dé ìkè!ké gié!gié fí
 Ozo truly buy bicycle quickly ride
 'Ozo truly bought a bike and quickly rode it.'
- b. Òzò gié!gié dé ìkè!ké gélé fí
 Ozo quickly buy bicycle truly ride
 'Ozo quickly bought a bike and truly rode it.'

In these sentences in (27), two events are present as indicated by the fact that there are two filled adverb positions and the adverbs are freely reversed without any implications for the grammaticality of the sentences. Thus, neither a strict adverb hierarchy account nor stipulating co-occurrence restrictions can fully resolve the puzzle whereby the same adverb cannot occur in the two E positions in the same clause.

As an alternative, I take the strongest position on the analysis of the lower E position and propose to resolve this problem from the point of view that it has to do with the internal structure of the macro event expressed by the two verbs in the consequential SVC. Therefore, I propose an analysis of event binding (cf. Travis 1994) that is based on the fact that when the first E is overtly realized, it necessarily quantifies over the first event, and the second event that is immediately dominated by the lower E, but never vice-versa (the binding chain cannot be bottom-up). A useful insight into my proposal comes from the

analysis of a related quantification problem in Formal Semantics where two quantifiers compete for the same target (x) as stated in (28).¹⁷

$$(28) \quad \forall x (F x \longrightarrow \exists x G(x))$$

According to (28) there are two quantifications present: universal and existential and both quantifiers target the same variable which is G(x). The solution that is offered for this problem is that the lower quantifier counts and binds the G(x). I adopt a modified version of this assumption and propose that what is happening in (22) and (26) is that there are two quantifications over one 'big' (macro) event represented as E that itself consists of two sub-events (event variables), e1 and e2 represented by (x) as in (29).

$$(29) \quad \exists x (F(x) \longrightarrow \exists x G(x))$$

(29) implies that there are two event variables contained within the quantification scope of a macro-operator $\exists(x)$. The existential quantifier which is in the first structural E position obligatorily binds the lower structural E operator. Thus, when the top E is overtly filled it quantifies over the macro event that is expressed by both verbs in which case the lower E is bound (rendered redundant) and so it does not require any separate quantification. However, when the first E position is null or filled by a different I-type adverb, then the second E operator counts as the quantifier for the second event. This confirms the observation based on an I-type adverb before the first verb that there is a macro-event that is expressed by the two verbs in the consequential SVC. Thus, given the fact that there is the sense of a single (macro) event it follows that the same variable cannot be quantified-over simultaneously by two separate operators. Therefore, I-type adverbs of the same kind

¹⁷ I am grateful to Brendan Gillon for discussing this problem with me and showing me a point where a semantic solution seems to resolve a syntactic problem.

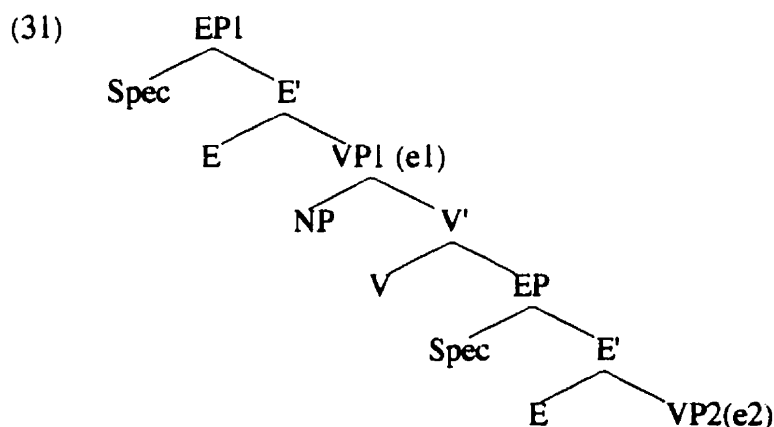
cannot occur in the two E positions (22) (and also (26)). Consequently, the semantic representation of the consequential SVC is as in (30).

(30) The consequential SVC

$$\exists_E (\exists e_1 \exists e_2 [\text{Buying}(e_1) \ \& \ \text{Agt}(e_1, \text{Ozo}) \ \& \ \text{Th}(e_1, \text{èbé})] \\ \& \ [\text{Selling}(e_2') \ \& \ \text{Agt}(e_2, \text{Ozo}) \ \& \ \text{Th}(e_2, \text{èbé})] \\ \& \ [\text{E "consists of"} (e_1, e_2)]]]$$

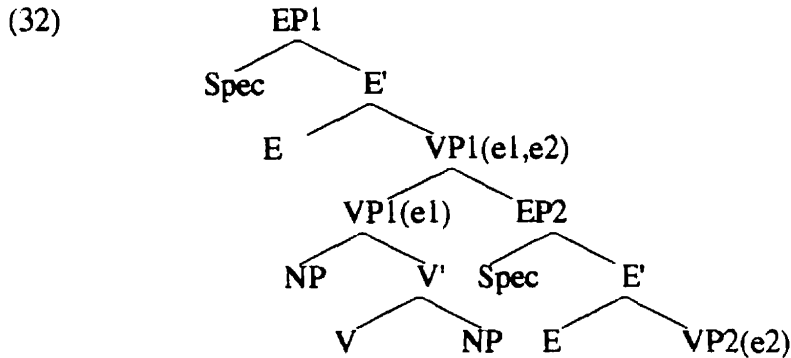
(30) shows the binding relation between the two E positions as a pair of sub-events (e_1, e_2) of a single set (E) and that the two events basically share the same syntactic properties.¹⁸

In terms of the syntactic structure of the consequential SVC, what we take away from this discussion of I-type adverb distribution and licensing is that it cannot be a simple conjunction on a par with CCs. Furthermore, we also know that there is an asymmetric c-command relation between the two E positions. Therefore, we are left with the choice of a complementation structure (31) which is comparable to the position that Collins (1997) takes (with no discussion of functional projections).



An alternative structure to (31) would be an adjunction structure where the lower EP position is adjoined to VP1 and they are both dominated by the first E as illustrated in (32).

¹⁸ I will come back to address the specific issues relating to the null object of the second verb in section 2.5 where I discuss object sharing, and my account of Agent argument follows closely in section 2.6.



The obvious question at this point is which of these two structures is the correct one for the consequential SVC? The answer to this question will have to wait until sections 2.5 and 2.6 by which time we have fully come to terms with some of the other aspects of the consequential SVC along with the other constructions, e.g., making a choice about structure would depend greatly on the account of the facts of 'object sharing' and even in some ways on the characterization of the Agent (subject). Before moving on to discuss the distribution of N-type adverbs, I will quickly present a piece of empirical evidence in support of the foregoing discussion about the two E positions and the tentative analysis that has been proposed.

This evidence is aimed at reinforcing the analysis of the relationship between the E positions by correlating the facts from the distribution and licensing I-type adverbs with that of the iterative morpheme. This will be shown to be consistent with the distinction between consequential and CCs. Consider the following:

- (33) a. *Òzó gié!gié ghá dún!mwún èmà ghá khién
 Ozo quickly Iter pound yam Iter sell
 'Ozo quickly pounded the yam repeatedly and sold it repeatedly.'
- b. *Òzó gié!gié ghá lé èvbàré ghá ré
 Ozo quickly Iter cook food Iter. eat
 'Ozo quickly cooked the food repeatedly and ate it repeatedly.'
- (34) a. Òzó gié!gié ghá gbó!ó ívìn ghá bó!ló ókà
 Ozo quickly Iter. plant coconut Iter. peel corn
 'Ozo quickly planted the coconut repeatedly and [also] peeled the corn repeatedly.'

- b. Òzọ gié!gié ghá gbé èkhù ghá lá!á òwá
 Ozo quickly Iter hit door Iter. enter house
 'Ozo quickly hit the door repeatedly and [also] entered the house repeatedly.'

The contrast illustrated in (33-34) clearly replicates the facts discussed above concerning the occurrence of the same adverb in two positions within a single clause. In the consequential SVC (33), observe that it is ungrammatical for the iterative morpheme to occur in the two E positions and I take this as further evidence of the fact that both verbs express a single complex event, in the same clause.¹⁹ However in CCs as in (34), such double appearance of the same element is allowed and this implies that CCs must be made up of two separate events, and by implication, in two clauses.

A perfect illustration of the paradigm of comparison with I-type adverbs would be to provide examples where the sentences in (33) are grammatical when the items in the two E positions are varied, but unfortunately there are no other iterative type morphemes in the language, i.e., the only heads of the category E are *ghá* and $\emptyset$.²⁰ In the absence of such evidence, it is still informative to observe the contrast between the consequential SVCs (33) and the CCs (34) based on the function and properties of the two E positions. According to my theory of I-type adverb licensing, the ungrammaticality of (33) comes from the fact that the top E position binds the lower E, and so once the top E is overtly filled it quantifies over the event which is denoted by both the first verb and the second verb. This makes the lower E 'redundant' in such cases; hence the ungrammaticality. However, in the CC where two distinct events are conjoined in a symmetrical structure each event can be separately quantified over by the iterative morpheme in each of the two E positions respectively. Thus, for example (34a) has a meaning like the following: Ozo quickly planted coconuts

¹⁹ Note that the adverb is always needed to show clearly that the *ghá* is iterative and not future tense *ghá* since both occur contiguously to each other.

²⁰ There is, of course, the iterative [IV] affix (cf. Stewart 1997, Aikhionbare 1988, 1989 Agheyisi 1990 etc.) but since it is an affix it is irrelevant to the point being made here and its discussion would take me far afield. I will not go into any detailed discussion.

over and over again and (being the hard worker that he is) he also engaged in repeated actions of corn-peeling.

Based on the foregoing, we find that there is strong empirical evidence in support of the distinction between consequential SVCs and CCs and the analysis thereof.

2.2.3 N-type Adverb after First Verb

In section 2.2, we observed the fact that the I-type adverb can reveal a structural split by showing that there is a functional projection between the two verbs (along with their complements) in consequential SVCs and CCs, but not resultative SVCs. In this section, I will focus on determining the internal structure of VPs, specifically to find out VP boundaries, based on my assumption that the N-type adverb right-adjoins to VP and thus marks the right edge of the VP.²¹ Furthermore, based on Parsons (1990) view of adverbs as predicates of events, the distribution of N-type adverbs should also correspond to the nature of event structure that have been identified from the distribution of I-type adverb.

Let us begin, then, by looking at the distribution of N-type adverbs in the position after the first verb plus its object in the three different constructions. Consider the following sentences:

- (35) a. *Òzó kòkó Àdésúwà ègìégìé mòsé
Ozo raise Adesuwa quickly be-beautiful
- b. *Òzó sùá ògó ègìégìé dé
Ozo push bottle quickly fall
- (36) a. Òzó dùnmwún èmà ègìégìé khiènné
Ozo pound yam quickly sell+PL
'Ozo pounded the yams quickly and sold them.'
- b. Òzó lé èvbàré ègìégìé ré
Ozo cook food quickly eat
'Ozo cooked the food quickly and ate it.'

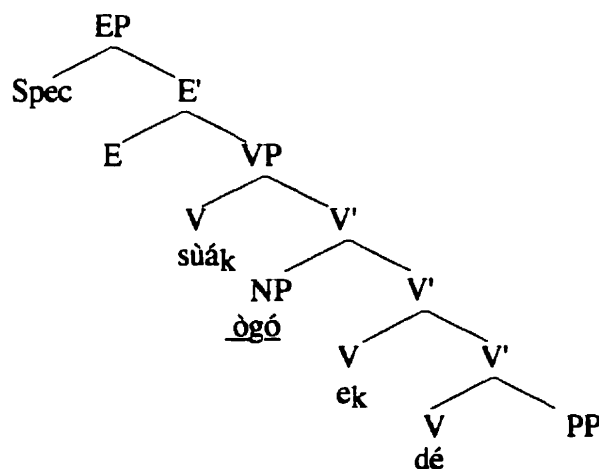
²¹ It is possible to state the general licensing of N-type adverbs as right-adjuncts to phrasal category, which will contrast them with I-type adverbs that left adjoin to functional heads.

- (37) a. Òzó gbé èkhù ègiégié làá òwá
 Ozo hit door quickly enter house
 'Ozo broke the door quickly and he entered the house.'
- b. Òzó gbòó ívìn ègiégié bòló ókà
 Ozo plant coconut quickly peel corn
 'Ozo planted the coconut quickly and he peeled the corn.'

As the data above indicates, there is a contrast between resultative SVCs (35), and consequential SVCs (36) and CCs (37). In the resultative SVC, we observe that the N-type adverb cannot occur between the verbs. In particular, (35a), for example, shows that the first verb *kòkó* (raise) and the argument *Àdésúwà* do not constitute a VP apart from the second verb. If they did, then it should have been possible for the N-type adverb to occur as a right adjunct, contrary to fact. Thus, on the basis of the ungrammaticality of the sentences in (35), I propose that there is no VP constituent made up of the first verb and the shared NP argument in the resultative SVC. Furthermore, the failure of the adverb to pick out a VP (35) suggests that the first verb does not by itself denote an event. This conclusion is previously implied in the structure in (18) and repeated here as (38) for the sentence in (35b).

The resultative SVC

(38)



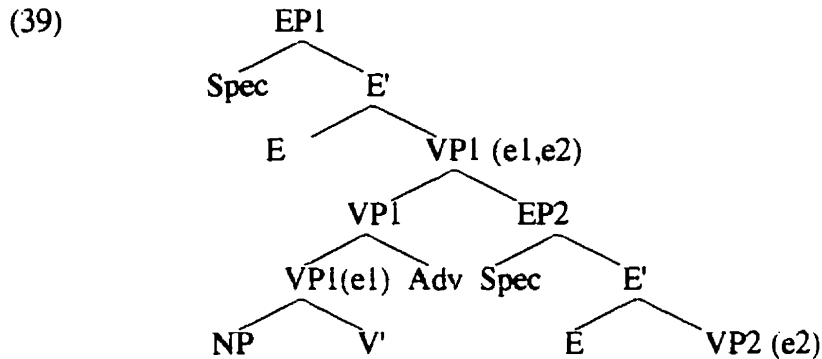
As the structure in (38) shows, the chain formed by the first verb takes as its complement a V' that contains the second verb and so it does not constitute a VP along with the theme (NP) argument to the exclusion of the second verb.

However, in (36-37) we observe that it is possible for an N-type adverb to occur between the verbs in consequential SVCs and CCs respectively. In the consequential SVC (36), the N-type adverb occurs after the first verb plus the object NP before the second verb. Since an N-type adverb may only adjoin to the right edge of a VP, I conclude that the first verb along with its NP complement do constitute a VP in this case. Therefore, the first verb in the consequential SVC denotes a distinct event of which the N-type adverb can be a predicate. This analysis is consistent with the meaning of the sentences. For example, (36a) means that Ozo pounded the yams very quickly, and we know for a fact that he sold them without any implication whether the selling event was quick.

On the basis of the distribution of N-type adverb after the first VP, we now have the first piece of evidence with which to decide on the correct structure of the consequential SVC between a complementation structure (31) and an adjunction structure (32). If we were to choose a complementation structure as in (31), then we will be unable to provide a simple account of the fact that the N-type adverb adjoins to the right of first VP before the second verb. (31) makes the wrong prediction that the N-type adverb cannot occur between the VPs. A complementation structure fails to provide an account of the distribution of N-type adverb between the VPs.

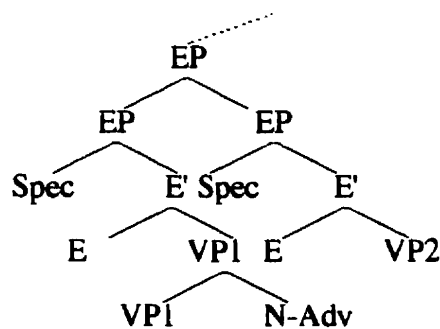
This problem with a complementation structure (31) does not arise in the case of the adjunct structure (32). In fact, the adjunct structure (32) predicts that the first verb plus its object constitutes VP1 to which the second EP is adjoined. Thus, we derive the correct word order in (36) based on an analysis where the N-type adverb adjoins to the right of VP1 before the second verb. This is illustrated in (39).

The consequential SVC



Turning now to CCs in (37), here too we observe that the N-type adverb can occur after the first verb plus its object. In terms of meaning (37a), for example, has the reading that Ozo broke the door rather quickly and then walked into the house (perhaps slowly after seeing through the open door that what he was looking for was not in the house). I take the data in (37) illustrating the fact that the N-type adverb occurs after the first verb plus its object as evidence of a VP boundary. This too is consistent with the proposal that the first verb denotes a separate event. All of these facts fit well with the structure in (24b) repeated here as (40) in which there is a conjunction of two EPs.²²

(40) covert coordination



²² As I indicated before, CCs could also involve the conjunction of VPs in some languages and such fact would not be at variance with the distribution of the N-type adverb.

There is a prediction from this analysis of N-type adverbs in consequential SVCs and CCs, which is that it is possible to have both the N-type and I-type adverb co-occur between the verbs. This prediction can only be derived from an analysis based on an adjunction rather than a complementation structure for the consequential SVC. As it turns out, this prediction is borne out. Consider the following sentences:

- (41) a. Òzó dùnmwún èmà ègìé gíé gé!lé khién
 Ozo pound yam quickly truly sell
 'Ozo pounded the yams quickly and truly sold them.'
- b. Òzó lé èvbàré ègìé gíé gé!lé ré
 Ozo cook food quickly truly eat
 'Ozo cooked the food quickly and truly ate it.'
- (42) a. Òzó gbé èkhù ègìé gíé gé!lé lá!á òwá
 Ozo hit door quickly truly enter house
 'Ozo broke the door quickly and [he] truly entered the house.'
- b. Òzó gbòó ívìn ègìé gíé gé!lé bó!ló ókà
 Ozo plant coconut quickly truly peel corn
 'Ozo planted the coconut quickly and [he] truly peeled the corn.'

While the distribution of both adverbs in (42) is not particularly unexpected under most account, however, the same facts in (41) provide strong evidence against previous structural accounts of SVCs like the double-headed VP analysis in Baker (1989, 1991) since there is a complete split between the verbs. Depending on what is assumed to be the head, (41) could also be a problem for the asymmetric bivalent projection analysis in Déchaine (1993) since such a theory does not allow for intermediate functional projection that could disrupt the headedness in a situation in which the second verb is the head. Although Collins (1997) does not discuss functional structure, the facts in (41) are potentially problematic for a complementation analysis along the lines that I have discussed above. However, under my analysis of consequential SVCs, the distribution of manner adverbs in (41) receives a straightforward account. Thus, I will continue my analysis based on the idea that the correct structure of the consequential SVC involves the adjunction of a functional projection EP to VP1 as in (39).

2.2.4 N-type Adverb after Second Verb

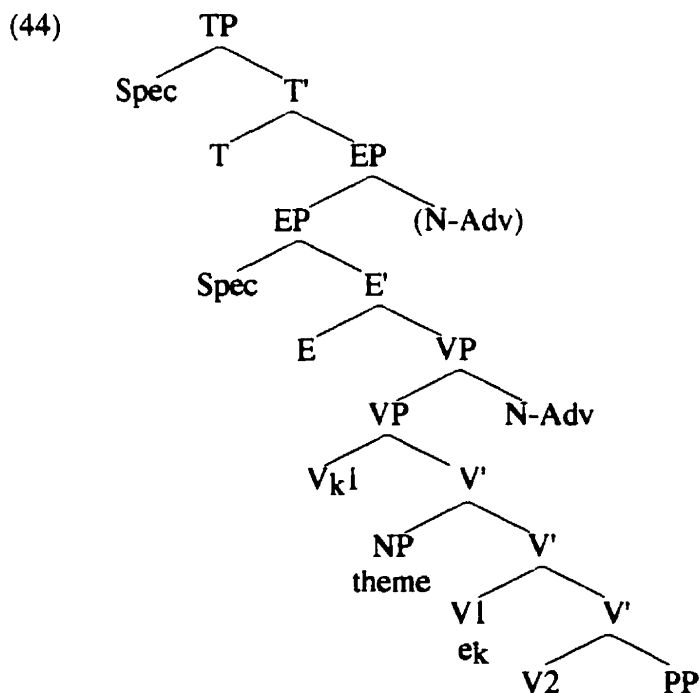
I now turn my attention to the placement of the N-type adverb after the second verb (plus its object). The basic task is to decide whether the second verb plus its object (where this exists) constitutes a VP apart from the first verb. This will, no doubt, present a useful introduction to the analysis of object sharing in both resultative and consequential SVCs. It is important to state here that when the N-type adverb occurs after the second verb it is ambiguous between modifying the entire sentence, i.e., both verbs, or just the second verb, VP2. I propose that when both VPs are modified the N-type adverb right-adjoins to the EP (or TP), and when only a VP is modified it right-adjoins to VP. This distinction is of primary relevance to the structure of the resultative SVC and also distinguishes it from consequential SVCs and CCs. Consider the following:

- (43) a. Òzó kòkó Àdésúwà mósé ègìégìé
 Ozo raise Adesuwa be-beautiful quickly
 'Ozo raised Adesuwa to be beautiful quickly.'
- b. Òzó dùnmwún èmà khién ègìégìé
 Ozo pound yam sell quickly
 'Ozo pounded the yam and sold it quickly.'
- c. Òzó gbòó ívìn bòló ókà ègìégìé
 Ozo plant coconut peel corn quickly
 'Ozo planted the coconut and peeled corn quickly.'

As (43) illustrates, the N-type adverb can occur after the second verb plus its object (where present) in all three constructions. However, what exactly the sentences mean differs significantly amongst them. In the resultative SVC (43a) where the N-type adverb occurs after the second verb, it is important to note that the interpretation of the sentence is not simply that 'the becoming beautiful alone was quickly'; rather the adverb necessarily modifies both of the events denoted by the first and the second verbs, i.e., 'the raising and the result of being beautiful were quick'. Therefore, I conclude that in the resultative SVC neither the first verb nor the second by themselves constitute a VP; rather they do so by both combining together with the single NP argument. This corresponds to the proposal

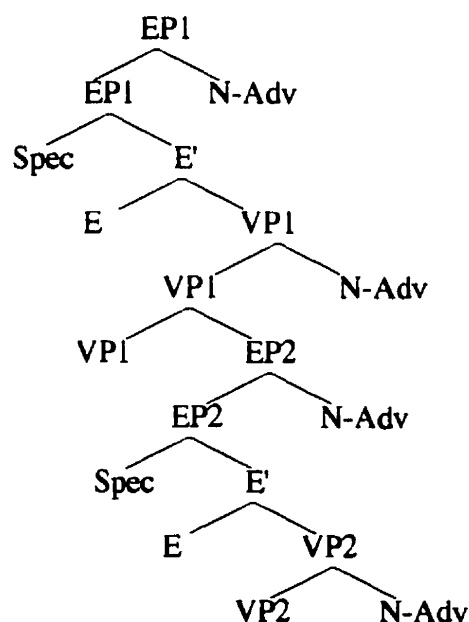
that there is a single event in the resultative SVC which we have now confirmed is characterized by the combination of both verbs, which the N-type adverb is a predicate of. This interpretation and the distribution of the N-type adverb in the position after the second verb is consistent with the structure of the resultative SVC in (18). According to this structure, there is a V-bar that dominates the second verb to which the N-type adverb cannot right-adjoin (being licensed only as VP adjunct). On the other hand, there is a VP projection that dominates both verbs and it is at this level that the N-type adverb right-adjoins. Now, it seems possible that the N-type adverb in this sentence-final position may actually right-adjoin to the EP rather than the VP. However, there is no way of deciding this difference between EP and VP adjunction since there is a single event. As an illustration of this point, consider the structure in (44) where EP and VP are hierarchically adjacent, therefore the difference between them in terms of interpretation is semantically vacuous.

The resultative SVC & N-Adv.



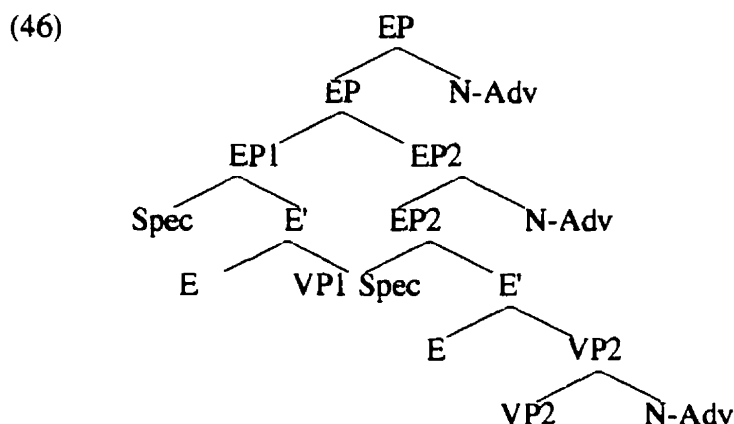
In the consequential SVC (43b), the N-type adverb can occur after the second verb plus its null object where it is ambiguously interpreted. One interpretation of the adverb in this position is that only the second event denoted by the verb 'sell' was quick. This implies that the second verb plus its null object (that is coreferent with the overt NP, *yam*) constitutes a VP and the N-type adverb adjoins to its right.²³ A second interpretation of the N-type adverb in (43b) is that the joint events of pounding and selling were quick. This would be a parallel of the case in which the I-type adverb is sensitive to a macro event (E). I propose to account for this interpretation of the N-type adverb being predicated of the big event by adjoining the N-type adverb to the right of VP1 (or EP1) where it can modify the variables associated with two events, *e*₁, *e*₂. These various adjunction possibilities are illustrated in (45) (note that the resulting strings are all identical).

(45) The consequential SVC & N-Advs.



²³ Again, we could argue that the adverb adjoins to the EP2 but there would be no way to tell the difference between VP adjunction and EP adjunction in this case because there is a single event in this part.

CCs are like consequential SVCs in that when the N-type adverb occurs after the second verb it is also ambiguous. One interpretation is that only the event denoted by the second verb was quick. This implies that the second verb plus its object constitute a VP. The other interpretation of (43c) is that both the events of 'coconut-planting' and 'corn-peeling' were quick. This implies that the adverb may actually adjoin at the level of conjunction, i.e., to the maximal projection of EP that contains both EPs. This is consistent with the structure of CC (46).²⁴



As a general conclusion to the discussion of manner adverbs, I would like to bring out some of the consequences for the analysis of SVCs and CCs. First, the fact that there is evidence from I-type adverbs for a functional projection between the VPs in the consequential SVC seriously questions all existing accounts of this phenomenon and presents some interesting insights into the phenomenon of object sharing and its analysis (see section 2.5). However, the distinction amongst 'object sharing' SVCs between resultative and consequential constructions based on I-type and N-type adverbs is an empirical discovery that needs to be further justified--especially since both types of object sharing SVCs have sometimes been assumed to have the same structure (Baker 1989, Collins 1997, etc.). A second consequence that deserves further attention is the fact that the

²⁴ One important fact which this structure brings up is the issue of why an I-type adverb does not left-adjoin to the higher EP and then have the same interpretation in which both verbs are modified. The fact that this interpretation is not possible provides justification for the analysis of I-type adverbs as adjoined to E-head (and not EP).

analysis of adverbs provides a novel structural account of events in SVCs providing illustration for the distinction between single and double events (see Chapter three).

2.3 Distribution of adjuncts: (locative) Prepositional Phrase

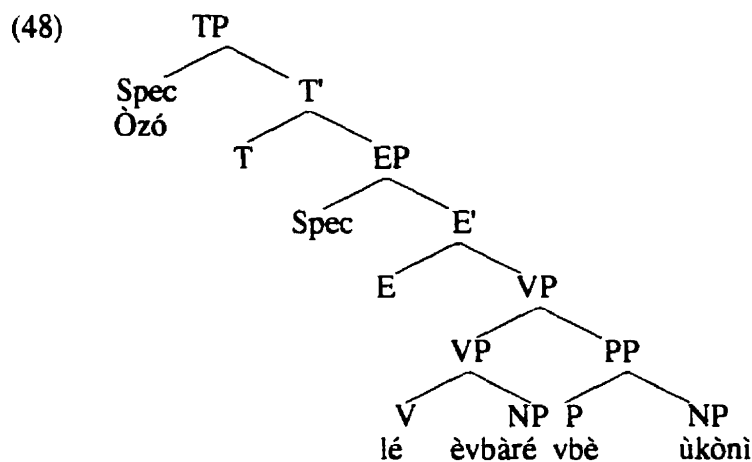
This section is intended to confirm the analysis of N-type adverbs as VP adjuncts that identify VP boundaries. Thus, the prediction is that similar adjuncts would exhibit the same pattern of facts. Therefore, I will examine the distribution and licensing of locative prepositional phrases (PPs) which are generally regarded as adjuncts. The basic assumption is that locative PPs are right-adjuncts to VP and are interpreted as VP-modifiers like the N-type adverbs just discussed.

Locative PPs are relevant not only in telling us about syntactic structure but also in confirming the claims about event composition in SVCs and CCs. The idea here is that SVCs in which the verbs must combine to express a single event will not vary in terms of location, i.e., a single event resultative SVC is made up of a 'co-effect' relationship in which there is no variation in place (or location of the events) between the verbs. In structures where the verbs may denote distinct events, they may vary in terms of the location of the two events, i.e., in both consequential SVCs and CCs the action denoted by the first verb may take place in a location different from that of the second event since there is only an implicational relationship between the events, rather than a co-effectual one. The Èdó locational preposition *vbè* is illustrated in (47):

- (47) a. Òzó lé èvbàré
 Ozo cook food
 'Ozo cooked the food.'
- b. Òzó (*vbè ùkòni) lé èvbàré vbè ùkòni
 Ozo Loc. Kitchen cook food Loc. Kitchen
 'Ozo cooked the food in the kitchen.'

(47a) illustrates a simple transitive sentence and shows that a locative PP is not part of the argument structure of the verb. Thus, in (47b) the PP is merely an adjunct of place which,

like most adjuncts, can be omitted (compare (47a)); I assume that it adjoins to the right of VP (48).²⁵



2.3.1 Locative PP after First verb

On the basis of the data and analysis of the locative PP in (47) let us now examine its distribution in SVCs and CCs. First, we consider the position after the first verb plus object:

- (48) a. *Òzó kòkó Àdésúwà [vbè Èdó] mòsé
Ozo raise Adesuwa in Benin be-beautiful
- b. Òzó dùnmwún èmà [vbè ùkòni] khién
Ozo pound yam in kitchen sell
'Ozo pounded the yam in kitchen and sold it.'
- c. Òzó gbòṣò ívìn [vbè Èdó] bòlò òkà
Ozo planted coconut Loc. Benin peel corn
'Ozo planted coconut in Benin and [he] peeled corn.'

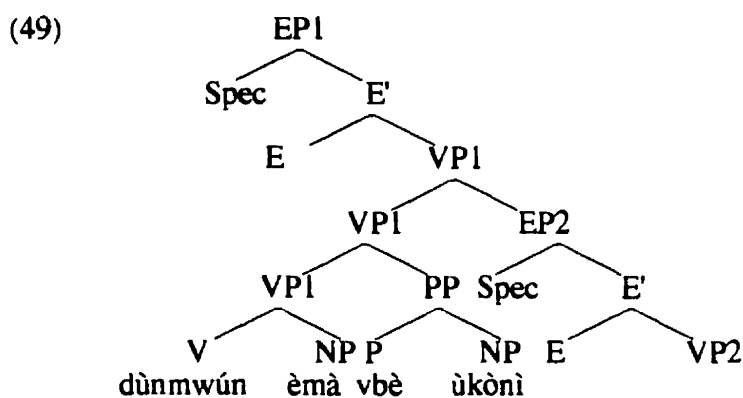
The data above illustrates the contrast between single event resultative SVC (48a) and double event consequential SVC (48b), as well as CC (48c). In the resultative SVC (48a), the locative PP cannot occur after the first verb plus object. This implies that the first verb

²⁵ We can confirm that *vbè ùkòni* forms a PP constituent since it can undergo focus cleft and leave behind the locative resumptive particle *ná* (i).

(i) vbè ùkòni òré Òzó ná lé èvbàré
Loc. Kitchen Foc Ozo RP cook food
'It is in the kitchen that Ozo cooked the food'

and the object do not constitute a VP, and also that there isn't a distinct event associated with the first verb that can take place in an exclusive location. This is consistent with our previous conclusion that the first verb does not denote a distinct event.

In the consequential SVC (48b), we observe that a locative PP occurs after the first verb plus object indicating that they both constitute a VP. The interpretation of the sentence is that Ozo pounded the yam in the kitchen and sold it (at some unspecified location). This implies that the locative PP adjoins to the right of VP1 which is a separate constituent from the second verb.²⁶ It can also be inferred that the VP1 denotes a distinct event which can take place in a specified location that excludes that of the second event. This is consistent with the structure of the consequential SVC (49).



In (49), we observe that the fact about locative PP placement between the verbs in the consequential SVC gets a straightforward account based on a structure in which EP2 adjoins to the maximal projection VP1; rather than a complementation structure.

Similarly, in the CC (48c) the locative PP can occur after the first verb plus object. This further confirms the proposal that there is a VP boundary between the two verbs and also implies that the VP denotes a separate event which can have its own location. The

²⁶ This PP placement fact, once again, calls into question an analysis of the consequential SVC such as Baker (1989, 1991) based on doubly-headed VP since the presence of the PP splits the two verbs apart and renders a doubly-headed VP proposal less plausible. Conceivably, Baker's analysis would need to say either that PP is an immediate daughter of VP [_{VP} V NP V' PP], or that V-bar could extrapose; both options requiring extra steps in their derivation compared with the separate VP structures such as the one I have proposed.

interpretation of (48c) is that Ozo planted coconut in Benin and peeled corn (at some other unspecified location). This fact of locative PP insertion is consistent with the structure that I have proposed for CCs (cf. 24b) which involves the conjunction of EPs.

The conclusion based on the distribution of locative PP after VP1 is that the facts are perfectly parallel to those with N-type adverbs, so both analyses can be generalized to account for adjuncts in general in SVCs and CCs. Specifically, we note that the first verb plus object do not form a VP constituent in the resultative SVC but they do so in both consequential SVC and CCs.

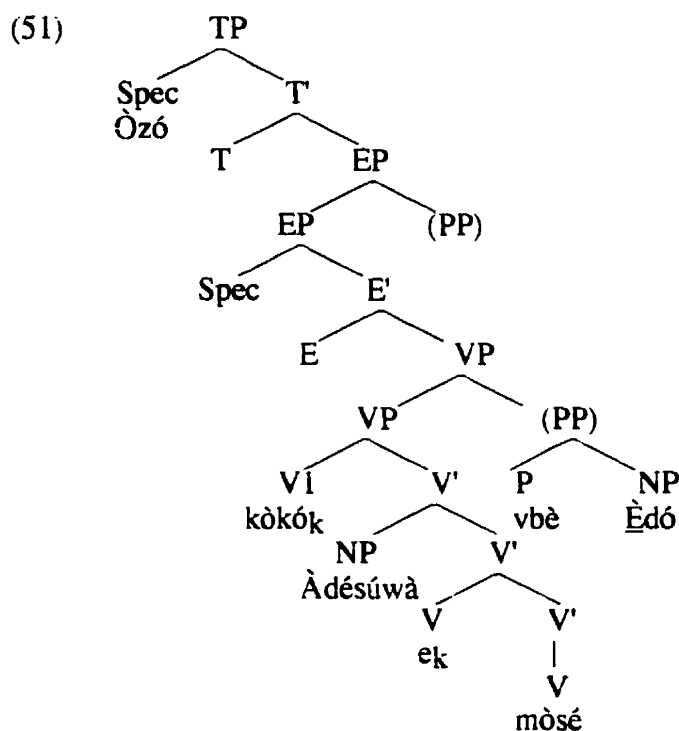
2.3.2 Locative PP after Second Verb

When the locative PP attaches after the second verb, we observe further evidence confirming the analysis of N-type adverbs and the distinction between VP adjunction and EP-conjunction in two-event constructions like consequential SVCs and CCs. Consider the following:

- (50) a. Òzó kòkó Àdésúwà mósé vbè Èdó
 Ozo raise Adesuwa be-beautiful in Benin
 'Ozo raised Adesuwa to be beautiful in Benin.'
- b. Òzó dùnmwún èmà khién vbè Èdó
 Ozo pound yam sell in Benin
 'Ozo pounded the yams and sold them in Benin.'
 OR 'Ozo pounded the yams [elsewhere] and sold them in Benin.'
- c. Òzó gbòó ívìn bòló ókà vbè É!kó
 Ozo planted coconut peel corn Loc. Lagos
 'Ozo planted coconut and [he] peeled corn in Lagos.'

Like the N-type adverb, a locative PP can occur after the second verb of the resultative SVC (50a). The meaning of the sentence with the PP in this position is consistent with the "co-effect" analysis of the verbs; it means that both the 'raising' expressed by the first verb and the result of 'being beautiful' that is expressed the second verb take place in the same location. It is not possible to have an interpretation of (50a) in which the locative PP

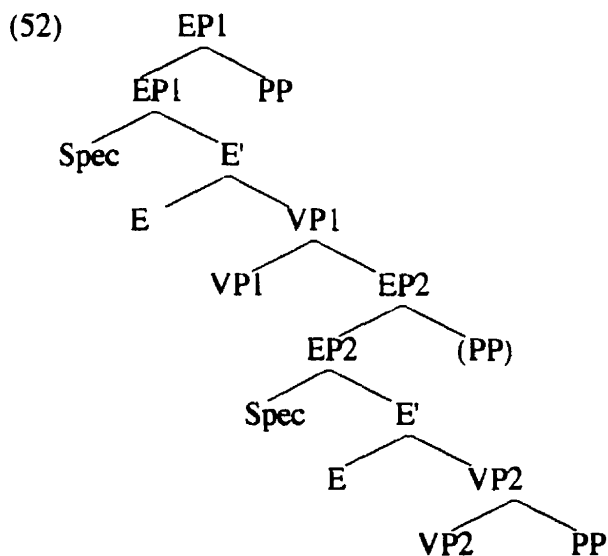
modifies only the second verb such as Ozo raised Adesuwa elsewhere and then she became beautiful in Benin. Thus, the second verb does not constitute a separate VP from the first verb and the object. In addition, it suggests that the second verb does not denote an event that is distinct from the first verb. These facts suggest that the locative PP, like the N-adverbs, adjoins to the VP or the EP in a single event (resultative) SVC with no distinguishable meaning difference (51). This structure and the interpretation of the locative PP after the second verb also further confirms the internal structure of the VP since no phrasal modifier can attach to the intermediate V' containing the second verb.



In the consequential SVC (50b), the locative PP can also occur after the second verb, but it has an ambiguous interpretation which is parallel to that seen with N-type adverbs; depending on the structural position in which it is adjoined. One interpretation of (50b) is that the events denoted by each of the two verbs share the same location, i.e., Ozo pounded the yam [in Benin] and sold it in Benin. This interpretation is consistent with a structural

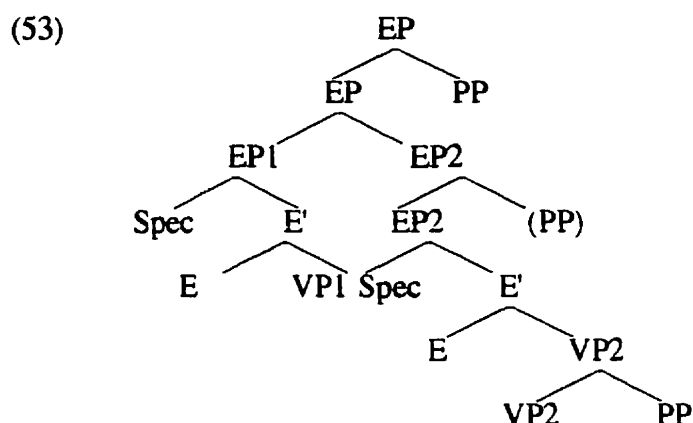
analysis in which the locative PP adjoins to the right of EP which dominates both the first and second verbs and, therefore, modifies the events denoted by the two verbs.

A second interpretation of (50b) is one in which only the event denoted by the second verb is understood as taking place in the expressed location. This implies that the second verb (plus presumably a null object) constitute a VP, and the locative PP attaches to this VP in order to derive the interpretation given. This further implies that the second verb denotes an event which is distinct from the first verb. Both of these interpretations that I have just discussed are consistent with the structure of the consequential SVC (52), that reflects the distinction between VP-adjoined and EP-adjoined PPs. As in the resultative SVC, the locative PP may either adjoin to the relevant VP or to the EP in the reading where only a single event part is referred to. This is represented by putting the PP adjoined to EP2 in parentheses.



In a similar manner, in the CC (50c), which also consists of two events, the locative PP occurring after the second verb can either modify the second verb alone or both the first and second verbs. I take the interpretation in which the PP modifies only the second verb to be evidence that there is a VP boundary there, while the interpretation in which both verbs are modified implies that the PP can adjoin to EP. These two

interpretations are consistent with the CC structure in (53), and again, the vacuous interpretation of the PP with one part of the big event is represented in parenthesis.



2.4 Consequences of Adverb and PP Placements

As a conclusion to the general topic of the structure of SVCs and CCs, I would like to point out that the results from both manner adverb placement and PP insertion make a prediction for SVCs about verb commutability (Ekundayo and Akinaso 1983). We predict that the verbs in the resultative SVCs are not commutable: the first and second verbs are strictly ordered with respect to one another. However, we predict that VP1 and VP2 are commutable in consequential SVCs and CCs based on the fact that their structures contain distinct projections of EP/VP (and given the right context of interpretation). These predictions are borne out by the following data where I switch the order of verbs in most of the examples that we have seen above in the different constructions:

(54) a. *Òzó mòsé kòkó Àdésúwà 'resultative SVC'
Ozo be-beautiful raise Adesuwa

b. *Òzó dé ògó sùá "
Ozo fall bottle push

(55) a. Òzó khién iyán dùnmwún 'consequential SVC'
Ozo sell yam pound
'Ozo sold the yams and pounded them.'

- b. Òzó kpèé èmà dé
Ozo beat drum buy
'Ozo played the drum (and then) bought it.'
- (56) a. Òzó bòlò ókà gbòó ívìn
Ozo peel corn plant coconut
Ozo peeled corn and [he also] planted coconut.'
- b. Òzó làá òwá gbé èkhù
Ozo enter house hit door
'Ozo entered the house and [he] broke the door.'

As can be observed from the resultative SVC (54), the sentences are ungrammatical when the verb order is reversed. This follows from my analysis in which both verbs are daughters of the same VP with the second verb as sister to the tail of the chain that involves the first verb. This is a highly constrained structure which does not allow the insertion of word level or phrase level categories between them and as such they cannot freely permute. In essence, therefore, the verbs in the resultative SVC are an iconically ordered pair of a set that expresses a single event. I will come back to the aspectual properties of the resultative SVC in section 2.8. However, in consequential SVCs (55) where the verbs have been shown to project VPs, they are freely commutable given the right contextual interpretation (although, temporal succession is affected). For example, in the consequential SVC (55b) it can be imagined that Ozo went to a store where drums are sold and he had to test the drum he was interested in buying by first playing it, and afterward, he bought it. Observe that all of the trappings of object sharing are still intact in (55b) since there is a missing object of the second transitive verb.

Verb commutability is a trivial consequence of the CC that is predicted from the nature and structure of the construction, even with difficult sentences to interpret the effect of a pause before the second verb makes verb commutability possible. Thus, for example, (56b) has the reading in which Ozo enters the house and thereafter breaks some door (inside the house).

2.5 Object Sharing

This section focuses on the analysis of objects in SVCs (cf. Stewart, 1963, Sebba 1987, Baker 1989, 1991, Déchaine 1986, 1993, Collins 1997, Carstens 1988, Lefebvre 1991, Li 1991, Larson 1991, Campbell 1996, etc.). The facts of adverb placement, PP insertion and the iterative morpheme provide two kinds of general evidence for distinguishing amongst object sharing SVCs. First, they suggest that there is an iconically ordered pair of verbs of a single VP which is the resultative and that this is different from the consequential SVC in which there are two separate VPs that are commutable. Second, that there is a single EP in the resultative implying a single event but the consequential SVC contains two asymmetric E positions which imply some kind of complex double events. CCs, on the other hand, involve the conjunction of two symmetric EPs.

These distinctions between the different constructions with respect to EPs will now be shown to have deeper structural implications that will bring new evidence to bear on the analysis of true internal object sharing. Basically, I will argue that there are two kinds of object sharing SVCs namely; resultative and consequential. In this regard, I will propose an analysis in which object sharing is mediated by an empty category, *pro*, in the consequential SVC on the one hand, but that there is true internal object sharing, as in Baker (1989), in the resultative SVC with a single syntactic object for both verbs and no empty category, *pro*, contrary to Collins (1997). Furthermore, I propose that CCs never have true internal object sharing because the empty category, *pro*, cannot be licensed in a CC structure. Consider the following sentences:

- (57) a. Òzó kòkó Àdésúwà mósé
 Ozo raise Adesuwa be-beautiful
 'Ozo raised Adesuwa to be beautiful.'
- b. Òzó dùnmwún èmà khién
 Ozo pound yam sell
 'Ozo pounded the yams and sold it.'

- c. Òzọ gbòó ívìn bòló ókà
 Ozo planted coconut peel corn
 'Ozo planted coconut and [he] peeled corn.'

In the resultative SVC (57a) there is a single object *Àdésúwà* that is assigned the internal theta roles of both the transitive first verb and the unaccusative second verb. In the consequential SVC (57b) there is also a single overt object *èrà* for both transitive verbs and this seems to be a violation of the argument structure of the second verb. The CC (57c) is very different in this respect, since each verb has its own object and so there can be no true object sharing (I will return to the structural account of this fact in section 2.5.2 below). Therefore, in the remaining part of this section I will only focus on the distinction between resultative and consequential SVCs. Consequently, two related questions will be examined: (a) What tests show the difference in the realization of object sharing between the two SVCs? (b) How does my proposed analysis of these two SVCs relate to the issue of object sharing?

2.5.1 Evidence for Empty Category : Adverbial Particle '*tòbóre*'

Thus far, I have been assuming that there is a null object in the projection of the second verb that is coreferential with the overt object NP in the consequential SVC, and that there is only one object NP in the resultative SVC. Therefore, the specific goal of this section is to provide evidence that supports the claim that there is an empty category involved in object sharing in the consequential SVC but not in the resultative SVC. This is based on the behavior of an adverbial particle in Èdó, *tòbóre* (himself/herself/itself) which has some of the properties of an emphatic anaphor. Although this particle does not occur in argument positions since it typically occurs as NP adjunct, I assume a general analysis of anaphors based on the simplest assumption about Condition A of the binding theory (Chomsky, 1981) that requires it to be locally bound within the governing category. A governing category may be defined as the whole TP or VP-shell (cf. Larson's 1988

complete functional complex (CFC)). Now consider the behavior of *tòbórè* in simple sentences with object NP coreference:

- (58) a. Òzój lé ízè_k tòbórè_k
 Ozo cook rice itself/himself
 'Ozo cooked the rice by itself (alone) OR
 'Ozo cooked the rice by himself'
- b. ògò_k dé t_k tòbórè_k
 bottle fall itself
 'The bottle fell by itself'
- c. Àdésúwà_k mòsé t_k tòbórè_k
 Adesuwa be-beautiful herself
 'Adesuwa is beautiful, herself alone'
- d. Òzó gbé ékítà_k nè úyì tá wèé ìsòkèn hòó *pro*_k tòbórè_k
 Ozo hit dog that Uyi say that Isoken want pro itself
 Ozo beat the dog that Uyi said that Isoken wants (itself)

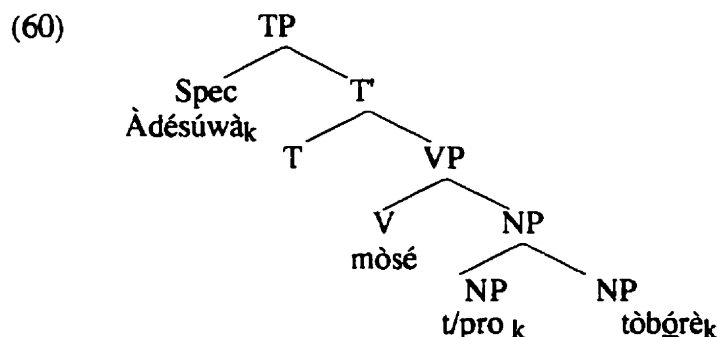
Based on (58a), we observe that the adverbial particle *tòbórè* can occur after the object NP, and in this position it ambiguously takes either the object or the subject as its antecedent.²⁷ Focusing on the object reading for now, I assume that (58a) has an analysis in which the adverbial particle adjoins to the right of the object NP within the VP that contains both of them. This analysis predicts that an N-type adverb or locative PP cannot occur between the object and the particle on an object sharing reading and such a prediction is borne out (59).

- (59) *Òzó lé ízè_k ègìégìé/vbè òwá tòbórè_k
 Ozo cook rice (quickly/at home) itself

The ungrammaticality of the coreference between the object and the particle with either an N-type adverb or locative PP in-between confirms the fact that the particle adjoins to the right of an NP. Based on (58b,c), we observe another interesting property concerning the licensing of the *tòbórè* particle. In particular, we learn that it can also be coreferent with an

²⁷ I will discuss the behavior of this anaphor with subject NP in section 2.6.3

empty category. In other words, the trace of the internal object of unaccusative verbs can serve as the antecedent for the adverbial particle.²⁸ This is illustrated in (60) for (58c).



Turning now to (58d), we are able to confirm the analysis of the adverbial particle based on the grammaticality of the coreference between the object of the matrix clause and that of the most embedded clause. The only account of this coreference fact is that there is a null *pro* in the embedded clause that is co-indexed with the object of the matrix clause as a result of relativization and *tòbórè* adjoins to this null object NP.²⁹ Therefore, *tòbórè* can be used to reveal the position of an otherwise null NP.

On the basis of this analysis of the licensing of the adverbial particle *tòbórè*, let us examine object sharing SVCs to find out if there is any difference between resultative and consequential. Consider the following :

- (61) a. *Òzó kòkó Àdésúwàk mòsé --- tòbórèk
 Ozo raise Adesuwa be-beautiful herself
- b. *Òzó sùá ògók dé --- tòbórèk
 Ozo push bottle fall itself
- (62) a. Òzó dé iyánk dùnmwún pro tòbórèk
 Ozo buy yam pound pro itself
 'Ozo bought the yam and pounded it (itself).'

²⁸ See Baker and Stewart (1997a) for arguments which suggest that stative verbs in Èdó are unaccusatives.

²⁹ The verb 'want' in (58d) can have a null object which I assume, following Baker and Stewart (1997b), is *pro* rather than NP trace (when the overt object has been wh-moved for focus or topicalization), and the *tòbórè* anaphor occurs to the right of the empty category bearing a coreference relation with it.

- b. Òtàsówié dé éwù_k yó pro_k tòbórè_k
 Otasowie buy dress wear pro itself
 'Otasowie bought the dress and wore it (itself).'

Based on the analysis of the unaccusative verbs in (58b,c) and the structure in (60), we predict that in the resultative SVC the adverbial particle should be able to occur after the second verb and this is contrary to fact. In (61a,b) we observe that it is ungrammatical for the adverbial particle to occur after the second verb in the resultative SVC. The contrast between (58b,c) and (61a,b) is direct evidence against Collins (1997) who claims that the resultative SVC contains an empty category that is generated in the Spec of the second VP. The evidence is simple. It has been established that *tòbórè* can adjoin to the right of *pro* in a simple sentence with an unaccusative verb (58b,c), but it fails to do so in the resultative SVC (61a,b). The same facts apply to the sentences in (63):

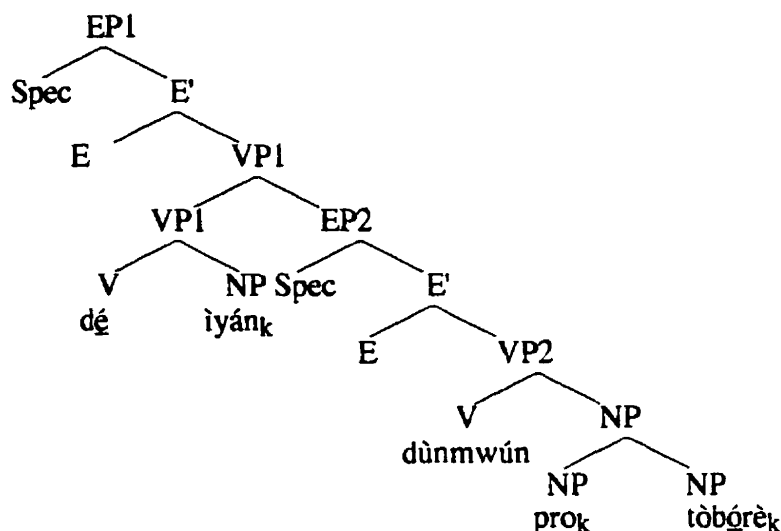
- (63) a. Òzó_k dé tòbórè_k
 Ozo fall himself
 'Ozo fell by himself.'
- b. *Òtà sùá Òzó_k dé tòbórè_k
 Ota push Ozo fall himself

(63a) replicates the fact that the adverbial particle can occur in the trace position of the internal object of an unaccusative and be coreferent with it, and this is in sharp contrast with the resultative SVC where the second verb is unaccusative (63b). I have taken the ungrammaticality of sentences like (63b) as evidence that there is no empty category in the resultative SVC. Consequently, I conclude that there is no evidence for an empty category in the resultative SVC and object sharing is only compatible with a single NP object. Therefore, I reject the analysis of the resultative SVC in Collins (1997).³⁰

Turning now to the consequential SVC (62), we observe that the distribution of the adverbial particle suggests the presence of an empty category, *pro*, which serves as the object of the transitive second verb and is co-indexed with the overt object in VP1. This is represented in (64) for (62a).

³⁰ More arguments against Collins' (1997) analysis of the resultative SVC are presented in section 6.2.

(64)



This structure in (64) provides the basis for a contrast with the resultative SVC (61) and (63) where we observe that although the *tòbòrè* particle can occur after an unaccusative verb in isolation (simple clause), it fails to occur in the resultative SVC where the second verb is unaccusative. The conclusion is that there is no empty category involved in object sharing in the resultative SVC. Contrastively, in (62) based on the fact that *tòbòrè* particle can occur after the transitive second verb, I conclude that this is clear evidence that object sharing is mediated by an empty category in the consequential SVC (see Baker and Stewart (1997b) for some theoretical elaboration of this analysis of the consequential SVC). I turn now to the issue of how the empty category, *pro*, is licensed.

2.5.2 Null *pro* licensing: unaccusativity versus transitivity

In this section, I will present further evidence in support of the proposal that resultative SVCs do not contain a *pro* empty category. This is based on an examination of the issues of the licensing of *pro* and the unaccusative-transitive contrast in the position of the second verb between resultative and consequential SVCs. Recall the generalization from Chapter one that the second verb of a resultative SVC is typically unaccusative while transitive verbs are favored in corresponding position in consequential SVCs. I now

provide a structural account for this contrast based on Rizzi (1986:524) and propose that it derives from Case-licensing of the null *pro* (65).³¹

(65) *pro* licensing condition

pro is Case-marked by X⁰.

My basic claim is simply that (65) is possible with the null object of a transitive verb but not with an unaccusative verb since unaccusatives, by what has become known as Burzio's generalization, cannot assign accusative Case (cf. Burzio 1986). Therefore, (65) is satisfied only by a transitive verb but not an unaccusative verb, i.e. *pro*-drop is possible when the second verb is a transitive verb but not an unaccusative.

The empirical evidence in support of the proposal that unaccusative verbs cannot license *pro*-drop while transitive verbs can, comes from looking at other contexts of *pro*-drop in the language such as the conditional construction and donkey anaphora (cf. Collins 1997, Baker and Stewart 1997b). In these sentences, I imitate both the resultative notion as well as the consequential notion:

- (66) a. Òzó ghá kòkò ékítàj èsé, *proj/íràn ghá mó!sé *proj/tj
 Ozo COND raise dogs well, *(s/he) they will be-beautiful
 'If Ozo raises dogs very well, they will become beautiful.'
- b. Òzó_k ghá kòkò iyánj ní!bún, Ò_k ghá dún!mwún proj
 Ozo COND gather yams many, he will pound
 'If Ozo gathers enough yams, he will pound them.'

In these sentences there are two clauses that are linked by some kind of event quantification which is the conditional (COND) in the matrix clause (cf. Heim 1982, Baker and Stewart 1997b). In particular, the sentences illustrate the significant contrast between unaccusatives

³¹ This analysis builds on Baker and Stewart (1997b) who propose the following conditions on null *pro* licensing;

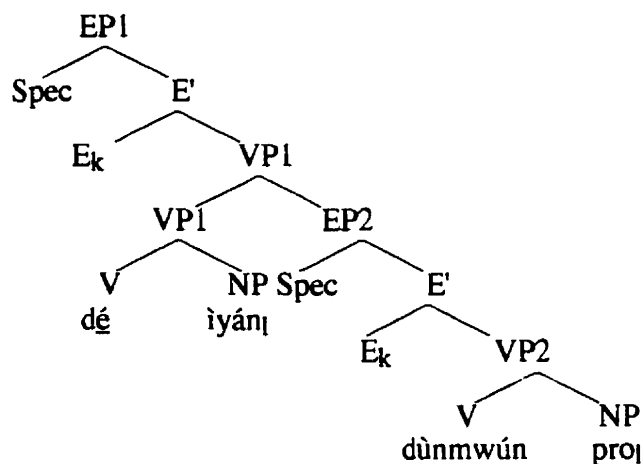
- (i) Null *pro* licensing condition (Baker and Stewart, 1997b)
 pro is licensed in Edo if and only if;
 (i) It is governed by a verb, and (formal licensing)
 (ii) It is locally bound by an operator (identification of content)

and transitives in terms of the licensing of *pro*. In (66a), a resultative notion is implied by the composition of the two verbs and the second verb is an unaccusative verb, however, we observe that the null *pro* object cannot be co-indexed with the indefinite object of the matrix clause *ékítà* (dogs) because *pro* NP has to move away from the V-governor for Case. However, when we put an overt pronoun *íràn* (they) in place of *pro* in the subject position the sentence is acceptable with a coreference reading between the indefinite object of the matrix clause and the overt pronoun in subject position that must move there for Case reasons. Therefore, I conclude that an unaccusative verb cannot license *pro* arguments in Èdó. So, there can be no empty category, *pro*, in the structure of the resultative SVC where the second verb is always unaccusative contrary to the analysis in Collins (1997). Object sharing in the resultative SVC involves a single structural NP argument which is governed by the two verbs. This is formalized as a condition on 'true' internal object sharing in SVC (67).

- (67) True Internal object sharing in SVCs
A single structural NP is the object of two verbs, the second of which must be unaccusative

Turning our attention to the sentence in (66b), we see clearly that the object of the transitive second verb can be *pro*. This implies that an empty category analysis is compatible only with the consequential SVC where the second verb is always transitive. This is possible, based on (65), because the transitive verb can assign accusative Case to its object. I assume the analysis of the identification of *pro* in Baker and Stewart (1997b) that is based on an indexing relation between two operators: a top one and the bottom one, as represented in the structure in (68).

(68)



This analysis of the identification of *pro* draws on the distinction between resultative and consequential SVCs with respect to the E position before the second verb. Thus, the absence of the lower E in the resultative SVC implies that there is no local operator that can identify the content of *pro* and so *pro* cannot be licensed. However, there is evidence that there are two E positions in the consequential SVC and the first E asymmetrically quantifies over the lower E position. It is assumed that this lower E is referentially dependent on the first E in a sort of quantifier-indexing relation (cf. Heim, 1982). Therefore, the lower E is a local operator that binds *pro* and this is only possible in the consequential SVC, but not the resultative. Now, we can extend the foregoing discussion to the issue of what forces [NP V1 NP V2 *pro*] to be analyzed as a consequential SVC rather than a CC. I propose that this difference should be linked to the fact that the right context for the licensing of null *pro* in Èdó is not met in a CC structure where there are two symmetric EPs (see Baker and Stewart 1997b for elaborate discussion of this and other related issues).

As a conclusion to this discussion of object sharing, I would like to highlight the fact that based on the condition on *pro* licensing (65), we now have a structural account for the observation that the second verb of the resultative SVC is typically unaccusative while that of the consequential SVC is always transitive. Therefore, we have a well-rounded argument for the distinction between resultative and consequential SVCs and for the fact that there is an empty category *pro* in the latter but not in the former.

2.6 Subject NP

A cursory look at all the analyses of SVCs reveals that the subject position has been given relatively little attention. Very often, its analysis is determined by the theoretical framework assumed, which in any case merely seeks to replicate a very traditional idea that is based on the descriptive fact that the verbs in series share a single structural subject (cf. Bamgbose 1973, 1974, Awobuluyi 1973, Schachter 1974, Stahlke 1974, Williamson 1965, Bendix 1973 etc.). This idea has been largely incorporated into subsequent analysis, thus, for example, Baker (1989, 1991) and Sebba (1987) basically accept the traditional view by base-generating a single subject in the Specifier of IP, while Collins (1997) and Larson (1991) adopt an analysis of subjects based on the VP internal subject hypothesis (Kuroda 1988, Sportiche 1988 etc.) where the subject is generated in the Specifier of an empty VP into which the first verb raises for external theta role assignment (cf. Larson 1988).

Against this background, this section intends to investigate more carefully the notion of subject of a clause and how this relates to Agent of an event. This analysis will be done in three parts: the preliminary discussion centers on the syntactic evaluation of subjects and the semantic interpretation of Agents by looking at what the SVC sentences mean from the perspective of the 'doer'. Then, the next two parts provide empirical and theoretical grounding to the intuitions about subject and Agent, and concludes on this basis that there are differences between SVCs and CCs.

2.6.1 Interpretation and Analysis of 'Subject'/'Agent'

This primary goal of this section is to provide a detailed description of SVC sentences from the point of view of how the events or actions denoted by the verbs are interpreted by native speakers, i.e., the psychological state of the doer of the actions described by the chain of verbs and how the subsequent events denoted by the verbs are

perceived. I assume the standard interpretation of 'subject of' as a structural notion represented by the NP that is assigned nominative Case and occurs on the surface in Spec of IP or TP (in a Nominative-Accusative Case system like English). On the other hand, the Agent of an event is roughly the entity that brings about a state of affairs e.g., in a sentence like 'The malaria killed Bill' [The malaria] is interpreted as the entity that brings about the change of state which is Bill being dead. I will operate with this general idea of Agent of events but with one proviso, that the Agent is a willful causer (cf. Gruber, 1965). This will get me the general fact about SVCs the subject is typically animate, but I will come back to this point below.³²

Against this background, let us consider the interpretation of the subject of a sentence in SVCs and CCs, beginning with the resultative:

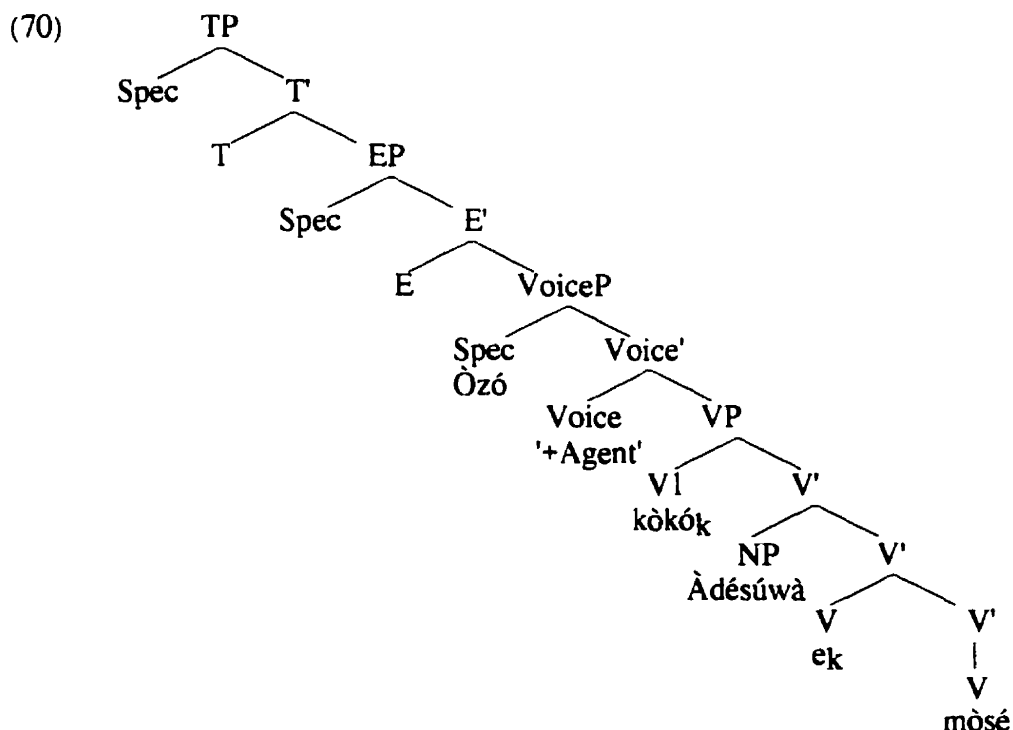
- (69) a. Òzó kòkó Àdésúwà mòsé
 Ozo raise Adesuwa be-beautiful
 'Ozo raised Adesuwa to be beautiful.'
- b. Èsósà gbé é má!tòn pèrhé
 Esosa hit metal be-flat
 'Esosa hit the metal flat.'
- c. ògò dé guòghó
 bottle fall break
 'The bottle fell down and broke.'

The interpretation of (69a) is that Ozo performed one action which is 'raise Adesuwa to be beautiful'. This implies that both the 'raising' and the 'becoming beautiful' are the expressed goal of Ozo, not that he raised Adesuwa and then by chance she became beautiful'. Consequently, we conclude that there is one subject which also bears the role of Agent in (69a). This generalization also holds true for the sentence in (69b), however (69c) with two unaccusative verbs has a different interpretation which is that 'the bottle fell (due to unknown external impact) and broke'. I assume that Agent is introduced by a CAUSE

³² The exceptions that I know of are sequences of two unaccuatives such as 'ògò dé guòghó (bottle fall break) which I also provide an analysis for below.

operator and that an unaccusative lacks a CAUSE component in its lexical decomposition, therefore in the case of double unaccusative verbs in (69c) I predict that the subject is not the Agent of the event denoted by the two verbs. This prediction is borne out because in (69c), it is clear that the subject NP is the theme (the entity that undergoes transition (Gruber 1965) and not an Agent (the causer) given the definition that Agent is a willful animate entity that brings about a state or transition. Thus, in (69c) we observe that the subject of the resultative need not be the Agent of the event denoted by the verbs in this sub-class of resultative SVCs made up of two unaccusative verbs.

Structurally, I assume that CAUSE is the same thing as Voice in Kratzer (1996) and so I propose a structure for the resultative SVC in which the external argument is introduced by a VoiceP and raises into Spec TP for nominative Case (cf. Chomsky 1993) since Èdó is like English with a Nominative-accusative system.³³ This would provide an elegant account for (69a,b) as represented in (70).



³³ Comparable accounts of this same fact is that CAUSE is a small V (Chomsky, 1995) or CAUSE is an upper empty V (Larson 1988) etc.

(70) captures the fact that there is a single subject for the clause and is also consistent with the fact that the subject of the sentence bears an Agent theta role. The subject gets the agent from the head of VoiceP which has the '+Agent' feature (cf. Kratzer 1996). Observe that VoiceP is generated below EP. This is intended to express the idea that an EP which formally represents an event must contain the Agent of such event, somewhat like the VP internal subject hypothesis (cf. Kuroda 1988 and others). Aside from the fact that this proposal is intuitive, there is actually evidence based on the distribution of iterative *ghá* generated in E and the subject-oriented (interpretation of the) adverbial particle *tòbòrè* (see section 2.6.3 below) which indicate that EP must dominate VoiceP.³⁴

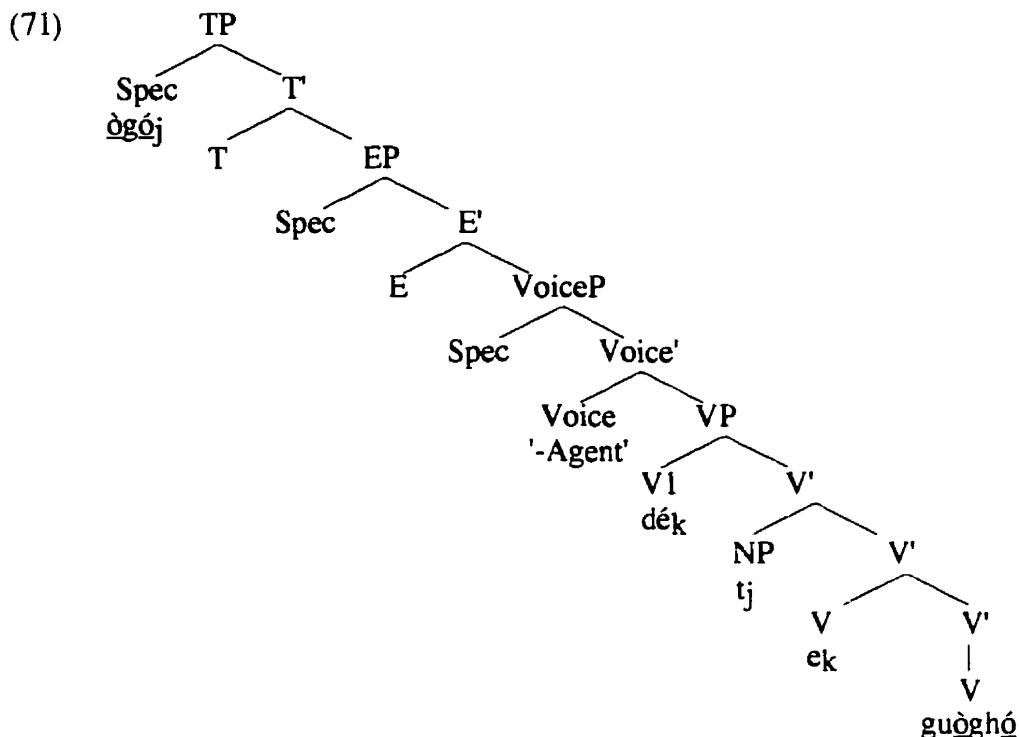
However, the analysis is somewhat different for (69c) where there are two unaccusative verbs and the subject bears a theme theta role. This example brings out one of the assumptions built into the structure of the resultative SVC. Recall that the two verbs are generated as daughters of the same VP and based on Burzio's generalization, unaccusative verbs do not assign Accusative case. Thus, in (69c) the single object NP receives the internal theme theta roles of both unaccusative verbs but must move up to get Case and so it moves upward to Specifier of TP for nominative Case. I assume in this case of double unaccusatives, that the head of VoiceP is inert or '-voice', and so it does not assign an Agent role.³⁵ In this way, the NP *ògò* in (69c) ends up being the subject of the clause which bears a theme role. This is represented in (71).

³⁴ In a simple sentence like (i) *ghá* occurs in E which is below Tense and *tòbòrè* adjoins to the trace of an internal subject in Spec of VoiceP which is below EP.

(i) *Òzóᵏ giégíé (*tòbòrèᵏ) ghá tòbòrèᵏ tí!é èbé*
 Ozo quickly iter. himself read book
 'Ozo quickly read the book himself'

Observe that the particle cannot occur before the E head which is occupied by *ghá*. This implies, therefore, that the subject NP is not generated in Spec of EP but below it. I propose that this lower projection is VoiceP. Thus, there are two functional projections below Tense, EP and VoiceP.

³⁵ I adopt the assumptions that underlie the term 'Holder' in Kratzer (1996), which she uses for verbs like 'own' and so I propose that -voice is a concrete illustration of the notion 'Holder'.



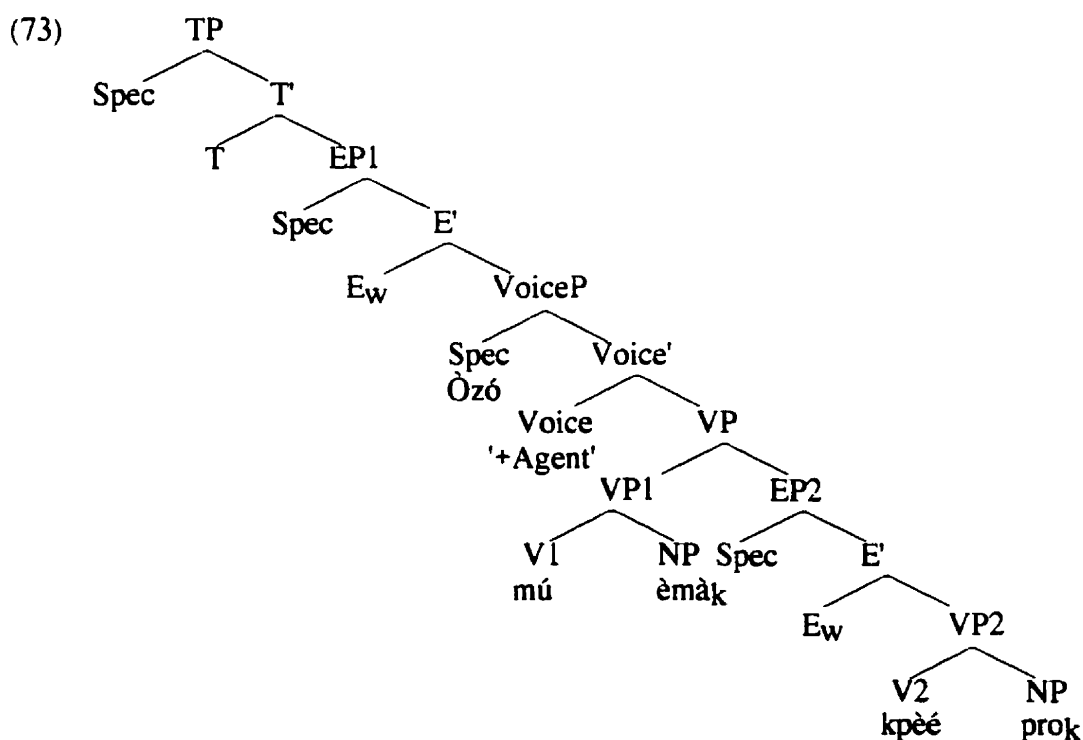
Now, let us examine the semantic interpretation of subjects in consequential SVC such as the examples given below:

- (72)
- a. Òzọ dé LGB tié
Ozo buy LGB read
'Ozo bought LGB and read it.'
 - b. Òzọ lé èvbàré ré
Ozo cook food eat
'Ozo cooked the food and ate it.'
 - c. Òzọ mú èmà kpèé
Ozo carry drum play
'Ozo took the drum and played it.'

The semantic interpretation of these sentences show a consistent pattern. In (72a), the sentence can only have the meaning in which Ozo intentionally set about performing one complex task which consists of two stages: buying the book (*Lectures on Government and Binding*) and reading it'. An impossible interpretation of (72a) is one in which 'Ozo went to the store where there are several books, picked up a copy of LGB with the intention of giving it to someone as a gift, then later changed his mind and read it himself'. This

interpretation is completely unacceptable for (72a). Similarly, in both (72b,c) the only possible interpretation is one in which Ozo knew what he wanted to do from the beginning and he did it: in (72b) he cooked the food with the intention of eating (and he did eat), while in (72c) he carried the drum with one intention in mind which is to play it, and play it he did. What the interpretations of these consequential SVC sentences imply is that there is only one dose of Agency for the actions denoted by the first and second verbs.

Structurally, these interpretations are consistent with the fact that there are two transitive verbs, and I assume that transitive verbs have '+Voice' feature, it follows that what licenses the complex event in the consequential SVC must also come from the way in which the two verbs combine under a single '+Voice' head.³⁶ Like in the general case of the resultative SVC, I propose that subject of the consequential SVC is generated in the Specifier of VoiceP where it is assigned an Agent role (agreeing with Kratzer's (1996) sketchy proposal based on SVC data from Ewe). This is illustrated in (73).



³⁶ This is similar to the conclusion based on I-type adverb licensing that the two verbs are within the scope of the higher E head.

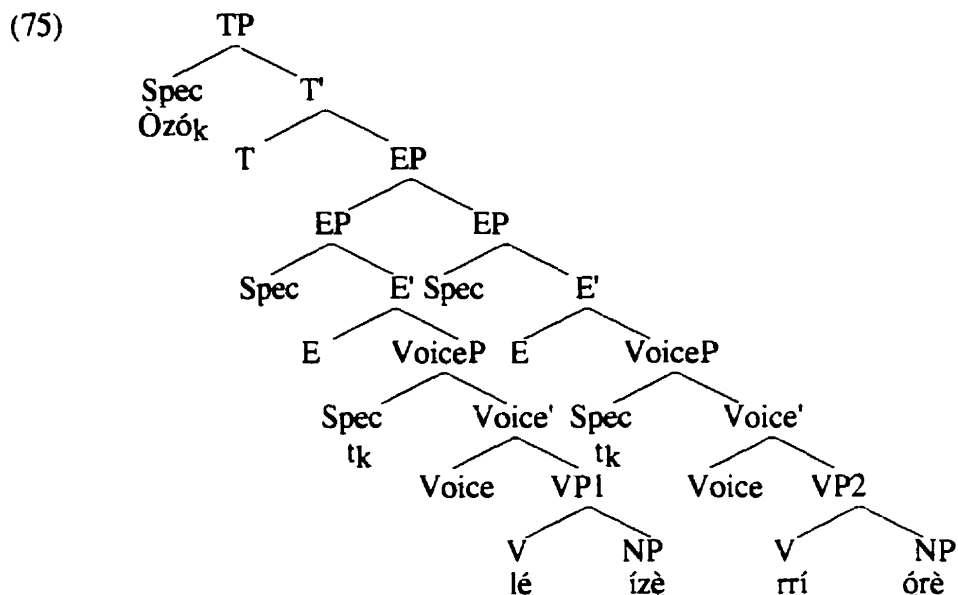
According to this structure, both the events denoted by the first verb and the second verb are dominated by the single VoiceP where the external argument is assigned and so by implication the Agent of both events is the same as the subject of the clause, Ozo.

Finally, let us now examine the interpretation of the subject NP in CCs with the relevant examples given in (74):

- (74) a. Òzọ lé ízè rrí órè
 Ozo cook rice eat it
 'Ozo cooked rice and ate it.'
- b. Òzọ gbòó ívìn bòló ókà
 Ozo plant coconut peel corn
 'Ozo planted coconut and peeled corn.'
- c. Òzọ vù èrhán khién órèn
 Ozo uproot tree sell it
 'Ozo uprooted a tree and sold it.'

The semantic interpretation of these sentences illustrates one more difference between SVCs and CCs. All the sentences in (74) are clearly understood as a conjunction of two events (with a pause before the second verb). Thus, in (74a) Ozo cooked rice (maybe to sell it for money), and then afterward ate instead. I suppose that this is possible because CCs express a sequence of events that do not have to be related semantically, in contrast with SVCs. This interpretation difference is even clearer in (74b) where there are two unrelated objects; this has the meaning that Ozo planted coconut, and he also peeled corn, a conjunction of two events with some kind of intuitive subject associated with each event. (74c) is like (74a) where Ozo performed the first event with a different intention in mind and ends up performing the second event which happens to share the same Agent with the first and a (coreferent) overt object NP as well.

These facts suggest that there are two subject positions in CCs. I propose an Across-the-board (ATB) analysis in which the overt subject occupies the Specifier of TP and leaves traces in the Specifier of each VoiceP (75).



2.6.2. Distribution of Subject Pronoun

The subject position is very different from the object position in SVC languages and one of such difference is illustrated by the following contrast based on NP extraction:

- (76)
- a. Òzó lé èvbàré
Ozo cook food
'Ozo cooked food.'
 - b. èvbàré òré Òzó lé *pro* (*órè)
food Foc. Ozo cook
'It food that Ozo cooked.'
 - c. Òzó òré ó lé èvbàré
Ozo Foc he cook food
'It's Ozo that cooked food.'

According to the data above, when an NP object undergoes wh-extraction (cleft), it leaves an empty category (*pro*) behind (76b). Furthermore, (76b) shows that it is ungrammatical to have an overt object pronoun occur in the position of the "moved" object. However, when the subject NP undergoes similar movement it obligatorily leaves a subject (resumptive) pronoun behind (cf. Koopman and Sportiche 1982, 1986, Agheyisi 1990 etc.) and so subjects can never be null. This contrast suggests that subjects will always be

visibly marked in Èdó, even in constructions like SVCs and CCs, while objects can be dropped as in the consequential SVC. Therefore, I assume that the subject resumptive pronoun ó will be able to occur in a subject position where such a position exists. I will use this as a test to develop my analysis based on the interpretation of subjects. I will argue that SVCs are different from CCs in that the latter involves conjunction in general and can actually be a conjunction of VoicePs, in contrast with SVCs in which there is a single VoiceP.³⁷ This analysis is based on the fact that the subject pronoun occurs above the future tense morpheme *ghá* which is generated in Tense (77a) except in inversion context (77b):

- (77) a. Ò *ghá* *yó* *éwù*
 h/se will wear dress
 'S/he will wear a dress.'
- b. *ghá* Ò *yó* *éwù*
 will h/se wear dress
 'Who wore a dress.'

Let us now use the subject pronoun test to confirm that there is a single subject/Agent in the resultative SVC. Compare (69a) with (78):

- (78) a. *Òzók kòkó Àdésúwà (*Ó_k) m̀̀sé*
 Ozo raise Adesuwa he be-beautiful
 'Ozo raised Adesuwa and he became beautiful.'
- b. **Òzók kòkó Àdésúwà Ó m̀̀sé*
 Ozo raise Adesuwa he/she be-beautiful
 'Ozo raised Adesuwa and s/he became beautiful.'

As (78) illustrates, a subject pronoun cannot occur in the Specifier of the second verb, whether it is coreferent with the subject (78a) or not (78b).³⁸ This confirms the analysis of sentences like (69a) as resultative SVC which has a single TP, and not a covert TP

³⁷ The underlying assumption is that the subject pronoun starts out from the Specifier of VoiceP but must move up to Specifier of TP prior to spell-out.

³⁸ The only interpretation possible here is with a heavy pause before the subject pronoun and ó is disjoint from *Òzók*, hence the sentence is then a CC with the interpretation Ozo raised Adesuwa, and he Ozo is beautiful, describing two separate eventualities, in contrast to a resultative SVC.

coordination structure.³⁹ It also confirms the structure I have proposed where the Specifier of the second V-bar is occupied by the theme object and there is no VP-internal subject position. Thus, there is only one subject position in the resultative SVC which requires a "minimal structure" that is not a conjunction of full clauses.

This conclusion can be generalized also to the consequential SVC by applying the subject pronoun test as shown in (79):

- (79) a. *Òzó_k mú èmà (*Ó_k) kpèé
 Ozo carry drum he beat
- b. Òzó_k òré Ó_k mú èmà (*ó) kpèé
 Ozo Foc. he carry drum (he) beat
 'It is Ozo who carried the drum and played it.'

In (79a), we observe that a subject pronoun cannot occur before the second verb in the consequential SVC. This implies that there is no subject position that is associated independently with the second VP. In fact, (79a) cannot have the covert coordination reading. The lack of covert coordination reading is consistent with the fact that the second verb of the consequential SVC is transitive as the verb does not have an object (incomplete sentence). (79b) illustrates a trivial consequence of this test which is that when the subject undergoes wh-movement, it leaves only one resumptive pronoun in the position before the two verbs and none before the second verb. This implies that there is no Tense position before the second verb to host another subject. The conclusion is that there is a single subject in the consequential SVC which is Case-licensed in Specifier of TP.

CCs are, however, very different from SVC in terms of the distribution of subject positions. Consider the following sentences:

- (80) a. Òzó lé ízè Ó rí órè
 Ozo cook rice he eat it
 'Ozo cooked rice and he ate it.'

³⁹ A related observation holds in Igbo that resultative V-V compounds do not make good multi-event constructions (cf. Manfredi 1991). This fact is discussed further in Chapter five.

- b. Òzó gbòó ívìn Ó bòló ókà
 Ozo plant coconut, he peel corn
 'Ozo planted coconut and [he] peeled corn.'

As (80) shows, it is quite possible to have a subject pronoun in the position before the second verb; this clearly sets CCs apart from SVCs in terms of the structure, CCs can involve the coordination of larger phrases such as TP/VoiceP while SVCs have a single TP/VoiceP.⁴⁰

2.6.3 Subject-oriented Interpretation of 'tòbòrè'

In this section, I provide empirical evidence in support of the analysis of subjects in SVCs and CCs based on the distribution and analysis of the adverbial particle *tòbòrè*, an element previously discussed with respect to objects in 2.5.1 above. Recall that the particle is licensed as a right-adjunct to an NP which may be overt or null. Thus, it can be used to detect the presence of null NPs. Let us begin, then, by finding out whether there is a null subject NP before the second verb.⁴¹ Consider the following:

- (81) a. *Òzó_k kòkó Àdésúwà tòbòrè_k mòsé
 Ozo raise Adesuwa himself be-beautiful
 b. *Èsòsà_k gbé é má!tón tòbòrè_k pèrhé
 Esosa hit metal himself be-flat
- (82) a. *Òzó_k dé LGB_j tòbòrè_k tié proj
 Ozo buy LGB himself read
 'Ozo bought LGB and he himself read it/he read it himself.'
 b. *Òzó_k lé èvbàré_j tòbòrè_k ré proj
 Ozo cook food himself eat
 'Ozo cooked the food and he himself ate it.'

⁴⁰ (80) says nothing about the presence of a subject position in the VP1. I assume that it is there by inference, especially so since the *tòbòrè* particle can occur there (see next section for discussion of *tòbòrè* with subjects).

⁴¹ Note that it is quite possible for the particle to be also construed with the object of V1 in the examples in (81)–(83). For example, (83b) can also have this interpretation 'Òzó planted the coconut itself and peeled the corn'. This interpretation is a trivial consequence of the analysis that I have proposed whereby the particle can always adjoin to the right of an NP. However, I am not interested in this sort of interpretation.

- (83) a. Òzók lé ízè tòbórèk rrí órè
 Ozo cook rice himself eat it
 'Ozo cooked rice and he himself ate it.'
- b. Òzók gbòó ívìn tòbórèk bòlò ókà
 Ozo plant coconut himself peel corn
 'Ozo planted coconut and he himself peeled corn.'

The sentences in (81) indicate that it is ungrammatical for the adverbial particle *tòbórè* that is co-indexed with the subject NP to occur before the second verb of the resultative SVC. This implies that there is no null NP in this projection and consequently that there is no subject position between the verbs to which the particle can adjoin. This is consistent with the structure of the resultative SVC as in (70). More significantly, in the consequential SVC (82), we also observe that the particle *tòbórè* when co-indexed with the subject NP, cannot occur before the second verb. This is evidence that there is no null subject NP and as such there is no subject position in the projection of VP2. This is consistent with the structure of the consequential SVC (73). Finally, in CCs (83) we observe that it is possible for the *tòbórè* particle that is co-indexed with the subject NP to occur before the second verb. This is evidence of the presence of a subject NP trace to which the particle right-adjoins. This fact supports the structure of CCs, as in (75). Thus, I conclude that there is a subject position that dominates the projection of VP2 and this is occupied by the trace of an ATB movement; this is what the *tòbórè* particle right-adjoins to.

Let us now turn to the position before the first verb which is contiguous to the overt structural subject. My analysis predicts that the particle should occur immediately after the subject before the I-type adverb and Iterative morpheme in which case it adjoins to the subject NP, or before the first verb and below E (which hosts I-type adverb and Iterative morpheme) in which case it is adjoins to the trace of the subject in Specifier of VoiceP. This predictions are borne out, as illustrated in the following sentences:

- (84) a. Òzók tòbórèk gié!gié ghá suá ògó dé
 Ozo himself quickly Iter. push bottle fall
 'Ozo, by himself, quickly pushed the bottle down repeatedly.'

- b. Òzók gié!gié ghá tòbórèk suá ògó dé
 Ozo quickly Iter. himself push bottle fall
 'Ozo, quickly, by himself, pushed the bottle down repeatedly.'
- (85) a. Òzók tòbórèk gié!gié ghá dé LGB tié
 Ozo himself quickly Iter. buy LGB read
 'Ozo, by himself, quickly bought LGB and read it repeatedly.'
- b. Òzók gié!gié ghá tòbórèk dé LGB tié
 Ozo quickly Iter. himself buy LGB read
 'Ozo, quickly, by himself, bought LGB and read it repeatedly.'
- (86) a. Òzók tòbórèk gié!gié ghá gbó!ó ívìn bòló ókà
 Ozo himself quickly Iter. plant coconut peel corn
 'Ozo, by himself, quickly planted coconut repeatedly and peeled corn.'
- b. Òzók gié!gié ghá tòbórèk gbó!ó ívìn bòló ókà
 Ozo quickly Iter. himself plant coconut peel corn
 'Ozo, quickly, by himself, planted coconut repeatedly and peeled corn.'

These sentences are somewhat complicated because of the items in E which has to be this way because the adverb is required in order to have the iterative reading of *ghá*. Once we get past this, observe that the behavior of the *tòbórè* particle in the position before the first verb provides further evidence for the structures that I have proposed. In the resultative SVC examples in (84), the particle can either occur before E (84a), in which case it adjoins to the right of the subject NP in Specifier of TP, or it can occur after E. I assume that when it occurs below E it adjoins to the subject trace in Specifier of VoiceP. These possibilities are borne out by the different word order and consistent with the structure of the resultative SVC where TP dominates EP which in turn dominates VoiceP.

This same conclusion can be generalized for the consequential SVC. This is supported by the word order and grammaticality contrast in (85) where we observe, like in the resultative SVC the TP>EP>VoiceP order as represented in the structure in (73). Finally, in the CC sentences (86), we observe the same distribution of *tòbórè* in the position before the first verb. This similarity is based on the fact that none of the constructions really differ with respect to the TP>EP>VoiceP order and I have no evidence to decide if (86) does not involve VoiceP coordination rather than TP. I will leave this issue

open, but whatever option is correct it will still reflect the fact that TP>EP>VoiceP seems to be the order of functional projections before the first verb which is compatible with the distribution of *tòbòrè*.

As a conclusion I restate the fact that whereas resultative SVCs differ from consequential SVCs with respect to the internal structure of the clause, they are however similar in terms of higher functional projections and the position and interpretation of the subject of the clause. In this way, SVCs contrast remarkably with CCs which could involve coordination at any of the higher-level functional projection, in particular it must contain two subject positions.

2.7 Phonology-Syntax Interface.

In the previous section, I argued that SVCs along with the feature of object sharing also share the common property of a single E head that quantify over the event(s) that the verbs denote and that the verbs also share a single Voice. These properties are in sharp distinction to what we observe in CCs in which there are two distinct E heads as well as two Voice heads. In this section, I will present empirical evidence which confirm these analyses and distinctions. This is based on tonal changes on the verbs in two environments

- (a) when Tense is lexical, i.e., filled by an overt morpheme or I-type adverb.

- (b) when the object NP undergoes wh-movement as in focus cleft in a single object SVC.⁴²

Under these two special circumstances, special high-downstep-high tones occur on the verbs (cf. Haik 1990, Haik, Koopman, and Sportiche 1985, Clements 1984, Tuller 1985 etc.). I will refer to this special tone effect as "relative tones" which can be defined as the tonal trace of lexicalized Tense head (where tense tones are otherwise generated) or as the tonal trace of wh-movement. I will argue for a particular analysis of these tone changes

⁴² I assume that focus cleft and questions involve movement to the Specifier of CP (A'-movement) (cf. Manfredi, 1993).

based on the proposal that they are linked to the nature of the c-commanding E head (which is also tense-related).

2.7.1. E-head and Relative Tones

This section examines what happens in SVCs and CCs when E head is filled by the I-type adverb. These tone effects were represented in the preceding sections but never discussed. The relevant data is given in (87)-(89):

- (87) a. Òzó kòkó àdésúwà mòsé
Ozo raise Adesuwa be-beautiful
'Ozo raised Adesuwa to be beautiful.'
- b. Òzó gié!gié kó!kó àdésúwà mó!sé
Ozo quickly raise Adesuwa be-beautiful
'Ozo quickly raised Adesuwa to be beautiful.'
- (88) a. Òzó kòkó ìyán dùnmwún
Ozo gather yam pound
'Ozo gathered the yams and pounded them.'
- b. Òzó gié!gié kó!kó ìyán dún!mwún
Ozo quickly gather yam pound
'Ozo quickly gathered the yams and pounded them.'
- (89) a. Òzó rhàán ùwònmwèn dùnmwún ìyán
Ozo warm soup pound yam
'Ozo warmed the soup and pounded the yams.'
- b. Òzó gié!gié rhá!án ùwònmwèn dùnmwún ìyán
Ozo quickly warm soup pound yam
'Ozo quickly warmed the soup and pounded the yams.'

In the data above, an I-type adverb which is licensed in E occurs before the first verb in a resultative SVC (87), a consequential SVC (88) and a CC (89). A quick summary of the event-modification facts is as follows. In the resultative SVC, the I-type adverb modifies both the first and the second verbs. Similarly, in the consequential SVC both the first and the second verbs are modified, whereas in the CC when the adverb occurs before the first verb only this first verb is modified.

What is relevant for present purposes is the interaction between these scope facts associated with the adverb in the upper E position before the first verb and the consequent tone spreading that it triggers onto the verbs. I propose that there is correlation between tone spreading triggered by the I-type adverb on the verb(s) and what it is predicated of.

In the resultative SVC (87b), the presence of the I-type adverb in the head of EP triggers tone spreading of an additional high tone to both the first and second verbs that it is a predicate of. This contrasts with a similar sentence in (87a) where there is no I-type adverb and the tone sequences on the verbs are the standard low-high pattern that marks past tense. Thus, we observe that the domain of tone spreading associated with the presence of the I-type adverb matches the interpretation of the adverb, and I propose that this is so because the tone changes arise from the single E head in the structure of the resultative SVC.

Similarly, in the consequential SVC (88b) when the I-type adverb occurs before the first verb and is licensed in the head of EP1, it triggers the extra high tone on both the first and the second verb which it modifies. Therefore, I conclude that both the first and the second verb are surely within the scope of the head of EP1 and thus tone spreading onto the verbs is triggered by the c-commanding head of EP1. This, too, is consistent with the structure of the consequential SVC.

The contrast which is observed when the I-type adverb occurs before the first verb in the CC (89b) confirms the significance of this discussion of the phonology-syntax interface. The striking fact is that in (89b), the presence of the INFL-type adverb before the first verb only triggers high tone on the first verb, spreading onto the second verb is excluded in CCs. This fits well with the structural claim that the second verb is not c-commanded by the head of EP1, being a conjunction of phrases.

The conclusion is that based on the interface between phonology and syntax we have an account of special tone effects which correlate with the position and interpretation of I-type adverbs, and this derives the distinctions between SVCs and CCs.

2.7.2 Wh-extraction and Relatives Tones

Focus and questions have been discussed in Èdó (Omoruyi 1988, 1989) but no account has been proposed for the special tone effect observed on verbs in such contexts. Therefore, this section shows that the same analysis of the special relative tones triggered by the I-type adverb arise when the object undergoes wh-extraction.⁴³ I propose that this is because the object moves through the Specifier of EP on its way to Spec, CP and so the relative tone surfaces on the verbs in the c-command domain of the E head as a signal of wh-movement. First, let us consider the resultative SVC as illustrated in the following sentences:

- (90) a. Òzò kòkò àdésúwà mósé
 Ozo raise Adesuwa be-beautiful
 'Ozo raised Adesuwa to be beautiful.'
- b. àdésúwà; òré Òzò kó!kó t_j mó!sé
 Adesuwa Foc. Ozo raise be-beautiful
 'It's Adesuwa that Ozo raised to be beautiful.'
- c. Dè òmwànj nè Òzò kó!kó t_j mó!sé?
 Q person that Ozo raise be-beautiful
 'Who did Ozo raise to be beautiful?'

(90a) is a typical illustration of the resultative SVC in which there are two verbs that share a single object NP. Notice also from this sentence that the past tense tones on the verbs normally consists of a low-high pattern. In (90b), the shared object *àdésúwà* undergoes wh-movement to the Specifier of CP for syntactic focus and it leaves behind a phonetically null trace (possibly *pro*). However, there are noticeable tonal differences between the verbs in (90a) and those in (90b). In (90b) where the direct object has moved, the tone on the first segment of each verb changes from low to high along with a floating tone which causes tonal downdrifts (downstep) within the words. Exactly these same observations can

⁴³ This is not limited to just objects, the same point can be made with subject extraction but for present purposes I will limit the discussion to objects.

be made concerning the sentence in (90c) where the direct object undergoes wh-movement to the Specifier of CP for questioning. Notice that once again the tones on both verbs change in comparison with (90a) where the direct object is unmoved.

Before going into the discussion of my proposed analysis, let me also introduce similar facts in the consequential SVC. This is illustrated by the following sentences:

- (91) a. Òzọ kòkó ìyánj dùnmwún proj
 Ozo gather yam pound
 'Ozo gathered the yams and pounded them.'
- b. ìyánj ɔ̀ré Òzọ kó!kó tj dú!nmwún proj
 yam Foc Ozo gather pound
 'It is yams that Ozo gathered and pounded.'
- c. Dè èmwìnj nè Òzọ kó!kó tj dú!nmwún proj ?
 Q thing that Ozo gather pound
 'What did Ozo gather and pound ?'

(91a) is a typical example of the consequential SVC where there is one surface direct object and a null *pro* which serves as the object of the second transitive verb. Observe also the sequences of low-high tones on the verbs which is characteristic of past tense on disyllabic verbs in the language. In (91b), the surface direct object undergoes wh-movement for syntactic focus and it leaves behind a null *pro* (or a phonetically null trace). Interestingly, just as in the resultative SVC, there are tone changes on the first tone-bearing segment of both verbs along with an accompanying floating tone which causes downstep within the verbs. Similar observations also hold for (91c), where the shared surface direct object undergoes wh-movement for questioning.

On the basis of the data in (90) and (91), it appears that there must be a common trigger for the tone changes on the verbs that we have observed in both resultative and consequential SVCs respectively. Furthermore, it also seems reasonable to infer that these tone changes are linked to the extraction (A'-movement). These observations find empirical support from consideration of similar extraction facts in the CC. Compare the following sentences:

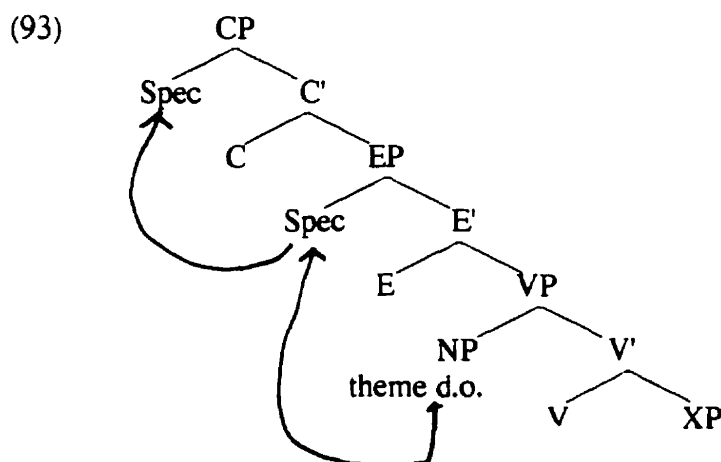
- (92) a. Òzọ híń èrhán kpàán ívín
 Ozo climb tree pluck coconut
 'Ozo climbed the tree and plucked a coconut.'
- b. èrhánj òré Òzọ hí!ín tj kpàán ívín
 tree Foc. Ozo climb pluck coconut
 'It's a tree that Ozo climbed and plucked coconut.'
- c. ívínj òré Òzọ hí!ín èrhán kpá!án tj
 coconut Foc. Ozo climb tree pluck
 'It's a coconut that Ozo climbed the tree and plucked.'
- d. Dè èmwìnj nè Òzọ hí!ín tj kpàán ívín
 Q thing that Ozo climb pluck coconut
 'What did Ozo climb and pluck the coconut?'
- e. Dè èmwìnj nè Òzọ hí!ín èrhán kpá!án tj
 Q thing that Ozo climb tree pluck
 'What did Ozo climb the tree and pluck?'

(92a) is a typical illustration of the conjunctive SVC where each verb has its own distinct object. In (92b), the object of the first verb undergoes wh-movement and there are tone changes only on the first verb. This contrasts with SVCs where tone shifts always surface on both verbs. On the other hand (92c) where the object of the second verb undergoes similar movement, the tone changes do occur on both the first and second verbs.⁴⁴ Similar observations can be made in the question sentences involving the object of the first verb in (92d) and the object of the second verb in (92e).

If these tone changes that I have described in the data in (90-92) are indicative of underlying syntactic structures, then exactly what do they imply and how should we interpret them? I will now offer an analysis that illustrates one perspective from which we can view the issue of tones as signals of wh-movement. The data on object extraction in CC is the preferred place that I chose to begin the illustration of my analysis because it reveals the interaction of tones with syntactic structure as each verb is dominated by a

⁴⁴ It has often been noted that the covert coordination does not obey the Coordinate Structure Constraint (CSC) of Ross (1967) (cf. Baker 1989, Collins 1997 etc.); this is true for these examples as well. In fact, the point must be made, at least based on Èdó, that the CSC effect is variable because it cannot be observed consistently in [different] forms of covert coordinations. Therefore, I do not put too much weight on the CSC in the analysis of covert coordinations.

unique EP. Therefore, we should be able to capture the facts relating to isolated cases of tone changes. In this regard, the key contrast is between the extraction of the object of the first verb in (92b,d) and the object of the second verb in (92c,e). What appears to be going on is that the signal of wh-movement shows up as a floating high tone on the verb or verbs if the moved object goes through the tense-related Specifier of EP. This licensing relation between the object and Specifier of EP is illustrated in the simplified structure without the TP and VoiceP in (93).



Abstracting away from all other issues, for example, those associated with the licensing of the object NP in the resultative SVC, I assume that the structure in (93) is the underlying structure for object wh-extraction. Therefore, I propose an account of the relative tone from wh-movement of the object based on a movement analysis. Accordingly, the theme direct object moves through the Specifier of EP to get to the landing site in Spec, CP. The signal of this movement is a high tone (relative tone) that spreads downward to the verb(s) which it c-commands/quantifies over.⁴⁵

⁴⁵ Evidence that the direct object extraction involves movement through the Spec of EP comes from the fact that it is not felicitous to have a sentence in which the direct object has been A'-moved and a nominal cognate object of the verb that is involved in predicate cleft construction (see Chapter three) is also present;

- (i) a. Òzọ sùá úyì ùsuámwèn
 Ozo push Uyi nom-push-nom
 'Ozo gave Uyi a push'
 b. ??/*úyì òré Òzọ sù!á ùsuámwèn
 Uyi Foc. Ozo push nom-push-nom
 'It is Uyi that Ozo gave a push'

One possible explanation for the contrast in (i) is that both the nominal argument 'ùsuámwèn' and the moved direct object 'úyì' are in competition in the syntax for the single Spec, EP position. Thus, we find

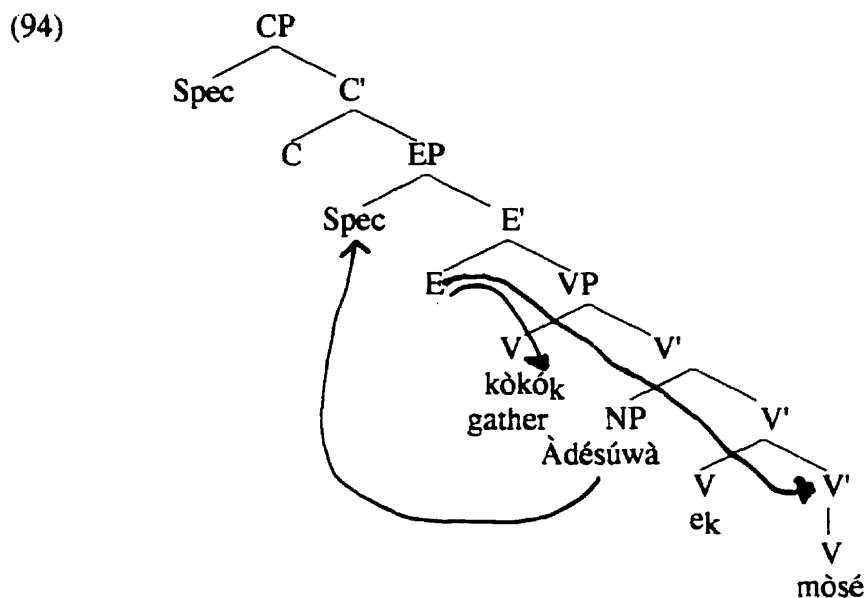
Based on this proposal, I propose that in (92b,d) the signal of wh-movement which is the relative tone only surfaces on the first verb but not the second verb since the extraction of the object of the first verb moves through only EP1 and E1 c-commands only the first verb. The presence of the relative tone on both verbs in (92c,e) can be derived from a sort of successive cyclic movement or Across the Board extraction whereby two EPs are crossed. The moved object of the second verb is extracted by ATB through both Spec EP1 and Spec EP2 and leaves the wh-traces on both of the verbs that are uniquely c-commanded or quantified over by the respective E. However, considering that CCs have a symmetrical structure this poses a bit of a problem for this proposal because we would not expect what goes on in one part of the conjunct to affect the other. I will leave this issue open for further research.

However, this analysis extends in a straightforward manner to account for the presence of relative tones on both verbs in resultative and consequential SVCs. The resultative SVC contains a single projection of EP which dominates the two verbs and the shared object. When the theme direct object is extracted out of the VP it goes through the Specifier of EP to get to its landing site in the Specifier of CP and this triggers relative tones on both the first and second verbs that are bound by the single E head.⁴⁶

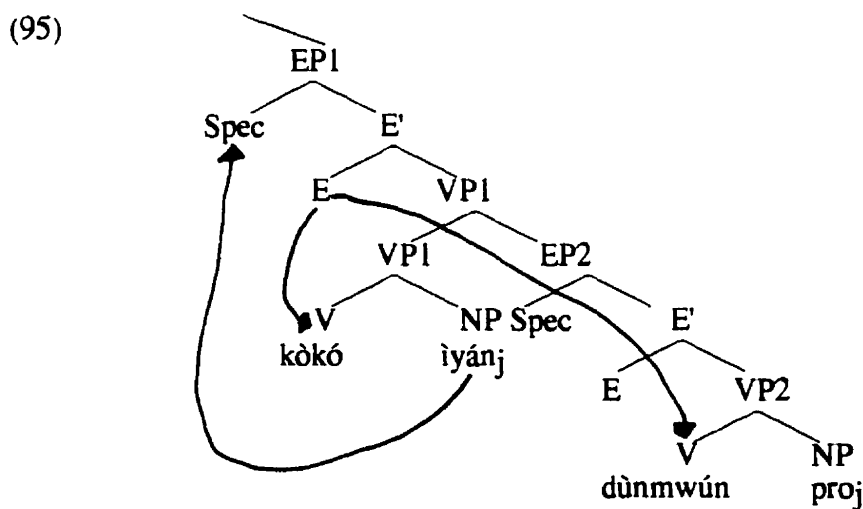
Consequently, the idea of a single EP for both verbs of the resultative is consistent with the fact that the extraction of the shared (single) object triggers the trace of wh-movement in the form of the relative tone on both verbs and not one or the other. This is illustrated in the simplified structure without TP and VoiceP in (94).

direct evidence in support of the analysis of cognate object in Chapter three as well as for the licensing of relative tone being discussed here.

⁴⁶ In fact this counts as further supporting evidence for the analysis of the syntactic relations between both verbs of the resultative SVC as governor (theta assigner) of the object.



Concerning the licensing of relative tones with object extraction in the consequential SVC (91), we observe that there is a consistency between the interpretation of I-type adverbs before the first verb, the fact that relative tones show up on both verbs, and the syntactic structure proposed. The simplified structure of the consequential SVC without VoiceP is given in (95).



According to the structure in (95), when the direct object of the first verb undergoes wh-movement, relative tones show up on both the first and the second verbs. What is not immediately obvious in this structure is how the extraction of the object of the first verb

would come to trigger the relative tone pattern on the second verb since object sharing is mediated by an empty category, *pro* that serves as the object of the second verb. The explanation that I propose is based on already established fact that the first E node quantifies over the events denoted by both verbs. Consequently, I propose that the same conditions which govern relative tone licensing and object extraction in resultative SVCs (and a part of CCs) also hold here. When the overt object is extracted out of VP1 it moves through the Specifier of EP1 enroute to Spec, CP. Now, since EP1 c-commands and quantifies-over the event arguments of both verbs, it follows that the trace of wh-movement will show up on both verbs by the same principle that distributes tense marking to both verbs in an SVC (see Chapter six below). Based on this analysis, the appearance of relative tone on the second verb is not due to the movement of *pro* or on a chain-link between the object NP and *pro*, but rather is linked to the scope facts associated with the projection of EP1 namely, both the first and the second verbs are in the c-command domain of a single E head which licenses the trace of wh-movement through its Specifier to show up on both verbs.

As a conclusion, we note that there is a correlation between object extraction, the licensing of I-type adverbs, relative tones, and the syntactic structures of SVCs and CCs. A single functional head unites the two verbs in SVCs while each verb is within the scope of a distinct functional head in CCs. This difference is clearly illustrated by the interaction of syntactic structures with phonological features such as relative tones, which identify syntactic boundaries in terms of tense-related functional heads, like E.⁴⁷

⁴⁷ In section 7.2.3, I will also show that Tense head exhibits this property as well.

2.8 Resultative SVCs, Aspect, and Temporal Adverbs

In the previous sections, I examined the details of the structure of SVCs and CCs from the bottom-up by presenting syntactic tests which foster our understanding of the similarities and differences amongst them. In this section, I introduce a different kind of argument for the proposed distinction and this is to show what the resultative SVC has that excludes consequential SVCs and CCs.

2.8.1 Differences in Aspectual Properties

The standard view about resultative constructions in languages like English is that they denote single events, that are internally complex, being made up of parts. Like AP resultatives, resultative SVCs presumably must fit into an event ontology. In particular, resultatives are generally classified as denoting accomplishments, which are complexes that are made up of a process and a transition (Pustejovsky 1991, Tenny 1987, Levin and Rappaport 1995 etc.). Therefore, the resultative SVC is predicted to obey certain constraints. I will examine three such well-established aspectual properties of resultative constructions, listed in (96), and argue that these properties do indeed hold of resultative SVCs

(96) aspectual properties of the resultative SVC

- a. The first subevent in the resultative construction must be either a process or an activity.
- b. The event denoted in the resultative construction can only be delimited once.
- c. A resultative construction can only be modified by a 'in a hour' type of temporal adverb, not 'for an hour'.

On the other hand, I will argue that consequential SVCs and CCs are made up of two events and so there are no deep interactions or constraints. Thus, they lack any set of characteristics that is based on event ontology.

2.8.2 Process-Activity Restriction on First Verb

Quite generally, it is assumed that the main verb of the resultative secondary predicate denotes a process or activity (cf. Pustejovsky (1991), Levin and Rappaport (1995), Baker (1997b) etc.). This predicts, then, that a resultative AP secondary predicate cannot occur with stative verb as the first verb. This prediction is borne out by the data in (97).

- (97) a. *Mary owns chickens fat
b. Mary feeds chickens fat

Stative verbs such as *own* in (97a), express single eventualities that are not evaluated relative to any other event. Consequently, the internal argument *chickens* cannot measure out the event (Tenny, 1987) because states are single eventualities that do not involve change. However, a process verb such as *feed* can be substituted for the stative verb *own* as in (97b) and the sentence is grammatical with a resultative reading: *Mary feeds her chickens until they become fat*. In other words, (97b) expresses an accomplishment that involves a function from a process to a transition (<P, T>) (cf. Pustejovsky (1991)). The initial subevent (denoted by the verb) consists of the process of *feeding the chickens*, and this is delimited by the resultative predicate *fat*, which constitutes the second subevent.

The generalization from the foregoing is that the main verb of the resultative construction should involve some notion of change.⁴⁸ When this conclusion is applied to SVCs and CCs it predicts that the first verb cannot be a stative verb in the resultative. This prediction is borne out, as the following contrasts illustrate:

- (98) a. *Òzó hòémwén àdésúwà wú
Ozo love Adesuwa die

⁴⁸ There are various proposals concerning the formalization of this observation about the main verb (cf. Pustejovsky (1991), Levin and Rappaport (1995), Baker (1997) etc.) I will not embark on a review of these proposals since they do not bear directly on the point I am making about the restriction on the verb.

- b. *Òzó ghòghó ùbiémwèn-òmó khuòmwin
 Ozo be-happy nom-birth-nom-child be-sick
- (99) a. Òzó guàló ókà dé
 Ozo find corn buy
 'Ozo seek for corn and bought it.'
- (100) a. Òzó gbé èkhù làá òwá
 Ozo hit door enter house
 'Ozo broke the door and went into the house.'
- b. Òzó mòsé làá òwá
 Ozo be-beautiful enter house
 'Ozo was beautiful as he entered into the house.'

In the resultative SVC (98), we observe that a stative verb cannot occur as the first verb. This ungrammaticality arises from the fact that stative verbs such as *hòémwèn* 'love' in (98a), express single eventualities that are not evaluated relative to any other event. Consequently, a stative in the first position of the resultative SVC does not provide the required process subevent and as such the sentence lacks the causative force that is needed in resultative constructions. Furthermore, based on Tenny (1987) I propose that in resultative SVCs in which the first verb is a stative verb, for example (98b), the internal argument *ùbiémwèn-òmó* 'child-birth' cannot measure out the event because the state does not involve change. Thus, I conclude that resultative SVCs are constrained by event ontology which requires the first verb to be a process, and since stative verbs denote states they are, therefore, excluded. Thus, (98) is out for essentially the same reason as (97).⁴⁹

However, no predictions are made on the basis of aspectual properties for the sequential SVC. Thus, observe that it is grammatical for either a stative or process verb to occur as the first verb. This is true for the consequential SVC (99a) where the first verb is process/activity verb.⁵⁰ Similarly, in CCs a process/activity verb can occur as the first verb (100a), while a stative verb occurs as the first verb in (100b).

⁴⁹ See Pi and Stewart (1998) for a detailed discussion of Macro-events in resultative and consequential SVCs.

⁵⁰ The examples of consequential SVC that meet these restrictions are very rare to come up with. I suppose that this has got to do with the fact that the consequential SVC has a restriction of its own that both verbs be transitive.

This distinction between resultative SVCs, consequential SVC and CCs that is based on aspectual constraints on the first verb makes one further prediction namely, that the two verbs which express states cannot co-occur with each other in the resultative SVC although they could in CCs. This prediction, if proven to be correct, would constitute evidence in support of single-event resultative and two-event CCs distinction and the effect of a pause before the second verb in CCs. Consider the following:

- (101) a. *Òzó hoèmwén àdésúwà khuòmwín
 Ozo love Adesuwa be-sick
 'Ozo loved Adesuwa to death (his love killed her).'
- b. *Òzó rẹnrẹn úyì tùnién
 Ozo know Uyi be-short
 'Ozo knows Uyi to be short.'
- (102) a. Òzó hoèmwén àdésúwà khuòmwín
 Ozo love Adesuwa be-sick
 'Ozo loved Adesuwa and [till] he became sick.'
- b. Òzó ghòghó égié khuòmwín
 Ozo be-happy title be-sick
 'Ozo became sick after rejoicing over his title.'

Resultative SVCs like (101) which involve the sequence of two verbs that express states are ungrammatical because they violate the aspectual constraint which requires the first verb to be a process-activity verb. Contrastively, the CCs (102) do not need to obey the same restrictions, thus it is perfectly grammatical for two verbs expressing states to occur with a phonological pause between them. This difference underscores the nature of event composition in resultatives SVC, consequential SVCs, and CCs: there are sub-events which combine into a single event in the resultative, consequential SVCs are composed of separate events which are formally connected as a complex event, and CCs are made up of two distinct events.

2.8.3 Event Delimiter

This section examines the nature of possible event type that the second verb can denote in the different constructions. It has been observed that there is an aspectual restriction on the resultative construction which prevents including a second resultative phrase. This is illustrated in (103);

(103) *Mary pounded the metal flat [into pieces]

(103) shows that it is not possible to add a resultative secondary predicate to an achievement which in this case is composed of a process verb and an AP result predicate. This is based on the idea that an event can only be delimited once (Tenny 1987). When this aspectual condition on event delimitedness is applied to SVCs, I predict that it is impossible to have double resultative SVCs, whereas iteration of events is possible in consequential SVCs and CCs. I will illustrate this prediction by first examining the resultative SVC. Consider the following examples:

- (104) a. Òzó sùá òmó dé
 Ozo push child fall
 'Ozo pushed the child down.'
- b. *Òzó sùá òmó dé wú
 Ozo push child fall die
 'Ozo pushed the child down to its death.'
- c. òmó dé wú
 child fall die
 'The child fell down to its death.'
- (105) a. Òzó gbé àkhé guòghó
 Ozo hit pot break
 'Ozo broke the pot.'
- b. *Òzó gbé àkhé guòghó khànmwán
 Ozo hit pot break be-short
 'Ozo broke the pot into small pieces.'
- c. àkhé guòghó khànmwán
 pot break be-short
 'The pot broke into small pieces.'

Pustejovsky (1991) proposes an account of event composition in resultative secondary predicates as composed of a main verb that is specified as a process or activity verb and the resultative secondary predicate which receives a state interpretation that functions as a delimiting expression of the event. Similarly, in the resultative SVC, for example (104a) and (105a), I propose that the unaccusative verbs which occur as the second verb receives an inchoative (change-of-state) interpretation, and function as a delimiting expression of the single event. However, in both (104b) and (105b) we note that it is ungrammatical for there to be a second unaccusative verb which also characterizes a resulting state. This is an Èdó reflex of the basic fact that resultatives by definition can only have one delimiter (cf. Tenny (1987)). The sentences in (104c) and (105c) are given as useful controls to show that these sequences are otherwise acceptable but they are ungrammatical in the context of double resultatives.

In contrast, iteration of events is quite possible in consequential SVCs and CCs. This is because they are composed quite differently from the resultative. Thus, whereas the verbs in the consequential SVC and CCs express sequences of events, those in the resultative combine in a unique process-state relation to express a single event. Consequently, the second verb of the consequential SVC or CC do not have to define a state interpretation and is not an event delimiter. Therefore, the single delimiter constraint does not apply to consequential SVCs and CCs, and multi-events are possible. Consider the following sentences:

- (106) a. Òzó dé ìyán lé
 Ozo buy yam cook
 'Ozo bought yams and cooked them.'
- b. Òzó dé ìyán lé ré
 Ozo buy yam cook eat
 'Ozo bought yams, cooked and ate them.'
- c. Òzó mién ìyán dé lé ré
 Ozo find yam buy cook eat
 'Ozo sought yams, bought them, cooked and [then] ate them.'

- (107) a. Òzọ gbé èkhù làá òwá
 Ozo hit door enter house
 'Ozo hit the door and he entered the house.'
- b. Òzọ gbé èkhù làá òwá rhié úkpòn
 Ozo hit door enter house take dress
 'Ozo broke into the house and took a dress.'
- c. Òzọ gbé èkhù làá òwá rhié úkpòn yó órè
 Ozo hit door enter house take dress wear it
 'Ozo broke into the house and took a dress and wore it.'

As the foregoing data show, it is possible to stack the verbs in the consequential SVC (106) as well as CCs (107). What makes these stacking relations possible is the fact that they, unlike the resultative SVC, do not impose the aspectual condition of process-result (state) on the two verbs and so allow the sequencing of multi-event.

2.8.4 Temporal adverbs

One final prediction that arises from the aspectual properties of the resultative is based on the *telic* vs. *atelic* between verbs as brought out by the type of temporal adverb modifier that they allow (Tenny 1987). Consider the following English sentences:

- (108) a. Peter pushed the cart for an hour/ *in a hour.
 b. Peter made a cart in an hour/ *for an hour.

As the contrast in (108) shows, a verb expressing a telic action like 'make' can only be modified by the temporal adverb 'in an hour' but not 'for an hour' (108b). On the contrary, a verb expressing an atelic action can only be modified by the temporal adverb 'for an hour' but not 'in an hour' (108a).

This distinction can also be tested in the SVC: since a resultative SVC expresses an accomplishment, it is telic and so is predicted to be modified only by the temporal adverb 'in an hour'. The consequential SVC and CC on the other hand, expresses a sequence of events which can be either telic or atelic, so they may be modified by either temporal adverbs 'in an hour/for an hour.' What is striking about this idea is the fact that most of

the verbs in the resultative SVC particularly allow only the temporal adverb 'for an hour' in isolation of the resultative SVC context, rather than 'in an hour'. This is illustrated in (109):

- (109) a. Òzọ kòkó àdésúwà (*vbè ùkpó ìsén) là ùkpó ìsén
 Ozo raised Adesuwa (*in year five) for year five
 Ozo raised Adesuwa for a period of five years.'
- b. Àdésúwà mósé (*vbè ùkpó ìsén) là ùkpó ìsén
 Adesuwa be-beautiful (*in year five) for year five
 'Adesuwa stayed beautiful for a period of five years.'

Now, consider the behavior of the resultative SVC compared with the consequential SVC and CC in terms of temporal adverb modification:

- (110) a. Òzọ kòkó àdésúwà mósé vbè ùkpó ìsén (*là ùkpó ìsén)
 Ozo raised Adesuwa be-beautiful in year five (*for year five)
 'Ozo raised Adesuwa to be beautiful in five years.'
- b. Òzọ sùá Èsósà dé vbè òwàrókpá (*là ífuánró ìsén)
 Ozo push Esosa fall in one minute (for minute five)
 Ozo pushed Esosa down in one minute.'
- (111) a. Òzọ lé èvbàré khién là úzólá èvǎ /vbè ífuánró ìsén
 Ozo cook food sell for week two/ in minutes five
 'Ozo cooked the food and sold it for two weeks/in five minutes.'
- b. Òzọ hīn èrhán kpàán ívín là úzólá èvǎ /vbè ífuánró ìsén
 Ozo climb tree pluck coconut for week two/ in minutes five
 Ozo climbed the tree and plucked coconuts for two weeks/in five minutes.'

According to the data above, only the temporal adverb 'in an hour' which is compatible with a telic action can occur with the resultative SVC (110). This is true regardless of whether the second verb is a stative (110a) or an eventive-unaccusative (110b). On the basis of the contrast with (109), I propose that the telic interpretation of these resultative SVC sentences does not arise from the verb class of the second verb, but rather it comes from the overall interpretation of the event expressed by the resultative SVC, i.e., both the process-result sub-events combine into a single event and it is this event that the telic temporal adverb modifies. Notice that this result is compatible with there being one E node, structurally.

The consequential SVC is not constrained by the aspectual properties listed in (96), and as such both telic and atelic temporal adverbs are compatible with either the consequential SVC (111a) or the CC (111b). This proposal that there are no aspectual constraints beyond those imposed by the lexical properties of the component verbs is consistent with my analysis of the consequential SVC and CCs in which the verbs head separate VP projections and also express distinct events with different E-nodes.

2.9 Conclusion

The basic argument that was made is the distinction between resultative and consequential SVCs, in contrast to CCs, on the basis of cumulative empirical evidence. It was shown that there is a single object in the resultative SVC--true internal argument sharing, while in the consequential SVC internal argument sharing involves an empty category that serves as the object of the second verb. However, SVCs differ from CCs in that the subject is introduced by a single Voice head, whereas in CCs there are two subject positions linked by an ATB movement to derive one overt subject.

The consequence of this chapter is that we now have sufficient syntactic tests that can help us to identify true SVCs from other surface verb sequencing constructions (see chapter seven); for example SVCs are those constructions in which a single E head quantifies over the verbs, and the verbs combine under a single Voice that licenses the subject (and Agent) that sets about a plan of one macro event which may be resultative or consequential.

Chapter three

Predicate Cleft and Event Quantification in SVCs*

3.1 Introduction

This Chapter examines more evidence for the distinction between single-event resultative SVCs and two-event consequential SVCs, and CCs, based on an observed asymmetry between the two with respect to predicate clefts.¹ The phenomenon of Predicate cleft is a way of focusing a verb that involves moving a category (XP or X⁰ depending on the analysis) that is associated with it. (cf. Piou (1982), Koopman (1984), Hutchinson (1989), Lumsden & Lefebvre (1990), Lefebvre and Larson (1991) Ameka (1992), Dekydtspotter (1992), Manfredi (1993), DeGraff (1993), Lefebvre (1994) etc.).² Predicate clefts have been attested in several African languages or language families, including Kwa and Kru. Predicate clefts have been said to express several meanings such as contrastive, emphatic and factive--although I do not know of an analysis that attempts to provide a unified account for all these meanings, or even if they are all from the same underlying predicate cleft structure (cf. Collins 1994, Lefebvre 1994).³ The sentences in (1)-(4) illustrate the predicate cleft construction in Èdó: ⁴

* I acknowledge Claire Lefebvre for reading a draft of this chapter and providing extensive comments.

¹ The predicate cleft contrast in SVCs was introduced by Laniran and Manfredi (1988) when they observed an extraction asymmetry with predicate clefts from instrumental SVCs (cf. also Awoyale 1987, Manfredi 1991, 1993, Déchaine 1993 etc.) However, in much of the Yoruba data used in discussing this phenomenon in SVCs it is observed that only the second verb fails to undergo predicate cleft in most cases. This is one area where this thesis will provide significant empirical contribution since the predicate cleft asymmetry is uniformly observed by both verbs in relevant contexts in the Èdó data.

² Predicate cleft is not an option open to other categories like prepositions, adjectives or adverbs (cf. Lord, (1973), Déchaine (1986), Sebba (1987), Manfredi and Laniran (1988)).

³ I will only give the contrastive meanings in the translations. However, in the discussion of splitting verbs in Chapter five I will make reference to the factive interpretations of predicate cleft. I will leave the issue open for future research whether there are similarities in terms of underlying structure between these two meanings of predicate cleft since this will require a systematic investigation that will take me too far off course.

⁴ The English glosses in these sentences and those below in the text are the best approximations that I can give, even then the English translations are largely ungrammatical in the light of the fact that predicate cleft is not possible in the English language.

- (1) a. Òzó kpòlò
Ozo be-big
'Ozo is big.'
- b. ùkpólómwèn òré⁵ Òzó *(kpó!lò)
nom-be-big-nom Cop. Ozo be-big
'It is fat that Ozo is fat, (not say having an obesity sickness).'
- (2) a. Òzó dé
Ozo fell
- b. ùdémwèn òré Òzó *(dé)
nom-fall-nom Cop. Ozo fall
'It is falling that Ozo did, (not say rolling).'
- (3) a. Òzó khién èbé
Ozo sell book
'Ozo sold the book.'
- b. ùkhiénmwèn òré Òzó *(khién) èbé
nom-sell-nom cop. Ozo sell book
'It is selling that Ozo did to the book, (not say give as gift).'
- (4) a. Òzó só
Ozo shouted
- b. ùsómwèn òré Òzó *(só)
nom-shout-nom cop. Ozo shout
'It is shouting that Ozo did, (not say wail).'

As the data above show, predicate cleft is the movement to sentence initial position of some item that is morphologically cognate to the verb, and it applies to verbs from all basic classes in Èdó: stative, unaccusative, transitive and unergative. (This is contrary to the observations in Haitian cf. Lefebvre 1990, Lefebvre and Larson 1991).⁶

As a way to illustrate the nature of the morphologically cognate item that is moved, let us consider predicate clefts from SVCs and CCs as shown in (5)-(7):

⁵ It has been suggested that the copula 'òré' may actually have internal structure (R-M Déchaine, p.c.), but there are several arguments that this cannot be true. For example, this approach implies a decomposition as in (i)

'Ò ré òwá'
3s Cop house

(i) is intended to read as 's/he is at home' but this is in fact ungrammatical. Other arguments against the proposal that the copula is not monomorphemic comes from tone facts as well as the different kinds of copula that occur in the language (see Baker and Stewart 1997a and Baker 1997b).

⁶ In fact Claire Lefebvre (p.c.) says that there are splits between Haitian speakers as to the restrictions on predicate clefts. In this regard, see DeGraff (1995).

resultative SVC

- (5) a. Òzọ sùá Àdésúwà dé
 Ozo push Adesuwa fall
 'Ozo pushed Adesuwa down.'
- b. *ùsúámwèn òré Òzọ sùá Àdésúwà dé
 nom-push-nom Foc. Ozo push Adesuwa fall
- c. *ùdémwèn òré Òzọ sùá Àdésúwà dé
 nom-fall-nom Foc. Ozo push Adesuwa fall

consequential SVC

- (6) a. Òzọ lé èvbàré ré
 Ozo cook food eat
 'Ozo cooked the food and ate it.'
- b. ùlémwèn òré Òzọ lé èvbàré ré
 nom-cook-nom Foc. Ozo cook food eat
 'It is cooking that Ozo cooked the food and ate, (not shred it).'
- c. ùrémwèn òré Òzọ lé èvbàré ré
 nom-eat-nom Foc. Ozo cook food eat
 'It is eating that Ozo cooked the food and did, (not sell it).'

covert coordination

- (7) a. Òzọ gbé ékhù lá òwá
 Ozo hit door enter house
 'Ozo hit the door and he entered the house.'
- b. ùgbémwèn òré Òzọ gbé ékhù lá òwá
 nom-hit-nom cop. Ozo hit door enter house
 'It is hitting that Ozo did to the door to enter the house.'
- c. ùlámwèn òré Òzọ gbé ékhù lá òwá
 nom-enter-nom cop. Ozo hit door enter house
 'It is entering that Ozo hit the door and did into the house.'

Whereas predicate clefts are allowed from simple clauses (1)-(4), (5) shows that it is ungrammatical to cleft either of the verbs from the resultative SVC. On the contrary, based on (6) and (7) we observe that predicate clefts of either of the verbs in consequential SVC and CC respectively are grammatical.

The generalization which emerges from this contrast is that predicate cleft is constrained in a single-event (resultative) SVC but possible in two-event consequential SVC and CCs. Based on the proposal that the morphologically cognate item that is moved

in predicate cleft is the nominal argument of the event (Bamgbose 1972, Manfredi 1993, Lefebvre 1994), I will argue for an analysis of the asymmetry in (5)-(7) that relates to the basic difference in event quantification. I propose that the nominal argument of an event is generated as a complement within the VP. On its way to the Specifier of CP/FP (Focus Phrase) it must move at LF through the Specifier of EP, after the verb has also raised into the functional head E, in order for it to be licensed under Spec-head and thereafter moves at S-structure to Specifier of CP/FP to check [+Focus] feature. Crucially, I assume that adjunction to Specifier is not allowed and so there are no multiple Specifiers of EP. Given this, since resultative SVCs have a single EP projection, the event argument of one of the two verbs will not be licensed and so predicate cleft from a single-event resultative SVC is ungrammatical. However, in the two-event consequential SVCs and CCs whose structures contain two EP projections, either of the two verbs can be clefted, fully licensed under Spec-head in the separate EPs.

In order to fill in the details of this analysis of the predicate cleft asymmetry, I find it useful to first present the necessary background about the predicate cleft construction in general and its analysis, and then work my way back to the problem illustrated in (5)-(7).

3.2 Èdó Predicate Cleft Construction.

The data on predicate cleft from simple clauses in (1)-(4) highlights three major syntactic properties of the construction. First, predicate cleft involves category conversion because it is the nominalized form of the verb that is clefted. Thus, as can be observed in (1)-(4), each verb undergoes nominalization via the affixation of the *ù-mwén* circumfix. Second, predicate cleft is morphologically related to focus clefts in general through the presence of a copula-type focus morpheme. This is illustrated by the morpheme *òré* that occupies the position immediately after the clefted predicate in (1)-(4). Third, a copy of the verb must be left behind in or near the position from which the derived nominal has moved.

Working with the ultimate goal which is to use predicate clefts to study SVCs and CCs, I will only deal with the following specific issues:

- (a) nominalization and category conversion: predicate cleft as a species of XP-movement
- (b) the thematic and syntactic status of the deverbal nominal which appears in verb focus
- (c) the licensing of predicate clefts in SVCs and CCs

The leading idea of my analysis is based on Larson and Lefebvre (1991), who elaborate on Chomsky's (1977) proposal that cleft and focus constructions have a universally similar quantificational analysis. This approach derives a quantificational analysis of predicate clefts whereby a predicate phrase undergoes clefting with an accompanying quantification over events. As a result, predicate cleft will reveal another way to account for the difference between one and two event SVCs that is consistent with the difference in E(vent) P(rojections) that I have already argued for in Chapter two.

3.2.1. Evidence for Category Conversion

An interesting issue in the syntax of predicate cleft is the apparent category conversion from V to N. This is relevant to the question of whether predicate cleft is a kind of X^0 (verb) movement as claimed by Koopman (1984), or NP movement (cf. Hutchinson 1989, Manfredi 1993 etc.). While a language like Yoruba provides clear morphological evidence for this category change, there is controversy concerning the morphological analysis of the *Se* morpheme and predicate cleft in Haitian (cf. Lumsden and Lefebvre (1990), Larson and Lefebvre (1991), Manfredi (1993)). This is another area in which Èdó can contribute to the descriptive and analytic literature on predicate cleft construction because there is clear syntactic and morphological evidence in support of the proposal that the clefted predicate is a nominal copy of the base verb.⁷

⁷ In Yoruba, where the nominalization of a verb such as 'ra' (buy) is 'rira' (buying), the nominalizing affix is a prefix, so it is not very clear in SVCs in which two verbs are nominalized whether the prefix is on both of them or only the first. However, in Èdó the affix is a circumfix which surrounds the verb, in what I will call complete nominalization.

The primary argument that supports the proposal that the clefted predicate is a nominal copy of the verb is based on two bits of morphological evidence. The first is based on a language-internal morpho-phonological constraint on nominals. This constraint requires all nominals to begin with a vowel (open syllable), in contrast to all the other lexical categories (cf. Agheyisi 1990, Amayo 1976, Omoruyi 1986, 1987, Elugbe 1976, etc.) This points to why the first part of the nominalizing affix is a vowel prefix. The second evidence is based on the regular derivational relationship between the verb and its nominal counterpart. As described in Agheyisi (1990), Amayo (1976) and Omoruyi (1989), one productive pattern of verb nominalization in Èdó is based on the morphological process of affixation (cf. Baker and Stewart 1997a). Quite commonly, a circumfixal morpheme is attached to the verb in order to derive the nominalization that is the same as that frequently found in predicate clefts. (8) provides a typical illustration with selected verbs.

(8)	<u>verb</u>		<u>nominalizing affix</u>		<u>derived nominal</u>
a.	kpolo	"be-big"	ù-mwén	=	ùkpólómwèn
b.	de	"fall"	ù-mwén	=	ùdémwèn
c.	khièn	"sell"	ù-mwén	=	ùkhiènmwèn
d.	so	"shout"	ù-mwén	=	ùsómwèn

These derivations in (8) show that stative, unaccusative, transitive, and unergative verbs respectively can each have a corresponding nominalization form given in the last column. These forms are otherwise used as event denoting nominals: rather than some other type. When these forms are compared with the nominal copy in the predicate cleft examples in (5)-(7), we observe a perfect correspondence between the items in the final column in (8) and the items that occur in the sentence initial positions; they both have the *ù-mwén* form of nominalization. Therefore, I take this similarity as evidence that predicate cleft involves

the movement of a nominal copy of the verb which is derived by a productive and regular morphological process.

This conclusion can be further complemented by the restriction on the category that can occur in initial position in basic underived sentences. I illustrate this based on something that was alluded to in Chapter two and whose general properties have been discussed already; the contrast between I- versus N-type adverbs.

- (9) a. *gìégìé, Òzó béghe!é èmèrí clefting of I-type adverb
 quickly Ozo see Mary
- b. ègìégìé, Òzó béghe!é èmèrí clefting of N-type adverb
 quickly Ozo see Mary
 'Quickly, Ozo sighted Mary'

As the contrast in (9) shows, an I-type adverb cannot occur in an adjoined sentence-initial position (9a); only the N-type adverb can be adjoined to TP (9b). By abstracting away from the difference in the properties of the licensing of these two adverbs clause internally and simply focusing on how they are licensed in sentence initial position, we are able to explain this contrast in (9) in a way that is relevant to the issue of predicate clefts.

I suggest that the ungrammaticality of (9a) is related to a structure preservation constraint which requires a head (X^0) to adjoin to another head and allow only an XP to adjoin to an XP. Pre-theoretically, we conclude that in (9b) the N-type adverb is an XP, but the I-type adverb in (9a) is an X^0 . Therefore, since heads can only adjoin to heads and XPs to XPs, it follows that (9a) will be ungrammatical because there is no relevant head to which the I-type adverb can adjoin. On the contrary, the XP adverb in (9b) adjoins to an XP category (TP) and hence the grammaticality contrast in (9). The conclusion from this simplified discussion of the contrast in (9) is a structure preservation constraint that allows only XPs to occur in sentence initial position as syntactic adjuncts and also that only XPs can occur in Specifier positions. Returning now to the issue of predicate cleft and nominalization we observe that only a deverbal nominal derived by the affixation of the ù-

mwén morpheme to yield an XP category can undergo predicate cleft to Specifier of CP, and this implies that the moved copy cannot be the same as the base-verb which is an X^0 category.

3.3 The Status of the Derived Nominal

This section examines the semantic and syntactic properties of the nominal copy of the verb that is involved in predicate cleft. In other words, why does predicate cleft move a deverbal (derived) nominal and then leave a copy of the verb behind?

3.3.1 Semantic Interpretation

Let us begin by first examining the semantic interpretation of the deverbal nominal. Consider the examples in (1)-(4) two of which are repeated as (10) and (11):

- (10) a. Òzó dé (=2)
Ozo fell
- b. ùdémwèn òré Òzó *(dé)
nom-fall-nom Cop. Ozo fall
'It is falling that Ozo did, (not say rolling).'
- (11) a. Òzó khién èbé (=3)
Ozo sell book
'Ozo sold the book.'
- b. ùkhiénmwèn òré Òzó *(khién) èbé
nom-sell-nom cop. Ozo sell book
'It is selling that Ozo did to the book, (not say give as gift).'

On the basis of meaning, there is one relevant aspect of the predicate cleft construction that I want to consider. Observe in the sentences above that the deverbal nominal refers to the event denoted by the verb. This can be illustrated by a comparison of both transitive and unaccusative verbs. For example in (10), the nominal refers to the 'falling' event, and in (11) it is the 'selling' event that is nominalized.⁸ The point I am making here is that the

⁸ In fact, some older Èdó speakers confirmed to me that it is possible to have sentences in which the object appears with the nominalized verb as shown in (i).

(i) a. ùkhiénébémwèn òré Òzó *(khién) èbé
nom-sell-book-nom cop. Ozo sell book

nominalization of the verbs refers to the events, i.e., a 'selling' event in (10b) or a 'book-selling' event (footnote). Consequently, based on Laniran and Manfredi (1988), Manfredi (1993) and as established in the Yoruba descriptive literature (e.g. Bamgbose 1972), I propose that predicate cleft involves movement of a nominal argument which denotes the event of the verb (cf. Lefebvre 1994).

3.3.2 Cognate Object as Event Argument

This section shows that the derived nominal involved in predicate cleft has exactly the same meaning as cognate objects. On the basis of evidence from a morphological blocking relationship between the irregular (vowel-initial type) and the regular (*ù-mwén*) forms, I propose that predicate clefts are derived from cognate objects.

One piece of language-internal evidence that buttresses the event argument interpretation of the derived nominal that is involved in predicate cleft comes from cognate objects. Like the deverbal nominal in the predicate cleft construction, a cognate object is an object that is semantically and morphologically derived from a verb. Here are some relevant examples of cognate objects in Èdó:

- (12) a. Òzọ hió (àhió)
 Ozo urinate (urine)
 'Ozo urinated.'
- b. Òzọ tué (òtué)
 Ozo greet (greeting)
 'Ozo greeted.'
- c. Òzọ kpá (èkpá)
 Ozo vomit (vomit)
 'Ozo vomited.'
- d. Òzọ khián (òkhián)
 Ozo walk (walk)
 'Ozo walked.'

-
- c. 'It is book-selling that Ozo did, (not say give as gift)
 ùlèvbàrémwèn òré Òzọ lé èvbàré
 nom-cook-food-nom cop. Ozo cook food
 'It is food-cooking that Ozo did, not throw the food away'

- e. Òmó wén (èwén)
 child suck (breast)
 'The child suckled.'

In the examples above, the direct objects are exact copies of the verb, except that they, like all nominals, begin with a vowel prefix. Strikingly, they make no obvious contribution to the interpretation of the meaning of the sentence and yet they are present at S-Structure as these sentences are grammatical without the cognate objects. The question then is, what function do these cognate objects fulfill in the syntax? I propose that cognate objects are like predicate clefts in Èdó, the difference being in the form of their nominalizations.

One argument in favor of this proposal comes from Lefebvre (1994) who points out that a bare cognate object may occur in some cases instead of the nominalized copy in a construction such as the predicate cleft which otherwise would involve the nominal copy of the verb. Thus, cognate object is another morphological realization of the nominalization of a verb. This is illustrated in the following predicate cleft examples involving cognate objects:

- (13) a. àhió òré Òzó hió
 urine Foc Ozo urinate
 'It is urine that Ozo urinated, not (say) blood.'
- b. òtué òré Òzó tué
 greeting Foc Ozo greet
 'It is greeting that Ozo greeted, not (say) a sneer.'
- c. èkpá òré Òzó kpá
 vomit Foc Ozo vomit
 'It is vomit (food) that Ozo vomited, not (say) blood which would require another kind of word for vomit 'bí'.)
- d. òkhián òré Òzó khián
 walk Foc Ozo walk
 'It is walking that Ozo walked, not (say) get a ride.'
- e. èwén òré Òmó wén
 breast Foc child suck
 'It is breast that the child suckled, not (say) feed on the bottle.'

The semantic interpretation of the sentences in (13) is one in which the cognate object is a nominal realization of the event denoted by the verb, just as in predicate clefts. Furthermore, observe that these cognate objects have similar contrastive focus. This semantic similarity reflects the two morphological choices in predicate clefts: regular nominal *ù-mwén* form and irregular nominal vowel prefix form as in cognate object. Therefore, I conclude that the forms involved in predicate clefts should be grouped along with the forms that characterize cognate objects. This predicts that it is ungrammatical to have the *ù-mwén* form of nominalization in the predicate cleft of any of these verbs in (13) because it will be ruled out by morphological blocking. This prediction is borne out, as illustrated by the ungrammaticality of the sentences in (14):

- (14) a. *àhiómwèn òré Òzó hió
nom-urinate Foc Ozo urinate
- b. *ùtuémwèn òré Òzó tué
nom-greet-nom Foc Ozo greet
- c. *ùkpámwèn òré Òzó kpá
nom-vomit-nom Foc Ozo vomit
- d. *ùkhiánmwèn òré Òzó khián
nom-walk-nom Foc Ozo walk
- e. *ùwénmwèn òré Òmó wén
nom-suck-nom Foc child suck

In addition, the conclusion that predicate clefts are related to cognate objects is buttressed by the fact that cognate objects can also be used as event nominalizations in Èdó on a par with the discussion of the forms in (8). This is illustrated in (15).

- | | <u>verb</u> | <u>cognate derived nominal</u> |
|---------|--------------|--------------------------------|
| (15) a. | hió 'pee' | = àhió 'peeing' |
| b. | kpá 'vomit' | = èkpá 'vomiting' |
| c. | tué 'greet' | = òtué 'greeting' |
| d. | khián 'walk' | = òkhián 'walking' |

In the rest of this Chapter I will assume that the term nominal copy that is used in most descriptions also refer to cognate objects (cf. Manfredi 1993 for Yoruba, Lefebvre 1994 for Haitian and Fon, Koopman 1984 for Kru languages, etc.).

3.4 The Syntax of Predicate Clefts

In this section, I will present four arguments based on the syntactic interpretation of predicate clefts and cognate objects which will then form the basis of the syntactic analysis of predicate clefts in general.

First, observe that the nominal copy of the verb can occur with a thematic direct object of a transitive verb.⁹ This is illustrated by the following sentences:

- (16) a. Òzó gbé èkhù ùgbémwèn
 Ozo hit door nom-hit-nom
 'Ozo hit the door a hitting'
- b. Òzó rí èvbàré ùrémwèn
 Ozo eat food nom-eat-nom
 'Ozo ate the food a eating'
- c. Òzó tué úyì òtué
 Ozo greet Úyi greeting
 'Ozo greeted Úyi a greeting'

(16) illustrates the fact that both the regular cognate objects (16a,b) and the irregular cognate object (16c) can co-occur with the direct object of a verb. Note that even when they occur in situ along with the object of the verb, these nominals still have the event nominal interpretation, for example (16a) means that Ozo hit the door (a) hitting, describing the hitting event. I like to point out that these sentences in (16) indicate two very important observations concerning the syntax of the nominal copy of the verb. First, they point to the fact that the nominal copy must occur after the direct object of the verb in linear word order (*Pace* Larson's 1988 analysis of double objects). We can confirm this from the

⁹ I would like to point out the fact that I do not give more examples of irregular form of cognate objects since they are mostly derived from intransitive verbs.

ungrammaticality of the corresponding sentences to (16) where the order is reversed between the direct object and the nominal copy:

- (17) a. *Òzó gbé ùgbémwèn èkhù
Ozo hit nom-hit-nom door
- b. *Òzó rí ùrémwèn èvbàré
Ozo eat nom-eat-nom food
- c. *Òzó tié ùtiémwèn èbé
Ozo read nom-read-nom book
- d. *Òzó fí ùfímwèn ímótò
Ozo drive nom-drive-nom car

The data in (17) confirms the ordering relation between the thematic direct object and the nominal event argument. Since the direct object must receive a thematic role from the verb, it follows that adjacency between the two is required. The second point arising from the data in (16)-(17) is that the nominal copy is apparently an event argument which does not get any theta role from the verb. Thus, whereas two nominalizations cannot co-occur with one another (see example (20) below), one of them can occur with a transitive verb, as long as it appears linearly outside of the thematic-argument [V-NP] complex. I suggest that predicate clefts are derived by moving cognate (derived) objects which are base-generated within the VP as in sentences like (16).

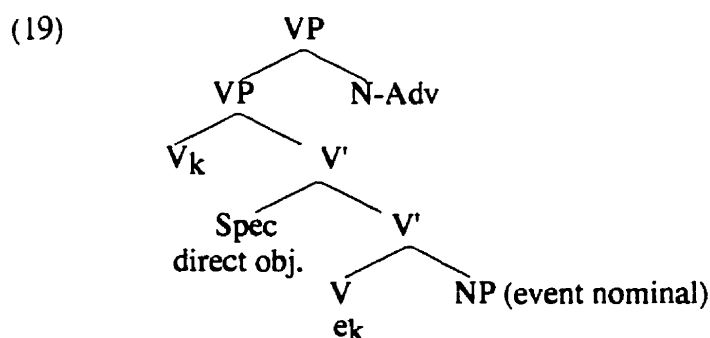
A clue to the structural analysis of the cognate object comes from their interaction with N-type adverbs, which I have argued above marks the right edge of a VP (section 2.2).¹⁰ Consider the following:

- (18) a. Òzó gbé èkhù ùgbémwèn ègiégié
Ozo hit door nom-hit-nom quickly
'Ozo hit the door a hitting quickly.'
- b. *Òzó gbé èkhù ègiégié ùgbémwèn
Ozo hit door quickly nom-hit-nom

¹⁰ Observe that predicate cleft is quite possible in the context of an N-type adverb. For example, (18a) can also be, 'ùgbémwèn òré Òzó gbé èkhù ègiégié'

- c. Òzó rrí èvbàré ùrémwèn ègìégìé
Ozo eat food nom-eat-nom quickly
'Ozo ate the food a eating quickly.'
- d. *Òzó rrí èvbàré ègìégìé ùrémwèn
Ozo eat food quickly nom-eat-nom
- e. Òzó tué úyì òtué ègìégìé
Ozo greet Uyi greeting quickly
'Ozo greeted Uyi a greeting quickly.'
- f. *Òzó tué úyì ègìégìé òtué
Ozo greet Uyi quickly greeting

As we observe in (18), only those sentences in which the N-type adverb occur after the direct object and event nominal are correct. This implies that both NPs are within the same VP. However, it is ungrammatical for the N-type adverb to occur between the direct object and the event nominal. Therefore, I conclude that the event nominal is generated in the complement position within the VP, while the direct object occupies the Specifier position.¹¹ This is illustrated in (19).



The third evidence for the analysis of predicate clefts as cognate objects comes from the fact that two nominalizations cannot co-occur together: the regular derived nominal form of the verb and the irregular cognate derived object are apparently in competition for the same position. Consider the following;

¹¹ See footnote (16) for evidence that the cognate object acts as an event delimiter, like argument PPs. However, I do not assume that cognate objects are the same thing as argument PPs except that they are both generated in the inner complement position within the VP, but licensed differently.

- (20) a. *Òzó vié èvé ùviémwèn
Ozo cry cry nom-cry-nom
- b. *Òzó khián òkhián ùkhiánmwèn
Ozo walk walk nom-walk-nom
- c. *Òzó hió àhió ùhiónmwèn
Ozo urinate urine nom-urinate-nom
- d. *Òzó tué òtué ùtuémwèn
Ozo greet greeting nom-greet-nom
- e. *Òzó kpá èkpá ùkpámwèn
Ozo vomit vomit nom-vomit-nom

The fact that the two forms of nominalizations cannot co-occur as shown in (20) can be taken as surface evidence that they are generated and licensed in the same structural position.¹²

The fourth and final evidence that can be inferred from the discussion above is the fact that the predicate cleft construction and the cognate object are mutually exclusive; a fact which has been well demonstrated in Lefebvre (1994) with data from Fongbe. Consider the following examples from Èdó:

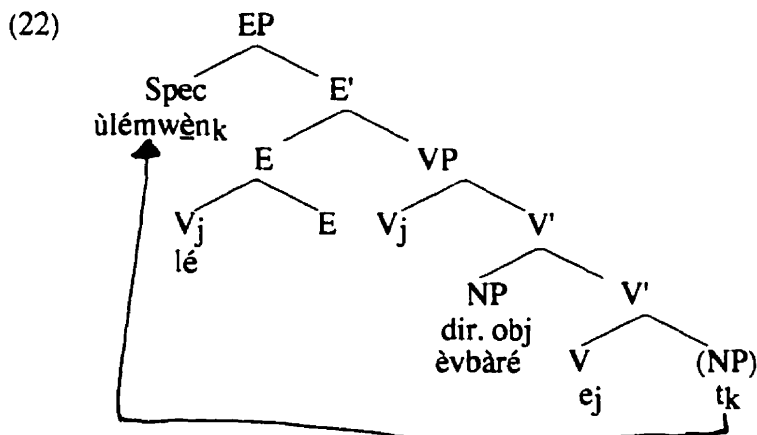
- (21) a. *ùhiómwèn òré Òzó hió àhió
nom-urinate-nom Foc Ozo urinate urine
'It is urinating that Ozo urinated.'
- b. *ùtuémwèn òré Òzó tué òtué
nom-greet-nom Foc Ozo greet greeting
'It is greeting that Ozo greeted.'
- c. *ùkpámwèn òré Òzó kpá èkpá
nom-vomit-nom Foc Ozo vomit vomit
'It is vomiting that Ozo vomited.'
- d. *ùkhiánmwèn òré Òzó khián òkhián
nom-walk-nom Foc Ozo walk walk
'It is walking that Ozo walked.'

¹² It is possible that these sentences are out anyway because of morphological blocking but I assume that they are ungrammatical because of the condition on Spec-head matching whereby one of the nominalizations fail to be licensed at LF in a manner to be described shortly.

- e. *ùlémwènk òré Òmó wén èwén
 nom-suck-nom Foc child suck breast
 'It is sucking that the child suckled.'

In all these sentences above, it is ungrammatical for both the nominal copy of the verb and the cognate object to occur together. I propose that these examples are bad for the same reason as those in (20) based on the assumption that predicate clefts are derived by fronting the cognate object of the verb and licensed uniformly.

On the basis of the observed properties of predicate clefts, I propose a syntactic account whereby I associate the licensing, function, and properties of the nominal expression of the event denoted by the verb with the EP projection. This has an intuitive appeal since EP stands for Event Phrase and so it seems reasonable that the event argument be licensed there. I propose (22) as the canonical structure illustrating the relationship between a verb and its cognate object at LF.



In this structure (22), I propose a Spec-head matching condition in EP that is based on the assumption that there are no multiple Specifiers. Consequently, the functional head E attracts the verb that it quantifies over at LF thereby creating a complex head and the nominal copy of the predicate raises also at LF to the Specifier to be checked against the complex event operator E (cf. 'E-binder' in Grimshaw (1990)). This creates the required Spec-head matching for the licensing of the cognate object in predicate cleft construction. This analysis relies on a distinction between thematic role licensing of obligatory arguments

and the licensing of optional arguments like these cognate object in predicate clefts, the former is assigned directly by the verbs to its thematic NP under sisterhood relation, or in a configurational approach--in the Specifier of VP. On the other hand, the licensing of optional non-thematic NPs takes place at LF under a Spec-head relationship.¹³

The empirical evidence in support of this distinction with respect to thematic arguments and non-thematic arguments comes from the fact that sentences in which the event nominal occurs along side with the direct object are different from real cases of double object constructions. This contrast is illustrated in (23) and (24):

- (23) a. Òzó hàé úyì íghó
Ozo pay Uyi money
'Ozo paid Uyi money.'
- b. úyì òré Òzó hàé éré íghó
Uyi Foc. Ozo pay clitic money
'It is Uyi that Ozo paid money.'
- c. íghó òré Òzó hàé úyì -
money Foc Ozo pay Uyi pro
'It's money that Ozo paid to Uyi.'
- (24) a. Òzó tué úyì òtué
Ozo greet Uyi greeting
'Ozo greeted Uyi a greeting.'
- b. úyì òré Òzó tué (*éré) - òtué
Uyi Foc. Ozo greet clitic greeting
'It is Uyi that Ozo greeted a greeting.'
- c. òtué òré Òzó tué úyì -
greeting Foc Ozo greet Uyi
'It is a greeting that Ozo greeted Uyi.'

(23) illustrates a double object construction (see chapter four) while (24) shows the predicate cleft construction. In both cases a wh-movement test is being applied to the object NPs. In the double object construction (23b), the extraction of the first object leaves a resumptive pronoun in its base position. This contrasts sharply with the extraction of the

¹³ The proposal made in Massam (1990) that (some) cognate objects are thematic arguments certainly does not apply to these sort of cognate objects and so that analysis does not carry-over in this case as well (see the immediate text below for the empirical evidence).

first object in the predicate cleft construction (24b) where it is, in fact, ungrammatical for the resumptive pronoun to occur. This means that the first object cannot be pronominalized and so it is typically different from normal double object constructions.¹⁴ I interpret this contrast as evidence that these two constructions are not the same although the phrase structure may be the same (see Chapter four for the analysis of double object construction).

Furthermore, observe from (23c) that the clefting of the direct object leaves a null *pro* behind as its trace,¹⁵ and there is no compelling reason not to assume that the clefting of the cognate object in (24b) doesn't do the same thing. However, based on the discussion of the data in (16)–(18) we know that the cognate object is not a direct object of the verb, and therefore must be something else. In addition, given the fact that there is c-command between double objects in Èdó (see Chapter four) whereby the indirect object c-commands the direct object, the cognate object in the predicate cleft construction (which is neither an indirect object nor a direct object) cannot be a thematic object of the verb since it cannot be pronominalized by the object pronoun (*Òzó tué úyì éré ('Ozo greeted Uyi it)).¹⁶ Thus, by implication the cognate object cannot be the direct object and so (24a) is not a double object construction since we cannot establish a c-command between the two NPs. This conclusion is further confirmed by the fact there is no special morphology such as an applicative in Èdó to license two symmetrical arguments and so the extra argument in the predicate cleft construction in (24) must be licensed differently.

Consequently, I conclude that an optional argument such as the cognate object in the predicate cleft construction is a non-thematic argument of the verb that is licensed differently from thematic arguments in the manner that I have proposed in (22).

¹⁴ In (24a) it is possible for the cognate noun to host a relative clause just like the corresponding Igbo examples (V. Manfredi p.c.) e.g. 'Òzó greeted Uyi a greeting which was surprising'.

¹⁵ cf. Baker and Stewart (1997b).

¹⁶ Here, it is important to note that unlike Yoruba predicate cleft, an adverb or adjective cannot occur within the nominalization, although an adjective can be adjoined by a Kase head óghé (see Chapter four) to the NP. This difference between Èdó and Yoruba draws attention to the observation I made earlier in footnote (6) regarding the fact that Yoruba nominalizer occurs as a reduplicative prefix whereas the one in Èdó is a circumfix which is a complete nominalization and I assume that is what makes it impossible for adjectives or adverbs to occur.

3.4.1 On Event Quantification

Larson and Lefebvre (1991) propose a semantic analysis of predicate clefts as involving a quantification which, rather than quantifying over familiar individuals like persons and chairs, quantifies over events. This analysis of event quantification with predicate clefts has a direct mapping into the one that I propose. According to my analysis, predicate cleft involves the movement of a nominal argument which is the event argument of the verb. Therefore, the quantificational value of the cleft is derived by moving the clefted event through the relevant EP projection .

Furthermore, according to Larson and Lefebvre (1991:252), there is an intuitive parallel between clefts and focus which is this: they both have truth-conditions that are formed by dividing the sentence information into a *focus*--a contrasted subject of assertion--and a *presupposition*--a property that is asserted of the subject. This similarity is exemplified by the following sentences;

- (25) a. It was John that saw Mary (L & L=29) 'cleft'
 b. JOHN saw Mary (" 30) 'focus'

(25a) and (25b) have the same truth-conditions: they add to the simple assertion 'John saw Mary', the claim that John--and not some other person-- saw Mary, as well as the assumption that Mary was in fact seen. This can be represented as in (26);

- (26) John = FOCUS
 x saw Mary, for some x = PRESUPPOSITION

The representation in (26) strips away the surface difference in the morphology of focus and clefts. This implies that there is no semantic difference between focus and clefts, and in fact Larson and Lefebvre (1991) and Dekydtspotter (1992) based on Chomsky (1977) also make the corresponding claim that there is similar syntactic analysis for both constructions (at LF).

Taking the general structure for clefts as in (27a), and based on Larson and Lefebvre (1991) and Dekydtspotter (1992), I propose the interpretation for predicate clefts in (27b), with the mapping to focus and presupposition shown in (27c):

The semantic representation of predicate cleft

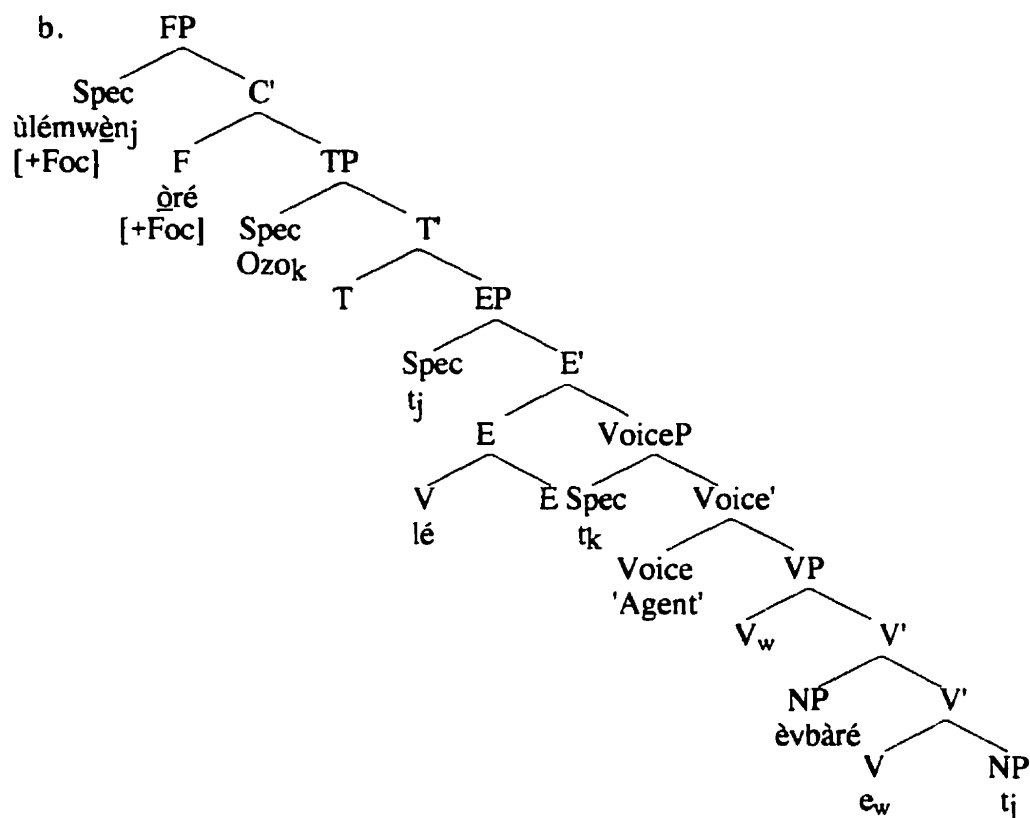
- (27) a. It be XP_i [- EP t_i -----]
- b. $[\exists e_i \text{ cooking } (e), [.. e..]]$
- c. cooking (e) = RESTRICTION = FOCUS
- e-- (for some e) = SCOPE = PRESUPPOSITION

According to (27), the clefted phrase which is an NP (a cognate object) represents the quantifier restriction and corresponds to the focus.¹⁷ The phrase containing the "trace" of the nominal event argument corresponds to the presupposition. I assume, as with focus, that the existential quantifier comes as part of the general scheme for interpreting the structure.

We can illustrate (27) with the sentence in (28a) and the corresponding structure in (28b):

- (28) a. [ùlémwèn]_{NP} òré Òzó [EP lé èvbàré]]
 nom-cook-nom Foc. Ozo cook food
 'It is cooking that Ozo did to the food'

¹⁷ I will not discuss in detail the exact category label of the landing site of the moved verb-focus, since it has no bearing on SVCs. It could be Spec CP or FP (focus phrase), what is important is that the head of the projection has a [+Focus] feature that needs to be checked by the cognate object at S-structure.



According to (28b), the NP is generated in the complement position within the VP with a [+Foc] feature and moves through EP (at LF) on its way to Specifier of FP overtly, prior to spell-out. Thus, by the LF raising of the verb which is attracted to the E head the relevant Spec-head matching exists at the EP level for the licensing of the event argument.¹⁸

3.5 Predicate Cleft and SVCs

Perhaps, the best way to illustrate the connection between the syntactic structure (28b) and the semantic representation in (27) is by using it to provide an account of the asymmetry between single-event resultative SVCs and two event consequential SVCs as well as CCs, that was introduced in (5)-(7). I will now examine each construction:

¹⁸ It has been observed that predicate cleft exhibits *wh*-dependencies (cf. Koopman (1984), Manfredi (1993), Dekydtspotter (1992) etc.) and such as Islands effects can also be observed in Èdó. However, I propose that the ungrammaticality of such sentences should be attributed to the same Spec-head matching condition in my analysis, i.e., how many EPs does the sentence contain and by implication how many of them are crossed?

3.5.1 Resultative SVCs

This section will show that predicate cleft is ungrammatical in resultative SVCs which express complex events because the nominal argument of one sub-event is not properly licensed since there is a single Specifier of EP and so after the two verbs raise to E at LF, there is no Spec-head matching. However, I will also show that it is possible to have a nominalized compound of the event argument that is generated as complement and moves through EP and satisfy the Spec-head matching condition.

For the sake of exposition, let me first, show that it is perfectly grammatical to have the predicate cleft with the relevant verbs in simple clauses:

- (29) a. Òzó sùá Àdésúwà
Ozo push Adesuwa
'Ozo pushed Adesuwa.'
- b. ùsúámwèn ọ́ré Òzó sùá Àdésúwà
nom-push-nom Foc. Ozo push Adesuwa
'It is pushing that Ozo did to Adesuwa, not (say) kicking.'
- (30) a. Àdésúwà dé
Adesuwa fall
'Adesuwa fell.'
- b. ùdémwèn ọ́ré Àdésúwà dé
nom-fall-nom Foc. Adesuwa fall
'It is falling that Adesuwa did, not (say) rolling (on the ground).'

As we observe in both (29) and (30), the transitive verb *sùá* 'push' and the unaccusative verb *dé* 'fall' can undergo predicate cleft in simple clauses. Now, consider the predicate clefts from resultative SVCs as shown in (31) and (32):

- (31) a. Òzó sùá Àdésúwà dé
Ozo push Adesuwa fall
'Ozo pushed Adesuwa down.'
- b. *ùsúámwèn ọ́ré Òzó sù!á Àdésúwà dé
nom-push-nom Foc. Ozo push Adesuwa fall
- c. *ùdémwèn ọ́ré Òzó sù!á Àdésúwà dé
nom-fall-nom Foc. Ozo push Adesuwa fall

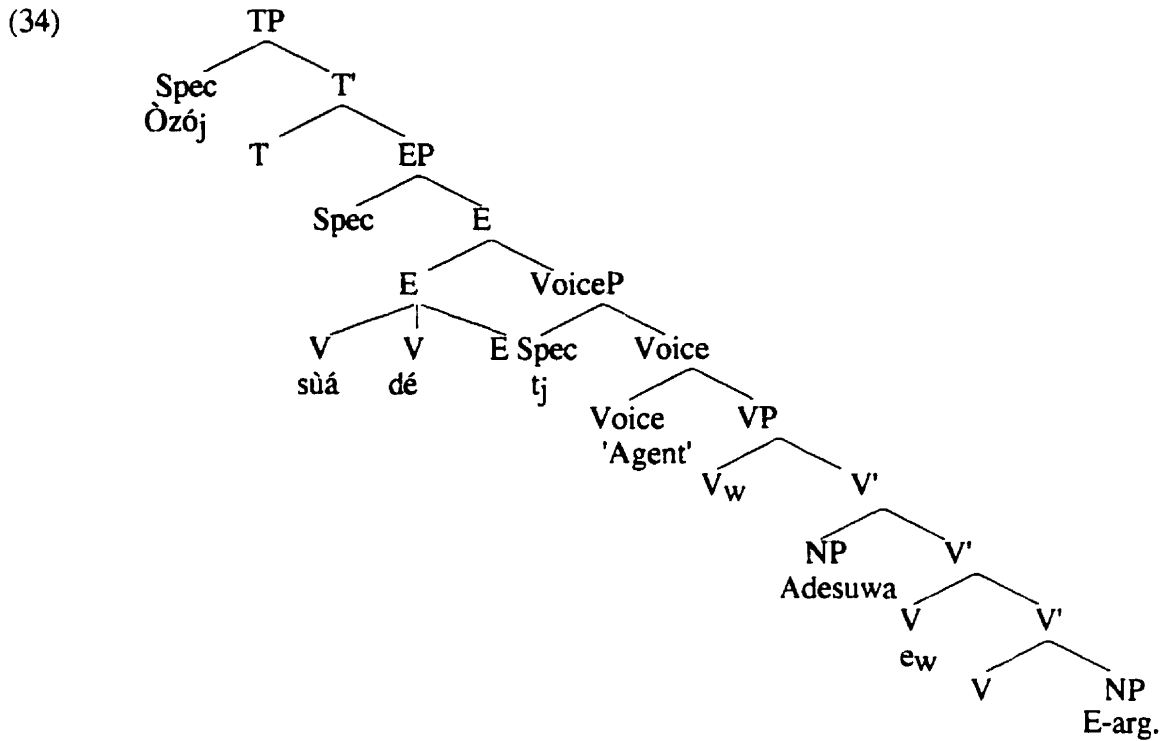
- (32) a. Òzọ kòkó Àdésúwà mósé
 Ozo raise Adesuwa be-beautiful
 'Ozo raised Adesuwa to be beautiful.'
- b. *ùkókómwèn òré Òzọ kó!kó Àdésúwà mó!sé
 nom-raise-nom Foc. Ozo raise Adesuwa be-beautiful
- c. *ùmósémwèn òré Òzọ kó!kó Àdésúwà mó!sé
 nom-be-beautiful-nom Foc. Ozo raise Adesuwa be-beautiful

According to the data in (31-32), it is ungrammatical to cleft either of the verbs from a resultative SVC. This result is not surprising and is in fact consistent with my analysis. In the resultative SVC, both verbs are attracted at LF by the functional head E that existentially quantify over the two of them E. Based on the condition that there must be Spec-head matching for the NP to be licensed, it follows, therefore, that there will be no match if there is only the nominalization of one of the verbs in Spec EP and so the predicate cleft is ungrammatical. In this regard, Èdó is unlike Yoruba (see below) because the nominalization of both verbs is ruled out by a morphological filter that bans V-V compounds in the language.

I will illustrate the analysis of (32) by reproducing the semantic representation of the resultative SVC from section 2.2.2 as in (33) which corresponds to the structure in (34).¹⁹

- (33) The resultative SVC
 (∃e) [Push-Fall(e) & Agent(e, Ozo) & Theme(e, bottle)]

¹⁹ I should point out that the ternary-branching structure in the E node has not arisen via successive head-movement, rather both verbs raise together as a unit to E as co-heads of the same VP.



Based on (30-31) we know that each of the verbs in (32) *sùá* "push" and *dé* "fall" have an event argument that can appear in a predicate cleft construction. Now, in (32) these verbs combine to express a single "fused" event under a single EP, where the E head existentially quantifies over the fused event. Therefore, the clefting of the event nominal of the first sub-event (first verb) as in (32b) implies that there is no Spec-head matching since both verbs have raised but the nominalization of only one of them can be in the Specifier and so the sentence is ungrammatical. Parallel reasoning accounts for the ungrammaticality of the predicate cleft of the second verb from the resultative SVC (32c) as well.

The immediate consequence of this analysis is that we predict that cognate objects in SVCs will also be grammatical (in the non-predicate cleft context). This prediction is borne out, as illustrated below:

- (35) a *Òzó sùá Àdésúwà ùsúámwèn dé
 Ozo push Adesuwa nom-push-nom fall

- b *Òzó sùá Àdésúwà dé ùdémwèn
 Ozo push Adesuwa fall nom-fall-nom
- (36) a. *Òzó kòkó Àdésúwà ùkókómwèn mósé
 Ozo raise Adesuwa nom-raise-nom be-beautiful
- b. Òzó kòkó Àdésúwà mósé ùmósémwèn
 Ozo raise Adesuwa be-beautiful nom-be-beautiful-nom
 'Ozo raised Adesuwa to be beautiful.'

Just as in predicate cleft, (35) and (36) show that it is ungrammatical for either of the verbs in the resultative SVC to have a cognate object. This is consistent with the analysis of resultative SVC in which the two verbs are co-heads, and so they raise to the head of E but there is no Spec-head matching between the NP and the two verbs, so the sentences with cognate objects are also ungrammatical.²⁰

However, it is possible to have predicate clefts from resultative SVCs if a nominal copy of both verbs can be clefted together.²¹ This is possible in Yoruba where it has been observed that predicate cleft is allowed from 'certain' SVCs when both verbs are

²⁰ This data illustrates one property of these cognate objects; that they act as event delimiters so that for example when a cognate object is added to an activity verb it makes it telic/delimited:

- (i) Òzó khián (*òkhián) là áwà ókpá
 Ozo walk nom-walk for hour one
 'Ozo walked for an hour'
- (ii) Òzó gbé é má!tón (*ùgbémwèn) là áwà ókpá
 Ozo hit metal nom-hit-nom for hour one
 'Ozo hit the metal for an hour'

These sentences show that when the cognate object is added to a (potential) activity verb it makes it delimited/telic so that it is no longer compatible with a for-time phrase (see Chapter four for more discussion)

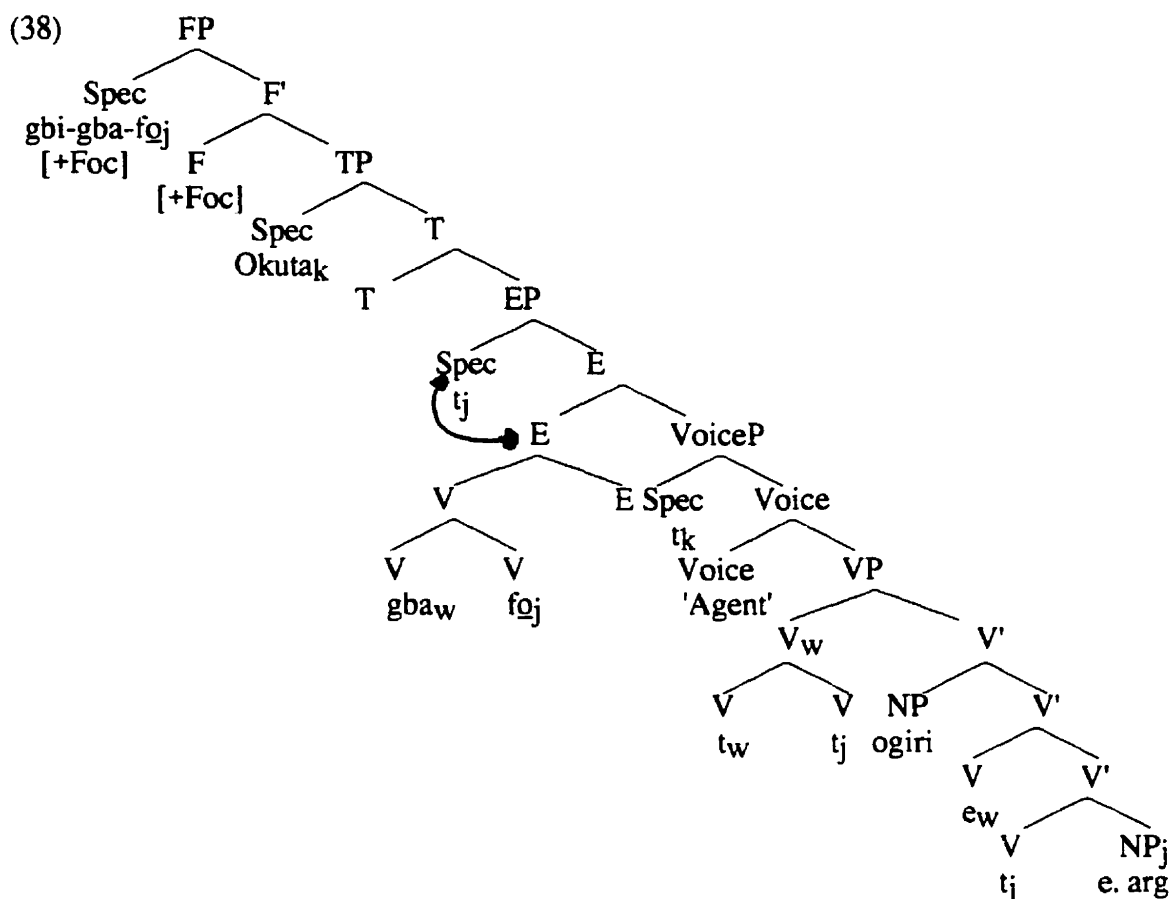
²¹ This shows that there are indeed restrictions on the predicate cleft construction contrary to the claim I made earlier that predicate cleft is possible, in principle, with verbs from all aspectual classes. For example, Larson and Lefebvre (1991) propose a restriction based on Stage- vs. Individual-level contrast, i.e., only predicates denoting temporary characteristics can participate in contrastive predicate clefts. (cf. also DeGraff (1993). However, Dekydtspotter (1992) argues against the stage vs. individual level contrast based on evidence from Yoruba, e.g. color and stative predicates can be clefted contrastively. Similarly, as I have shown earlier stative verbs are cleftable in Èdó. The alternative proposed by Dekydtspotter (1992) that only 'individual level predicates with experiencer subjects' cannot undergo predicate clefts is based on controversial data involving predicate clefts of verbs such as *mo* "know", *pé* "think" and *fifé* "want" which even he reports as ungrammatical for some speakers. The clefting of such predicates in Èdó produce sharply ungrammatical sentences. From the general perspective, it appears to be true that predicate cleft is possible for any verb which can be nominalized. Therefore, I propose that the failure of a verb to undergo predicate cleft must be due to the fact that the verb cannot be nominalized based on the nature of complex single event. This is true for Èdó resultative SVCs and splitting verbs in Yoruba as well as Èdó.

nominalized as a single unit (cf. Baker (1989), Gruber and Collins (1996), Manfredi (1993)).²² This is illustrated by the following sentences:

- (37) a. Okuta gba ogiri fo (Gruber & Collins (1996)= 48)
 Stone hit wall break
 'The stone broke the wall.'
- b. *gbi-gba ni Okuta gba ogiri fo
 nom-hit NI Stone hit wall break
- c. *fifò ni Okuta gba ogiri fo
 nom-break NI Stone hit wall break
- d. gbi-gba-fo ni Okuta gba ogiri fo
 nom-hit-break NI Stone hit wall break
 'It was hitting and breaking that the stone did to the wall'

Note that this example has a resultative meaning and we observe that the predicate cleft of either of the verbs is ungrammatical; rather they must be clefted together. According to my analysis, (37a) is possible because the nominalized compound of both verbs is generated as a complement and then moves through EP at LF where the two verbs have raised after being attracted by the E head. Consequently, the nominalized event argument is properly licensed because there is Spec-head matching with the two verbs. This is illustrated in the structure (38).

²² I do not know for a fact whether it is the same range of verb sequences that have been classified under the resultative SVC that are exactly the ones which allow this sort of compound nominalization in Yoruba. I will leave this open for future research. However, see the discussion of splitting verbs in Yoruba in section 5.3, so it might just be that sentences of the kind in (37) are splitting verbs.



The Yoruba data in (37d) and the structure in (38) are both desirable consequences of my analysis because the fact that both verbs must be clefted together implies that they license a single nominal argument of the complex single event in Spec of EP. However, this V-V compound structure is not attested in Èdó as the ungrammaticality of sentences similar to those in Yoruba show:

- (39)
- a. Òkútá gbé úkpù guòghò
stone hit cup break
'The stone broke the cup.'
 - b. *ùgbémwèn òré Òkútá gbé úkpù guó!ghò
nom-hit-nom Foc stone hit cup break
 - c. *ùguóghómwèn òré Òkútá gbé úkpù guó!ghò
nom-break-nom Foc stone hit cup break
 - d. *ùgbéguóghómwèn òré Òkútá gbé úkpù guó!ghò
nom-hit-break-nom Foc stone hit cup break

According to (39), it is ungrammaticality to cleft any of the verbs separately (39b,c) or both verbs together (39d) in the resultative SVC. In fact, there are no such morphological compounds in Èdó of the form V-V as in Yoruba, i.e., V-V compounds are not licensed at a morphological level in Èdó: *[V1-V2].

I propose that this basic difference between Èdó from Yoruba carries-over to the predicate cleft construction (and also to the possibility of verb movement as I will show in Chapter six). This morphological difference between Èdó and Yoruba with respect to V-V compounds has interesting consequences for Ìgbo where almost exceptionlessly Èdó resultative SVCs translate as V-V compounds (Chapter five for discussion). This discussion provides a window of opportunity for me to comment directly on an observation by R-M Déchaine (p.c.) that the fact that Yoruba allows V-V clefting with resultative SVCs incorrectly predicts that Yoruba should also permit resultative V-V compounds like Ìgbo. Under my analysis, this prediction can only be true for Yoruba if it can be shown that there is a Tense head that attracts, i.e., a head above the VP that triggers V-V raising, and this is contrary to fact (see Chapter six for discussion).

3.5.2. Consequential SVCs and CCs

In consequential SVCs where there are two EP projections and two event quantifiers, we expect that predicate cleft of either of the verbs will be possible since each event argument would be properly licensed in the relevant Specifier. Adopting the same strategy as the one used for resultative SVCs, let us first examine the process of predicate cleft with two transitive verbs in a simple clause:

- (40) a. Òzó lé èvbàré
 Ozo cook food
 'Ozo cooked the food.'
- b. ùlémwèn òré Òzó lé èvbàré
 nom-cook-nom Foc Ozo cook food
 'It is cooking that Ozo did to the food, not shredding.'

- (41) a. Òzó rí èvbàré
Ozo eat food
'Ozo ate the food.'
- b. ùrémwèn òré Òzó rí èvbàré
nom-eat-nom Foc Ozo eat food
'It is eating that Ozo did to the food, not selling.'

From the data in (40) and (41), we observe that the transitive verbs *lé* 'cook' and *ré* 'eat' can each undergo predicate clefts. This implies that they both can license event arguments. Now, let us examine predicate clefts with transitive verbs from both consequential SVC and CC:

consequential SVCs

- (42) a. Òzó lé èvbàré ré
Ozo cook food eat
'Ozo cooked the food and ate it.'
- b. ùlémwèn òré Òzó lé èvbàré ré
nom-cook-nom Foc. Ozo cook food eat
'It is cooking that Ozo cooked the food and ate, (not shred it).'
- c. ùrémwèn òré Òzó lé èvbàré ré
nom-eat-nom Foc. Ozo cook food eat
'It is eating that Ozo cooked the food (and ate it), (not sell it).'
- (43) a. Òzó dé èmà kpèé
Ozo buy drum beat
'Ozo bought the drum and played it.'
- b. ùdémwèn òré Òzó dé èmà kpé!é
nom-buy-nom Foc. Ozo buy drum beat
'It is buying that Ozo bought the drum and played it, (it was not a gift).'
- c. ùkpéémwèn òré Òzó dé èmà kpé!é
nom-beat-nom Foc. Ozo buy drum beat
'It is playing that Ozo bought the drum (and played it) (not give it away).'

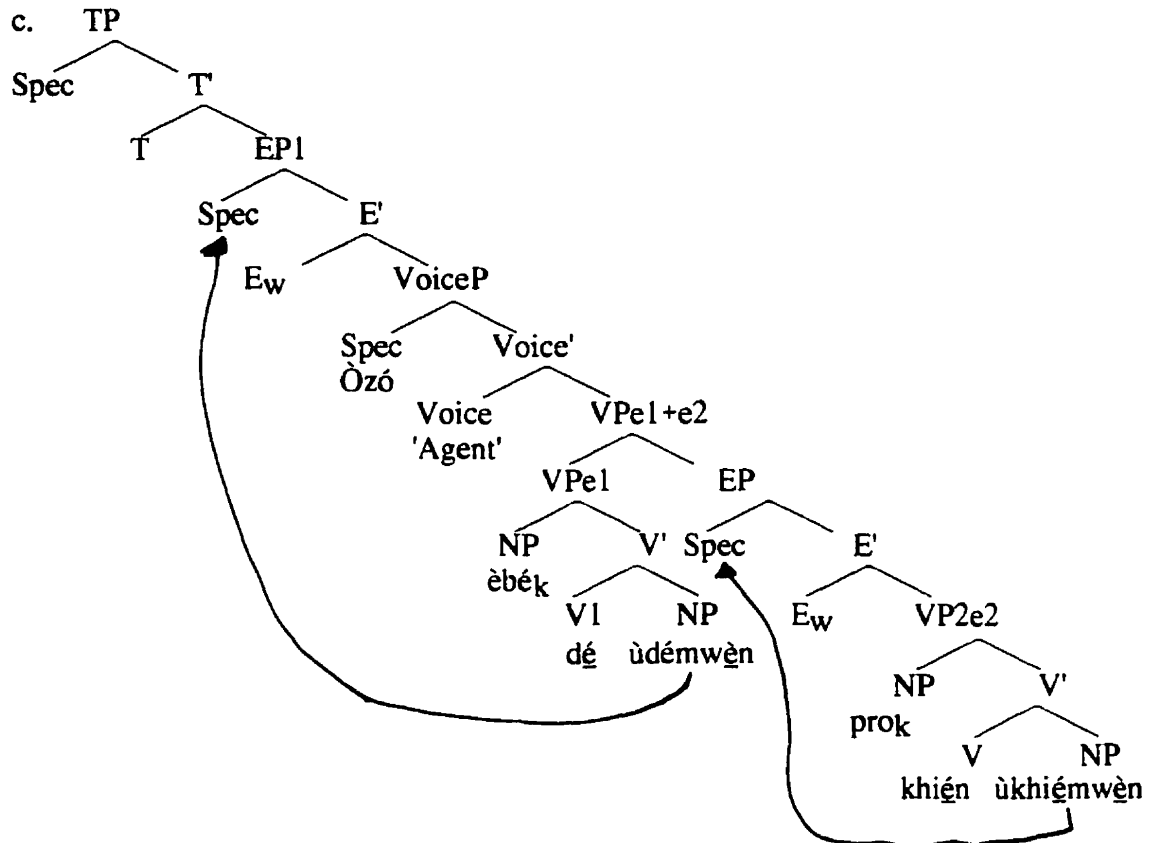
CCs

- (44) a. Òzó gbòó ívìn bòló ókà
Ozo plant coconut peel corn
'Ozo planted coconut and peeled corn.'
- b. ùgbóómwèn òré Òzó gbó!ó ívìn bòló ókà
nom-plant-nom cop. Ozo plant coconut peel corn
'It is planting that Ozo planted coconut and peel corn.'

- c. ùbó!ómwèn òré Òzó gbó!ó ívìn bó!ló ókà
 nom-peel-nom cop. Ozo plant coconut peel corn
 'It is peeling that Ozo planted coconut and peeled the corn, (not slice it).'
- (45) a. Òzó lé èvbàré rí órè
 Ozo cook food eat it
 'Ozo cooked the food and ate it.'
- b. ùlémwèn òré Òzó lé èvbàré rí órè
 nom-cook-nom Foc. Ozo cook food eat it
 'It is cooking that Ozo cooked the food and he ate it, (not shred it).'
- c. ùrémwèn òré Òzó lé èvbàré rí órè
 nom-eat-nom Foc. Ozo cook food eat it
 'It is eating that Ozo cooked the food (and ate it), (not sell it).'

Unlike in the resultative SVC, in these examples there are two separate EP projections which, according to my analysis, implies that the nominal argument of the event of each verb can be potentially licensed in its own Spec EP, and, therefore, predicate cleft is acceptable. However, there appears to be a paradox with the higher EP in consequential SVC since in this case it can have restricted function to only the event argument of the first verb. This behavior is, in fact, consistent with the semantic representation of the consequential SVC in (46b) and the corresponding syntactic structure in (46c):

- (46) a. Òzó dé èbé khién
 Ozo buy book sell
 'Ozo bought a book and sold it'
- b. The consequential SVC
 $\exists E (\exists e_2 \exists e_1 [\text{Buying}(e_1) \ \& \ \text{Agt}(e_1, \text{Ozo}) \ \& \ \text{Th}(e_1, \text{èbé})]$
 $\& [\text{Selling}(e_2) \ \& \ \text{Agt}(e_2, \text{Ozo}) \ \& \ \text{Th}(e_2, \text{èbé})]$
 $\& [E \text{ 'consists of' } (e_1, e_2)]]]$



The simplest illustration of the semantic and syntactic representations comes from the prediction that cognate objects are possible in consequential SVC, unlike the resultative SVC, since there are two events that are connected. The relevant data is given in (47) and (48):

- (47) a. Òzó lé èvbàré (ùlémwèn) ré
Ozo cook food (nom-cook-nom) eat
'Ozo cooked the food (a cooking) and ate it.'
- b. Òzó lé èvbàré ré (ùrémwèn)
Ozo cook food eat (nom-cook-nom)
'Ozo cooked the food and ate it (a eating).'
- c. Òzó lé èvbàré (ùlémwèn) ré (ùrémwèn)
Ozo cook food (nom-cook-nom) eat (nom-cook-nom)
'Ozo cooked the food (a cooking) and ate it (a eating).'
- (48) a. Òzó dé èmà (ùdémwèn) kpée
Ozo buy drum (nom-buy-nom) beat
'Ozo bought the drum and played it.'

- b. Òzọ ǵẹ ẹ̀mà kpèé (ùkpéémwèn)
 Ozo buy drum beat nom-beat-nom
 'Ozo bought the drum and played it.'
- c. Òzọ ǵẹ ẹ̀mà (ùǵémwèn) kpèé ùkpéémwèn
 Ozo buy drum nom-buy-nom beat nom-beat-nom
 'Ozo bought the drum and played it.'

The grammaticality of these sentences compared with the ungrammatical resultative SVC (35)-(36) provides confirming evidence for the proposal that there are two events in the consequential SVC whose nominalizations can be licensed separately in the relevant EP. I assume that the higher E head attracts only the first verb at LF in this case because there is a separate E head before the second verb and it counts as the closest operator that would license the event argument of the first verb. Therefore, predicate cleft is licensed by the closest E head that does the attracting. This is represented in the simplified structure in (46c) where the LF raising of the verbs and their event arguments are illustrated by the arrows.²³

However, in Yoruba where V-V compounding is tolerated, it has been observed that the two verbs can also raise to the head of the first EP in predicate cleft from consequential SVCs.²⁴ According to my analysis, this can be derived from the scope of the higher E node in the consequential SVC because it existentially quantifies over the events denoted by both verbs and so it attracts both verbs at LF as illustrated in (48) and (49):

- (48) a. Bólá sẹ ẹ̀ran tà
 Bola cook meat sell
 'Bola cooked the meat and sold it.'

²³ This structure is also simplified in terms of getting the first verb before the object. This is derived by the same binding chain between the top verb and empty verb that is illustrated in the resultative SVC structure.

²⁴ There are a lot of things unclear about the Yoruba data. For example, a striking fact that is very often never translated into the commonly cited data is that it is possible for a clitic *Ó* to occur before the second verb in the predicate cleft of a sentence like (47);

sí-sẹ̀-tà ni Bólá sẹ ẹ̀ran Ó tá
 nom-cook-sell that Bola cook clitic sell

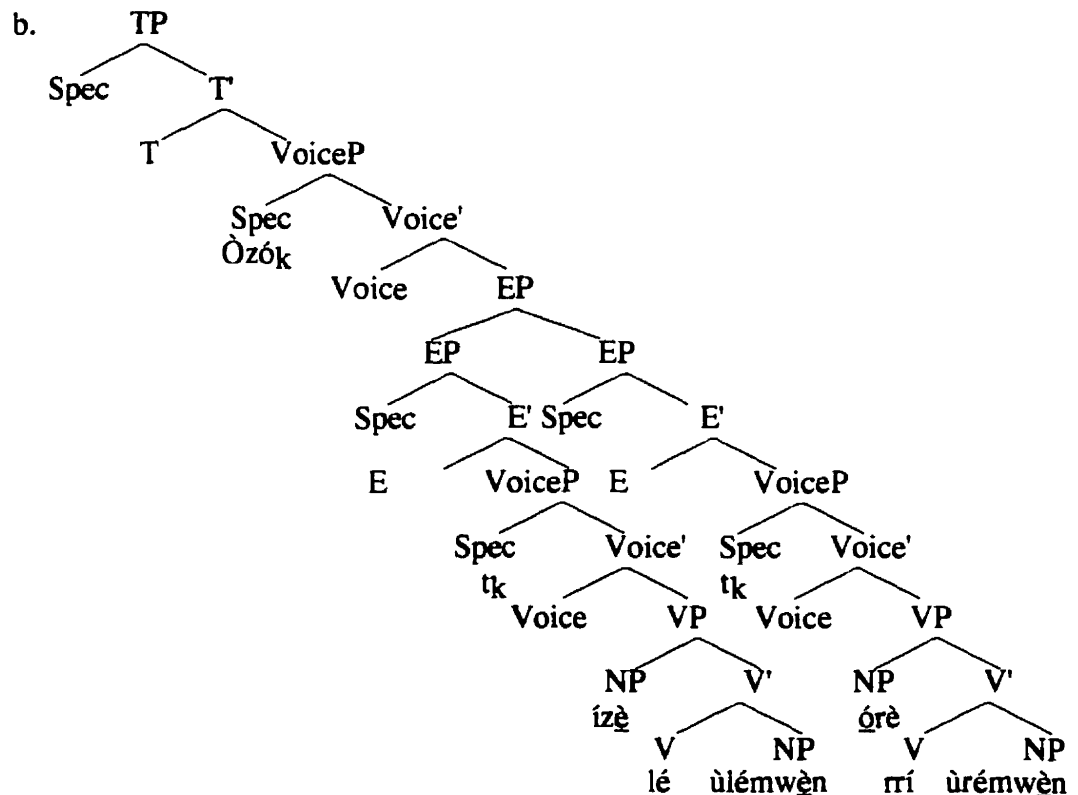
'It was cook and sell that Bola cooked that meat and he sold (it)'

also see footnote (25) for more observations concerning Yoruba predicate cleft.

predicate cleft involves clefting of verb + object + other modifiers (adverb, adjective)). Yet, it stands to reason that whichever way the actual mechanism that is responsible for this difference is stated, it should be such that we can derive the fact that whereas Yoruba permits units of V, V-V and VP to be clefted, Èdó only allows a single V to be clefted (V-V and VP are both ruled out). I will leave these issues open for future research.

Turning now to CCs (44) and (45), we notice, like in the consequential SVCs, that it is grammatical to have the predicate cleft of either of the verbs. According to my analysis, this is possible because each event is independently quantified over by the head of distinct EPs. This is consistent with the semantic representation of CCs given in (50a) and the corresponding syntactic structure (50b) for a sentence like (45).

- (50) a. covert coordination
 ($\exists e1$)[Planting($e1$) & Agt($e1$, Ozo) & Th($e1$, coconut)] &
 ($\exists e2$)[Peeling($e2$) & Agt($e2$, Ozo) & Th($e2$, corn)].



Based on the structure in (50b), it is possible to predicate cleft either of the two verbs because there are two parallel projections of EP where the nominal realization of the event of each verb can be properly licensed. Unlike the consequential SVC, it is not possible to cleft both verbs in CCs in Yoruba. Thus, there is a clear distinction between SVCs and CCs that can be derived from the difference in the nature of event quantification associated with each E head.

3.6 Conclusion

In conclusion, the results from predicate cleft in SVCs are consistent with those from adverb and PP placements: there are two major kinds of SVC that can be distinguished on the basis of the difference in the projection of EP. A resultative SVC has one EP projection, while the consequential SVC has two projections of EP. This functional projection, according to the predicate cleft test, is compatible with the nature of event composition and quantification: resultatives express a single-event and hence one projection of EP while consequential SVCs express two (connected) event with two asymmetrical EP projections. CCs are like consequential SVCs because they contain two EP projections and there are two events, however the relationship between the functional projection in CCs is a symmetrical one and so while it is possible to cleft both verbs together or individually in consequential SVC, CCs allow only individual clefting. In this regard, resultative SVCs are typically different, they either uniformly do not allow clefting or where possible the two verbs must be clefted together. All of these differences correlate with the scope properties of the head of the functional projection EP, and they define the event quantifications realized by predicate cleft.

Chapter Four

Double Objects and Object sharing SVCs

4.1 Introduction

In the last two chapters, I discussed two general syntactic tests (adverb placement and predicate clefting) that were used to motivate the distinction between resultative and consequential SVCs, as well as CCs. However, there are several important similarities between resultative and consequential SVCs that are worth emphasizing. First, the facts from I-type adverb and predicate clefts show that in both resultative and consequential SVCs a single E operator can have scope over both (sub)-events defined by the two verbs. This is true in spite of the fact that there is a sense in which the events denoted by the verbs in the consequential SVC are less sub-atomic than those in the resultative SVC. Second, both resultative and consequential SVCs appear to be similar in that they have a single Agent (that is introduced by a single voice head), there being no evidence for SVC-internal null subject. Finally, the verbs in both resultative and consequential SVCs are involved in some kind of 'object sharing' although, this sharing has been shown to be mediated by an empty category *pro* in consequential but not in resultative.

Against this background, this chapter presents evidence based on the possibilities of double objects in Èdó that will further confirm the distinction between resultative and consequential SVCs. In particular, I will illustrate how double object constructions provide a strong argument against a unified analysis of both resultative and consequential SVC, such as that of Baker (1989, 1991). In addition, I will consider some of the general constraints on object sharing in SVCs as well as examine the double object constructions in a wider context. For example, I will argue for an analysis in which double object constructions (DOCs) are a kind of resultative construction having similar event structure as resultative SVCs. Furthermore, I will propose an analysis that distinguishes between underlying and derived objects.

4.2 SVCs and Double Objects Constructions (DOCs)

In this section, I provide evidence that further validates my analysis of SVCs, in particular the distinction between resultative and consequential SVCs. This is based on the examination of novel data from double objects in SVCs. I will argue for an analysis of double objects where the Indirect object (goal) is in Spec of AspP (cf. Travis 1991, Baker 1997 etc.) while the Direct object (theme) occupies the Specifier of VP.¹ Let us begin then with an introduction to double object constructions (DOCs) in Èdó in order to present the analysis and its interaction with SVCs.

4.2.1 DOCs and the Associative Construction

Simple triadic verbs in several Kwa languages are few and somewhat complicated, but those given in (1) from Èdó will suffice:²

- (1) a. Òzó hàé úyì íghó
 Ozo pay Uyi money
 'Ozo paid Uyi some money.'
- b. úyì màá ìsòkèn èbé
 Uyi show Isoken book
 'Uyi showed Isoken the book.'

These are like English DOCs which seem semantically to imply a null preposition 'to' between the objects and so for example (1a) has a reading in which Ozo paid money to Uyi, where *Uyi* is the goal (recipient) and *íghó* is the theme. However, there are other DOCs which have an adversative interpretation in which there seems to be a null 'from' preposition between the double objects. For example, the Èdó equivalent of the verb "give"

¹ In the framework developed in Travis (1991) and adopted by (1997), there is a distinction between Inner and Outer aspect. Therefore, Aspect is mostly a separate projection from E. However, in my analysis the top E (first E) can be compared to an Outer Aspect, while Inner Aspect is distinctly the projection that hosts the Indirect object (goal) of a double object construction.

² In Igbo, the double object construction is very often the environment where one will find the applicative suffix on the verb, while the double object construction has been observed to be entirely absent in Yoruba (cf. Manfredi 1991, V.Carstens p.c.). See also Saah and Eze (1997) for discussion of asymmetries between Akan and Igbo DOCs.

is not a simple verb since it consists of a verb "rhie" and some kind of dative particle "na", each of which has an object after it. This is illustrated in (2):

- (2) a. Òzó rhié íghó nè úyì
 Ozo take money to Uyi
 'Ozo gave the money to Uyi'
- b. Òzó rhié úyì íghó
 Ozo take Uyi money
 '#Ozo gave Uyi money'
 '√Ozo took Uyi's money'

An analysis of DOCs such as Larson (1988) would predict that (2b) is derived from (2a) on a par with the analysis of the ditransitive verb 'give' in English. However, this is not quite the case with these Èdó example in (2). In (2a), we observe that the theme object *íghó* is also the direct object of the verb *rhié*, while the goal object is the oblique object of the dative particle *nè*. However, in (2b) where we attempt to derive a double object construction from (2a) by moving the indirect object to the immediate position after the verb, and omitting the preposition, we observe that the resulting double object sentence has a completely different meaning from the one expected in a language like English on a par with those in (1), i.e., Ozo gave Uyi's money. Rather, (2b) now has a source/ adversative reading; Ozo took Uyi's money or Ozo took money from Uyi. I propose that what has happened here is that the verb 'give' is expressed as a complex verb in Èdó made up of the verb *rhié* 'take' and the particle 'ne' and the prepositional particle cannot be incorporated into the verb as argued for in Larson (1988). Thus, there is no simple verb 'give' in Èdó, rather it is a complex verb whose parts cannot be omitted and so it cannot license double objects like its English counterpart. The interesting thing that this discussion raises is the fact that (2b) is actually related in meaning to what is known as the Associative construction (somewhat like the construct-state construction) (Agheyisi 1990).

The Associative Construction is commonly found in several Kwa and Bantu languages (cf. Schaefer 1997, Hyman 1996 etc.). It involves the putting together of two

nouns in an ordered semantic relation of possessed-possessor (alienable, inalienable), to create a single phonological and syntactic domain. This is illustrated by the derivations in (3) in which HT stands for a floating high tone that is characteristic of this construction.³

(3)	<u>possessed NP</u>		<u>Associative tone</u>		<u>Possessor NP</u>	=	<u>Associative Construction</u>
a.	èbé 'book'	+	´ (HT)	+	úyì	=	èbú!yì 'Uyi's book'
b.	òwè 'leg'	+	´ (HT)	+	Òtà	=	òwó!tà 'Ota's leg'
c.	òsé 'beauty'	+	´ (HT)	+	ékítà 'dog'	=	òsé!kítà 'dog's beauty'
d.	ìhién 'finger'	+	´ (HT)	+	àdésúwà	=	ìhián!désúwà 'A's finger'

In simple descriptive terms, what happens in the Associative construction as illustrated in (3) is that two lexical NPs are joined together by a construction high tone. Thus, the two NPs become one phonological unit as well as one syntactic constituent. The possessed NP is always on the left while the possessor occurs on the right. For example, in (3b) the possessed NP *òwè* 'leg' is associated semantically with a possessor NP *Òtà* via the associative high tone.

The evidence for the phonological unit comes from the delinking of the tone of the final syllable in the possessed NP, coupled with the elision of the tone bearing segment. The initial vowel of the possessor NP replaces the final vowel of the possessed NP and thereafter the associative high tone spreads to the left displacing the lexical tone on the final syllable of the possessed NP. This delinking of an autosegment creates a floating tone which is realized as a downdrift within the derived word represented orthographically by an exclamation mark (by convention).

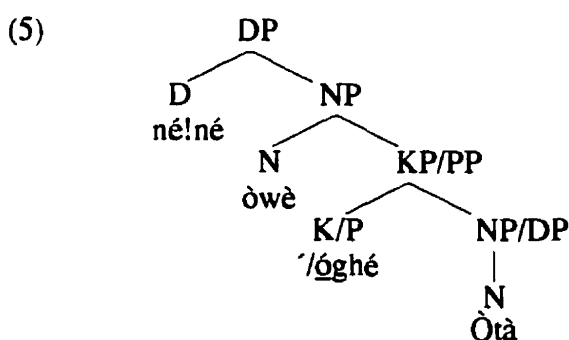
This phonological analysis of the associative construction as a constituent is supported by two pieces of evidence from syntax. First, observe that the derived NP

³ Agheyisi (1986, 1990) suggests that the source of this high tone is the genitive marker 'óghé' which is like the English 'of' insertion in complex NPs, although the Èdó 'óghé' may sometimes have a partitive reading.

constituent can be determined as a whole and when it is separated the second noun is introduced by a preposition head. Consider the following:

- (4) a. né!né òwó!tà bígò!ó
 The Ota's leg be-bent
 'The (particular) Ota's legs are bent'
- b. né!né òwè óghé né!né Òtà
 the leg genitive the Ota
 'The (particular) leg of (a specific) Ota'

In (4a), we observe that the associative construction can be a DP since the NP contained therein can be determined by the definite article *né!né* 'the' (cf. Omoruyi 1987). This contrasts minimally with (4b), where we find that it is possible for each noun to have a determiner when they are linked by an overt genitive marker *óghé* 'of'. Consequently, on the basis of the data in (4), I propose a structure for the associative construction in which the possessed NP plus construction tone and possessor NP form an NP, and this NP can be a complement of a Det head. This is illustrated in (5) for a sentence like (4a).



The second syntactic evidence for treating the associative construction as a single DP is based on the fact that it behaves as a syntactic constituent in terms of movement. Consider the following;

- (6) a. Òzò tá wèé òwó!tà bígòó
 Ozo say that Ota's leg be-bent
 'Ozo said that Ota's leg is bent'

- b. Dè èmwín nè Òzó tá wèé ó bigòó
Q thing that Ozo say that it be-bent
'What did Ozo say that is bent'
- c. òwó!tà òré Òzó tá wèé ó bigòó
Ota's leg Foc. Ozo say that it be-bent
'It is Ota's leg that Ozo said that is bent'
- d. *òwè! òré Òzó tá wèé Òtà bigòó
leg Foc. Ozo say that Ota be-bent
- e. Òtà òré Òzó tá wèé òwè ère bigòó
Ota Foc. Ozo say that leg his be-bent
'It is Ota that Ozo said that his leg got bent'.

What these simple movement illustrations suggest are as follows: In (6b), we observe that it is possible to question the entire DP involved in the associative construction by wh-movement. The presence of a subject resumptive pronoun ó also provides evidence that we are dealing with a DP projection (see section 4.3.2 below for more on resumptive pronouns). Similarly, the NP-movement by focus cleft in (6c) shows that the associative construction as a whole is a constituent. These facts are consistent with the standard assumption that only constituents can be wh-moved. In (6d) we note that it is ungrammatical to move the head of the constituent which by itself is not an NP, but in contrast observe that the possessor NP/DP can move (6e) and a resumptive also shows up in the position from which it has moved. Therefore, I conclude that the associative construction is a DP with a structure like the one in (5).

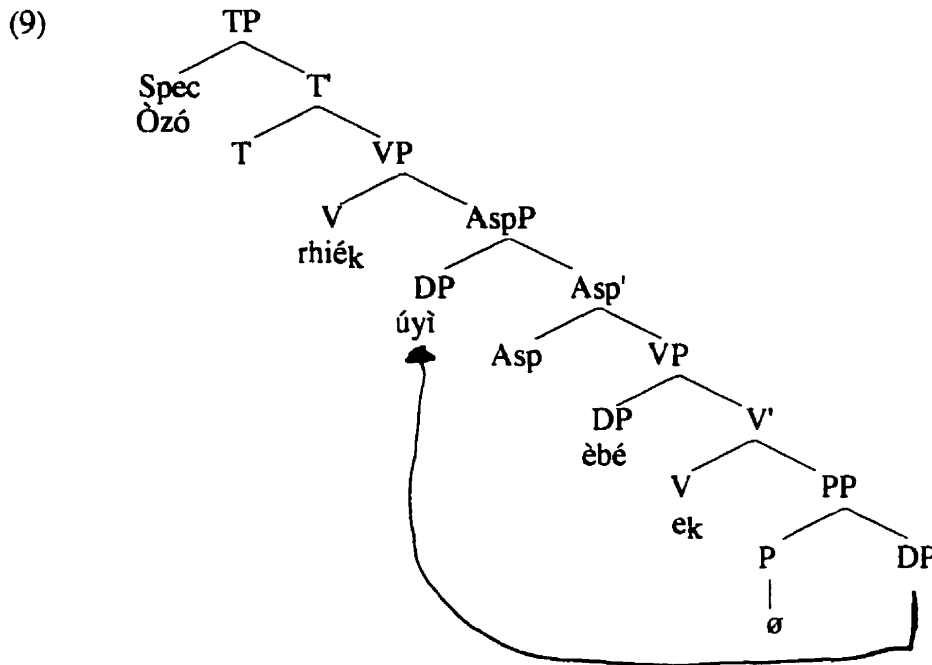
Now that we have discussed the associative construction, we are in a position to re-examine the meaning of the double object sentence in (2b). Consider the following examples where (2b) is repeated as (7b).

- (7) a. Òzó rhié èbú!yì 'Associative Construction'
Ozo take book of Uyi
'Ozo took Uyi's book'
- b. Òzó rhié úyì èbé 'DOC'
Ozo take Uyi book
'Ozo took the book of Uyi'

- (8) a Òzò guòghó òwú!zò 'Associative Construction'
 Ozo break leg antelope
 'Ozo broke the antelope's leg'
- b. Òzò guòghó úzò òwè 'DOC'
 Ozo break antelope leg
 'Ozo broke the leg of the antelope'

In these sentences (7) and (8), we notice that there is a systematic alternation between the Associative Construction ((a) sentences) and surface double object constructions ((b) sentences). Based on what we know about the Associative Construction, it is easy to see that there are tonal contrasts between the (a) and (b) sentences apart from the apparent word order variations. Significantly, in the double object construction version there is no floating high tone which is the associating tone link between the nouns in the (a) sentences. I take this difference in tone to be a signal of a difference in syntactic structure as well. Thus, I propose that the (b) sentences involve a sequence of NPs rather than one single projection of DP as in the (a) sentences. Furthermore, (2b) is simply a double object construction which derives from a comparable underlying structure to the one in (5), and this illustrates the sentence in (7a)

I propose an analysis of double objects derived from the associative construction based on Travis (1991) whereby the derived object (indirect (possessor) NP) occupies the Specifier of a functional projection, AspP. Furthermore, I also assume an analysis parallel to that of double objects derived from dative and locative alternations in Baker (1997) whereby the source (goal) object undergoes NP-movement to AspP in the syntax after P-incorporation (of the null preposition head) has taken place. Therefore, double objects are derived from associative constructions by moving the possessor NP out of a DP to the Specifier of AspP. According to Travis (1991), AspP (i.e., Inner Aspect) occurs between Larson's (1988) VP-shells, as such the structure of double objects that is derived from the associative construction is given in (9). (I omit VoiceP for ease of exposition.)



According to the structure in (9), the AspP projection splits Larson's (1988) VP-shells but I assume that the verb is base-generated in the top verb position from where it binds the lower empty verb.⁴ Furthermore, I propose that the null preposition implies something like "from" which is the corresponding version of the dative "to" in English (cf. Larson 1988). Subsequently, the floating associative high tone deletes by an operation similar to P-incorporation, or alternatively it could be just never inserted. The end result is a structure where the (possessed) object NP is left behind in the DP of the Specifier of the lower VP and thus creates a DOC on the surface.⁵

⁴ As pointed out by R-M Déchaine (p.c.), the fact that the assumption that V is base-generated in the top V position does not follow from the more general claim that there is never V-movement in Èdó. In fact, I do admit that V-to-T movement is distinct from so-called short verb movement, i.e., V-to-V raising. However, I propose that both movements are different and thus triggered by very different principles. Therefore, V-to-V movement could also be a case of head movement, but according to my theory it is not triggered by attract and so it is not relevant to the issue of the serial verb parameter. Consequently, I will continue to assume that V is base-generated in the top V position and especially so since there is no evidence in support of V-to-V movement in Èdó or V-movement within the VP.

⁵ Direct evidence against a possessor raising analysis for DOCs derived from associative construction comes from sentences of the kind in (i)

(i) Òzó rhié àdésúwà èbé úyì
 Ozo take Adesuwa book Uyi
 'Ozo took from Adesuwa Uyi's book'

We can verify this analysis immediately by using the movement test to show the difference between associative construction and the DOC.

- (10) a. Òzó guòghó úzò òwè
 Ozo break leg antelope
 'Ozo broke the leg of the antelope.'
- b. Dè èmwín nè Òzó guòghó órè òwè
 Q thing that Ozo break it leg
 'What did Ozo broke its the leg.'
- c. òwè òré Òzó guòghó úzò
 leg Foc. Ozo break antelope
 'Its a leg that Ozo broke of the antelope.'

According to the data above, it is possible to move either of the NPs from the sentence in (10a) by wh-movement (10b) or similar movement in focus cleft (10c) in contrast to (6). Therefore, I conclude that the NPs in (10a) must be separate constituents in the derived structure, of the form [NP V NP1 NP2].⁶

4.2.2 DOCs in Resultative and Consequential SVCs

This section discusses the asymmetry between resultative and consequential SVCs with respect to double objects derived from the associative construction. The contrast is illustrated in the following sentences:

- (11) a. úyì sùá Òzó èwé (DOC)
 Uyi push Ozo goat
 'Uyi pushed Ozo's goat.'
- b. *úyì sùá Òzó èwé dé (resultative)
 Uyi push Ozo child fall
 'Uyi pushed Ozo's child down.'

It is evident that Adesuwa is not the possessor of the theme NP 'Uyi's book' and so the DOC could not have arisen from possessor raising, and this is compatible with the analysis I have proposed. In fact, a possessor raising account predicts the sentence in (ii)

- (ii) *Òzó rhié èbé úyì àdésúwà
 Ozo take book Uyi Adesuwa

However (ii) is ungrammatical and this is evidence, therefore, against a possessor raising analysis of the DOCs.

⁶ I defer discussion of the clitics that show up in the extraction site of the indirect object till section 4.3.2.

- c. Òzọ gbé Àdésúwà é má!tón (DOC)
 Ozo hit Adesuwa metal
 'Ozo hit Adesuwa's metal.'
- d. *Òzọ gbé Àdésúwà é má!tón pèrhé (resultative)
 Ozo hit Adesuwa metal be-flat
 Ozo hit Adesuwa's metal flat.'
- (12) a. úyì vbó òkhó!khó ìgàn (DOC)
 Uyi pluck chicken feather
 'Ozo plucked the chicken's feather.'
- b. úyì vbó òkhó!khó ìgàn khién (consequential)
 Uyi pluck chicken feather sell
 'Ozo plucked the chicken's feather and sold it.'
- c. úyì kòkó Àdésúwà ùpkòn (DOC)
 Uyi gather Adesuwa cloth
 'Uyi gathered Adesuwa's cloth.'
- d. úyì kòkó Àdésúwà ùpkòn vió (consequential)
 Uyi gather Adesuwa cloth take
 'Uyi gathered Adesuwa's cloth and took them.'

This contrast that is illustrated by (11) and (12) is a remarkable one for the analysis of SVCs, in particular the distinction between resultative and consequential SVCs. What we observe is that it is ungrammatical to have double objects derived from the associative construction in a resultative SVC, while this is perfectly grammatical in the consequential SVC. There are two general issues arising from this contrast that I see as relevant to the goal of distinguishing between resultative and consequential SVCs: (a) How are double objects licensed in SVCs and what are the constraints? (b) What are the consequences for object sharing.

I begin with the first issue of how double objects are licensed in SVCs and the constraints on it. In order to present a clear discussion, I will first examine double objects in the resultative SVC. According to the data, the problem cannot be that it is because the first verb does not allow double objects, since it clearly does in simple clauses (11a,c). One possibility is to derive the ungrammaticality of double objects in resultative SVCs from the restriction on the second verb as an unaccusative since there are constraints on unaccusative verbs with respect to dative shift (cf. Baker 1992). However, based on the syntactic tests

from chapter two, we know that the object position is simultaneously licensed by both verbs--the object is the single internal NP argument of both verbs. Therefore, I suggest that whatever is responsible for the ungrammaticality must be something that is relevant to both verbs.

Against this background, I propose that the ungrammaticality of double objects is based on the general aspectual restriction that there can be only one delimiter in a clause. The idea is that the same aspectual restriction which rules out a second unaccusative verb from occurring in the resultative SVC also excludes other delimiter phrases-- including double objects, where one of the objects has often been analyzed as an event delimiter (Tenny 1987, Hoekstra 1992 etc.). Consider the following English examples:

- (13) a. John split a coconut [open]
 b. John split Mary a coconut.
 c. *John split Mary a coconut open.

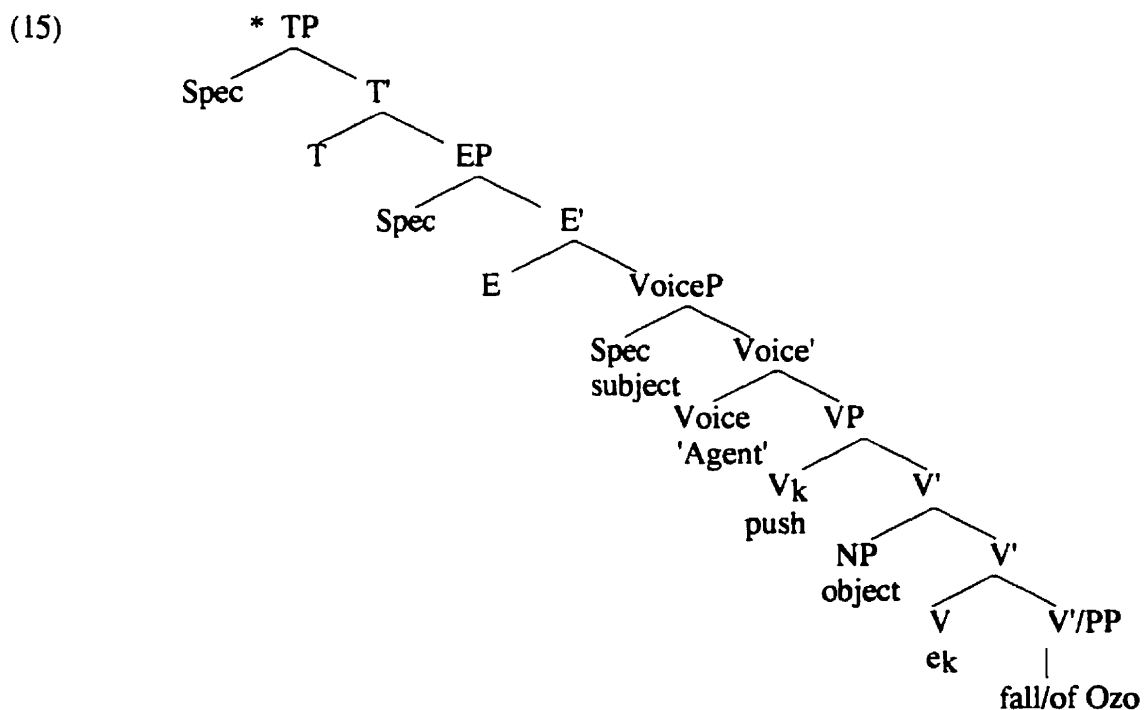
(13a) is an example of an AP-resultative in English, while (13b) is an example of a double object construction with the same verb as in (13a) and both sentences are grammatical. However, (13c) shows that it is ungrammatical to have double objects inside the resultative sentence. This paradigm is just like the resultative SVC in (11) in Èdó.

Therefore, it follows that the ungrammaticality of double objects should be derived from a general fact about resultative constructions. In section 2.8, I argued that the resultative SVC is a single event that can only be delimited once. (14) also show that the second object of the DOC is an event delimiter:

- (14) a. Òzọ gbé émá!tón là áwà ókpá
 Ozo hit metal for hour one
 'Ozo hit the metal for an hour.'
 b. *Òzọ gbé àdésúwà émá!tón là áwà ókpá
 Ozo hit Adesuwa metal for hour one
 'Ozo hit Adesuwa's metal for an hour.'

- c. *Òzò gbé é má!tón pèrhé là áwà ókpá)
 Ozo hit metal be-flat for hour one)
 'Ozo hit the metal flat for an hour.'

In (14a) the atelic activity verb can be modified by a temporal adverb 'for an hour', however as (14b) shows when there are double objects with the same verb the 'for an hour' temporal adverb is ungrammatical on a par with (14c). In (14c), a resultative SVC is incompatible with the same 'for an hour' temporal adverb. Therefore, I conclude that there is a single complement position in the resultative SVC which may either be filled by the unaccusative second verb, or in the case of the DOC the indirect object that starts out as a PP complement which is in a canonical delimiter position, as in (9). Thus the ungrammaticality of the DOC in resultatives come from a competition for the single delimiter (complement) position between the unaccusative second verb and the PP which contains the indirect object. This is illustrated in (15).



The other side of the question that I am discussing is the issue of possible constraints on the licensing of double objects in the consequential SVC. Recall the discussion of the fact in section 2.8 that there are no aspectual restrictions on the

consequential SVC (but see Pi and Stewart 1998). Thus, unlike the resultative SVC, stacking of verbs of the right kind is allowed in the consequential SVC. Similarly, the possibility of double objects in the consequential SVC (12b,d) implies that it has a structure that is less tight than the resultative. Since the second verb projection is not generated in the complement position, it is not incompatible with a DOC. According to my analysis of the DOC, the AspP projection occurs between the upper verb and the base-generated verb position that it binds. At this point, we are faced with two theoretical issues: are there two separate AspPs for each VP, and which of these objects is involved in object sharing? I will address each of these questions in turn.

The positioning of manner adverb in a consequential SVC with double objects can help to tell us whether there are two projections of AspP. This is based on the fact that the placement of an N-type adverb should correspond to the presence of a VP boundary since it is licensed as a right-adjunct to the VP.⁷ Furthermore, the position of the I-type adverb should provide evidence for a functional projection. These predictions are illustrated by the following sentences:

- (16) a. *úyì vbó òkhó!khó ègìégìé ìgàn khién
 Úyì pluck chicken quickly feather sell
- b. úyì vbó òkhó!khó ìgàn ègìégìé khién
 Úyì pluck chicken feather quickly sell
 'Ozo plucked the chicken's feather quickly and sold it.'
- c. *úyì vbó òkhó!khó gíé!gíé ìgàn khién
 Úyì pluck chicken quickly feather sell
- d. úyì vbó òkhó!khó ìgàn gíé!gíé khién
 Úyì pluck chicken feather quickly sell
 'Ozo plucked the chicken's feather and quickly sold it.'

From the data in (16) we observe that neither the N-type nor the I-type adverb can occur between the two objects (16a,c). This implies that both objects are within the projection of

⁷ I ignore, at the moment, the earlier observation that N-adverb can also attach as right adjunct to EP since it has no immediate consequences for the analysis of DOCs.

the first verb, i.e., the first object does not constitute a VP along with the verb in a left-branching structure. The correct order of N-type adverb placement is after the second object (16b), and this implies that both objects constitute a VP along with the first verb. Furthermore, there is the expected fact based on the structure of the consequential SVC that the second EP adjoins to this VP containing the double objects and this is shown in (16d) where the I-type adverb occurs before the second verb, after the double objects. All of these are consistent with the proposal that there is an AspP projection in the extended projection of VP1 according to the analysis that I have assumed for double objects. However, adverb placement does not tell us about the internal structure of the second verb phrase.

In order to find out more about the internal structure of the second verb phrase, i.e., whether it contains another projection of AspP, I now turn my attention to the exact interpretation of the consequential SVC with double objects with respect to object sharing.

Consider the following:

- (17) a. $\acute{u}y\grave{i}$ $vb\acute{o}$ $\grave{o}kh\acute{o}!$ $kh\acute{o}$ $\grave{i}g\grave{a}n$
 Uyi pluck chicken feather
 'Ozo plucked feathers from the chicken.'
- b. $*\acute{u}y\grave{i}$ $vb\acute{o}$ $\grave{o}kh\acute{o}!$ $kh\acute{o}j$ $\grave{i}g\grave{a}n$ $khi\acute{e}n$ $proj$
 Uyi pluck chicken feather sell
 'Ozo plucked the chicken's feather and sold it (the chicken).'
- c. $\acute{u}y\grave{i}$ $vb\acute{o}$ $\grave{o}kh\acute{o}!$ $kh\acute{o}$ $\grave{i}g\grave{a}n_j$ $khi\acute{e}n$ $proj$
 Uyi pluck chicken feather sell
 'Ozo plucked the chicken's feather and sold it (the feather).'
- (18) a. $\acute{u}y\grave{i}$ $k\acute{o}k\acute{o}$ $\grave{A}d\acute{e}s\acute{u}w\grave{a}$ $\grave{u}pk\grave{o}n$
 Uyi gather Adesuwa cloth
 'Úyi gathered Adesuwa's cloth.'
- b. $*\acute{u}y\grave{i}$ $k\acute{o}k\acute{o}$ $\grave{A}d\acute{e}s\acute{u}w\grave{a}_j$ $\grave{u}pk\grave{o}n$ $m\acute{u}$ $proj$
 Uyi gather Adesuwa cloth carry
 'Úyi gathered Adesuwa's cloth and carried her.'
- c. $\acute{u}y\grave{i}$ $k\acute{o}k\acute{o}$ $\grave{A}d\acute{e}s\acute{u}w\grave{a}$ $\grave{u}pk\grave{o}n_j$ $m\acute{u}$ $proj$
 Uyi gather Adesuwa cloth carry
 'Úyi gathered Adesuwa's cloth and carried them (away).'

In the simple double object construction (17a) and (18a), the possessed NP is the theme while the possessor NP is typically a source. Now, when the DOC occurs in the first part of a consequential SVC, the source phrase cannot be understood as the shared object. This is evident from the ungrammaticality of the sentences (17b) and (18b) in which a coreference reading is intended between the null *pro* object of the second verb and the indirect object of the first verb. The ungrammaticality of this coreference implies that the indirect (goal or source) object is not the shared object.⁸ However, in (17c) and (18c) where the coreference is between the null *pro* and the theme direct object the sentences are perfectly grammatical. (Observe that in (18) I switched the second verb to *mú* (carry), this is to provide a fair chance for *Adésúwà* to be interpreted as the shared object since *vió* normally would only take plural count nouns, whereas *Uyi mu Adesuwa* is grammatical.)

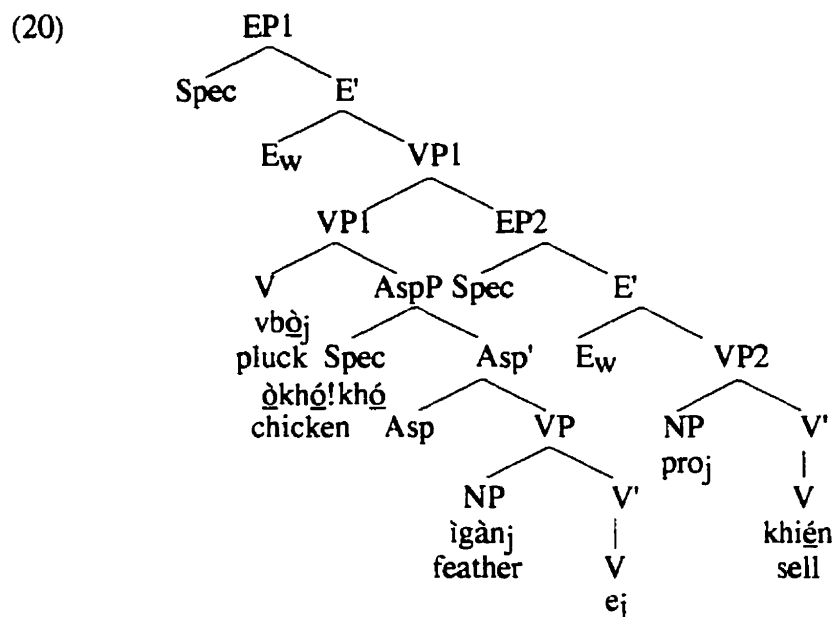
Consequently, I conclude that since the facts of object sharing are the same in both single and double object consequential SVCs namely, the (theme) direct object is always shared, therefore, there is no evidence for another functional projection in the second VP. This conclusion is illustrated clearly by the following contrast:

- (19) a. Òzọ́ mién ùkpònk kòkó pro_k
 Ozo see cloth gather
 'Ozo saw the clothes and gathered them.'
- b. *Òzọ́ mién ùkpònk kòkó àdésúwà pro_k
 Ozo see cloth gather Adesuwa

In (19a), the theme direct object is shared between the two verbs and the null *pro* is generated in the Specifier of VP2. However, (19b) is ungrammatical with the same coreference as (19a) because in this case the indirect object is present. This implies that there is no landing site for the source object in VP2 and so there is no (Inner) AspP

⁸ Collins (1997) makes a similar remark that the object of a preposition cannot be the shared object. See also Baker and Stewart (1997b) who demonstrate that no object apart from the (theme) direct object can be involved in object sharing.

projection in the projection of the second verb. The representation for (17c) is given in the simplified structure in (20) in which TP-VoiceP are omitted.



In these double objects, as with single object, consequential SVC I assume the same process of null *pro* licensing argued for in Baker and Stewart (1997b) that was alluded to in footnote (31) in section 2.5.2 of chapter two and repeated below for convenience.

- (21) Null *pro* licensing condition
pro is licensed in Edó if and only if;
 (i) it is governed by a verb, and (formal licensing)
 (ii) it is locally bound by an operator (identification of content)

In the structure in (20), the null *pro* object of the second verb is properly licensed because it is governed by the verb and also bound by the higher E operator. Accordingly, I claim that coreference is not possible between source and *pro* because *pro* is not properly licensed (see section 4.3.2). Thus, the facts of double objects reinforce the significant nature of the two E heads in the consequential SVC. Furthermore, we observe that the presence of the functional projection AspP in the first VP whose Specifier is occupied by the goal (indirect) object does not interrupt object sharing.

One interesting side remark about the structure of consequential SVC and double objects is that it provides evidence against a complementation-like analysis with c-command that can be used to establish the control (coreference) relation between the shared objects under an analysis like Collins (1997). This is based on the interaction of coreference between the double objects in the projection of VP1 with a pronoun or an anaphor contained in the VP2. Consider the following:

- (22) a. Òzó fián èwé èrhùnrhùnmwùn
 Ozo cut goat tail
 'Ozo cut the tail from the goat'
- b. Òzó_k fián èwé_j èrhùnrhùnmwùn_i rhié pro_i nè èrè_j/*_k ègbéré_k/*_j
 Ozo cut goat tail give it to him himself

Very simply, what the sentence in (22b) illustrates is that despite the fact that an anaphor embedded within a PP inside the VP2 can be bound by the subject (implying that the whole TP is one governing category) yet the same anaphor cannot be bound by the indirect object (goal) NP èwé (goat). This implies that the indirect object of VP1 does not c-command the prepositional object contained within VP2. Then, by the transitivity of c-command we infer that the (theme) direct object of VP1 also does not c-command the *pro* direct object of VP2. (see Baker and Stewart (1997b) for extensive discussion and illustration). Therefore, I conclude that the structure of the consequential SVC can only be like in (20) where VP2 is not contained in VP1.

We can verify the c-command relation between the two objects of VP1 based on some of the tests from Barss and Lasnik (1986) which show that the indirect object c-commands the direct object. Consider the following:

anaphor binding

- (23) a. Ì màá úyì ègbéré vbè ùghègbè
 I show Uyi himself in mirror
 'I showed Uyi himself in the mirror.'

- b. *Ì màá ègbéré úyì vbè ùghègbè
I show himself Uyi in mirror

each-the-other construction

- (24) a. Ì màá Íràn ùghúghán íbátà nókpá
I show them each shoe other
'I showed them each other's shoes.'
- b. *Ì màá íbátà nókpá Íràn ùghúghán
I show shoe other them each

negative polarity and pronoun coreference

- (25) a. Ọmó ròkpàj má rí èmà éréj
Child neg. Pol not eat yam his
'No childj ate hisj yam.'
- b. *íyé ọmó ròkpàj má bọọ éréj
mother child neg. Pol not comfort him

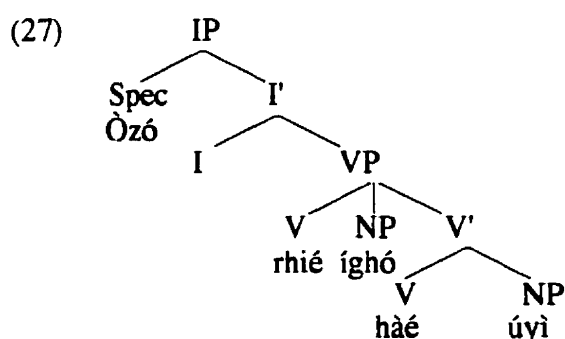
The (a) sentences show that there is c-command between the double objects, for example in (23a) the indirect object must linearly precede and c-command the direct object. Now, in the (b) sentences, where the order is either reversed (23b) and (24b) or more structure is introduced (25b) which violate the c-command condition, these sentences are ungrammatical. Thus, I conclude that there is c-command relation between the objects in the double object construction consistent with my analysis and structure, as in (20).

This analysis of the structure of the consequential SVC that is based on double objects and object sharing also provide a window of opportunity to re-examine certain claims of Baker (1989). In his study of the SVC, Baker (1989) observes that a phrase headed by a triadic verb such as 'give' can appear embedded within a projection of some other verb. When this happens, he argues, the theme argument of the three-place verb may appear as the object of the higher verb, but the goal object must always appear in the first (lowest) projection of the dative verb. Baker took this as evidence for a hierarchical relationship between the goal and the theme, consistent with the thematic hierarchy (cf. Larson 1988). The following Èdó sentences from Baker (1997) illustrates these claims:

- (26) a. Òzó [V_x rhié íghó [V_x hàé úyì]] (Baker = (61))
 Ozo take money pay Uyi
 'Ozo took money and paid it to Uyi'
- b. *Òzó [V_x guàlò úyì [V_x hàé íghó]]
 Ozo find Uyi pay money
 'Ozo found Uyi and paid him money'

According to Baker's analysis, in (26a) the object of the dative verb is assigned the internal theme roles of both the first verb *rhié* 'take' and the second verb *hàé* 'pay' and the theme argument is projected higher than the goal argument. This is consistent with the thematic hierarchy, and therefore grammatical. However, (26b) is ungrammatical because the goal argument of the second verb *hae* 'pay' c-commands the theme argument of the same verb, contrary to the thematic hierarchy. While much of Baker's observations and analysis are very insightful, it, most definitely can use some improvements. I will focus specifically on the facts from double objects.

First of all, the possibility of double objects show Baker's structure for the consequential SVC to be incorrect. As an illustration, his structure for (26a) is as in (27).



(27) is a doubly-headed VP structure in which the two verbs are co-heads of the same VP and the theme object c-commands the goal argument. However, this structure cannot accommodate the fact that double objects are possible before the second verb in the consequential SVC. For one thing, the structure is in most respects like that of the resultative SVC. Second, even if a second NP position could be accommodated before the

VP2, Baker would have to say that it is interpreted as an argument of the second verb. This is not correct. Finally, Baker necessarily predicts that all complements of the first verb should c-command any inner complements of the second verb; but (22b) shows this is false.

Apparently, Baker's structure is consistent only with the resultative SVC where there is in fact only a single object that is shared by the two verbs, not with the consequential SVC. Thus, his analysis has the same weakness as all others which fail to make the distinction amongst object sharing SVCs between resultative and consequential. The conclusion concerning double objects and object sharing is summarized in (28).

- (28) a. *[NP V1 NP1 NP2 V2] if it is a resultative SVC
 b. [NP V1 NP1_k NP2_j] [proj/*_k V2] if it is consequential SVC

According to my analysis (28a) is ruled out because both NP1 and V2 are delimiters which compete for the same unique inner complement position (see similar discussion of inherent complements in Igbo in chapter five). However, in the consequential SVC only the theme direct object can be shared but not the indirect object. Thus, resultative SVCs are similar to consequential SVC based on the fact that object sharing involves the theme direct object, although the underlying causes are somewhat different in the two cases.⁹

⁹ There is an interesting comparison with AP secondary predicates in English as shown in (i) and (ii)

(i) John_j gave Mary_k the meat [hungry]_j/*_k

(ii) John gave Mary_j the cup_k [empty]_k/*_j

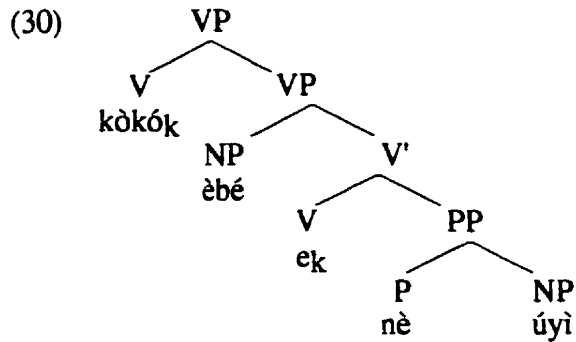
(i) and (ii) show that in the double object construction the depictive AP secondary predicate can be predicated of the subject but not the indirect object (i). In addition, the AP resultative secondary predicate can be predicated of the theme direct object but not the indirect object (ii). The similarity in direct object sharing that excludes the indirect object could be taken as evidence for analyzing depictives as adjuncts to VP or as evidence for a possible similarity between consequential SVCs and depictive secondary predicates which I will not pursue in this thesis. I will leave the issue open for further research but see chapter six for a unified analysis of both resultative AP and VP constructions.

4.2.3 More on DOCs and SVCs

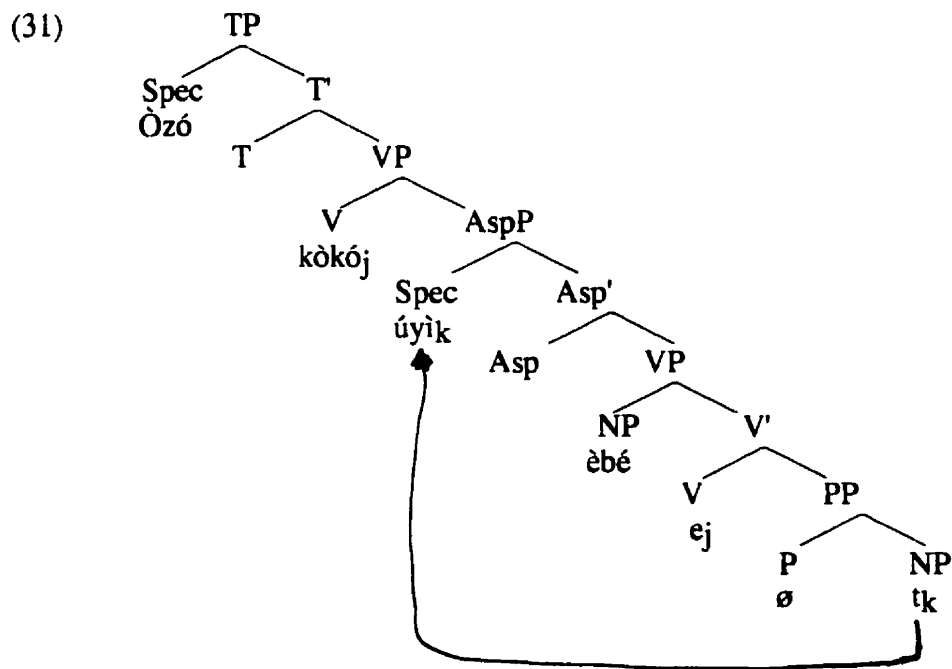
In section 4.2.1 above, I argued that DOCs are derived from associative constructions by moving the object of a null preposition that means "from" to the DP in AspP between VP-shells. In this section, I will illustrate one other source of double objects in which the null preposition has a benefactive meaning. I will argue that when this DOC occurs in SVCs, it obeys the same restriction described in (28): resultatives do not allow double delimiters like double objects while double objects are perfectly grammatical in consequential SVCs. (29) illustrates the benefactive goal construction:

- (29) a. Òzó guòghó é má!tón nè úyì
 Ozo break metal for Uyi
 'Ozo broke the metal for Uyi.'
- b. Òzó guòghó úyì é má!tón
 Ozo break Uyi metal
 'Ozo broke Uyi's metal.'
- c. Òzó kòkó èbé nè úyì
 Ozo gather book for Uyi
 'Ozo gathered the books for Uyi.'
- d. Òzó kòkó úyì èbé
 Ozo gather Uyi book
 'Ozo gathered Uyi's books.'

(29a,c) are examples of what I call the benefactive goal construction. Descriptively, it contains a transitive verb with its object and a PP, and inside the PP is the benefactive goal argument. I assume an underlying representation for these sentences as the one proposed for similar sentences in English in Larson (1988), without short verb raising. The simplified structure is given in (30) for a sentence like (29c) (for ease of exposition, I have not included AspP between the VP-shells since it is unfilled in this case).



It is clear from the data in (29b,d) that double objects can be derived from these underlying sentences. Here, as with double objects derived from the associative construction I assume an analysis based on Travis (1991) that the derived object moves into the Specifier of AspP that occurs between the VP-shells. Furthermore, based on Baker (1997) I assume that there is P-incorporation into the verb prior to NP-movement by the benefactive goal argument. Therefore, DOCs derived from benefactive goal construction like (29d) have the representation in (31) just as the double objects derived from source/possessor. (VoiceP is omitted)



As it turns out, there is a sharp contrast between the resultative and consequential SVCs when these double objects (29b,d) occur. Indeed, this same contrast is also evident when the underived sentences (29a,c) occur. These are illustrated in the following sentences:

- (32) a. *Òzó guòghó èmá!tón nè úyì pèrhé
Ozo break metal for Uyi be-flat
- b. *Òzó guòghó úyì èmá!tón pèrhé
Ozo break Uyi metal be-flat
- c. Òzó kòkó èbé nè úyì khién
Ozo gather book for Uyi sell
'Ozo gathered the books for Uyi and he (Ozo) sold it.'
- d. Òzó kòkó úyì èbé khién
Ozo gather úyì book sell
'Ozo gathered Uyi's books and sold them.'

(32a,b) illustrates the resultative SVC while (32c,d) are examples of the consequential SVC, and we observe that there is a grammaticality contrast both when there is a DOC and when there is underived NP PP order. For example, in (32a) the (benefactive) goal phrase occurs between the two verbs of the resultative SVC and the sentence is ungrammatical. I propose that the ungrammaticality of (32a) stems from the aspectual constraints on the resultative SVC in general which prevents double delimiters from occurring. This is based on my assumption that the (benefactive) goal phrase has already made the event denoted by the transitive verb into an accomplishment that requires no further endpoint. According to my analysis of the resultative SVC, the second verb is also a delimiter, therefore, based on the general condition that there should be only a single delimiter the sentence is ungrammatical. The two delimiters are in competition with one another, and structurally the ungrammaticality is consistent with the fact that both PP and V' need to be inner complements of the verb. We can confirm this fact based on the observation that (32a) becomes grammatical when one of the two delimiters is dropped. (29b) illustrate this fact by the dropping of the unaccusative verb and the DOC is grammatical, while (33) shows the same thing when the PP is dropped.

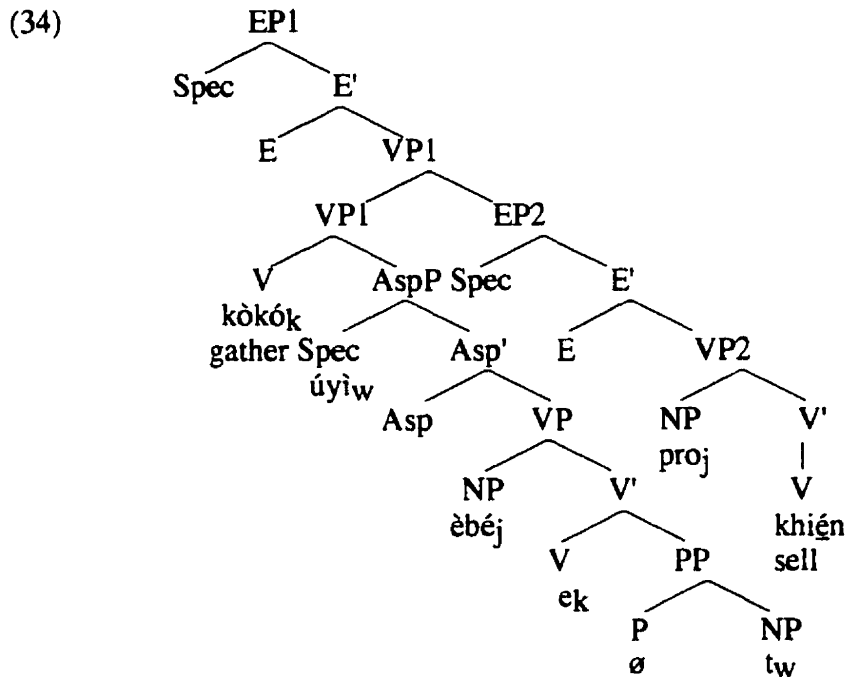
- (33) Òzò guòghó émá!tón pèrhé
 Ozo break metal be-flat
 'Ozo smashed the metal flat'

The ungrammaticality of (32a) and the explanation just offered carries the implication that double objects would be bad in the resultative SVC, again based on the observation that the first object in the DOC is a delimiter. This implication is borne out in (32b), where having double objects derived from the benefactive goal construction is ungrammatical. The conclusion from this sentence is as in the one before, there is structurally a single inner complement position in the resultative SVC.

Recall the fact that there are no similar aspectual limitations on the consequential SVC. In this case, the second VP is not an event delimiter, so the issue of double delimitation does not arise. Accordingly, in (32c), the (benefactive) goal phrase that is the object of a PP occurs between the two verbs of the consequential SVC and the expected object sharing reading holds of the (theme) direct object of the transitive verbs (but not of the object of PP). This is consistent with the observation above that only the (theme) direct object can be shared since it is the NP that can be a null *pro* (cf. Baker and Stewart 1997b). Consequently, based on the analysis of object sharing that is mediated by an empty category, *pro*, it follows that sharing in (32c) is with the direct object rather than the object of PP.

In (32d), we observe that double objects derived from the (benefactive) goal construction in (32c) can occur between the verbs in the consequential SVC. The striking fact here is that the (theme) direct object is involved in object sharing and not the derived object. One might have thought that after P-incorporation and NP-movement by the goal phrase into the Specifier of AspP, there would be an ambiguity in terms of which object is involved in object sharing since the derived object linearly occurs in the direct object position of the verb and this is contrary to fact. Thus, double objects provide evidence both for the distinction between resultative and consequential SVC and the fact that object

sharing applies only to the underlying rather than derived object. The structural representation of (32d) is given in (34). (I omit TP and VoiceP and the binding relation between the top and lower verb in VP, for simplicity).



While we are able to draw the conclusion that the facts from double objects clearly show the distinction between resultative and consequential SVCs, there are still two issues that arise concerning the analysis of DOCs in the consequential SVC. First, observe from (34) that the derived (goal-source) object is structurally higher than the theme object. Second, whether there is any evidence to support the structural distinction between underlying (direct object in Spec, of VP) and derived object (Indirect object in AspP)?

Concerning the first question, the analysis of double objects that I have assumed proposes that the derived object comes to be structurally higher than the theme at s-structure via NP-movement following Larson (1988). Since the thematic hierarchy (Larson 1988) and other constraints on theta role assignment such as the UTAH (Baker 1988) hold at d-structure then the surface order in which the goal-source phrase appears higher is properly

accounted for in this way. I turn now to the discussion of the more interesting second question.

4.3 On the syntax of DOCs

In this section, I provide empirical evidence to support the observation that the derived object cannot be involved in object sharing, in contrast to the underlying object. I have been assuming that this difference between the objects stems from the fact that in the double object construction the underlying object is in the Specifier of VP, while the derived object is in the Specifier of AspP. Accordingly, based on the analysis in Baker and Stewart (1997b) and as observed in Collins (1997) only the direct object can be involved in object sharing and not, for example, the object of a preposition in the consequential SVC. In this section, I will give additional supporting evidence for this assumption.

4.3.1 The Asymmetry between Theme and Goal Objects.

I define the problem with having double objects in the consequential SVC by drawing attention to an implicit assumption in Baker (1989, 1997), and this is the presupposition that there are clear diagnostics for distinguishing themes and goals across languages. However, this is an area of potential problems because there are several unclear facts surrounding the structural characterization of which of the two arguments of the three-place verb is its direct object. This problem derives from the observation that a number of three-argument verbs allow alternations as to which argument shows up as the unmarked, immediately post-verbal object. This sort of alternation is amply documented in the literature on English dative (35) and locative (36) constructions:

- (35) a. Peter gave the money to the children.
- b. Peter gave the children the money.
- (36) a. Sue loaded the hay onto the truck.
- b. Sue loaded the truck with hay.

One specific problem with these corresponding (a) and (b) sentences has been how to decide on which of them should be taken as revealing the underlying (basic) structure (cf. Larson (1988), Baker (1988, 1997), Collins and Thráinsson (1993) etc.). For example, in order to account for the dative alternations in (35), Baker (1997) following Larson (1988) propose a movement solution in which sentences like (35b) are derived from underlying structures like (35a) by a combination of P-incorporation and NP movement in the syntax. However, in contrast, Baker claims that the locative alternation in (36) results from two different conceptions of the event in question: one in which the hay is seen as primarily affected, and one in which the truck is seen as primarily affected (Rappaport and Levin 1985). In both cases, the affected argument (i.e., the theme) is consistently generated as the direct object.

There are at least two very obvious connections between data of the kind in (35) and (36) and the issue of double objects in the consequential SVC. First, it is also possible to derive DOCs from both dative--and something in the semantic domain of locative constructions; which I will call source--constructions, as shown in (37) and (38) respectively:

- (37) a. *úyì háé íghó nè ìsòkèn*
 Uyi pay money to Isoken
 'Uyi paid the money to Isoken.'
- b. *úyì háé ìsòkèn íghó*
 Uyi pay Isoken money
 'Uyi paid Isoken the money.'
- c. *úyì háé ìsòkèn íghó dó -rhié*
 Uyi pay Isoken money steal
 'Uyi paid Isoken the money and stole it.'
- (38) a. *òzọ vbọ ìgàn vbẹ òkhókhò*
 Ozo pluck feather out-from chicken
 'Ozo plucked a feather from the chicken.'
- b. *òzọ vbọ òkhókhò ìgàn*
 Ozo pluck chicken feather
 'Ozo plucked the chicken's feather.'

- c. òzọ vbó òkhókhò ìgàn khién
 Ozo pluck chicken feather sell
 'Ozo plucked the chicken's feather and sold it (the feather).'

(37a,b) shows that we can derive double objects from a typical dative construction. In (37c) we observe that the double objects derived from the dative alternation can occur in the consequential SVC and the expected pattern of object sharing with the underlying (theme) object still holds, i.e., the theme of 'pay' is *íghó* (money) and is also the theme of *dó-rhié* (steal) hence, object sharing. Similarly, (38a,b) shows that we can derive double objects from the source construction. This too can then be put in the consequential SVC (38c), where the theme (underlying) object is still the shared object.

The second, and by far the most significant connection to be made between double objects and consequential SVCs is the fact that in both of these constructions (37) and (38), as in all other double objects previously discussed, there is a constraint that is based on whether an argument is the *syntactic direct object* that is assigned the *theme role* in order for it to be the shared object. I propose that it is the combination of both properties of syntactic and semantic licensing that allows object sharing in the consequential SVC as well as NP-movement in both the dative and source alternation.

4.3.2. Double Objects and the Empty Category Principle (ECP)

In this section, I will provide Èdó-internal evidence which shows the distinction between underlying and derived objects. I will argue for an analysis of this distinction based on the difference between moving out of the Specifier of a functional projection and moving out of the Specifier of a lexical projection.

Languages differ in the way that they treat null positions or that left behind after wh-movement (cf. Chomsky 1981, Rizzi 1986 etc.). In English and many other languages, empty positions of moved NPs are said to be occupied by syntactic traces, while null *pro* is often assumed in languages with very rich systems of agreement (cf. Georgopoulos

1985, 1991 etc.). In Èdó (and some other Kwa languages), the position left behind after a noun has been extracted by *wh*-movement may be either null or filled by a resumptive pronoun. This is illustrated in the following examples by focus cleft and question formation as instances of *wh*-movement. First, the subject NP:

- (39) a. òzó gbé òkhókhò
 Ozo kill chicken
 'Ozo killed a chicken.'
- b. òzó òré ó gbé òkhó!khò 'subject cleft'
 Ozo Foc. subj. cl. kill chicken
 'Ozo killed a chicken.'
- c. ghá òré ó gbé òkhó!khò 'subject question'
 who Foc. subj.cl. kill chicken
 'Who killed a chicken?'
- d. Dè òmwàn nè ó gbé òkhó!khò ' " '
 Q person that subj.cl. kill chicken
 'Who killed a chicken?'

(39) shows some of the different ways in which a subject NP can be extracted in Èdó. The basic sentence is given in (39a) where we observe the normal SVO pattern. (39b) illustrates the extraction of the subject by focus cleft and we observe that a resumptive pronoun or subject clitic *ó* 's/he/it' occurs in the position out of which the subject has moved. (39c,d) shows two separate ways of asking a question in the language.¹⁰ However, what is relevant here is that in both cases of questioning we observe the same form of syntactic variable which is the subject clitic (resumptive pronoun). Consequently, I conclude that an overt pronoun trace always spells-out subject extraction. Now, let us consider the extraction of the direct object NP. The relevant data is given in (40) from the basic sentence in (39a):

- (40) a. òkhókhò òré òzó gbé ----
 chicken Foc. Ozo kill
 'It is a chicken that Ozo killed'

¹⁰The *ghá* form is often used when the subject is a human being, while the *dè* - form can be used in general for all subjects.

- b. Dè èmwìn nè Òzó gbé -----
 Q thing that Ozo kill
 'What did Ozo kill'

(40) shows that when the complement of a verb is extracted, it leaves a phonetically null trace or *pro* behind. This is evident in (40a) with the clefting of the complement (theme object) and similarly in (40b) where the object is questioned. It appears that Èdó is like English in leaving null traces in the object position. This would tend to point toward an ECP account along the lines of Koopman (1982). However, there is room to suspect an ECP account because if Èdó is really like English, then we should expect that a null trace would also be left in the empty position of a moved oblique contrary to fact. Consider the following:

- (41) a. òzó rhié ìgàn yè ìjòkórò
 Ozo take feather on small chair
 'Ozo put the feather on the small chair.'
- b. ìgàn òré òzó rhié -- yè ìjòkórò
 feather Foc. Ozo take on small chair
 'It's a feather that Ozo put on the small chair.'
- c. ìjòkórò òré òzó rhié ìgàn yì
 small chair FM Ozo take feather on
 'It is on the small chair that Ozo put the feather.'

(41b) confirms that indeed the complement (theme) of the verb has a consistent behavior in the context of clefts, i.e., it leaves behind a phonetically null trace or *pro*. However, in (41c) when the object of the preposition is moved the trace is a clitic which is realized as a vowel change on the preposition from [e to i] with the same low tone maintained. We can justify this observation from a comparison between the forms of the preposition in (41a) and (41c). Since the only difference between them is whether the object of the preposition is in place or not, we can therefore attribute the presence of the vowel change on the preposition to the moved oblique NP. I conclude then that the extraction of the object of a

preposition leaves behind some kind of overt trace (clitic) which makes it different from the direct object, under the assumption that the preposition is a lexical governor..

Therefore, we find that there are clear differences between the different syntactic positions in terms of extraction: subject position is always filled by a subject resumptive pronoun, while the object position is always null, and the extraction from the object of a preposition leaves an 'overt trace'. Abstracting away from all other issues, I propose a specific account of the difference between objects and subjects in terms of the restrictions on the extraction site : whether it is from a functional or a lexical projection. Thus, following Koopman and Sportiche (1982, 1986) I propose that the extraction out of the Specifier of a functional projection which is not a lexically governed position will always result in overt traces (such as the resumptive pronoun) while extraction out of the Specifier of the VP, which is a lexically governed position can permit a null variable. This is summarized in (42)

(42) Conditions on argument extraction and traces.

- a. Extraction from a functional projection (as with subject) leaves behind an overt resumptive pronoun (the subject clitic).
- b. Extraction of the object (theme) leaves behind a phonetically null trace (or *pro*)
- c. Objects of prepositions trigger phonological changes on the lexical governor

Against the background of the descriptive generalization in (42) we are now in a position to verify two aspects of the analysis of DOCs assumed thus far. First, we can examine the issue of structural differences between underlying versus derived objects with respect to DOCs. Second, it has been noted across languages that dative and locative (source) constructions may sometimes undergo an alternation that yields a surface DOC (cf. Baker 1997), and there are wide-ranging views on whether the unshifted (non-double object) one is the basic or vice versa. I believe that this is one area where the generalization in (42) can be very useful in constructing a theory of dative/locative alternations. The

prediction is that the theme-direct object will behave differently from the goal-oblique object with respect to the nature of traces that they leave behind in wh-extraction. I will now address these issues in turn.

4.3.3 Underlying vs. Derived Objects

In this section, I provide evidence for the analysis in which the derived object is in Specifier of AspP and the underlying object is in Specifier of VP. This is based on the differences in the traces left behind by the double objects when they are wh-extracted, e.g., by focus cleft. Consider the following:

- (43) a. Òzó vbó òkhó!khó ìgàn (khién)
 Ozo pluck chicken feather sell
 'Ozo plucked the chicken's feather (and sold it (the feather)).'
- b. òkhó!khó òré Òzó vbó éré ìgàn (khién)
 chicken Foc. Ozo pluck obj.cl. feather sell
 'It is a chicken that Ozo plucked its feather (and he sold it (the feather)).'
- c. ìgàn òré Òzó vbó òkhó!khó --- (khién)
 feather Foc. Ozo pluck chicken sell
 'It is feather that Ozo plucked from the chicken (and sold it (the feather)).'

The basic sentence is (43a), and in (43b) we observe that when the first object--which I have analyzed as the derived object--is extracted, an object resumptive pronoun surfaces as the spell-out of the trace.¹¹ In (43c) the underlying object is extracted for focus cleft and there is a gap in the variable position, like with the extraction of the object of mono-transitive verbs. This asymmetry between the derived object and the underlying object follows from (42) and consistent with my analysis: the former is in the Specifier of a functional projection and so not lexically governed, while the latter is in the Specifier of a VP. This difference is also seen in the case of double objects from dative alternation (44) and associative construction (45) when put in consequential SVC structure:

- (44) a. Òzó hàé isòkèkè ìghó (dó -- rhié)
 Ozo pay Isoken money steal
 'Ozo paid Isoken some money (and stole it (again))'

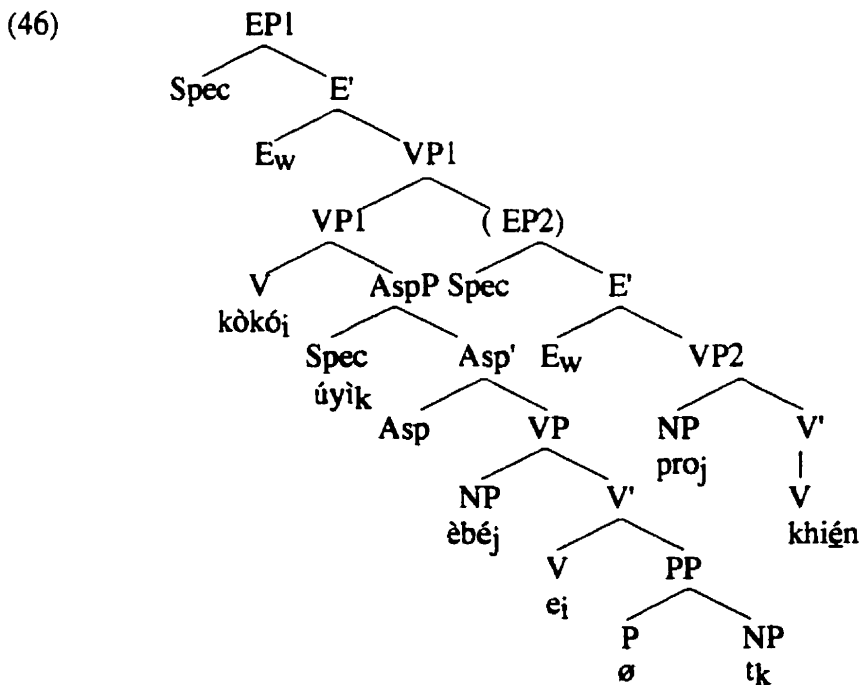
¹¹ I should point out that the interpretation of this sentence is incompatible with a reading in which sharing is with the 'chicken'.

- b. $\text{\textit{isòkèn òré Òzó hàè éré íghó (dó -- rhié)}}$
 Isoken Foc. Ozo pay obj.cl. money steal
 'It is Isoken that Ozo paid some money (and stole it (again))'
- c. $\text{\textit{íghó òré Òzó hàè isòkèn --- (dó -- rhié)}}$
 money Foc. Ozo pay Isoken steal
 'It is money that Ozo paid to Isoken (and stole it (again))'

The behavior of the objects follows very nicely from the analysis that I have proposed such that when the underlying object is extracted a null *pro* is left behind which is co-indexed with the null *pro* of the second verb if there is one as in (44), and (45) below:

- (45) a. $\text{\textit{Òzó rhié úyì èbé (khién)}}$ 'Ozo took Uyi's book (and sold it)'
 Ozo take Uyi book sell
- b. $\text{\textit{úyì òré Òzó rhié éré èbé (khién) pro j}}$
 Uyi Foc. Ozo take obj.cl. book sell
 'It's Uyi that Ozo took his book (and sold it)'
- c. $\text{\textit{èbé òré Òzó rhié úyì --- (khién)}}$
 book Foc. Ozo take Uyi sell
 'It is book that Ozo took from Uyi (and sold it)'

On the basis of these sentences in (43)-(45) we conclude that (46) is indeed the structure of the consequential SVCs with double objects. (I omit projections above EP for simplicity.)



According to (46) the extraction from a lexically governed position as with the direct object leaves behind a null *pro*, and so *pro* is properly licensed (cf. Baker and Stewart 1997b). However, when a derived object is extracted from a functional projection, as with subjects (cf. Koopman and Sportiche 1982, 1986, etc.), a resumptive pronoun is left behind, since such position is not lexically governed.

This conclusion is particularly instructive given the fact that in English, it has been suggested that it is rather bad to extract the first object of a double object construction as illustrated by the following sentences (cf. Stowell 1981, Baker 1988, among many others).

- (47) a. Which man do you think I should ?give/*buy t the shirt
 b. Which shirt do you think I should give t/buy t to/for Mary

According to my analysis the difference between Èdó and English lies in the possibility of having a resumptive pronoun to occur in the position of the derived object which is in the Spec of AspP. This option is available in Èdó but not in English. Thus, while it is possible to extract the first (derived) object in Èdó the same is not so good in English. This is a rather striking fact in the light of the fact that extracting the NP out of an NP-PP structure in English is grammatical (47b). In fact, Baker (1997) argues that the same restriction in NP-NP applies to the distinction between locative and dative constructions. For example, it is perfectly grammatical to extract the direct object from either version of a locative alternation as in (48) but the goal object of a double object construction exhibits unique syntactic behavior. This is also seen in the inability of the goal object to undergo heavy NP shift:

- (48) a. Which boxes do you think I should load t onto the truck?
 b. Which truck do you think I should load t with hay?
 (49) *I gave t candy every child that came to the door

In Èdó, there is no distinction amongst the various kinds of double objects which is consistent with their having the same structure in a consequential SVC like (46). I

conclude, therefore, that the Èdó data illustrates the asymmetry between the objects in the double object construction based on the clear diagnostic showing the difference in extraction between Specifiers of functional projections and lexical projections, i.e., Spec of AspP versus Spec of VP.

4.4 Conclusion

This chapter confirms the proposal that there are clear contrasts between resultative and consequential SVCs, and this goes against a unified analysis as in Baker (1989). This is based on the facts of double objects which show that there is competition for the single inner complement delimiter position in the resultative SVC in contrast with the consequential SVC where there are no such structural limitations. Furthermore, I argued that only the theme (direct object) can be shared in both constructions, although the cause is different in each case. Finally, I provided Èdó-internal evidence which sheds some light on the distinction between underlying and derived objects, consistent with the analysis I have proposed (with consequences for goals and themes in dative-locative alternations, DOCs, and heavy NP shift in English), that is, underlying objects occupy Specifier of VP, while derived objects occur in the Specifier of AspP.

Chapter five

Cross-linguistic Extensions of Analysis

5.1 Introduction

This section is intended to illustrate the cross-linguistic relevance of my analysis of SVCs. The empirical materials to be presented will consistently confirm the distinction between two kinds of object sharing SVCs--resultative and consequential, and the more general CC construction that involves only subject sharing.

Overall, my analysis make some specific predictions about SVC types that are not only observable in other languages but solve an apparent puzzle in Kwa languages: the controversy surrounding Igbo as an SVC language on a par with its neighbors (geographically and genetically) Èdó and Yoruba. In this regard, I will present illustrative data from Yoruba, Igbo, and Chinese which confirm the distinctions I have proposed. Primarily, I will focus on the distinction between resultative and consequential SVCs, but I will also present some suggestions about so-called multi-event SVCs as a cross-linguistic parallel of CCs.¹ Furthermore, I will show that there is a close parallel of these distinctions based on the event(s) that the verbs express: the two verbs in the resultative SVC express a single event with a single structural E node, while those in the consequential SVC express two events realized via a binding relation between two structurally asymmetric E nodes. Finally, the verbs in CCs express two separate (unbounded) events and the two E nodes are structurally symmetrical.

5.2 On Structurally Ambiguous 'SVCs'

As a preliminary step to extensions proper, let me illustrate the distinction between resultative SVC and CC by showing that my analysis can clarify unclear cases of

¹ In chapter seven, I will argue that some cases of what others have classified as two-event SVCs actually involve Control, i.e., clausal complementation.

- (intended reading: Ozo into house)
- b. Òzó (*gié!gié*) gbé èkhù *gié!gié* lá!á òwá (CC)
 Ozo (quickly) hit door quickly enter house
 'Ozo (quickly) hit the door and he quickly entered the house'

The I-type adverb cannot occur between the verbs in the resultative SVC (2a), and this is consistent with the proposal that there is no projection of EP present there in the structure. Thus, we confirm that there is a single E position which quantifies over the single event. However, (2b) shows that the I-type adverb can occur between the verbs and also (optionally) occur with the same I-type adverb before the first verb. This is consistent with the idea that the subject sharing interpretation is in fact a CC, with the verbs denoting two separate events.

B. N-type adverb

- (3) a. *Òzó gbé èkhù *ègiégìé* làá òwá (resultative)
 Ozo hit door quickly enter house
- b. Òzó gbé èkhù làá òwá *ègiégìé* (resultative)
 Ozo hit door enter house quickly
 'Ozo hit the door into the house quickly'
- c. Òzó gbé èkhù *ègiégìé* làá òwá (CC)
 Ozo hit door quickly enter house
 'Ozo hit the door quickly and he entered the house'
- d. Òzó gbé èkhù làá òwá *ègiégìé* (CC)
 Ozo hit door enter house quickly
 'Ozo hit the door and he entered the house quickly'

On the object-sharing reading, an N-type adverb cannot occur after the first verb plus object because they do not constitute a VP (3a); however the adverb can occur after the second verb as a predicate of the single event denoted by both verbs, where both verbs are co-heads of the same VP (3b). On the subject-sharing reading, it acts like a CC and the N-type adverb can occur after each verb plus its object in a manner that is consistent with each verb denoting a separate event expressed by separate VPs. These conclusions are, predictably, confirmed by the distribution of locative PPs, as shown in (4).

C. locative PPs

- (4) a. *Òzó gbé èkhù vbè Èdó làá òwá (resultative)
 Ozo hit door in Benin enter house
- b. Òzó gbé èkhù làá òwá vbè Èdó (resultative)
 Ozo hit door enter house in Benin
 'Ozo hit the door into the house in Benin City'
- c. Òzó gbé èkhù vbè Èdó làá òwá (CC)
 Ozo hit door in Benin enter house
 'Ozo hit the door in Benin and he entered the house (location not implied)³
- d. Òzó gbé èkhù làá òwá vbè Èdó (CC)
 Ozo hit door enter house in Benin
 'Ozo hit the door (someplace) and he entered the house in Benin'

On the object-sharing reading the locative PP cannot occur between the verbs (4a), but only outside the VP (4b) where it implies the location for the single event expressed by the two verbs. However, on the subject-sharing reading the locative PP can either occur between the verbs (4c) where it expresses the location of the first event, or after the second verb (4d) where it could either attach to VP2 and express the location of the second event or adjoin higher to EP and express the location of the two events.

D. subject NPs and tòbórè anaphor

- (5) a. *Òzó_k gbé èkhù tòbórè_k làá òwá (resultative)
 Ozo hit door himself enter house
- b. Òzó_k gbé èkhù tòbórè_k làá òwá (CC)
 Ozo hit door himself enter house
 'Ozo hit the door and he [himself] entered the house'

Again, there is a clear contrast between the object-sharing (resultative) reading and the subject-sharing (CC) reading. The failure of the particle to occur before the second verb and be coreferent with the overt subject implies that there is a single subject in the resultative that is also the Agent of the event. However, observe that the particle can occur

³ However, the normal implication in these sentences is that they take place at the same gross location.

in this position and be coreferent with the overt subject in the CC reading. This is consistent with the proposed ATB analysis whereby there is the trace of a subject in the VoiceP projection dominating the second verb to which the particle right-adjoins.

E. predicate clefts

- (6) a. *ùgbémwèn òré Òzó gbé èkhù lá!á òwá (resultative)
 nom-hit-nom Foc. Ozo hit door enter house
- b. *ùlálámwèn òré Òzó gbé èkhù lá!á òwá (resultative)
 nom-enter-nom Foc. Ozo hit door enter house
- c. ùgbémwèn òré Òzó gbé èkhù làá òwá (CC)
 nom-hit-nom Foc. Ozo hit door enter house
 'It is hitting that Ozo hit the door and then entered the house'
- d. ùlálámwèn òré Òzó gbé èkhù lá!á òwá (CC)
 nom-hit-nom Foc. Ozo hit door enter house
 'It is entering that Ozo hit the door, and did, into the house'

The contrasts in (6) confirms the proposal that what prevents predicate clefts in the resultative SVC is not based on the individual verbs but rather on the nature of the event. Therefore, with the same verbs in (6) predicate cleft of either one under an object-sharing (resultative) reading is ungrammatical (6a,b) whereas under the subject-sharing CC reading such cleftings are grammatical. This contrast brings out the difference between single event SVCs and two event SVCs and the correlating distinction between single EP and two EPs where Spec-head matching takes place in licensing predicate clefts.

As a conclusion, we observe that the tests that I have proposed clearly and consistently distinguish object-sharing (resultative) SVCs from subject-sharing CCs. I turn now to the big picture regarding what obtains in other languages.

5.3 On "Splitting Verbs" as Resultative SVCs

In the discussion of resultative SVCs thus far, we have seen examples of transparent verbs where the first verb expresses a process or activity and the second verb expresses a state, and I have simply been assuming their idiosyncratic properties. In this

section, I will illustrate some of the idiosyncrasies in the resultative SVC based on what is classified as 'splitting verbs' in Yoruba (cf. Awobuluyi 1969) and Èdó. Descriptively, the term 'splitting verbs' denotes one lexical item that splits into two parts and the object appears in the middle. Thus, on the surface they have the linear order [NP V NP V] which resembles object sharing SVCs in general. I will argue that, in fact, splitting verbs can only have a resultative SVC structure and not consequential SVC type. The relevant examples are given below:

- (7) a. O bá kekee mi je Yoruba
s/he spoil bicycle me spoil
'S/he spoiled my bicycle.'
- b. Òzọ mín émi!ówó ré Èdó
Ozo ? meat eat
'Ozo swallowed the meat.'
- c. Òzọ bí èkhù gbé Èdó
Ozo push door hit
'Ozo shut the door.'

Quite generally, these sentences in (7) are classified as SVCs that are made up of "splitting verbs" in Yoruba (cf. Oyelaran 1982, George 1975, 1976), and Èdó (Agheyisi 1986).⁴ In the Èdó examples, neither I-type nor N-type adverbs, locative PPs, or double objects can occur between these splitting verbs. In addition, neither of the verbal elements can undergo predicate clefts. These facts are illustrated in (8):

- (8) a. *Òzọ bí èkhù gié!gié gbé I-type adverbs
Ozo push door quickly hit
'Ozo pushed the shut quickly'
- b. *Òzọ bí èkhù ègiégié gbé N-type adverbs
Ozo push door quickly hit
- c. *Òzọ bí èkhù vbè òwá gbé locative PP
Ozo push door at house hit
'Ozo pushed the door shut at home'

⁴ Agheyisi (1986) proposes that these kinds of sentences show the residues of grammaticization in Èdó, this is comparable to my analysis which treats splitting verbs as idiomatic SVCs.

- d. *Òzó bí úyì èkhù gbé double objects
 Ozo push Uyi door hit
 'Ozo pushed Uyi's door shut'
- e. *ùbímwèn òré Òzó bí èkhù gbé pred. cleft of V1
 nom-push-nom Foc. Ozo push door hit
- e. *ùgbémwèn òré Òzó bí èkhù gbé pred. cleft of V2
 nom-hit-nom Foc. Ozo push door hit

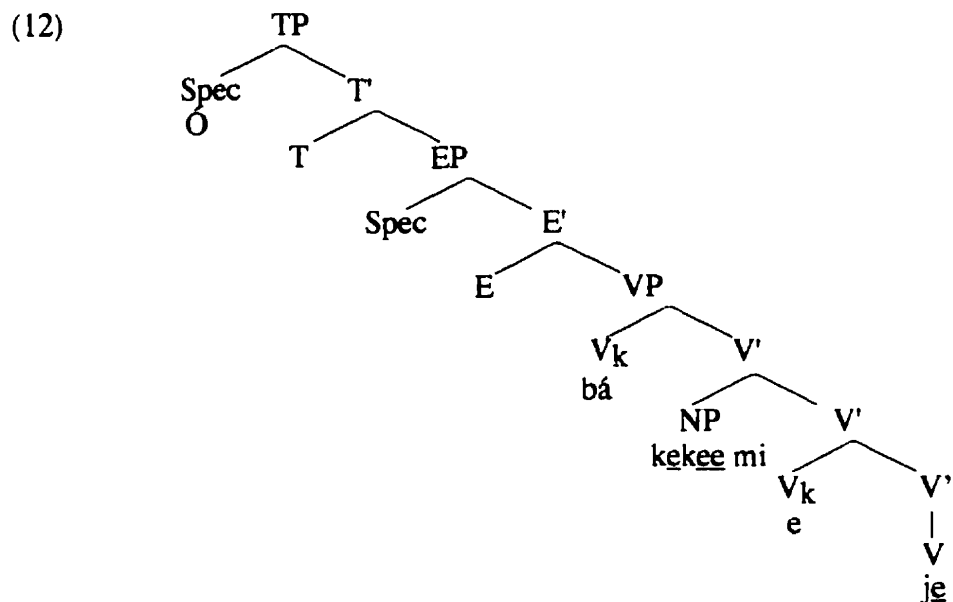
On the basis of the ungrammaticality of these sentences, I conclude that splitting verb constructions are a type of resultative SVC, and have the same syntactic structure. The relevance of this analysis of splitting verbs as resultative SVCs comes out very clearly when they are compared with those resultative SVCs with lexically independent verbs. This time, I will illustrate with examples from Yoruba. (9) is one such example of Yoruba resultative SVC.

- (9) Okuta gba ogiri fo (Gruber & Collins 1996=48)
 stone hit wall break
 'The stone smashed the wall'

The comparison between resultative splitting verbs and resultative SVCs can be illustrated by the similarity of their behavior in predicate clefts. This is shown in (10) for (7a) and (11) for (9).

- (10) a. *bi-bá ni O bá kekee mi je
 nom-spoil Foc s/he spoil bicycle me spoil
- b. *ji-je ni O bá kekee mi je
 nom-spoil Foc s/he spoil bicycle me spoil
- c. bi-bá-je ni O bá kekee mi je
 nom-spoil Foc s/he spoil bicycle me spoil
 'It was spoiling that S/he spoiled my bicycle'
- (11) a. ?/*Gbi-gba ni okuta gba ogiri fo
 nom-hit Foc stone hit wall break
- b. *fi-fo ni okuta gba ogiri fo
 nom-break Foc stone hit wall break
- c. Gbi-gba-fo ni okuta gba ogiri fo
 nom-hit-break Foc stone hit wall break
 'It was hitting and breaking that stone did to the wall'

The data above is intended to show that predicate cleft is not possible with any of the idiosyncratic SVCs, except when they are clefted together as a unit just like other productive resultative SVCs. Therefore, such similarity from the behavior in predicate clefts can be taken to imply that in both resultative splitting verbs and SVCs the verbs combine to express a single event. Consequently, I conclude that splitting verbs (though idiosyncratic) will have the same structural representation as resultative SVC. This is illustrated abstractly in (12), for the sentence in (7a). (VoiceP is omitted)



The consequence of this analysis of idiosyncratic splitting verbs in Yoruba and Èdó is that it naturally extends to resultative V-V compounds in Igbo.

5.4 Igbo

Based on certain facts of verbal inflection, it has often been claimed that Igbo (which shares the same boundary with Èdó) lacks SVCs altogether (cf. Lord 1975), however Déchaine (1992, 1993), Ihionu (1992) Manfredi (1991) etc. use the same property of verbal inflection to argue that Igbo does indeed have two kinds of SVCs: single event (instrumental) and multi-event SVCs.

In this section, I will show that Igbo so-called SVCs receive an enlightening interpretation based on my proposed distinction between resultative SVCs, consequential SVCs, and CCs. Specifically, I will argue that Èdó resultative SVCs correspond predictably to Igbo resultative V-V compounds, that Igbo systematically lacks consequential SVCs, and that the so-called multi-event SVCs in Igbo may either be cases of CCs or involve clausal complementation.⁵

5.3.1 Resultative V-V Compounds.

An interesting consequence of my analysis of SVCs comes from the observation that resultative V-V compounds in Igbo are exceptionlessly made up of transitive plus unaccusative verbs (Ihionu 1992:174).⁶ This implies that the same unaccusative second verb restriction holds in both resultative V-V compounds and resultative SVCs. This similarity is lost under a unified analysis that does not distinguish between resultative and consequential SVCs (Baker 1989, Collins 1997, Manfredi 1991, etc.). Therefore, I propose that the class of resultative SVCs, resultative splitting verbs, and resultative V-V compounds are all reflections of the same structure in different languages (see section 5.5.1 below for extensions of this generalization to Chinese resultative V-V compounds). Some of the Igbo action-result (resultative) V-V compound sentences are given in (13):

- (13) a Obi kwá-da-ra Ézè (Ihionu, 1992=18)
Obi push-fall-rV Eze
'Obi pushed Eze down.'

⁵ See Chapter seven for evidence showing a clausal complementation analysis of instrumental constructions in Èdó which is consistent with the analysis of Igbo so-called multi-event constructions in section 5.4.3.

6 The only known exception is the set of idiosyncratic V-V compounds of the same class as *ri-gbú*, lit. 'eat-kill' (Lord 1975, Émenanjo 1978, Nwachukwu 1987). However based on the analysis of splitting verbs in Èdó, in particular those in which the second part is *gbé* (hit) as in (7c) I propose that the Igbo verb '*gbú*' which is semantically cognate to Èdó *gbé* 'kill' is ambiguous between a purely transitive meaning and a transitive-unaccusative meaning. This is based on the ambiguity of the verb *gbé* 'kill' in Èdó between the idiosyncratic use in (7c) and a transitive use (i)

(i) Òzọ gbé ékítà
Ozo hit dog
'Ozo killed the dog'

Therefore, I equate all Igbo resultative V-V compounds with resultative SVCs in Èdó (transparent and idiosyncratic).

- b. Ó rí-ju-ru afo (Déchaine, 1993 =125)
 3s eat-be.full-rV stomach
 'S/he ate [her/his] stomach full.'
- c. Ó kú-gbu-ru Ezè "
 3s beat-kill-rV
 'S/he beat Ézè mercilessly/ to death.'
- d. Àdhá tì-gbu-ru Ézè (Manfredi, 1991=31a)
 Adha beat-kill-rV Eze
 'Àdhá beat Ézè to death.'
- e. Àdhá gbà-ju-ru mótò "
 pour-fill-rV car (with fuel)
 'Àdhá fueled the car (with petrol).'

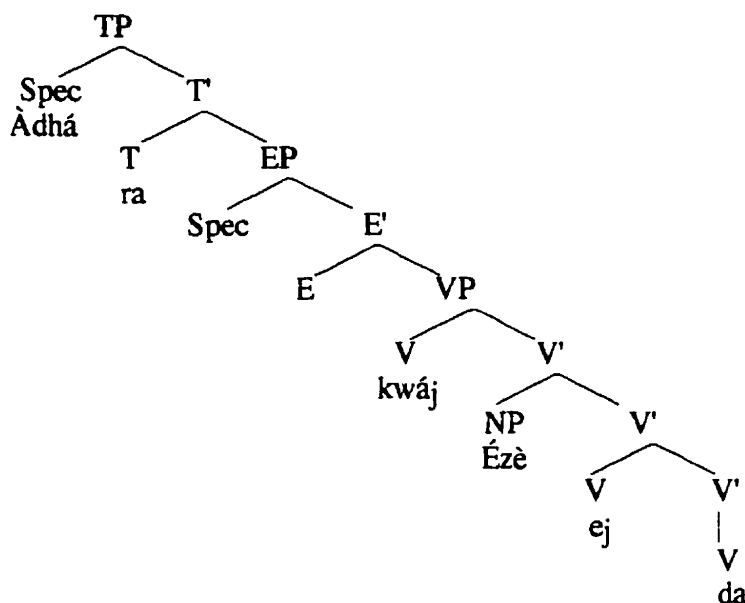
It is striking to note that unless these verbs in (13) are compounded, for example, the construction (13e) could only refer to consecutive events (14a) or become outright ungrammatical (14b).

- (14) a. Àdhá tì-ri Ézè ìhe (wè-é) gbu-o yá (Manfredi=33a)
 beat-Asp thing take-Asp kill-Asp 3sg-Gen
 'Àdhá beat Ézè and (then) killed him (as a separate action)'
- b. *Àdhá gbà-ra fùèl ju-o mótò "
 pour-Asp petrol fill-Asp car

I consider these alternatives in (14) as evidence of the fact that the class of consequential SVC is systematically absent in Igbo. Thus, the option seems to be between V-V compounds which express a resultative single event (13e) or two separate verbs involved in some form of covert conjunction (CC) (14a).

I propose that Igbo resultative V-V compounds originate underlyingly from the same structure as that of the resultative SVC. Essentially the same proposal is in Déchaine (1993) based on Manfredi (1991) who argue that Igbo V-V compounds in general have the same D-structures as their Yoruba (or Èdó) serial counterparts, but with the first verb serving as the head of the complex verb projection. Thus, abstracting away from my analysis the structure for (13a) is (15). (VoiceP is omitted)

(15)

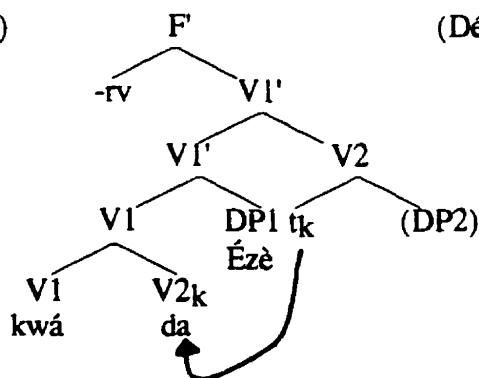


The question that arises from this analysis is how can we account for the surface V-V compounds? Before I provide an answer to this question, I will introduce a competing analysis of the resultative V-V compounds in Igbo which will serve as useful background.

Déchaine (1993), based on Manfredi (1991) proposes a bivalent verb projection analysis in which V-V compounds are derived from covert serial constructions by V-movement, as shown in (16).

(16)

(Déchaine, 1993=142a' pre-Structure)



According to the structure in (16), the first verb heads the bivalent projection and the second verb moves out of its projection and incorporates into the first verb. While this analysis seems plausible, it does have certain wrinkles which I will argue are weaknesses. This is based on how it handles the facts of inherent complements.

5.4.2 Inherent Verb Complement

The facts from Inherent Verb Complement (IVC) as discussed in Manfredi (1991), Ihionu (1992), Nwachukwu (1987) etc. provide empirical evidence in support of my proposed account of the resultative V-V compound. The basic fact to be explained is this: the interaction of V-V compounding with 'inherent complements' in determining the surface order of arguments (cf. Lord 1974, 1975, Déchaine 1993). This is illustrated in the following sentences:

- (17) a. Ó tì-rì nwóké áhù *(okpó) (Déchaine, =139)
 3s hit-rV man that blow
 'S/he hit that man.'
- b. Ó gbà-rà ényì yá *(egbè) "
 3s shoot-rV friend 3s.Gen gun
 'S/he shot at his/her friend.'

What (17) shows is that, in isolation, verbs such as 'hit' and 'shoot' take a fixed and obligatory DP complement since it is ungrammatical to omit the nouns *okpó* 'blow' in (17a) or *egbé* 'gun' in (17b). However, these inherent complements are not possible with V-V resultative compounds (Lord 1975:33). This is illustrated in (18)

- (18) a. Ó tì-gbu-ru Ézè (*okpó) (Déchaine, = 140)
 3s hit-kill-rV blow
 'S/he struck Eze dead.'
- b. Ó gbà-gbu-ru Ézè (*égbè) "
 3s shoot-kill-rV gun
 'S/he shot Eze dead.'

In order to account for the ungrammaticality of the sentences in (18) Manfredi and Déchaine are forced to say something special about inherent complements by proposing a complicated aspectual explanation (cf. Déchaine 1993: 243). I will now show that these facts can be handled insightfully under my analysis and structure.

Déchaine (1993) observes that the ungrammaticality of (18) should not be attributed to a failure of Case assignment, given the well-formedness of (17). Therefore, she proposes (following Manfredi (1991)) that the problem is aspectual in the sense that after

the second verb has moved and incorporated into the first verb as shown in (16), the resulting complex verb can only have one affected argument. Thus, in (18) only the affectum of the second verb (gbú 'kill') surfaces while the affectum of the first verb (tí 'hit', gbá 'shoot') is suppressed because it is recoverable as a lexical constant.

Under my analysis, the ungrammaticality of the IVC in (18) follow from the same general constraint which rules out double complements in resultative constructions. Essentially, this is a reflex of the proposal that there can be only one delimiter for the single event expressed by the two verbs derived from the aspectual properties of the resultative SVC (section 2.8). Therefore, Manfredi/Déchaine's idea that the ungrammaticality of (18) has something to do with aspect receives a consistent analysis from my structure and this fact is cross-linguistically verifiable with resultative constructions.⁷ Thus, the reason why inherent complements cannot occur in the structure in the resultative V-V compound is because there is only one object position and as such if there is a second object, it would compete for the inner complement delimiter position which is already filled by the second verb of the resultative V-V compound in underlying structure. Consequently, I propose that IVCs never surface in certain kinds of V-V compounds namely, the resultative kind.

Returning now to the question of how to account for the surface V-V compounds in Igbo that parallels the resultative SVCs in Èdó, I propose an account that is similar in some respects to that in Manfredi (1991) and Déchaine (1993) in that the locus of variation between languages is ultimately traceable to differences in the nature of V-I movement. In anticipation of the discussion in chapter six concerning the serial verb parameter, I propose that verb raising to INFL is not possible in SVC languages like Yoruba or Èdó but obligatory in Igbo. In Igbo, both verbs are in essence co-heads of the same VP realized by V-incorporation of the second verb into the first (cf. Manfredi 1991, Déchaine 1993), and the incorporated form obligatorily raise to check strong tense features in INFL As I will

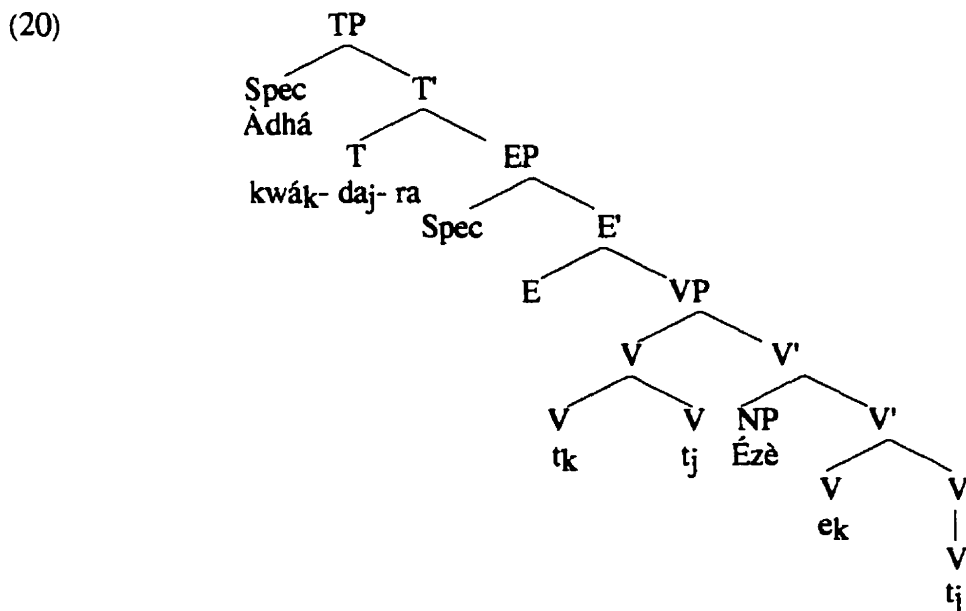
⁷ Peter Ihionu (p.c.) observes that IVCs are delimiters and so cannot occur in a resultative construction like the V-V compound which allows only one delimiter.

show in Chapter six this intermediate step involving verb incorporation allows us to provide a clear-cut basis for the distinction between Èdó and Igbo: no verb raising implies an SVC structure, while obligatory verb raising to INFL implies a V-V compound structure.

This analysis of Igbo resultative V-V compounds that is based on obligatory V-I movement can be illustrated by the following grammaticality contrast.

- (19) a. *Obi kwá-da Ézè
Obi push-fall Eze
- b. Obi kwá-da-ra Ézè
Obi push-fall-RLS Eze
'Obi pushed Eze down'

In (19a) we observe that it is ungrammatical to have a resultative V-V compound in which the verbs fail to raise to INFL (or some projection of tense). We know this based on the fact that the verbs in (19a) do not bear the -rV tense inflection. This is in sharp contrast with (19b) in which the V-V compound inflects for perfective aspect that is realized by the -rV suffix. Consequently, I take this grammaticality contrast as indicative of the fact that V-V compounding is dependent on verb movement in Igbo. Therefore, the s-structure representation for (19b) is as shown in (20). (VoiceP is omitted)



The differences between my structure and that of Déchaine given above are as follows: in my analysis V-incorporation takes place between items that are daughters of the same projection and so I assume that the head-movement constraint (HMC) of Travis (1984, 1990) would be less stringent in allowing the [V1+V2] incorporation as opposed to a structure where incorporation applies across two separate projections like in Déchaine's. Also, the weight of empirical evidence from Èdó and Yoruba support only a co-headed structure rather than a bivalent VP projection. Finally, under my analysis, it does not matter whether the perfective suffix is in a tense-related functional projection like EP or if it is INFL (cf. Déchaine 1992, 1993, Manfredi 1991, Welmers 1973, Winston 1973, Emenanjo 1975, Nwachukwu 1976, Ezikeojiaku 1979 etc.). All that is crucial is that the head of the functional projection has strong (tense) features and this triggers overt V-I movement. Of additional relevance here is the proposal that it is not possible to raise only the first verb in Igbo resultatives because it forms a co-headed VP structure with the second verb. The combination of these two properties is sufficient to license verb raising by both verbs in Igbo, creating V-V compounds (see Chapter six).

As a conclusion, I have shown that one consistent analysis of action-result V-V compounds in Igbo can be derived by a comparison with resultative SVCs in Èdó and Yoruba. This analysis is also shown to be consistent with that proposed for splitting verbs which are analyzed as idiosyncratic SVCs in Èdó-Yoruba. The primary parameter distinguishing both cases is that both verbs must raise to some projection of INFL in Igbo, thus creating the surface V-V compound and it is predicted that overt verb raising by both verbs to INFL is not allowed in Èdó SVCs (see Chapter six).

5.4.3 Verb Inflection and Multi-event Constructions

The purpose of this section is to show that so-called multi-event SVC involve some kind of clause-chaining (cf. Hale 1991) whereby verbs denoting consecutive (sequential) events are syntactically linked together. Therefore, I will argue that so-called multi-events

in Igbo may involve clausal complementation, IP-adjunction or CCs but not true serialization. This is based on a particular analysis of the open vowel suffix (OVS). I also propose that it is these possibilities of structure that underlie the term 'consecutivization' that is normally associated with the sentences (Welmers 1973, Lord 1975 etc.). However, my goal is not to provide an exact syntactic analysis of these constructions but simply to point out the empirical facts surrounding the proposal that these so-called multi-event SVCs form a complex of different constructions.

The relevant core of the data on Igbo multi-event constructions is given in (21) from Déchaine (1993:238-240):

- (21) a. Ó jí 'mmà bhá-a jí
 3s hold knife peel-A yam.Gen
 'S/he peeled yam[s] with [a] knife.'
- b. Ó wè-re úkwu gà-á áhýá
 3s take-rV leg go-A market.Gen
 'S/he went to [the] market on foot.'
- c. Ó jì-ri ohuhu rí-e ihé
 3s use-rV hurry eat-A thing.Gen
 'S/he hurriedly ate [something].'
- d. Ó kwù-ru ókwu khwa-a akhwá
 3s speak-rV word cry-Á tears.Gen
 'S/he spoke and cried.'
- e. Ó wè-re ite byá
 3s take-rV pot come-Á
 'S/he came with [a] pot.'
- f. Ógu go-ro okúkò gbú-o si-e ri-e
 buy-rV chicken kill-Á cook-Á eat-Á
 'Ogu bought [a] chicken, killed [it], cooked [it] and ate [it].'

There are three empirical observations concerning these examples that point to the fact that there are underlyingly different structures.

The first observation concerns a very obvious fact that is right at the core of the analysis of Igbo non-resultative "SVCs". This is the issue of the analysis of verbal inflection, in particular how to interpret the harmonizing high tone vowel suffix,

traditionally called the Open Vowel Suffix (OVS) and glossed as -Á in (21) following the convention in Déchaine (1993). The OVS on the second verb has been interpreted as a quasi-conjunctive 'consecutive' marker (Hyman 1971, Welmers 1973, Lord 1975 etc.), while Déchaine (1993) proposes that the second verb obligatorily bears OVS because it marks the event as completed (some kind of Aspect category).

However, what is taken for granted in (21) is the fact that the second verb always bears the OVS inflection while the first verb obligatorily bears the -rV inflection. Reversals of these morphemes with OVS on the first verb and -rV on the second verb are unattested in the literature and are in fact ungrammatical (22).

- (22) *Ó kwù-Á ókwu khwa-ru akhwá (Peter Ihionu, p.c.)
 3s speak-Á word cry-rV tears.Gen

Furthermore, observe that in the multiple event stacking example in (21f) all the subsequent verbs have the OVS inflection and only the first verb bears the -rV inflection. Thus, even if this can be taken as a consequential SVC with *pro* -drop, one would have to explain the function of the verbal inflections. I propose that the ordering relation between the -rV and OVS inflections and the fact that in some cases the verbs bear different verbal inflection are indications of structural relations between two separate clauses. The inflectional morphemes determine the ordering of functional projections in these multi-event constructions, and so I conclude that (21f) is not a consequential SVC but like the other multi-event constructions is either CC or clausal complementation.

One piece of evidence that can help in deciding the structure of these kinds of sentences comes from the contrast between (21) and real covert coordinations with respect to the distribution of the inflectional affixes: -rV and OVS. According to Déchaine (1993: 242), in verb-doubling examples like (23a) both verbs bear the -rV inflection and such sentences are generally analyzed as clausal coordination. A clausal coordination analysis for sentences such as (23a) is buttressed by the fact that it is ungrammatical to extract the object

of the second conjunct (23b), because of the coordinate structure constraint (CSC) of Ross (1967).

- (23) a. Àdhá shì-ri jí, shì-ri édè (Déchaine 1993= 136b)
 boil-rV yam boil-rV cocoyam
 'Àdhá cooked both yams and cocoyams.'
- b. *édè Àdhá shì-ri jí, shì-ri (yá)
 cocoyam-Rel. boil-rV yam boil-rV 3s
 'The cocoyam which Àdhá cooked both yams and (it).'

In spite of the previous observation that CSC effects appear to be variable in sentences that seem to involve coordination, yet based on sentences like (23a) we observe that clausal coordination in Igbo will be realized by verbs each marked separately by its own -rV inflection. Since this is not the case with the examples in (21), it seems reasonable to propose that they involve syntactic subordination (possibly IP adjunction), or they are CCs involving the coordination of something smaller than IP (see Collins 1997 for similar proposal that covert coordination involves I-bar conjunction).

The second observation about the sentences in (21) is that there is a functional projection dominating the second verb that is the source of the OVS (see also (14a)). It would seem, therefore, that the overt realization of event sequencing (clause-chaining) is the presence of strong tense and aspect features in the head of a functional projection. Thus, multi-events are realized by overt functional projections in Igbo which is morphologically spelled-out by the OVS. In fact, the OVS seems to have approximately the same tense-aspect properties like the Èdó INFL headed by *yá* (see chapter seven).⁸

⁸ In brief, the points of comparison between Èdó INFL headed by *yá* and the Igbo OVS are the following. First, observe that the second verb in (21) has some special aspect-tense interpretation that has been argued to be derived from the OVS inflection (cf. Déchaine 1993), i.e., the OVS aspectually marks completed events. Second, there is a rather intricate connection between the OVS and the presence of genitive tones in Igbo. Both of these properties are similar to the connection between the presence of *yá* and infinitive tones in Èdó. In both Èdó and Igbo, there are special tone effects which is the same high-downstep-high that is realized on the object of the second verb in Igbo (the genitive tone, Manfredi 1991, Déchaine 1992, 1993) but on the second verb itself in Èdó (see chapter seven). The likely conclusion based on the Èdó-Igbo comparison is that some of the sentences in (21) may involve clausal adjunction in Igbo, although on language and theory internal grounds I will argue for clausal subordination in Èdó (Chapter seven).

This brings us to the third observation concerning the sentences in (21). This is based on an examination of other contexts in which the OVS can occur, data from Déchaine (1993: 240):

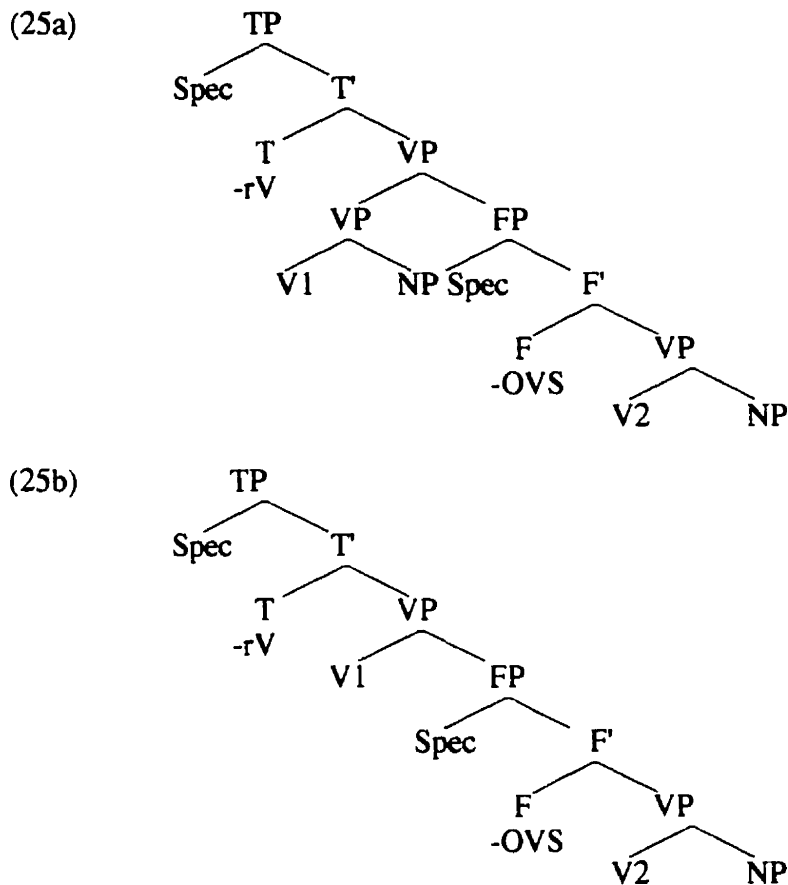
- (24) a. Ámaakó a-nu-o-na mmii (Déchaine=130)
 3s e-drink-Á-perf wine
 'Ámaakó has drunk [some] wine.'
- b. 'M nu-o mmii
 1s drink-Á wine
 '[If] I drink wine.'
- c. Ányì cho-ro sí unu ga-a ahyá
 1p want-rV say 2p go-Á market.Gen
 'We want that you (p) go to market.'
- d. Ányì ga-ra áhya zu-o jí
 1p go-rV market buy-Á yam.Gen
 'We went to market and bought yam[s].'
- e. Ó jì-(rì) 'mmà bhá-a jí
 3s hold-rV knife peel-Á yam.Gen
 'S/he peeled yam[s] with [a] knife.'

There are two types of data in (24), those in which there is only one verb (24a,b) and those involving the sequence of two verbs (24c-e). Déchaine (1993) proposes a single analysis for the OVS in all these sentences whereby they are governed by some higher functional head:

[In the perfective, V is governed by the perfective Aspect morpheme; in an *if*-clause, V is governed by a conditional operator (presumably in Comp); in subjunctive clauses, V is governed by dependent Tense, and by hypothesis, in serial constructions V2 is governed by non-adjacent tense] (Déchaine 1993: 240)

When this generalization is interpreted in the context of the data in (21), I propose that the second verb is governed by a tense related functional projection. The OVS is generated in the head of this functional projection and the surface order of Verb+inflection is realized by obligatory verb raising to this functional head. This is illustrated in (25a) with an adjunction structure for (21c-f) and (25b) with a clausal complementation structure for (21a,b).⁹

⁹ The choice of syntactic structures follow from the discussion in footnote 8. For example, I am assuming a common analysis for instrumental constructions (25b) as distinct from CCs and SVCs (but see the discussion in Chapter seven which reveals a more complicated analysis of instrumental constructions).



In conclusion, therefore, we find that the distinction between resultative SVC, consequential SVC, and CCs presents valid insights into the analysis of Igbo verb-verb constructions which can either have the resultative structure or a clausal complementation or adjunction structure but not the consequential SVC structure.

5.5 (Mandarin) Chinese

(Mandarin) Chinese has often been classified as an SVC language (cf. Craig and Hale 1988) and it is also a language that has many V-V compounds (cf. Li 1990). This mixture of V-V compounds with SVCs in a non-Kwa language presents a window of opportunity to test some of the empirical predictions of my analysis based on a structural distinction between resultative and consequential SVCs. My basic claim is the same as the one proposed in Igbo: resultative SVCs, and not consequential SVCs, translate as

resultative V-V compounds in Chinese. This implies that Chinese sentences in which there are two transitive verbs that share a single surface object should not occur as V-V compounds, but sentences with two verbs which express a resultative meaning should always occur as V-V compounds. This distinction is based primarily on the fact that resultatives are close-knit constructions and they surface as compounds in Igbo, whereas consequential SVCs are more loosely connected and so the verbs can occur independently. This is borne out by the templatic data in (26) and (27):

- (26) a. wo qie rou mai
 I cut meat sell
 'I cut the meat and sold it.'
- b. *wo qie-mai rou
 I cut-sell meat
- (27) a. *wo da Zhangsan si
 I hit Zhangsan die
- b. wo da-si Zhangsan
 I hit-die Zhangsan
 'I struck Zhangsan dead.'

Observe the fact that it is ungrammatical to express sequential events in a V-V compound (26b) while (27) shows that Chinese is like Igbo because it is ungrammatical to express action-result V-V compounds as consecutive (separate) events. This intuitive distinction that is based on the possibility of separating two events or being realized as one single event is consistent with the difference between resultative and consequential SVCs.

5.5.1 Resultative V-V compounds

I will now present data that shows that the generalization from section 5.3 and 5.4.1 can be replicated over a wide range of examples. Consider, first, the case of resultative V-V compounds illustrated in (28) :

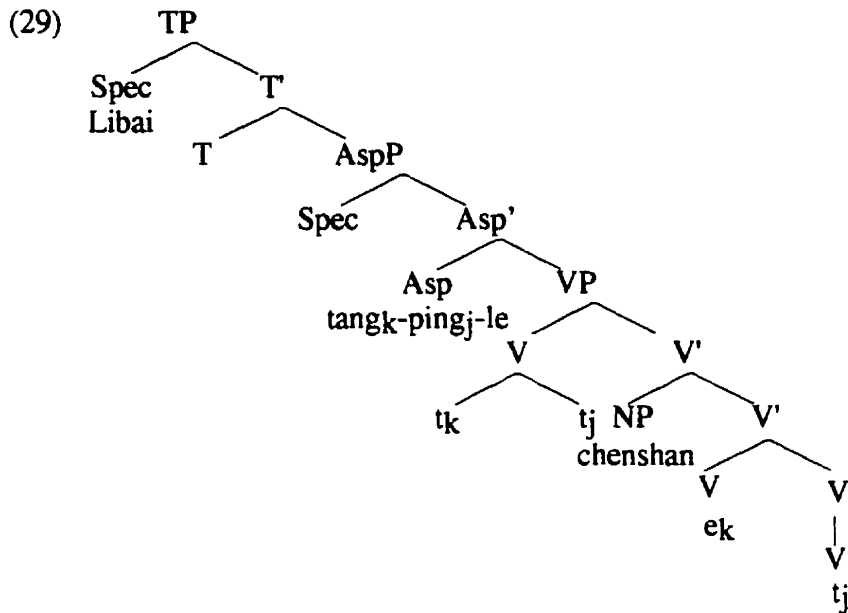
- (28) a. Zhangsan tui-dao-le Lisi (data from Teresa Wu p.c.)
 Z push-fall-Asp Lisi
 'Zhangsan pushed Lisi down.'

- b. Libai tang-ping-le chenshan
 L iron-flat-Asp shirt
 'Libai ironed the shirt flat.'
- c. Zhangsan da-si-le Lisi
 Z strike-die-Asp Lisi
 'Zhangsan struck Lisi dead.'

There are two cross-linguistically comparable pieces of evidence for proposing a single analysis for both Igbo and Chinese resultative V-V compounds on a par with resultative SVCs in Èdó. First, it has been observed that no aspect markers or measure words may intervene between the parts of Chinese resultative V-V compounds (Thompson 1973:362). Thus, Chinese resultative V-V compounds are like Èdó resultative SVCs which do not allow adverbs, PPs or double objects to occur between the verbs. Second, whereas Chinese is like Èdó in having very little inflectional morphology, in the resultative V-V compound an aspect (perfective) marker occurs obligatorily as a suffix to the whole compound. In this way, Chinese is like Igbo whereby both verbs must raise to a higher functional category with strong tense/aspect features. In the case of Chinese, though, the head of the functional projection bears aspectual features spelled-out by -le. By abstracting away from my analysis of the Èdó resultative SVC, the representation for (28b) is given in (29). (VoiceP is omitted).¹⁰

¹⁰ I have omitted EP projection based on the fact that EP is a kind of 'outer' Aspect in the framework of Travis (1994) and so the projection of AspP is sufficient to license the same thing as EP (in this case). One consequence of this analysis is that we are able to derive resultative V-V compounds which have idiosyncratic meanings and some verb + resultative particles like those listed in (i) from Thompson (1973:376).

(i) jì-zuo 'mail out', kai-zuo 'drive out', mai-dao 'succeed in buying'
 Although I do not consider particles in my analysis but I assume that they have the same structure and analysis as resultative constructions in general (cf. Dikken 1995).



5.5.2 Multi-event Constructions

In this section, I will present empirical evidence which show that the consequential SVC is systematically absent in Chinese, rather there are only resultatives and CCs which are realized as CP adjunct (Wu, forthcoming). Chinese exhibits what appears on the surface to look like consequential SVCs. Relevant examples are given in (30):

- (30)
- a. wo zhu ji che
 I cook chicken eat
 'I cooked the food and ate it'
 - b. Li mai sha song Zhangsan
 Li buy book give Z
 'Li bought a book and gave it to Zhangsan'
 - c. Libai mai sha kan
 L buy book read
 'Libai bought a book to read'
 - d. Zhangsan na qian fu Lisi
 Z take money pay Lisi
 'Zhangsan took the money and paid it to Li'

It is interesting to note that the events expressed by these sentences can never be realized as V-V compounds. This is illustrated for (30c) in (31) .

- (31) *Libai mai-kan-le shu (Teresa Wu, p.c.)
 L buy read-Asp book
 '*Libai buy- read a book'

This contrast between (30c) and (31) underscores the difference between putative SVCs and resultative V-V compounds. However, these putative SVCs behave differently from their Èdó equivalents (see Wu, forthcoming) in two major respects namely, negation placement (32) and tense/aspect inflection (33).

- (32) a. *Òzọ dé ìyán má lé 'Èdó'
 Ozo buy yam neg. cook
 b. *Òzọ dé ìyán í lé "
 Ozo buy yam neg. cook
 c. Libai mai-le LGB bu kan Chinese
 L buy-Asp LGB not read
 'Libai bought LGB not to read it'
 d. Libai bu mai LGB kan
 L not buy LGB read
 'Libai does not buy LGB to read it'
- (33) a. *Òzọ dé!(ré) ìyán lé!(ré) Èdó
 Ozo buy+rV yam cook+rV
 b. Libai mai-(le) LGB kan-(le) Chinese
 L buy-Asp LGB read-Asp
 'Libai bought LGB and he did read it'

In the Èdó consequential SVC sentences in (32a,b), we observe that past and non-past negative markers can never precede the second verb, however when compared with similar looking constructions in Chinese we see that negation can occur before the second verb. Furthermore, there is also a contrast between Èdó and Chinese with respect to verb inflection. The perfective -rV suffix is ungrammatical on any of the verbs in the consequential SVC in Èdó (33a) (see discussion in chapter six), but the aspect marker -le can occur on both verbs in similar looking sentences in Chinese (33b).

Consequently, I suggest (following Wu, forthcoming) that Chinese multi-event constructions do not have exactly the same syntactic structure as Èdó consequential SVCs.

I will, however, not speculate on the syntactic structure of these Chinese sentences in any detail.

5.6 Conclusion

As a general conclusion, I have shown in some detail that there are systematic variations between SVCs that can be replicated across languages. In particular, resultative SVCs are realized as resultative V-V compounds in languages where verb raising to a functional head (above the VP) and bearing a strong V-feature is obligatory (Igbo, Chinese). Furthermore, I have argued that the class of consequential SVC is systematically absent in these languages where the V must raise to check a V-feature of Infl, thus such languages have only resultative V-V compounds and possibly some form of clausal adjunction/conjunctions. Now, this point would be completely lost under a unified analysis of SVCs and so one of the strengths of this thesis is the predictions it makes based on the distinction between resultative and consequential SVCs.

Chapter Six

The Serial Verb Construction Parameter

6.1 Introduction

This chapter centers around the fundamental question of what is the serial verb parameter? In other words, why does the grammar of Èdó allow verb serialization whereas English does not? Or, to take a finer-grain version of the question, why do Èdó resultative SVCs show up consistently as V-V compounds in Igbo and Chinese? The basic claim that I will argue for is that the serial verb parameter can be derived from differences in the nature and "strength" of Tense-bearing functional heads across languages (cf. Muysken 1988, Déchaine 1993, Collins 1997, also Baker 1989, traceable to Roberts 1985).

As a preliminary step, I would like to summarize what I consider to be some of the major and distinctive syntactic properties that characterize the structures of the three constructions as discussed in the earlier Chapters. These are listed in (1)-(3).

(1) Resultative SVCs

- a. Both verbs are syntactic co-heads and they assign their internal theta roles to a single object NP within a VP that is contained within a single EP projection.
- b. The second verb is typically unaccusative, and it combines with the first verb to express a single event.
- c. It is incompatible with double object construction, since the DOC is also a resultative.

(2) Consequential SVCs

- a. The verbs head separate VPs which are dominated by separate projections of EPs whose heads are bound by the higher EP; as such the verbs express two connected events
- b. There is a single Agent for the two connected events event that is introduced by Voice (cf. Kratzer 1996)
- c. The verbs in the consequential SVC must be transitive; have distinct objects which are coreferent, that of the second verb being realized as *pro*.

- d. Double object construction is possible but object sharing is with the underlying (theme) object rather than the derived (goal) object

(3) **Covert coordinations**

- a. The verbs head separate VPs which are dominated by separate (symmetric) projections of EPs and they express separate events.
- b. Each event 'potentially' has its own Agent, thus there are separate VoicePs associated with each VP.
- c. Each verb can have a 'separate' object in principle depending on the argument structures of verbs being conjoined.¹

6.2 Serial Verb Constructions and Secondary Predicates

Larson (1991) proposes that serial constructions should be analyzed as a form of secondary predication. Consequently, he suggests that the SVC parameter reduces to a matter of what secondary predicate categories are allowed. Basically, this implies that the "serialization parameter" separating Èdó and English should involve some respect in which verbs and nominals differ with respect to predication (Larson, 1991:206). Based on standard generative feature matrices for lexical categories, serializing languages will have secondary predicates that are either [-N] or [+V], whereas non-serializing languages will have secondary predicates that are either [+N] or [-V].

While Larson's proposal is attractive and introduces part of the research agenda being pursued in this chapter, it however makes empirically incorrect predictions. For example, it predicts that NP secondary predicate constructions analogous to 'John arrived a perfect wreck' are entirely absent in a SVC language and this is contrary to fact as illustrated in the following examples:²

¹ According to my analysis, the object the second verb cannot be *pro* in a CC because *pro* is licensed in the domain of a single E head (see also Baker and Stewart 1997b).

²Independent evidence that the phrases in brackets are NPs include the fact that they are vowel-initial, and they can be clefted (i) and (ii).

- (i) *óbólòkàn òré Òzọ rrí èvbàré*
 raw Foc. Ozo eat food
 'It is raw that Ozo ate his food'
- (ii) *óhóghà òré Òzọ fí ímótò*
 empty Foc. Ozo drive car
 'It is empty that Ozo drove the Car'

- (4) a. Òzọ rí èvbàré [óbólòkàn]_{NP}
 Ozo ate food raw/empty (without meat etc.)
 'Ozo ate the food raw/bare.'
- b. Òzọ fí ímótò [óhóghà]_{NP}
 Ozo drive car empty
 'Ozo drove the car empty (of passengers).'

In (4a,b), the bracketed NPs are predicated of the object of the verb and these sentences translate as standard examples of depictive SPs in English, i.e., in (4a) John ate the food and/while the food was raw/empty (object depictive), and in (4b) Ozo drove the car and/while the car was empty of passengers (object depictive). The possibility of sentences like (4) suggest that Larson's proposal as it is stated cannot be correct since SVC languages do in fact use [+N] lexical categories for secondary predication along with VP and AP.³

However, the syntactic properties of the different constructions (1)- (3) presents some interesting features which suggest that a partial cross-linguistic connection can be made between SVCs and SPs. I will discuss these similarities based on data from Èdó SVCs and English SPs.

The primary similarity comes from the analysis of event structures in both SVCs and SPs. As will be made clear shortly, some SPs are similar to SVCs in terms of the composition of the events that they express. The initial assumption here is that SPs resemble SVCs in terms of being made up of two general classes: the resultative versus depictive distinction for SPs (5-6) can be compared with the resultative versus consequential SVCs and CCs (7):

- (5) a. John pounded the metal [flat]_{AP}
 b. John beat the metal [into a sword]_{PP}
- (6) a. Peter gave the meat to Mary [raw]_{AP}
 a. John got to the party [a perfect wreck]_{NP}

³ See also Baker (1997a), (1997b) and Baker and Stewart (1997a) for general discussion of the inadequacy of using generative feature matrices for capturing the distinction between verbs and adjectives.

- (7) a. Òzó sùá àdésúwà dé
Ozo push Adesuwa fall
'Ozo pushed Adesuwa down.'
- b. Òzó dé émà kpèé
Ozo buy drum play
'Ozo bought a drum and played it.'
- c. Òzó dé émà khién égógó
Ozo buy drum sell bell
'Ozo bought a drum and sold the bell.'

By comparing the resultative SP in (5) with the resultative SVC in (7a), we notice the fact that APs, PPs, and VPs all express what the theme comes to be like as a result of the event that is denoted by the main (first) verb. For example, because of the action of the event that is denoted by the verb *pound*, the metal becomes flat in (5a), while the metal is shaped into a sword in (5b). Similarly, in (7a) the object *àdésúwà* undergoes a transition into the state of having fallen, which expresses the result of the action of the first verb.

In the examples of depictive SPs in (6), both the NP and the AP characterize what the object or subject is like at the time of the event. In general, a depictive SP can either be object-oriented (characterizing only the object) as in (6a) where the AP tells us about the state the object was in when it was given to Mary, or it can be subject-oriented (characterizing only the subject) as in (6b) in which the NP tells us about the state in which the subject arrived at the party. On an intuitive level, this contrast amongst depictives seems to reflect the difference between consequential SVCs and CCs. In (7b), the two transitive verbs share a single surface object, while in (7c) each verb has its own object and they only share the same surface subject. The facts from double objects provide further evidence for an intuitive similarity between consequential SVCs and object-oriented depictives. In both constructions, when double objects occur only the theme (underlying) object is shared but not the goal (derived) object as shown in (8).

- (8) a. John gave Mary the meat raw/hungry = AP predicated of theme only, *goal
Agent goal theme
- b. Òzó vbó òkhó!khó ìgàn khién = VP predicated of theme only, *source
Agent source theme

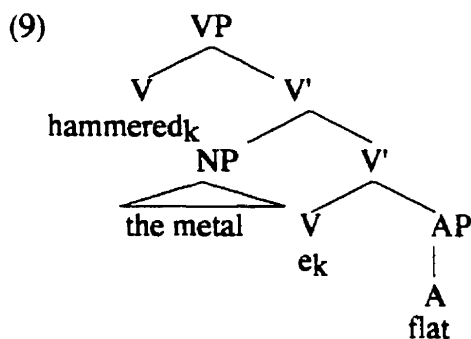
While there seems to be an intuitive parallel between consequential SVCs and object-oriented depictive SPs, the same cannot be said for conjunctive SVCs and subject-oriented SPs since they differ in terms of interpretation (and presumably in the syntax as well).⁴

However, the strongest resemblance of all is between resultative SPs and resultative SVCs which I consider to be relevant to the whole issue of the serial verb parameter. This resemblance comes from the nature of sub-atomic events in both AP and VP resultatives. In both cases, the VP as a whole is an accomplishment, i.e., a single event composed of a process part and a result part in which the process sub-event is realized by a verb in both constructions and the result sub-eventuality is expressed by a second predicate which may be AP, PP, or VP. The fact that an accomplishment is constrained by the (universal) ontology of events provides the basis for comparing the structures of the two types of resultatives. Consequently, I propose that this resemblance between resultative SPs and SVCs underscores the structural relations between the two constructions from which we can narrow in on the serial verb parameter. My proposal is supported by four different bits of structural evidence.⁵

First, it has been observed that the adjectival predicate in a resultative SP bears a close thematic relation to the verb (cf. Rapoport 1990, Bolinger 1971, Dowty 1979, Simpson 1983, Rothstein 1983 etc.). This is compatible with the structure of the resultative construction presented in the simplified structure in (9).

⁴ I will put this issue aside for further studies.

⁵ In order to make the comparison more systematic, I will continue my discussion based on AP resultatives in English compared with VP resultatives in Èdó. I exclude PP resultatives because the status of prepositions in Èdó needs more study before it can be used in a controlled comparison and this is outside the immediate scope of this work. Furthermore, this choice of restricting the discussion to the AP category is based on two other factors (a) AP is the only category obligatorily interpreted as a predicate (Williams 1981), (b) Èdó has the option where either AP or VP can occur as the second predicate of the resultative thereby producing theory-internal evidence for the distinction between AP and VP resultative constructions.



As represented in (9) the main verb that is in a bound chain between a top verb position and an empty (lower) position takes as its complement the resultative predicate [AP or PP] and the two together, as complex predicate, assign a thematic role to the object NP. This analysis of the AP resultative SP is supported by evidence from English based on the middle construction discussed in Hale and Keyser (1987) and illustrated in (10).

- (10) a. This kind of metal hammers smooth fast.
 b. This counter wipes dry quickly.

Rapoport (1990) takes these examples as the basis for the argument that the resultative predicate [V + AP] "affects" (and obviously theta marks) its object NP since this is a necessary condition on the object NP becoming the subject in a middle construction. According to Hale and Keyser (1987), a well-formed middle implies that the underlying object NP is theta-marked by the verb and in the case of (10) by both the verb and the AP resultative predicate. We can confirm the fact that the AP is making a crucial contribution based on the ungrammaticality of corresponding sentences without AP.

- (11) a. *This (kind of) nail hammers fast.
 b. *This counter wipes quickly.

I conclude, therefore, that the verb and the AP resultative form a complex predicate with a single object just as the verbs in the resultative SVC.

The second bit of evidence for a close relationship between AP resultative SP and resultative SVC is based on the fact that both constructions appear to share striking similarities in the predication relation between the direct object argument and the second predicate [AP or VP]. For example, in the resultative SVC the shared argument is the direct object that is assigned the internal theme theta roles of both the first and second verbs. A similar restriction--the Direct Object Restriction (DOR), also obtains in the resultative SP whereby the AP is predicated of the direct object that is assigned a theme role (cf. Williams 1980, Rothstein 1983, Simpson 1983, Levin and Rappaport-Hovav 1995, Collins 1997, Bowers 1993, Baker 1997a/b, etc.).⁶

The third evidence for proposing a structural correspondence between resultative SVCs and AP resultative SPs comes from the observation that double object constructions (or double complements more generally) are ruled out from both constructions. Hoekstra (1992) discusses this point for the AP resultative SP based on the data in (12) and (13) which is parallel to the Èdó paradigm in (14):

- (12) a. The teacher taught the boy a lesson. (Hoekstra=57)
 b. The teacher taught the boy crazy.
 c. *The teacher taught the boy crazy a lesson.
- (13) a. John split Mary a coconut.
 b. John split a coconut open.
 c. *John split Mary a coconut open.
- (14) a. Òzọ sùá èsósà ògó
 Ozo push Esosa bottle
 'Ozo pushed Esosa's bottle.'
 b. Òzọ sùá ògó guòghó
 Ozo push bottle break
 'Ozo pushed the bottle broken.'
 c. *Òzọ sùá èsósà ògó guòghó
 Ozo push Esosa bottle break

⁶ The details of theta role assignment and whether the AP has any theta role differ in these analyses and I will not comment on any of these approaches in detail.

According to my analysis of the resultative SVC, double object constructions are incompatible with resultatives because of a general constraint on delimitedness. In English AP resultative SPs and Èdó resultative SVCs, there is only one structural position for a delimiter and this is filled by AP and VP respectively. Based on the assumption that the first object in the double object construction is also a delimiter, therefore both categories compete for the same structural position in the pre-movement structure and hence the ungrammatical sentences in (12c), (13c) and (14c).

The fourth and final bit of structural evidence bearing on the relationship between resultative SVCs and AP resultative SPs comes from the nature of category-restrictions on the second predicate in the two constructions. For example, while the categories AP and PP have been observed to make good resultative SPs in many languages,⁷ however, it is ungrammatical for a VP to occur as a resultative SP in a non-serializing language (cf. Larson 1991, Baker 1997b etc.). On the contrary, it is very common to find the category VP serving as a resultative predicate in serializing languages such as Èdó. Furthermore, a parallel restriction which is internal to the category VP can be found in the resultative SVC namely, only an unaccusative verb (which includes stative verbs as well as traditional unaccusatives) can occur as the second predicate. I propose that these are not superficial differences but rather they reflect a deeper connection between AP resultatives and VP resultatives. Thus, once we understand the nature of the difference in the domains in which the category-restrictions hold we should find that resultative SVCs resemble resultative SPs with respect to a structural relationship between unaccusative second verb and adjective secondary predicate.

As a conclusion to this section, I propose that whatever else can be said of the analysis of these constructions, it should be the case that a (partially) unified account

⁷ It is a general fact that NPs do not make good resultative SPs in English, apart from the type of examples in Carrier and Randall (1992) e.g. 'They painted the barn a hideous shade of green' which is controversial as a resultative predicate (Mark Baker p.c.).

should be given that would explain at least these four correspondences that I have just discussed.

6.3 Towards the SVC Parameter: AP vs. VP Resultatives

One key fact in the analysis of AP and VP resultatives as the basis for deriving the serial verb parameter is that along with VP resultatives, there are also AP resultative SPs in Èdó. This is important because it provides language-internal evidence concerning the distinction between AP and VP resultatives which can then be generalized into non-SVC languages like English which have only AP but never VP resultatives, thereby presenting us with some very useful insights into the serial verb parameter. Consider the following:

- (15) a. Òzó kòkó àdésúwà mòsè
 Ozó raise Adesuwa beautiful (A)
 'Ozo raised Adesuwa to be beautiful.'
- b. Òzó gbé é má!tón wénrén
 Ozo beat metal tiny (A)
 'Ozo beat the metal thin'
- c. Òzó giá írúnmwùn gièghè
 Ozo cut grass short (A)
 'Ozo cut the grass short.'
- (16) a. Òzó kòkó àdésúwà mòsé
 Ozó raise Adesuwa beautiful (V)
 'Ozo raised Adesuwa to be beautiful.'
- b. Òzó gbé é má!tón wénrén
 Ozo beat metal tiny (V)
 'Ozo beat the metal thin.'
- c. Òzó giá írúnmwùn gièghé
 Ozo cut grass short (V)
 'Ozo cut the grass short.'

The sentences in (15) and (16) are similar since they are all examples of resultative constructions. In (15), the second predicate is an adjective, like the AP resultative SP in English, while (16) illustrates the resultative SVC in Èdó in which the second predicate is an unaccusative verb. The only obvious surface difference between the adjectival resultative

SP (15) and the verbal resultative (16) is the tone on the final word. The final words in (16) are verbs and they all have the same pattern of tonal inflection which consist of a low-high sequence, while the final words in (15) are morphologically related adjectives whose tones vary but are mainly level tones with either all low or all high patterns without any tone contours (e.g. floating tone or downstepped tone etc.). We can establish the relevance of tones on these categories based on the contrast between (15a) and (16a) in which there are disyllabic words. Observe that while the tones on the verbal predicate in (16a) matches those on the first verb, those on the adjectival predicate do not match the tone sequence on the verb in (15a).

Adjectives contrast significantly with verbs in Èdó in terms of their packaging in the lexicon. Adjectives like nouns have stable (invariant) tone patterns which are set in the lexicon, i.e., the tones on nouns and adjectives come as part of the knowledge of language. For example, Agheyisi (1986), Omoruyi (1986) lists the following items as adjectives:

- (17) (a) wòrò 'long' (b) gièghè 'tiny' (c) mòsè 'beautiful' (d) wénrén 'slim'

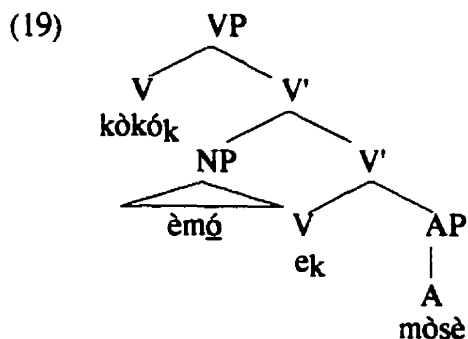
I propose that when one knows the Èdó language such knowledge includes the representation of the tone patterns and the meanings that are associated with these words in (17); in other words, adjectives are not derived by any special syntactic (or morphological) process. In contrast, all verbs have grammatical tones which convey grammatical information such as Tense. I will come back to the analysis of how these Tense tones come to be inflected on verbs in section 6.5.

It is important to note that the general structural properties that were discussed in relation to AP resultatives in English and VP resultative in Èdó in section 6.2 also hold for these Èdó AP resultatives. Consider the following:

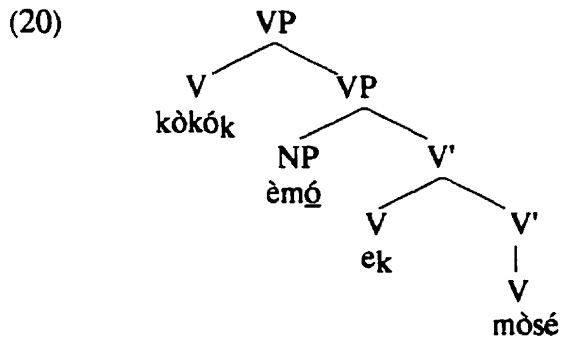
- (18) a. *Òzò kòkó àdésúwà mòsè wénrén
Ozó raise Adesuwa beautiful slim

- b. Òzó kòkó àdésúwà èmó
 Ozó raise Adesuwa children
 'Ozo raised Adesuwa's children.'
- c. Òzó kòkó èmó mósè
 Ozó raise children beautiful (A)
 'Ozo raised the children to be beautiful.'
- d. *Òzó kòkó àdésúwà èmó mósè
 Ozó raise Adesuwa children beautiful (A)

What the data in (18) show is the fact that Èdó AP resultative SP has the same behavior like its English counterpart. For example, (18a) illustrates the aspectual generalization that it is ungrammatical to have two delimiters in the resultative construction. Thus, the sequence of two APs each being predicated of the same single object is ungrammatical. This same fact is illustrated by the contrast between (18b) and (18d) where we observe that although double objects can occur with the verb *kòkó* 'raise' as in (18b), the same sentence with double objects is ungrammatical (18d) when there is an AP resultative. Again, the ungrammaticality of (18d) stems from the assumption that the source object in the double object construction is a delimiter which competes for the same structural position as the AP. Furthermore, notice that (18c) is grammatical as there is a single object of which the single AP is predicated of, i.e., a single delimiter. Finally, in the grammatical sentences the AP characterizes the theme and not the Agent. Thus, I conclude that the AP resultative SP in Èdó has the same structure as the one proposed for English in (9), repeated here as (19) for the sentence in (18c) (only the verbal projection is relevant at this point).



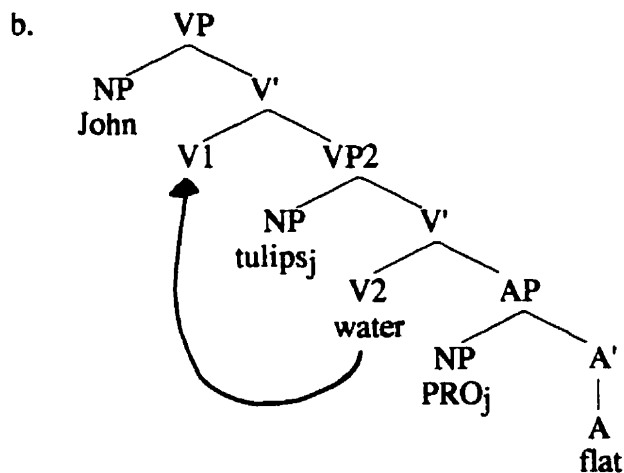
Given this similarity between Èdó and English in terms of AP resultative SP, we are now directly confronted with the issue of the contrast between AP and VP resultative since they essentially have the same underlying structure. For the purpose of analytical clarity, the relevant part of the structure of the resultative SVC is repeated in (20).



As a way to further justify the proposal that AP and VP resultatives have almost the same underlying structures in relevant respects, I adopt a strategy based on illustration of the weaknesses of two other competing analysis done within the same general framework.

Collins (1997) proposes that one piece of evidence that supports his analysis of resultative SVCs in Ewe as involving control of a null *pro* comes from the observation that English AP resultative SPs should probably be analyzed as involving control as well. Based on Bowers (1993), it is proposed that a sentence such as (21a) could be analyzed with the structural representation in (21b).

(21) a. John watered the tulips all flat

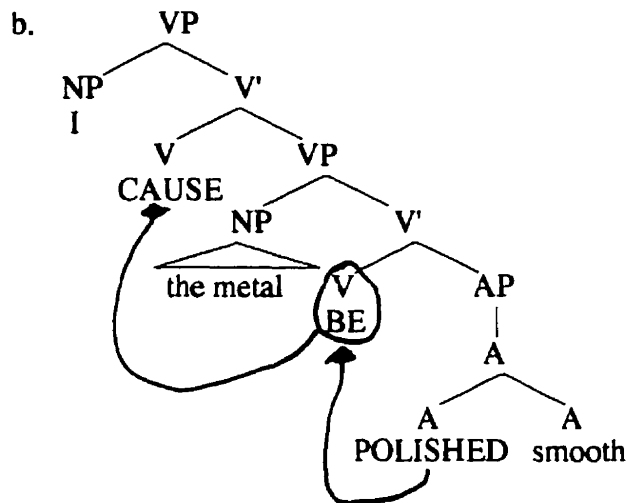


According to Collins (1997), *all* in (21a) must be attached to an empty category which is represented as PRO in (21b), assuming the theory of floated quantifiers in Sportiche (1988).

The primary objection to this unified analysis for both AP and VP resultatives is based on the empirical observation that goes against positing an empty category in the VP resultative (SVC) and this has been discussed at length in section 2.2.2 of chapter two. In addition, there are two separate basis for a theoretical objection to this analysis. First, Bobaljik (1997) argues that *all* in a sentence like (21a) which is assumed to be evidence for NP trace in Sportiche (1988) is actually an adverb. Now, if this analysis is correct it means that there is really no evidence for an empty category in the AP resultative SP and so it cannot be compared with VP resultatives on this ground. Second, it is not exactly clear (nor explicitly stated) what theory of control of PRO is being assumed for the analysis of the English resultative SP. Based on one analysis of PRO--the PRO theorem of Chomsky (1981)--the structure in (21b) would require some functional structure to protect PRO from being governed and Collins' (1997) analysis is silent on this issue as it shows no evidence for such functional structure. Therefore, I reject the analysis of AP and VP resultatives given in Collins (1997) that is based on an empty category mediating object sharing.

Another relevant analysis of the resultative construction is Baker (1997b) who also considers the relationship between AP and VP resultatives. The main claim of this analysis, which adopts a lexical decomposition approach, is that resultative constructions arise when a second adjective is adjoined to the adjectival component of the verb in a pre-conflation representation. Thus, the most deeply embedded part of the verb is itself an adjective which combines in a sort of conjunction with another element that must be of the same syntactic/semantic type [adjective]. This analysis can be illustrated for the sentence in (22a) by the pre-conflation structure in (22b), that follow from the assumption that standard transitive verbs are typically decomposed into (at least) three elements as in (22c).

(22) a. I polished the metal smooth

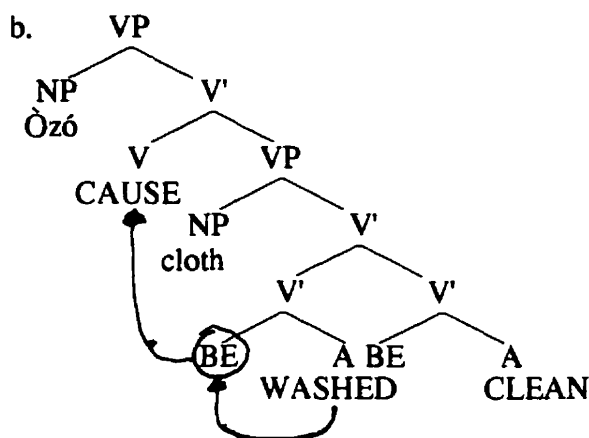


c. [x CAUSE [y BE [ADJECTIVE]]]

In (22c) *x* is the agent and *y* is the theme which is followed by a BE operator. The way this works is illustrated by the representation in (22b) in which the adjectival component of the verb moves out of the complex AP to combine with BE and CAUSE to derive the verb realized by *polish*. However, VP resultative (SVCs) do not fit neatly into the structure in (22b) since this particular analysis hinges on a complex predicate relation between two adjectives whereas the second predicate of the resultative SVC is a verb. As an alternative, Baker (1997b) proposes a modification to (22b) and includes a second BE element so that the two verbs in the resultative SVC could be created by conflating into their separate BEs. Thus, a resultative SVC like (23a) would have the structure in (23b).⁸

(23) a. Òzọ hòó ùkpòn huàn
Ozo wash cloth be-clean
'Ozo washed the cloth clean.'

⁸ Observe that the lower part of the V'-structure replicates a bivalent projection analysis of resultatives in Déchaine (1993: 141 ff.).



My primary objection to the structure in (23b) is based on the fact, which Baker rightly observes, that it involves the coordination of two phrasal categories (non-atomic heads). Therefore, moving the first verb which is made up of BE+WASH to conflate with CAUSE violates the Coordinate Structure Constraint (CSC) of Ross (1967). Furthermore, a related problem is that (23b) would require an explicit formulation of why only the first verb and not the second verb would need to raise up to CAUSE and this does not follow in any way from his analysis except by stipulation. Therefore, I reject the analysis of VP resultatives in Baker (1997b).⁹ One point of convergence between Baker's analysis of AP and VP resultatives and the one I have proposed in (19) and (20) is the fact that both analyses avoid the awkward feature of Collins (1997) since there is no empty category; structurally there is a single NP object for both predicates.

There are two challenges facing the correct unified analysis of AP and VP resultatives. The first is to show the sorts of constraints on the relation between AP and VP resultatives, and the second is to justify the structural difference between both of them. I expect that the answers to these questions will lead to an explicit formulation of the serial

⁹ There are two peculiar properties of the resultative construction which Baker's (1997b) analysis provides an elegant account for namely, the causative meaning associated with the main verb (V1) and the predicative power of adjectives (cf. Levin and Rappaport-Hovav, 1995). Such features are not in any way obvious in my analysis of the resultative SVC, and I do not consider them so as to keep the discussion of the serial verb parameter and the structures fairly simple. However, I should point out that these properties can be technically derived from my analysis if I also assume a lexical decomposition approach. Thus, the first verb would have a CAUSE operator which is typically missing from the unaccusative second verb. The second predicate itself can have the uniform decomposition of [_y INCH<BE[Adj]] such that in AP resultatives there is no conflation, while in VP resultative conflation applies to a simple Adj+BE to yield statives like mòsé 'be-beautiful', or it may go higher to INCH and yield unaccusatives like wú 'die'.

verb parameter distinguishing AP resultatives (Èdó and English) from VP resultatives (Èdó only) and, more generally, to distinguish SVC languages from non-SVC languages.

6.4 The Serial Verb Construction Parameter

In this section, I will focus on two crucial empirical evidence which clearly illustrate the constraints on AP and VP resultatives that will be generalized as the serial verb parameter, for example, distinguishing Èdó VP resultatives from English AP resultatives. The two areas that I will consider are; (a) the interaction between verb-raising and the bare stem condition, and (b) the issue of tense (tone) inflection.

6.4.1 The Bare Stem Condition

In this section, I provide a systematic account of the distinction between AP and VP resultatives with respect to the distribution of morphological tense inflection (cf. Baker and Stewart 1997a). I will argue that this property of morphological inflection is correlated with overt verb raising in Èdó and that verb raising is an obligatory parameter that relates to what I will call the 'bare stem condition' (BSC) and is relevant to the licensing of SVCs. The relevant data introducing the contrast is given in (24)-(27):

- (24) a. Òzó kòkó Àdésúwà mòsè
 Ozo raise Adesuwa beautiful (A)
 'Ozo raised Adesuwa to be beautiful.'
- b. Àdésúwà òré Òzó kó!kó(-ró) mòsè
 Adesuwa Foc. Ozo raise-RV beautiful (A)
 'It's Adesuwa that Ozo raised to be beautiful.'
- (25) a. Òzó má ákhé wòrò
 Ozo mould clay-pot long (A)
 'Ozo moulded the clay-pot to be long'
- b. ákhé òré Òzó má(-ré) wòrò
 clay-pot Foc. Ozo mould-RV long (A)
 'It is the clay-pot that Ozo moulded to be long.'

- (26) a. Òzọ kòkó Àdésúwà m̀s̀é
 Ozo raise Adesuwa be-beautiful (v)
 'Ozo raised Adesuwa to be beautiful.'
- b. Àdésúwà ̀r̀é Òzọ kó!kó(*-ró) m̀s̀é(*-ré)
 Adesuwa Foc. Ozo raise-RV be-beautiful (V)
 'It's Adesuwa that Ozo raised to be beautiful.'
- (27) a. Òzọ má ákóbié wó
 Ozo mould clay-doll be-hard (V)
 'Ozo moulded the clay-doll to be hard.'
- b. ákóbié ̀r̀é Òzọ má(*-ré) wó(*-ró)
 clay-doll Foc. Ozo mould-RV be-hard-RV (V)
 'It's a clay-doll that Ozo moulded to be hard.'

(24)-(25) are examples of the AP resultative SP while (26)-(27) illustrate the resultative SVC. Both constructions are acceptable in simple past tense clauses as seen in the (a) sentences where the verbs bear the normal past tense tones for disyllabic verbs. However, we notice a clear contrast between adjectival resultative SPs and resultative SVCs in the (b) sentences when the verbs are inflected for the past perfective tense realized as an [-RV suffix].¹⁰ The adjectival predicate is possible when the main verb is inflected for past perfective tense that is realized by the -rV suffix (24b) and (25b); notice that there is no affix on the A, and it still keeps its lexical tones. However, when the resultative predicate is a VP, i.e., a stative verb in (26b) and (27b), the first verb cannot be in the past perfective form and the ungrammaticality does not improve even when the second verb is similarly inflected (to capture tense matching that I have alluded to earlier on and will come back to under 6.5). This fact that the verbs in the resultative SVC cannot bear overt morphological inflection is what I call the bare stem condition, stated descriptively as in (28).

(28) Bare Stem Condition (BSC)

No verb in the serial verb construction can bear morphological tense inflection¹¹

¹⁰ Agheyisi (1990) proposes that the direct objects are clefted in these examples because the -rV (past perfective) affix elides before overt NPs as a result of fairly normal phonological rules (cf. Omoruyi 1991) but I will provide a syntactic explanation below.

¹¹ According to this generalization, tone marking is not inflectional.

In order to understand the BSC (28), it is important that we examine the special status of the past perfective in Èdó. As stated in Baker and Stewart (1997a), the past perfective verbal suffix is the only tense/aspect category in Èdó that is realized as an inflectional affix with segmental content. In particular, it is a suffix consisting of the approximant consonant *l̩* and a low-tone vowel that harmonizes with the last vowel of the verb stem.¹²

(29) Èdó tense paradigms (partial) (cf. Baker and Stewart, 1997)

	<u>One syllable verb</u> (cry)	<u>two syllable verb</u> (cry-PL ¹³)
simple past	só	sòló
present (habitual)	sò	sòlò
simple future	ghá sò	ghá só!ló
past perfective	só-rò	sòló-rò

The tense paradigm in (29) is fairly accurate for most classes of verbs (transitives, unergatives, statives, and unaccusatives). What (29) clearly shows is the fact that there is only one inflectional affix with segmental content--the past perfective suffix -rV--and that is incompatible with serial verb construction given the BSC (28). The next question is what is the theoretically satisfying account of the descriptive generalization stated in the BSC.¹⁴ To pursue this, I turn now to the issue of verb raising in Èdó.

¹² All other tense/aspect features in Èdó are indicated either by tonal morphemes, such as the simple past and present that have been used thus far in all of my examples, or by independent auxiliary particles or preverbs such as the future *ghá* or past habitual *ghá!á*.

¹³ PL refers to plurality of the object that is indicated as an agreement on the verb (cf. Stewart 1997). Under certain conditions PL may also refer to the iteration of the action denoted by the verb based on the plural interpretation of the cardinality of the object.

¹⁴ Baker and Stewart (1997a) attempt to draw a link between the BSC and similar effects in the come/go-plus-bare-infinitive construction of American English (i) that has been discussed in Jaeggli and Hyams (1993) and Pollock (1991) among others.

- (i) a. Come talk to me today
 b. He will come talk to me today
 c. They will come talk to me every day
 d. *He comes talk(s) to me every day
 e. *He came talk(ed) to me every day
 f. *He has gone talk(ed) to her more than once

As will become obvious from my discussion of verb raising in Èdó, it would seem that these sentences only bear surface resemblance to SVCs but are actually determined by other facts since there is no evidence for V-I movement at S-structure in English (cf. Pollock 1989, Arnold 1998 and references therein, Roberts 1993 etc.) One account of this difference between Èdó and English with respect to overt V-I movement is discussed in this section.

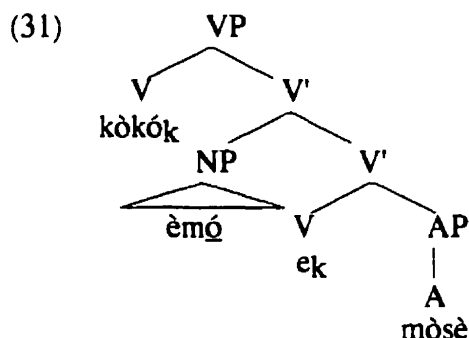
6.4.2 Verb Raising-to-Infl

In this section, I will argue that the BSC is a constraint on SVCs that is a direct consequence of overt V-to-I movement. Once again, the minimal contrast between AP and VP resultatives with respect to BSC is given in (30):

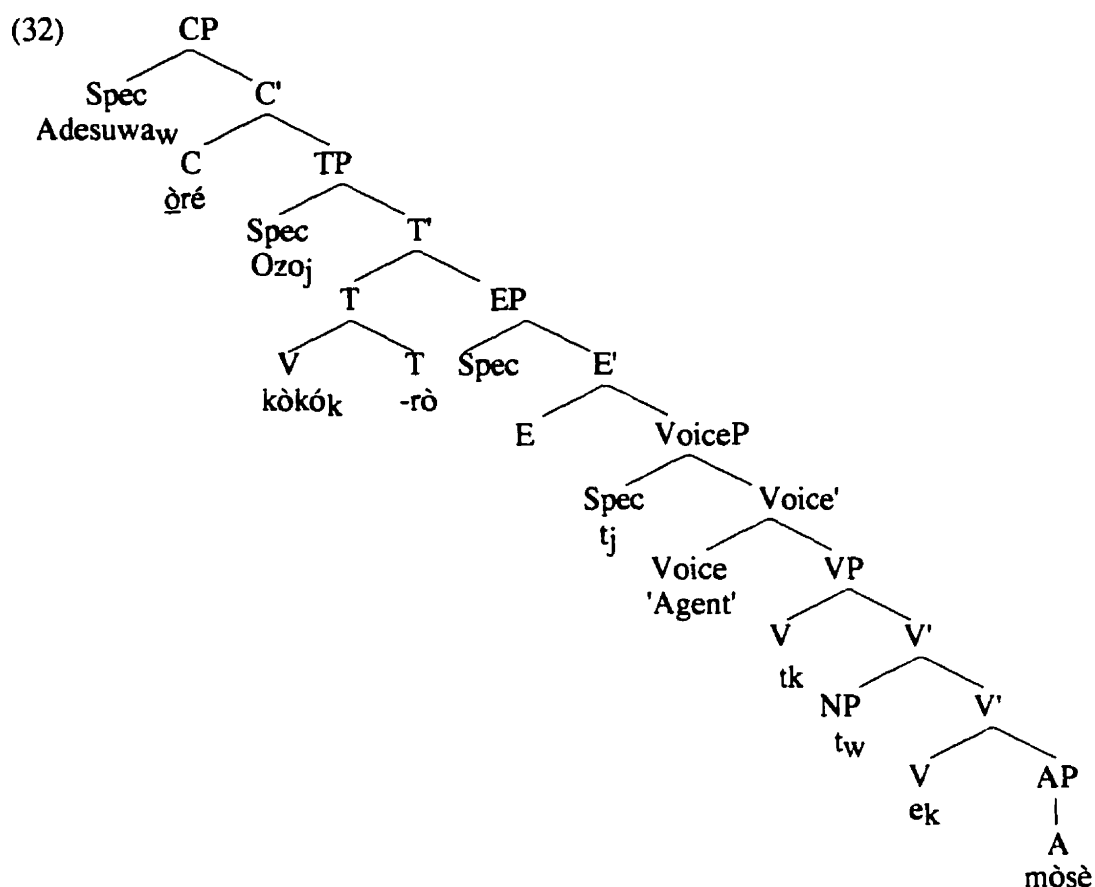
- (30) a. Àdésúwà òré Òzò kó!kó(-ró) m̀sè
 Adesuwa Foc. Ozo raise-RV beautiful (A)
 'Its Adesuwa that Ozo raised to be beautiful.'
- b. Àdésúwà òré Òzò kó!kó(*-ró) m̀sé(*-ré)
 Adesuwa Foc. Ozo raise-RV be-beautiful (V)
 'Its Adesuwa that Ozo raised to be beautiful.'

I propose that the reason why the main verb in the resultative adjectival SP can bear the past perfective tense (30a) is because it is the only category that can bear such inflection in the structure and so raises overtly to T to check (strong) tense features as illustrated in (32).

Recall the structure in (19), repeated here as (31), which represents the underlying structure of the AP resultative.



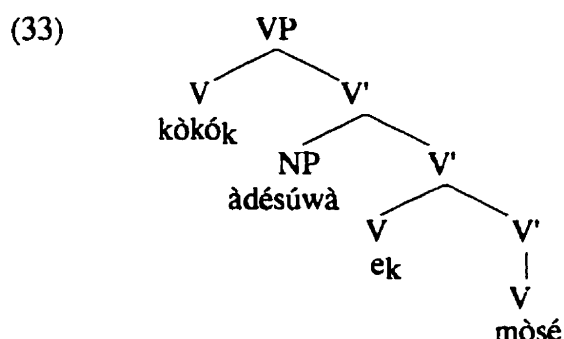
I assume that verb raising in the AP resultative SP derive from this basic structure of the VP in (31) and proceeds in the manner illustrated in (32).



In this structure in (32) I assume that there is no short verb movement in the sense of Larson (1988). As an alternative, I adopt the approach from the previous chapters in which the top verb binds an empty (lower) verb and this is based on the assumption that what is crucial in the Larsonian approach is that the verb must be before the object at S-structure, and I derive this fact without any movement. This is based on the fact that there is evidence for overt V movement in the Èdó language; when the verb moves at S-structure it must be to Tense (see discussion of example (34f) below). Therefore, since there is no evidence for Larsonian V-to-V raising within the VP, I assume in (32) that the (main) verb undergoes overt verb movement to T to support the -rV affix (or for head-head checking of the tense features realized by the -rV suffix).¹⁵

¹⁵ One relevant question at this point is whether there is ever any evidence for raising to E? According to my analysis, the answer would be no because if a verb raises to the outer Aspect, E then it must get to T.

On the other hand, we have observed that verb raising to T is in principle incompatible with the verbal resultative (SVC) (30b). Consider the underlying structure of the VP in the resultative SVC given in (20) and repeated here as (33).



When the fact about the incompatibility of the -rV suffix with resultative SVCs is linked with this underlying structure of the VP and then contrasted with the analysis of the AP resultative in the structure in (32), the conclusion is that there can be no verb movement (V-to-I raising) in SVCs.

I turn now to the empirical evidence for verb movement to Tense in the resultative adjectival SP but not in the resultative SVC. I propose that such evidence comes from the surface distribution of verbs with respect to I-type adverbs (cf. Pollock (1989), Bowers (1993), Koizumi (1993), etc.). In Èdó, the I-type adverb clearly has a fixed position in syntactic structure as a left-adjunct to the functional head E (see section 2.2.1) where it also inflects for tense tones. I will begin this description of the basic facts of verb raising with a simple sentence illustration as shown in (34):

- (34)
- a. Èsòsà khién èbé
Esosa sell book
'Esosa sold the book.'
 - b. Èsòsà giégié khién èbé
Esosa quickly sell book
'Esosa quickly sold the book.'
 - c. *Èsòsà giégié khiénrén èbé
Esosa quickly sell-RV book

- d. èbé òré Èsósà khiénrén giégié
 book Foc. Esosa sell-RV quickly
 'It is a book that Esosa quickly sold.'
- e. *èbé òré Èsósà giégié khiénrén
 book Foc. Esosa quickly sell-RV
- f. *èbé òré Èsósà khién giégié
 book Foc. Esosa sell quickly

(34a) is an example of a typical transitive verb and I have chosen a transitive verb in order to make a specific statement about what has been previously assumed to be a phonological problem in Èdó (cf. Omoruyi 1991, Agheyisi 1990 etc.).¹⁶ Recall the discussion in section 2.2.1 in which I showed that an adverb cannot occur between a verb and its argument and so, for example, (35) is ungrammatical because the position of the I-type adverb is fixed;

- (35) *Èsósà khién giégié èbé
 Esosa sell quickly book

This generalization about the position of the I-type adverb being fixed can be further illustrated by the contrast between (34b) and (34f). (34b) shows that the I-type adverb can occur in the position before the verb plus object, while (34f) shows that it can never be after the verb even when the direct object is extracted.

The crucial part of the discussion of verb raising begins with the sentence (34c) in which the verb bears the past perfective tense inflection but the sentence is ungrammatical. Since the minimal contrast between (34b) and (34c) is the presence of the past perfective -rV affix, it appears that the -rV inflection cannot occur on a verb when its direct object is present. However, as (34d) shows the -rV suffix can only be inflected on a verb when its direct object is clefted and the verb comes to be in a position before the I-type adverb. Omoruyi (1991) analyzes the contrast between (34c) and (34d) based on the proposal that the ungrammaticality of (34c) comes from a phonological incompatibility between the -RV suffix on the verb and direct object. I will argue that this explanation is incorrect and that it

¹⁶ This account of verb raising is true for all verbs in Èdó, not only transitive ones. More discussion of this generalization is provided based on the analysis of aspectual verbs in chapter seven.

is at the very best merely descriptive. In fact, if we assume that -rV and -IV (cf. Stewart 1997) occupy the same position then such an analysis will make the wrong prediction that the phonologically similar affix -IV suffix and its nasal counterpart -ne would be ungrammatical when the verb has a direct object and this is contrary to fact (36);

- (36) Èsòsà khiénné èbé
 Esosa sell book
 'Esosa sold the books'

As an alternative, I propose that the contrast between (34c) and (34d) is evidence for overt verb movement whereby the verb comes to be in a position before the I-type adverb that always occur in a fixed position in E. (34c) is ungrammatical because the verb can only bear the -rV suffix if it has moved to Tense past the adverb, but in this case this has not happened, because the I-type adverb precedes the verb. In comparison with (34d) we observe that the sentence is grammatical because the verb has moved upward to Tense and now bears the -rV inflection. Accordingly, I propose that the reason why the object has to be clefted is not because of any phonological incompatibility but rather because Case cannot be assigned to the direct object via the trace of the verb (cf. Koopman 1992 for similar observations in Bambara, a Mande language spoken in Mali).¹⁷ This explanation by itself already provides confirmation for verb raising and its theoretical relevance in the grammar of Èdó.

(34e) and (34f) provide evidence for two more properties that are associated with verb raising in Èdó. The contrast between (34e) and (34c) shows that verb raising to Tense and object cleft are obligatory when the verb bears the -rV inflection. I propose that the verb cannot move overtly to Tense unless the -rV is there to trigger it. Thus, (34e) is ungrammatical because although the object has moved to avoid Case filter violation, the -rV

¹⁷ R-M.. Déchaine (p.c.) observes that since the movement of the object to the Focus position seems to be the thing that permits case-assignment, therefore this predicts that A-bar movement correlates with Case retraction contradicting (42), p. 165. However, I do not think that this is a problem because I assume that wh-traces do not need Case (Borer 1983).

inflection on the verb is not possible because the verb has not moved past the adverb. (34f) shows the other side of the obligatory nature of verb movement to Tense and the surfacing of the -rV inflection and this is that even when the object is clefted and the verb raises to a structural position which is not T but presumably E, the sentence is ungrammatical because the verb must obligatorily raise as far Tense in order to support (or check) the -RV.

Consequently, I conclude that verb raising to Tense is obligatory when the verb bears the -RV inflection. On the basis of this conclusion, I now return to the distinction between AP and VP resultatives. I will begin with a description and analysis of verb raising in the AP resultative SP where there is clearly only one candidate for V-raising. Consider the following:

- (37) a. Àdésúwàk òré Òzó kó!kóròj giégié tj tk mòsèmòsè¹⁸
 Adesuwa Foc. Ozo raise-RV quickly beautiful (A)
 'Its Adesuwa that Ozo raised quickly to be beautiful'
- b. *Àdésúwàk òré Òzó kó!kój giégié tj tk mòsèmòsè
 Adesuwa Foc. Ozo raise quickly beautiful (A)
 'Its Adesuwa that Ozo raised quickly to be beautiful'
- c. *Àdésúwàk òré Òzó giégié kó!kóròj tj tk mòsèmòsè
 Adesuwa Foc. Ozo quickly raise-RV beautiful (A)
 'Its Adesuwa that Ozo quickly raised to be beautiful'

In (37a) we observe that the verb precedes the I-type adverb that is adjoined to the E position rather than the normal order in which the adverb occurs before the verb. This switch in word order goes along with a morphological tense inflection which is the -RV that marks past perfective. I interpret these facts as the empirical evidence that the verb has raised past the fixed position of the adverb to support the -RV suffix in Tense. (37b) confirms this conclusion based on the fact that the verb can only raise to Tense if the -rV suffix is present and not to any other functional projection above E. (37c) completes the argument concerning the obligatory nature of verb raising in Èdó when -rV is in Tense.

¹⁸ Note that mòsè and mòsèmòsè are the same thing (adjectives). Both are related via a fairly regular process of reduplication.

This shows that if a verb bears the morphological features of tense such as the -rV suffix, the only way this can happen is by the verb raising to Tense. Thus, the presence of such inflection implies verb raising to Tense and only Tense. I take all of these facts to be visible manifestation of Chomsky's (1995) ATTRACT which can be descriptively stated as a condition that requires the relevant functional head to 'attract the closest thing'. I formalize the relevant definition of attract as in (38):¹⁹

- (38) ATTRACT
- X attracts Y only if Y could check a feature of X,
and all Z such that Z could check a feature of X,
Y asymmetrically c-commands Z²⁰

In the case at hand, X refers to the functional head Tense that bears the -rV suffix and Y is the first or main verb as the case may be in resultative SVC and AP resultative SP respectively while Z may be the second verb in SVC. (38) provides a very elegant account for the facts about verb raising in the AP resultative SP (37). Verb raising is possible in (37a) based on (38) because the verb is the only candidate that qualify as Y to check the -RV feature on X (Tense). There is no Z to consider in this case because the adjective could not check the tense feature and so the c-command condition on the target of ATTRACT is satisfied vacuously. Therefore, I attribute the presence of the -rV suffix on the verb to the

¹⁹ R-M.. Déchaine (p.c.) has observed that this definition of ATTRACT may be at odds with general considerations of economy (e.g. only move if you must). However, this is not quite correct because although it may seem conceptually more economical to attract one verb in the resultative SVC (for example), yet the syntax sees the two verbs as a single head. This explains ATTRACT is defined as in (38). I thankfully acknowledge the contribution of Mark Baker in helping me to work out a suitable definition of ATTRACT.

²⁰ I assume the notion of c-command (as first discussed and defined by Aoun and Sportiche 1983) which is stated as follows;

C-command

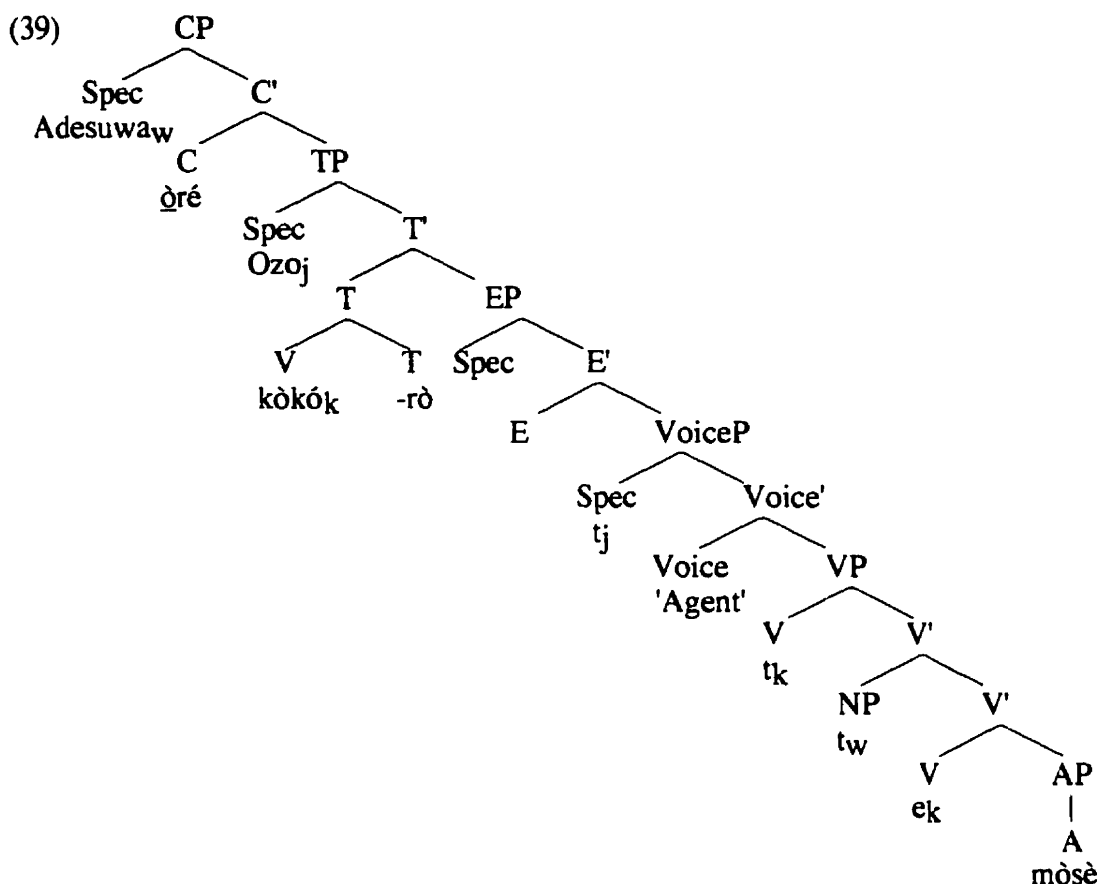
A c-commands B iff

(a) A does not dominate B and B does not dominate A; and

(b) the first maximal projection dominating A also dominates B (i.e., for every maximal projection C, if C dominates A then C dominates B).

Chomsky (1986) calls this M-COMMAND, distinguishing it from another notion of c-command in all categories that contain the "commander" must also contain the "commandee." We can ignore the difference for the most part.

fact that the verb has raised up to Tense. Therefore, I propose the structure in (39) for the AP resultative SP sentence with verb movement.



This structure in (39) accounts for the facts of verb movement in Èdó based on a series of head-movements (cf. Travis 1984) by the verb through functional heads to the Tense projection that is doing the attracting.²¹ Once again, the adjective does not count as Z since it cannot check the relevant feature of Tense which is the past perfective that is morphologically realized by the -rV suffix, and also there is no c-command because the A is in a maximal projection.

Let us now compare the foregoing facts and analysis with verb raising possibilities in the resultative SVC based on the definition of ATTRACT in (38). For descriptive clarity two separate sets of data are presented, the first set (40) illustrates the possibility of verb

²¹ I assume that E cannot attract because it has weak V-features.

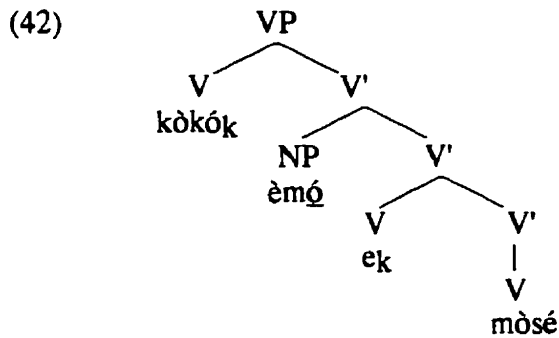
raising with the first verb, while the second set (41) shows comparable facts with simultaneous V-raising involving both the first and second verbs:

- (40) a. *Àdésúwàk òré Òzó kó!kóròj giégié tj tk mó!sé
 Adesuwa Foc. Ozo raise-RV quickly be-beautiful (V)
 'Its Adesuwa that Ozo raised quickly to be beautiful.'
- b. *Àdésúwàk òré Òzó kó!kój giégié tj tk mó!sé
 Adesuwa Foc. Ozo raise quickly be-beautiful (V)
 'Its Adesuwa that Ozo raised quickly to be beautiful.'
- c. *Àdésúwàk òré Òzó giégié kó!kóròj tj tk mó!sé
 Adesuwa Foc. Ozo quickly raise-RV be-beautiful (V)
 'Its Adesuwa that Ozo raised quickly to be beautiful.'
- (41) a. *Àdésúwàk òré Òzó kó!kóròj mó!séréj giégié tj tk tɪ
 Adesuwa Foc. Ozo raise-RV be-beautiful-RV (V) quickly
 'Its Adesuwa that Ozo raised quickly to be beautiful.'
- b. *Àdésúwàk òré Òzó kó!kój mó!sél giégié tj tk tɪ
 Adesuwa Foc. Ozo raise-RV be-beautiful-RV (V) quickly
 'Its Adesuwa that Ozo raised quickly to be beautiful.'
- c. *Àdésúwàk òré Òzó giégié kó!kóròj mó!séréj tj tk tɪ
 Adesuwa Foc. Ozo quickly raise-RV be-beautiful-RV (V)
 'Its Adesuwa that Ozo raised quickly to be beautiful.'

(40a) shows that the first verb of the resultative SVC cannot undergo verb raising to Tense, while (40b) recalls the fact that only the -rV tense can attract and thus trigger verb raising. Thus, (40b) shows that it is ungrammatical for the verb to move past the adverb and adjoin to any other element. Furthermore, we also observe from (40c) that it is ungrammatical for the verb to bear the -rV inflection in its base position (or if it has short-moved to an empty V position in a Larsonian shell). This implies that verb movement to Tense is obligatory when there is a strong feature such as the past perfective morphologically spelled-out by the -rV suffix. Consequently, I conclude that the first verb of the resultative SVC never raises to Tense.

Based on the definition of ATTRACT in (38), I propose that inability of the first verb to undergo verb movement to Tense in the resultative is because there are two potential

candidates for ATTRACT; the first verb (Y) and the second verb (Z). According to my analysis of the resultative SVC which is illustrated in (42) both verbs c-command (m-command) each other.



The first verb is realized by a binding chain between an empty verb position and an overtly filled top verb and I assume that both positions count as the same, they are non-distinct. Thus, in (42) the first verb (Y) c-commands the second verb (Z) and vice versa since it is the same first branching node that dominates both V(e) and the V' containing the second verb within the same VP projection. Consequently, Tense (X) cannot ATTRACT the first verb because it does not asymmetrically c-command the second verb, and so verb movement by the first verb is ungrammatical.

A similar analysis accounts for the ungrammatical sentences in (41) where both verbs in the resultative SVC simultaneously move to Tense.²² As (41) shows, such simultaneous verb movement in the resultative SVC is ungrammatical based on the fact that there is mutual c-command between the two verbs and so neither of them can be the object of ATTRACT. Consequently, neither the first nor second verb of the resultative SVC can bear the -rV inflection.

²² Conceivably, one could attempt to move the second verb past the adverb position before the first verb and have it also move past the first verb. However, this does not make sense since the resulting word order goes against the current of our expectation and lacks any empirical motivation whatsoever
cf. *àdésúwà òré Òzò mó!séré gié!gié kó!kó .

On the basis of the fact that none of the verbs in the resultative SVC can bear the -rV inflection (the BSC (28) that linked to the inability of Tense to attract any of the verbs), I conclude that the serial verb parameter deriving resultative SVCs can be found in a language where the functional projection bearing Tense feature fails to attract. This is formalized as in (44):

(44) Verb-raising serial verb parameter

A verb serializing language is one in which Tense (or other Infl type categories) does not need to be checked, i.e., T has no V-feature.²³

There are two ways that I propose to illustrate the serial verb parameter in (44). First, one can make minimal comparisons between resultative SVCs in Èdó and resultative V-V compounds in Igbo on the one hand, and then with AP resultative SPs in English. Second, one can examine the issue of V-to-I movement in the consequential SVC and CCs in Èdó.

6.4.2.1 Re: Igbo Resultative V-V Compounds

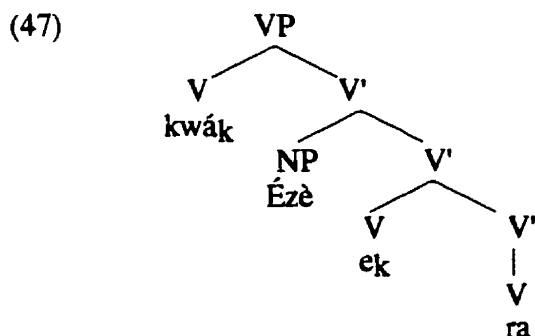
Recall my proposal in section 5.4.1 that Igbo resultative V-V compounds originate from the same underlying structure as the resultative SVC prior to V- incorporation. Furthermore, I proposed along similar lines as in Déchaine (1993) and Manfredi (1991) that the locus of variation between a language such as Èdó with resultative SVCs and Igbo with resultative V-V compounds lies in the two-step process of V-incorporation and subsequent obligatory V-V raising to Tense. I will now show that these two-steps are predicted (and in fact required) by the verb-raising serial verb parameter (44) distinguishing Èdó from Igbo. This is illustrated based on the following Igbo sentences:²⁴

²³ So, ATTRACT is not relevant, even at LF (see text below for discussion of the parameter applied to English).

²⁴ I thank Oyenma M. and Peter Ihionu (p.c.) for providing judgments on these sentences.

- (45) a. *Obi kwá-ra Ézè da
Obi push-RV Eze fall
- b. *Obi kwá Ézè da-ra
Obi push Eze fall-RV
- c. *Obi kwá-ra Ézè da-ra
Obi push-RV Eze fall-RV
- d. *Obi kwá-da Ézè
Obi push-fall Eze
- e. Obi kwá-da-ra Ézè
Obi push-fall-RV Eze
'Obi pushed Eze down'
- (46) a. *Ó rí-ri afo ju
3s eat-RV stomach be.full
- b. *Ó rí afo ju-ru
3s eat stomach be.full-RV
- c. *Ó rí-ri afo ju-ru
3s eat-RV stomach be.full- RV
- d. *Ó rí-ju afo
3s eat-be.full stomach
- e. Ó rí-ju-ru afo
3s eat-be.full-RV stomach
'S/he ate [her/his] stomach full.'

The verbs in (45) and (46) combine as sequences of action-result which are generally classified as resultative V-V compounds (cf. 5.4.1). The underlying representation that I have proposed for the Igbo resultative V-V compound prior to V-incorporation is (47).



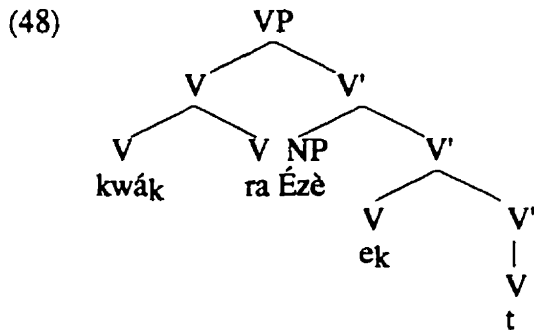
Turning now to the data, observe that the (a) sentences in which only the first verb of the compound bears the -rV suffix are ungrammatical. Having the tense affix on the first verb

implies that it has moved to tense, however such movement by the first verb alone is ruled out by my analysis in which only the uniquely closest verb is attracted. However, as shown in (47) there is mutual c-command relation between the two verbs of the compound since the first maximal projection that dominates the empty V position of the first verb also dominates the second verb and vice versa, so both count as the closest. Consequently, Tense fails to attract only the first verb because it does not asymmetrically c-command the second verb which is a potential candidate to be attracted, and so the sentence is ungrammatical. The same explanation can be extended to account for the ungrammaticality of the (b) sentences in which only the second verb is attracted. Again, according to my analysis the second verb also c-commands the first verb which makes it also a potential candidate for ATTRACT along with the first verb. Therefore, based on the asymmetric c-command condition on ATTRACT the sentences are ungrammatical because the second verb alone cannot be attracted by Tense excluding the first verb. The ungrammaticality of these sentences where each verb by itself cannot check the Tense feature borne by the -rV suffix implies that V-incorporation is obligatory in order to derive Igbo resultative V-V compounds (Manfredi 1991, Déchaine 1993).

The sentences in (c) provide further evidence that V-incorporation is obligatory. Here, we observe that the -rV suffix is borne by each of the verbs. These sentences are predicted to be ungrammatical because it is assumed that there is a single Tense which can attract. Having two separate inflections on each verb would imply that there are two separate Tense projections and this is contrary to fact.

In the (d) sentences, we notice a step that is crucially impossible in Èdó where V-incorporation takes place thereby creating a single complex word, i.e., the V-V compound. The consequence of this V-incorporation is that the c-command condition on ATTRACT is now nullified. I assume a head-movement account of V-incorporation whereby the second verb incorporates to the right of the first verb, an order which I further assume is allowed by the head movement constraint (HMC) (Travis 1984) because movement is internal to a

maximal projection and furthermore is forced by the constraints on the ontology of events, resultatives are accomplishments. However, I also assume that the trace of head-movement by the second verb for incorporation is not relevant to c-command because traces have no feature and so are invisible to ATTRACT (Chomsky 1995: chapter 4). The resulting structure from V-incorporation is given in (48).



(48) illustrates the motivation and process of obligatory V-incorporation in the Igbo resultative V-V compound, however as we notice from the ungrammaticality of the (d) sentences this structure is still not fully licensed since the verbal compound has not raised to check the relevant feature of Tense. Based on the grammaticality of the (e) sentences in which V-incorporation has taken place and the verbal compound has raised to Tense, I propose that V-incorporation is a necessary but not sufficient step in deriving resultative V-V compounds. Crucially, the verb must obligatorily raise to Tense as is generally the case in Igbo. This is consistent with the ATTRACT condition (38) because in the (d) sentences, although the c-command condition has been circumvented, the sentences are still ungrammatical because the verbal compounds have failed to raise to Tense.

Consequently, I propose that Igbo is a language in which the strong feature of Tense does ATTRACT (the verb-raising serial verb parameter (44)) and this creates surface V-V compounds in Igbo resultatives, whereas the failure of Tense to ATTRACT creates resultative SVCs in Èdó.

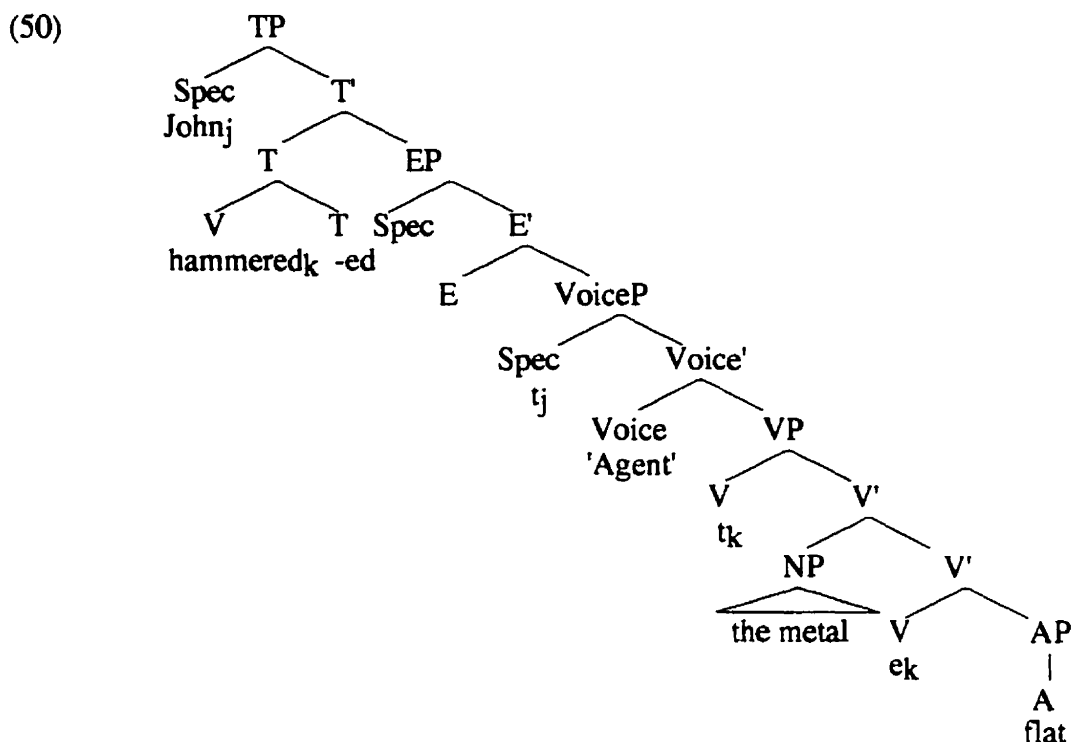
As a summary, ATTRACT is defined so that movement of all potential heads capable of checking a given feature is forced. This accounts for the fact that resultatives surface as V-V compounds in Igbo (both Vs must raise), but as SVCs in Èdó (neither V raises). Described this way, R-M Déchaine (p.c.) observes that if the Èdó -rV suffix is located in Tense and forces V-to-T, then one might expect resultative compounds to be possible with -rV morphology in Èdó of the form [---V1-V2-rV], a pattern which is unattested. This is to be expected in Èdó given the discussion and analysis in Chapter two (p. 128) that there are no morphological compounds in Èdó of the form V-V as in Yoruba, i.e., V-V compounds are not licensed at a morphological level in Èdó, i.e., *[V1-V2]. Therefore, by implication Igbo-type resultative V-V compounds are ruled as potential targets of ATTRACT in Èdó due to the morphological filter that prevents the derivation of such structures in the first place.

6.4.2.2 English AP resultative SPs

Turning to English, let us now address the issue of why there are no VP resultatives in English, in other words why English does not serialize? Again, I propose that the answer comes from the parameter in (44) which is the prose version of the ATTRACT condition in (38). The relevant data is given in (49):

- (49) a. John hammered the metal [flat]AP
 b. John cut the watermelon into pieces.
 c. John cut the watermelon [*shred/*flatten]

The sentences in (49) show that APs or PPs, but not VPs are possible as resultative predicates in English. Limiting my discussion to AP-VP contrast, I assume a unified analysis of all adjectival resultative SPs and propose that (49a) has the same analysis as Èdó AP in (39). This is illustrated for the English example (49a) in (50) where verb raising occurs at LF.



According to the structure in (50), there is only one potential candidate to be attracted by Tense and this is the main verb. Thus, the main verb raises to Tense at LF to check the relevant feature as has been standardly assumed (Roberts 1985a/b, Chomsky 1995, Pollock 1989, Koizumi 1993 etc.). However, I assume on a parity between Èdó and English resultative SPs that there is no Larsonian "short verb movement" in this construction. Therefore, since there is no potential Z that can occur along with Y under the same (x) Tense in English, it follows that English is a language in which the weak feature in Tense need not attract and hence it fails to serialize, i.e., have a verb (Z) as the secondary predicate under a single tense. Observe that while the structure in (50) is acceptable, the interesting thing is the ungrammaticality of the other example (49c) where the secondary predicate is a verb. If the verb raises at LF as has been assumed for English, then this creates the same problem that Èdó has at s-structure because both verbs would c-command

each other and so none of them can be attracted, therefore there are no resultative SVCs in English.²⁵

I would like to conclude this discussion of the V-raising serial verb parameter based on a summary that is presented in the form of a typology of languages.

(51) A typology of verb-raising serial verb parameter

SVCs occur if a functional projection has Tense features that do not need to be checked. ATTRACT is defined as follows;

X attracts Y only if Y could check a feature of X,
and all Z such that Z could check a feature of X,
Y asymmetrically c-commands Z

T with strong V-feature	{French, Igbo, Chinese} ²⁶	no SVC
T with weak V-feature	{English}	no SVC
T with no V-feature	{Èdó, Yoruba, Ewe -----}	SVC possible

Concerning this typology in (51), it has been suggested by R-M Déchaine (p.c.) that for languages where T has no feature, the verb-raising parameter predicts that T should be able to merge with any type of projection, e.g. T need not be followed by (an extended projection of) V. According to her, some languages do seem to allow this, e.g. the nominal tense of Athabaskan, Salish and Algonquian. However, I do not agree that this is actually the case since according to Baker and Stewart (1997a), nouns and Adjectives need a *pred* head in order to be properly licensed.

²⁵ This is consistent on the surface with the serialization parameter in Collins (1997) that a single Tense can license multiple Vs. However, my proposal is different from Collins (1997) because it is more specific about the exact nature of Tense in SVC languages, based on the connection with Pollock-style verb raising. In fact, Collins (1995) which develops some specific proposals about the relationship between Tense and the verbs proposes the opposite of what I am saying because the verbs would have to raise in his account which is contrary to the facts from verb raising in Èdó.

²⁶ Observe that Igbo and Chinese are grouped together with French as languages in which T has strong V-feature. While this accounts for the fact that Igbo and Mandarin Chinese both have resultative V-V compounding, French is clearly different since it does not have V-V compounding and so the question is why? The simple answer that I will give is that French is like Èdó in having a morphological filter (plus, possibly other conditions) that prevents the forming of V-V compound structures.

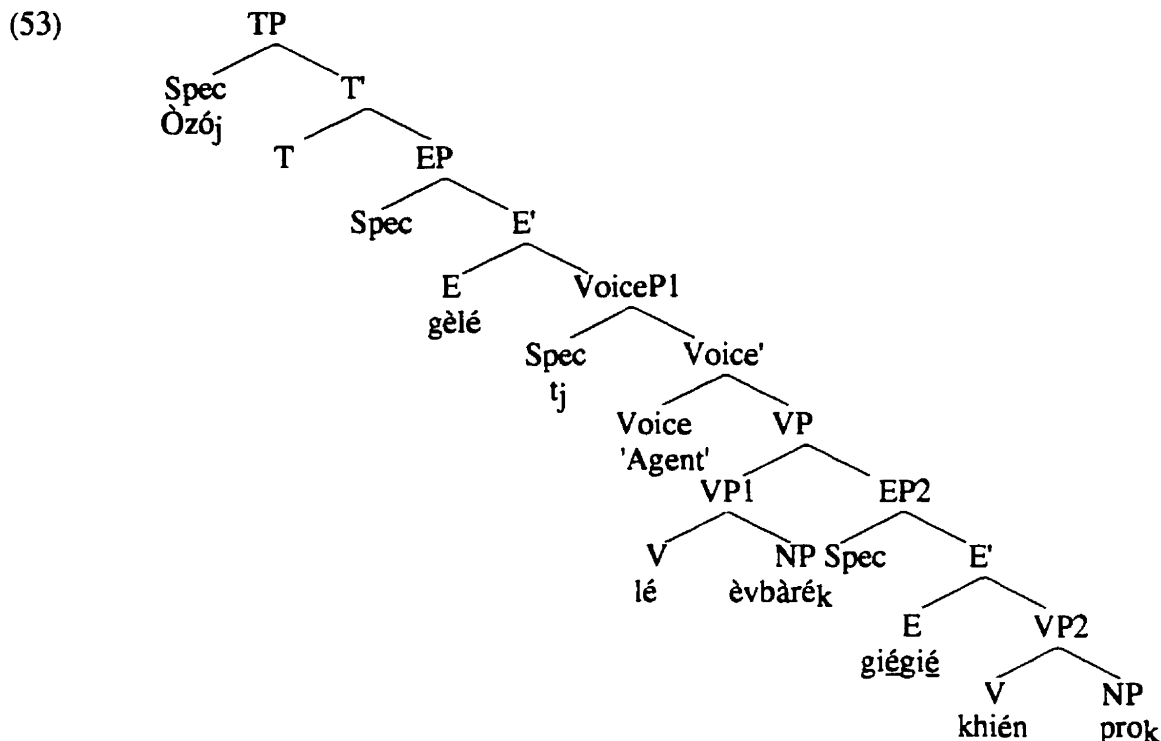
6.4.2.3 V-raising in Consequential SVC and CCs

The goal of this section is to show that the V-raising serial verb parameter also extends in an appropriate way to other consequential SVCs and CCs. In particular, I will show that the serial verb parameter can distinguish between a true SVC (consequential) and a covert coordination (CC). I will begin with the consequential SVC. Consider the following sentences which illustrate verb movement of the first verb:

- (52) a. Òzọ gèlé lé èvbàré khién
 Ozo truly cook food sell
 'Ozo truly cooked the food and sold it.'
- b. *èvbàré òré Òzọ lé!ré gé!lé khién
 food Foc. Ozo cook-RV truly sell
- c. *èvbàré òré Òzọ lé gé!lé khién
 food Foc. Ozo cook truly sell
- d. *èvbàré òré Òzọ gé!lé lé!ré khién
 food Foc. Ozo truly cook-RV sell

(52a) shows that the adverb position before the first verb can be filled. Let us now examine the possibility of moving the first verb, whereby it comes to precede the adverb and bear the -rV inflection. (52b) shows that the first verb cannot occur before the adverb and bear the -rV inflection. I take this as evidence that the first verb cannot raise to Tense. (52c) examines the possibility of a Larsonian short verb movement. However, such movement is not empirically motivated as the resulting sentence (52c) with this order of verb before adverb is ungrammatical. (52d) confirms the proposal that the presence of a morphological tense inflection on the verb implies verb movement to Tense; it is ungrammatical for the first verb to bear the -rV inflection in its base position.

The facts just discussed about the first verb in (52) consistently re-enforce the predictions of the V-raising serial verb parameter. In order to illustrate this point let us consider the structure of the consequential SVC for the sentence (52a) as shown in (53).



In this structure in (53), I have written the I-type adverbs under their respective E rather than adjoining them to E simply for the convenience of presentation. Now, based on this structure with respect to the ATTRACT condition in (38) I assume a very strict interpretation of c-command which refers to the lowest segment of the first maximal projection (I have in mind the category/segment distinction in May (1985)). Thus, if we analyze the ATTRACT condition such that X is Tense and Y is the first verb while Z is the second verb, we will observe from the structure in (53) that Y does not asymmetrically c-command Z since the lowest segment of the first maximal projection dominating the first verb does not dominate the VP2 that Z is contained in. It follows, therefore, that Tense cannot attract the first verb because it does not qualify as the closest element with the desired features. This analysis extends in a straight-forward manner to capture similar facts of verb movement by the second verb as illustrated by the data in (54):

- (54) a. *èvbàré òré Òzò lé khién!rén giégíé
 food Foc. Ozo cook sell-RV quickly

- b. *èvbàré òré Òzó lé khiến giégié
 food Foc. Ozo cook sell-RV quickly
- b. *èvbàré òré Òzó lé giégié khiếnrén
 food Foc. Ozo cook quickly sell-RV

As the sentences in (54) show, it is ungrammatical for the second verb to move past the adverb that normally occurs before it. It can be assumed that these sentences are simply ungrammatical because although there is an adverb position before the second verb there is no lower Tense position structurally that can trigger verb movement (in contrast to covert coordinations below).²⁷ In fact, this is precisely the point about the ATTRACT condition on SVCs because it is based on the strength of a single Tense head that dominates and can potentially attract two verbs to check its features; neither of which is the uniquely closer verb in an SVC.

Perhaps the best way to illustrate the V-raising serial verb parameter is to show what happens when both verbs bear the -rV inflection in the consequential SVC. This is given in (55):

- (55) a. Òzó giégié lé èvbàré khiến
 Ozo quickly cook food sell
 'Ozo quickly cooked the food and sold it'
- b. *èvbàré òré Òzó lé!ré khiếnrén giégié
 food Foc. Ozo cook-RV sell-RV quickly
- c. *èvbàré òré Òzó lé!ré giégié khiếnrén
 food Foc. Ozo cook-RV quickly sell-RV

(55a) illustrates the fact that there is an adverb position immediately after Tense and it c-commands and has scope over the two verbs. Therefore, compare with (55b) in which both verbs have moved past the adverb and now bear -rV inflections indicating that they have both moved to Tense. The fact that this sentence is ungrammatical is consistent with the

²⁷ Concerning the second verb, the ATTRACT story rules out the ridiculous sentence in (i)

(i) *èvbàré_k òré Òzó khiến-rén; gé!é lé t_k t_j
 where the second verb raises past the first verb plus adverb to Tense.

BSC (28) and the serial verb parameter (44). Based on the analysis of the consequential SVC, neither verb c-commands the other and so neither of them can be attracted by Tense and so they cannot inflect for the -rV suffix (55b) or in the reverse order (55c).

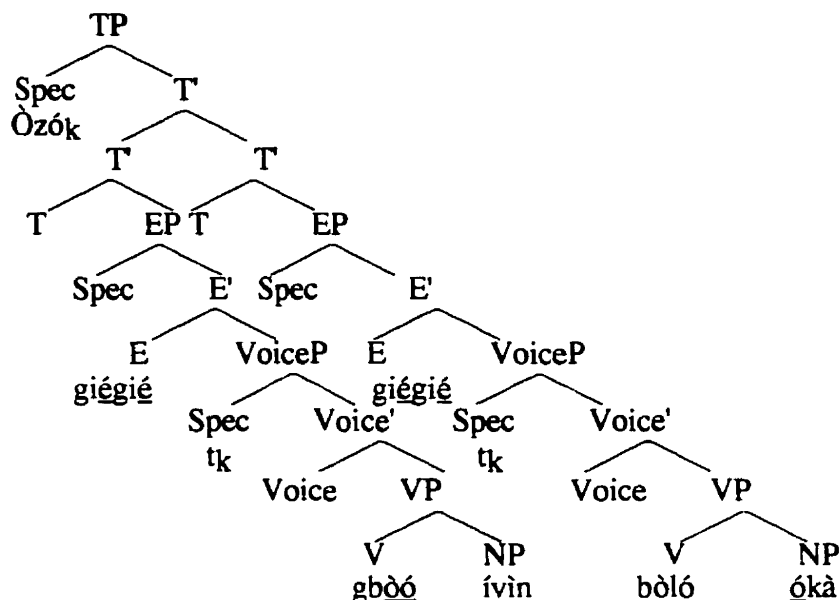
On the basis of the foregoing, I will conclude that resultative SVCs and consequential SVCs illustrate two opposite ways that ATTRACT can fail to apply. Whereas the two verbs in the resultative mutually c-command each and so neither could count as the closest thing for ATTRACT, on the other hand neither of the verbs in the consequential SVC c-command the other and so Tense fails to attract any of them.

Let us now turn to the CC where we will observe a striking contrast with object sharing SVCs. Consider the following:

- (56) a. Òzọ gié!gié gbòó ívìn gié!gié bòló ókà
 Ozo quickly plant coconut quickly peel corn
 'Ozo quickly planted coconut and quickly peeled corn.'
- b. ívìn òré Òzọ gbóó!ré gié!gié bòló ókà
 coconut Foc. Ozo plant-RV quickly peel corn
 'It's coconut that Ozo planted quickly and peeled corn.'
- c. ókà òré Òzọ gbòó ívìn bó!lóró gié!gié
 corn Foc. Ozo plant coconut peel-RV quickly
 'It's corn that Ozo planted coconut and peeled quickly.'

(56a) illustrates the already established fact that adverbs of the same kind can occur before each verb. This was taken (amongst other factors) to imply that CCs involve the conjunction of two separate and symmetric EPs. However, evidence from verb raising indicate that the level of adjunction may actually be higher and should in fact have to do with Tense (cf. Collins 1997). According to the data above, either the first verb or the second verb can undergo V-raising. Based on my analysis, the presence of the -rV suffix on a verb implies that the verb must have raised to Tense. Consequently, I propose the structure of CCs as in (57):

(57)



According to the structure in (57) CCs involve the conjunction of T's and this allows each of the verbs to be separately attracted by the different Tense heads.²⁸ The implication of this analysis is that CCs are quite different from object sharing SVCs.

The cumulative evidence provided in this thesis should resolve the going back and forth on whether to call covert coordination constructions a type of SVC due to the lack of systematic definition of SVCs. The contrast between CCs and object sharing SVCs with respect to V-raising is striking and so in the light of the serial verb parameter (44) I conclude that CCs are simply covert T' coordinations and not SVCs in any more substantive sense.

6.4.2.4 Consequence of V-raising Analysis

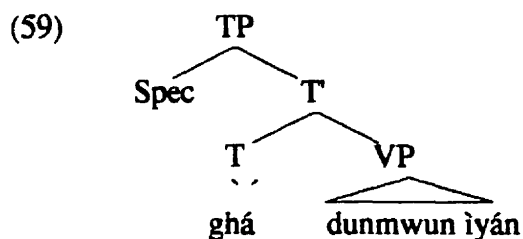
The immediate consequence of the V-raising serial verb parameter is that it accounts for a long standing stipulation in SVCs namely; that there is only a single negation for the chain of verbs (cf. Bamgbose 1973, 1986). There are inconsistent analyses of this fact which attempt to equate the possibilities of interpretations from scope and presupposition

²⁸ For simplicity, I have represented the I-type adverbs as E-head (rather than adjuncts).

with syntactic structures of SVCs (cf. Manfredi 1987, Bamgbose 1986 etc.). I illustrate my point by first introducing a basic analysis of negation in Èdó:

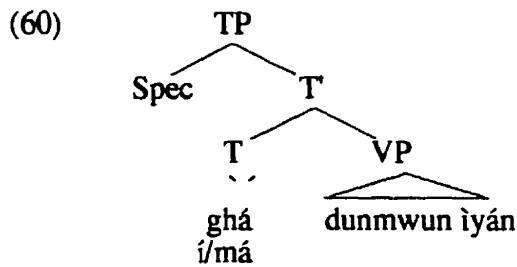
- (58) a. Òzọ̀ dùnwmún ìyán
Ozo pound yam
'Ozo pounded yam.'
- b. Òzọ̀ ghá dún!wmún ìyán
Ozo Fut. pound yam
'Ozo will pound yam.'
- c. Òzọ̀ í dún!wmún ìyán
Ozo neg. pound yam
'Ozo will not pound yam.'
- d. *Òzọ̀ ghá í dún!wmún ìyán
Ozo Fut. neg. pound yam
- e. Òzọ̀ má dún!mwún ìyán
Ozo neg. pound yam
'Ozo did not pound yam.'
- f. *Òzọ̀ má dùnmwún ìyán
Ozo neg. pound yam

(58a) illustrates an ordinary disyllabic transitive verb and the fact that simple past tense is indicated by the low-high sequence on the verb. However, in (58b) tense is morphologically realized by the future tense morpheme *ghá* and we observe that the tones on the verb change to a high-downstep-high sequence (there is a fuller discussion of this tone behavior in chapter seven). I propose an analysis in which both the simple past tense tones and future tense particle are generated in the Tense head as shown in the simplified structure in (59) (here EP and VoiceP are omitted).



According to this analysis verbs have no lexical tones and only get their tonal value based on the nature of Tense. In the relevant example which is (58b), Tense is morphologically realized by a morpheme bearing a high tone which is then copied onto the verb. Now, observe that exactly the same thing happens in (58c) in which a negation morpheme occurs before the verb. I propose that the fact that both future and negation morphemes are found in the same position and trigger the same tone pattern on the verb is not an accident; rather it is evidence that they are both generated in the same position, which is the Tense head. This proposal allows us to make the general descriptive statement that when the Tense functional head is overtly (morphologically) filled, it triggers relative tones on the verb. The ungrammaticality of (58d) provides further empirical evidence for the proposal that both the negative morpheme and the future morpheme occur in the same position, i.e., Tense. The ungrammaticality arises from the fact that there is competition for the same position. The implication of this analysis is that negation is not a separate head in Èdó but rather is the overt realization of the Tense head. This conclusion is supported by the fact that there are two negation morphemes in Èdó; í which is a non-past tense negation and má which is past tense negation.

The past tense negation is illustrated in (58e) and we can observe again that a filled Tense head triggers high-downstep-high tones on the verb. (58f) is ungrammatical because of the fact that although Tense is filled by the past tense negation the associated tone changes on the verb do not occur. The reason for the ungrammaticality of (58f) is because there is a clash between the tones triggered by past tense negation in Tense and the normal low-high tones associated with simple past tense on the verb. Consequently, I conclude that negation is not a separate head from Tense in Èdó and so the potential fillers of Tense should be expanded in (59) to include these facts about negation. This is illustrated in (60).



This analysis of negation in Èdó makes one prediction for the account of verb movement that I will now examine. Based on the analysis of (58d) and (58f) in which we assume that there is a competition for the same Tense head, we equally predict that in a sentence in which Tense is overtly (morphologically) filled with an independent particle it will be ungrammatical for verb movement to occur. This prediction is based on the simple logic that, for example, future tense and non-past tense negation morphemes cannot co-occur (58d). This implies that only one morpheme can occur in the Tense head. Consider the following sentences which illustrate the interaction of verb movement to Tense with the overtly (morphologically) filled Tense head:

- (61)
- a. Òzó giégíé lé èvbàré
Ozo quickly cook food
'Ozo quickly cooked food.'
 - b. èvbàré òré Òzó lé!ré giégíé
food Foc. Ozo cook-RV quickly
'It is food that Ozo cooked quickly.'
 - c. Òzó má giégíé (*má) lé èvbàré
Ozo neg. quickly cook food
'Ozo did not quickly cook food.'
 - d. *èvbàré òré Òzó má lé!ré giégíé
food Foc. Ozo neg cook-RV quickly

As the data above shows, we get a very nice confirmation for the prediction that is based on the analysis of Tense, verb movement and negation. (61a,c) both illustrate the ordering relation between the I-type adverb and negation and we confirm the structural analysis in

which negation is generated in Tense higher than EP. (61b) is included as a control sentence showing that verb movement to Tense is grammatical if it contains only a single morphological feature, in this case the -rV suffix. However, observe in (61d) that it is ungrammatical to have verb movement to Tense when both past tense negation and the past perfective suffix are present. The basic argument here is that there is a competition between the negation and the -rV suffix, which are two possible instantiations of a single Tense head. They cannot co-occur, so there can be no trigger for verb movement when negation is present.

Based on the foregoing analysis of negation, it is predicted that there can be only one negation morpheme in both resultative and consequential SVCs because there is only a single Tense head. However, two negation morphemes are predicted for the covert coordination structure because there are two separate Tense heads. These predictions are indeed borne out, as shown in the following sentences:

- (62) a. Òzó má kó!kó àdésúwà mó!sé
 Ozo neg. raise Adesuwa be-beautiful
 'Ozo did not raise Adesuwa to be beautiful.'
- b. *Òzó kó!kó àdésúwà má mó!sé
 Ozo raise Adesuwa neg. be-beautiful
- (63) a. Òzó má kó!kó ìyán dún!mwún
 Ozo neg gather yam pound
 'Ozo did not gather the yam and pound it.'
- b. *Òzó kó!kó ìyán má dún!mwún
 Ozo gather yam neg. pound
- (64) a. Òzó má gbó!ó ívìn bó!ló ókà
 Ozo neg plant coconut peel corn
 'Ozo did not plant coconut and peel corn.'
- b. Òzó má gbó!ó ívìn, bòló ókà
 Ozo neg plant coconut peel corn
 'Ozo did not plant coconut and (he) peeled corn.'
- c. Òzó gbòó ívìn má bó!ló ókà
 Ozo plant coconut neg. peel corn
 'Ozo planted coconut and did not peel corn.'

In the resultative SVC (62), we observe that negation can only occur before the two verbs (62a), not before the second verb (62b). This contrast is consistent with my analysis of the resultative SVC in which a single Tense head dominates both verbs, so that in (62a) the past tense negation is in the Tense head and has scope over both verbs. (62b) is ungrammatical because there is no Tense head projection before the second verb. A striking fact which is consistent with my analysis of overtly filled functional heads is the fact that in the grammatical sentence in (62a) relative tones occur on both the first and second verbs. I propose that this is a phonological manifestation of the scope of negation. Thus, in the resultative SVC both verbs inherit the high tones from negation because they are in the scope domain of a single Tense head. In this way, I have now provided an account for the observation that there is only a single negation for both verbs based on the nature of the Tense head that is central to the serial verb parameter

Similarly, we observe in the consequential (63) that the past tense negation can only occur before the two verbs (63a), not between them (63b). Again, this is structurally accounted for based on the proposal that there is only a single Tense head which c-commands both verbs. In (63a), the past tense negation occurs in this Tense position and takes scope over both verbs. Here also, observe the fact that in the grammatical sentence (63a) both verbs tonally inflect for the high tones from the overtly filled Tense head. Again, this is consistent with the parameter deriving serial verbs which proposes that the two verbs are in the domain of, and in this case inherit the features from, a single Tense head.

The CC data is the most interesting because it presents yet another difference between these kinds of sentences and object sharing SVCs. Observe from (64a,b) that the past tense negation can occur before both verbs. In this position, it either takes scope over both of them (64a) or it takes scope over the first verb only (64b). This ambiguity in the scope interpretation of negation is to be expected in cases of real symmetrical conjunction (cf. Déchaine 1993). What is interesting, however, is the empirical observation that the difference in the scope interpretation of negation in this position matches the tones on the

verbs. Thus, in (64a) in which negation scopes over both verbs we notice that the two verbs have the same high-downstep-high tone patterns. In contrast, in (64b) in which negation only scopes over the first verb we observe the high-downstep-high tone pattern only on the first verb, but not on the second.

An even more striking contrast from covert coordination sentences comes from (64c) in which we observe that negation can occur before the second verb unlike in resultative and consequential SVCs. This is consistent with my analysis which proposes that covert coordinations involve conjunction at some level of the Tense projection. In particular, each verbal projection can be dominated by a separate Tense head. It follows, therefore, under the analysis in which negation occupies Tense that the negative morpheme can occur before the second verb in covert coordinations, since we already know that there is such a structural position present based on the facts from V-raising.

6.5 'Rule R' and Tense Matching in SVCs

The general theme of section 6.4.2 has been that V-raising to Tense is never possible in SVCs and this was formalized as the serial verb parameter in (44), repeated here as (65).

(65) Verb-raising serial verb parameter

A verb serializing language is one in which Tense (or other Infl type categories) does not need to be overtly checked. ATTRACT is defined as follow;

X attracts Y only if Y could check a feature of X,
and all Z such that Z could check a feature of X,
Y asymmetrically c-commands Z

The question to be addressed in this section, then, is how the verbs in SVCs are licensed otherwise since they do not raise to Tense to check features even at LF. I propose something similar to Rule R in Chomsky (1981) which takes the essential details of ATTRACT and allows tense tone generated in T to float down to the verbs. This is formalized as the tense copying/matching condition in (66).

One specific consequence of (66) is that we can derive the tonal differences between AP and VP resultatives in a manner that is consistent with the analysis of the serial verb parameter. Recall the previous claim that verbs do not have inherent tones while adjectives have inherent lexically specified tones. Therefore, based on (66) we are able to delineate AP resultatives from VP resultatives on language internal grounds.²⁹ Now, consider the following sentences:

- (69) a. Òzọ kòkó àdésúwà m̀s̀é
 Ozo raise Adesuwa be-beautiful
 'Ozo raised Adesuwa to be beautiful.'
- b. Òzọ kòkó àdésúwà m̀s̀è
 Ozo raise Adesuwa beautiful
 'Ozo raised Adesuwa to be beautiful.'

We observe a clear tonal contrast between the resultative SVC (69a) and the resultative adjectival SP (69b). Whereas the tones on both verbs match in the resultative SVC (69a) there are no matching tones between the verb and the adjective in AP resultative SP (69b). This contrast can be accounted for based on the tone matching condition in (66) such that both verbs of the resultative SVC are legitimate targets for the tone-copying rule. However adjectives are not, because of their inherent tones.

6.6 Conclusion

This chapter proposed a serial verb parameter and this is shown to capture the systematic differences between Èdó, Igbo, and English. It is argued that the need to check features of Infl triggers obligatory verb movement in non-SVC languages. In SVC languages, Infl features do not have to be checked by the verb because of a condition on tense copying which can be likened to Rule R of Chomsky (1981). Although the primary basis for the cross-linguistic discussion was limited to AP versus VP resultative contrast, it

²⁹ These same observations can also be verified from the difference in inflectional morphology between verbs and adjectives in English; verbs but not adjectives inflect for tense

was shown that the parameter also distinguishes between verb sequencing constructions, language-internally. Furthermore, it is derived from the parameter an elegant consequence for the analysis of negation which has been traditionally stipulated (cf. Bamgbose 1974, 1986, etc.).

Chapter Seven

Re-analysis of 'Serial Verb Constructions'

7.1 Introduction

This chapter will show that some constructions that have been called serial verb constructions in the literature exhibit properties that are quite different from those that we have observed with resultative, consequential, or covert coordinations. Thus, *re-analysis* is used ambiguously to imply a synchronic analysis of cases of lexical and structural re-analysis, and on the other hand it further implicates a new way to assess (re-analyze) what used to be classified as SVCs. Consider the following sentences:

- (1) a. Òzọ hiá lé èvbàré
Ozo try cook food
'Ozo managed to cook the food.'
- b. Òzọ miànmíán kié èkhù
Ozo forget open door
'Ozo opened the door inadvertently.'
- (2) a. Òzọ yá ábẹ fián èmió!wó
Ozo use knife cut meat
'Ozo cut the meat with the knife.'
- b. Òzọ rhié úghánmwàn ghu òghó ówá
Ozo take axe break stall
'Ozo broke the stall with an axe.'

The sentences in (1) contain two verbs in what has been wrongly analyzed as a single clause in which the first verb is restricted to the class of 'modal-aspectual' verbs and the second verb is relatively unrestricted. These sentences have been classified as SVCs because there are two verbs on the surface and there is no overt marker of subordination or coordination (cf. Oyelaran 1982, George 1975, 1976, Agheyisi 1986 etc.). The sentences in (2) exemplify what are generally classified as Instrumental SVCs, in which the first verb is always from 'a closed class' (cf. Lefebvre 1991) and whose object is interpreted as the

instrument that is used to accomplish the event referred to by the second verb (cf. Lefebvre 1991, Baker 1989, 1991, Collins 1997 etc.).

In the first part of this chapter, I will argue for a *restructuring* account for the sentences of the kind in (1), in which the second verb that is in an embedded infinitival clause undergoes re-analysis, resulting in a unification with the matrix verb. This restructuring and Control analysis is proposed on the basis of the following considerations: (a) certain aspectual alternations; (b) their behavior with respect to the syntactic tests from the previous chapters ; (c) the serial verb parameter from chapter six. These same three kinds of evidence will also form the basis for the proposal in the second half of this chapter that there has been a *re-analysis* of the so-called instrumental SVCs, in particular the first verb is underspecified for all features except tense and theta role assignment. I will argue that sentences of the kind in (2) are in fact cases of clausal IP complementation.

7.2 The Modal-aspectual Verb Construction

Descriptively, I propose to begin this section by examining two aspects of the sentences in (1) and then contrast these properties with resultative, consequential and covert coordinations. The two relevant aspects are the following;

- (a) the possibility of putting INFL morphemes between the verbs and whether this correlates with a difference in meaning
- (b) the nature of the syntactic restrictions on the first verb.

The need to examine both of these aspects follows from the observations in the previous chapters that there are syntactic as well as semantic restrictions that regulate the relations between the verbs in SVCs. For example, resultative SVCs express a single event and the second verb must be unaccusative, while both verbs in the consequential SVC must be transitive and they also express linked events that are existentially bound by a single operator head E. Therefore, it will be a useful introduction to the Modal-aspectual verb

construction just to come to terms with the nature of syntactic and semantic characteristics of this particular construction.

7.2.1 An Apparent Contrast with SVCs: Infl vs. E projection

In this section, I will show that there is a systematic correspondence between the covert presence of INFL and its overt manifestation in the Modal-aspectual verb construction. Furthermore, I will argue that this alternation correlates with either a realis or irrealis interpretation of the event denoted by the second verb. By comparison, I will also show that this sort of alternation in Mood is distinctly not a property of resultative and consequential SVCs nor covert coordinations. Consider the following:

- (3) a. Òzó hìá rrí èvbàré
 Ozo try eat food
 'Ozo made effort and ate the food.'
- b. Òzó hìá yá rrí èvbàré
 Ozo try INFL eat food
 'Ozo tried to eat the food.'
- (4) a. Òzó miànmián kpó!ló ówá
 Ozo forget sweep stall
 'Ozo forgot and swept the stall.'
- b. Òzó miànmián yá kpó!ló ówá
 Ozo forget INFL sweep stall
 'Ozo forgot to sweep the stall.'

Notice the contrast in meaning between the (a) and (b) sentences in (3) and (4). In the (a) sentences there is no morpheme between the first and second verb and only a realis reading is possible for the second verb. Thus, (3a) implies that Òzó ate the food and (4a) implies that he swept the stall.

By simply looking at only these (a) sentences and their interpretations, we get some insight as to why they have been assumed to be SVCs. It has been proposed that the event(s) denoted by the verbs in SVCs are always asserted (cf. Sebba 1987 *et al*) as shown, for example, by the resultative and consequential SVCs in (5):

- (5) a. Òzọ kòkó àdésúwà m̀sẹ́
 Ozo raise Adesuwa be.beautiful
 'Ozo raised Adesuwa to be beautiful.'
- b. Òzọ lé èvbàré ré
 Ozo cook food eat
 'Ozo cooked the food and ate it.'

In the resultative SVC (5a), it is true that Ozo raised Adesuwa and she (indeed) became beautiful; in the consequential (5b) it is true that Òzọ cooked the food and that he also ate it. Therefore, by simply comparing the (a) sentences in the Modal-aspectual verb construction (3)-(4) with the serial verb construction (5) we may be inclined to assume that they are both SVCs, but this is contrary to fact.

One evidence for the difference between Modal-aspectual verb constructions and SVCs is based on a comparison between the (a) sentences with the (b) sentences in (3)-(4). Observe in these (b) sentences that there is an additional morpheme between the two verbs and the meaning of the sentences is affected. In particular, the second verb now has an irrealis reading. For example, in (3b) the interpretation is that Òzọ tried to eat the food, (but there is no implication that he succeeded). Similarly, in (4b) the interpretation is that Ozo forgot to sweep the stall; we do not know that he did (probably he did not, in fact). Clearly, the difference between the (a) and (b) sentences in (3-4) should be attributed to the presence of the morpheme *yá* between the verbs in the latter, and it is this that affects the modal interpretation of the meaning of the second verb to become irrealis.

This contrast between the (a) and (b) sentences in (3)-(4) points to a striking contrast between the Modal-aspectual verb constructions (3-4) and resultative-consequential SVCs (5). It is not possible to have this *yá* morpheme occur before the second verb in SVCs as shown in (6). (This time I will include covert coordinations in the paradigm just to show that the Modal-aspectual verb construction is different).

- (6) a. *Òzọ kòkó àdésúwà yá m̀sẹ́ 'resultative SVC'
 Ozo raise Adesuwa INFL be.beautiful
 'Ozo raised Adesuwa to be beautiful.'

- b. *Òzọ lé èvbàré yá ré 'consequential SVC'
 Ozo cook food INFL eat
 'Ozo cooked the food to eat it.'
- c. *Òzọ hĩn èrhán yá kpàán ívìn 'covert coordination'
 Ozo climb tree INFL pluck coconut
 'Ozo climb the tree to pluck the coconut.'

As the sentences above show, resultative-consequential SVCs and covert coordinations are very different from Modal-aspectual verb constructions in that they consistently do not allow the INFL particle *yá* to occur before the second verb as shown in (6).¹ Therefore, the impossibility of *yá* before the second verb can be taken as one piece of evidence pointing to the difference between superficially similar serial verb constructions. The emerging questions at this point are, what exactly is the *yá* morpheme that I have glossed as INFL? what does its presence tell us about the syntactic structure of the Modal-aspectual verb construction?

7.2.2. A Separate Infl before Second Verb

The morphology of the infinitive construction may betray its origins in another grammatical category. For example, in Igbo the infinitive displays nominal and verbal properties as illustrated by the example in (7) from Emenanjo (1981).

- (7) [Infl í-[vp rí rin]]
 í- eat food
 'to eat [the] food'

As shown in (7), the infinitive marker in Igbo is a prefix on the verb+object. The prefixal nature of the infinitive makes it look like a nominalizing prefix with the VO order (cf. Manfredi, 1997). Clearly, the Èdó *yá* is not like the Igbo infinitive in this respect. The nominalization of a VP (verb+object) in Èdó is achieved via vowel prefixation (recall the discussion of predicate clefts). However, notice that the Èdó *yá* is a separate word and it

¹ This is consistent with the traditional definition of SVCs as involving two or more verbs that occur without any marker of subordination or coordination (cf. Bamgbose 1974, Awobuluyi 1973, Lord 1973, Stahlke 1970, 1974, Schachter 1974 etc.).

does not obey the morpheme structure constraints on Èdó nominals because it does not begin with a vowel prefix.² Therefore, in order to adequately analyze the *yá* morpheme I will now examine some of its peculiar properties.

7.2.3 *yá* as Evidence for Embedded Clause.

One useful piece of evidence for the analysis of *yá* comes from a restriction on its distribution: it occurs in (special) fixed position with different verbs. Let us, first, consider the distribution of *yá* in a simple clause with modal verbs (8) and compare with the full Modal-aspectual verb construction (9):

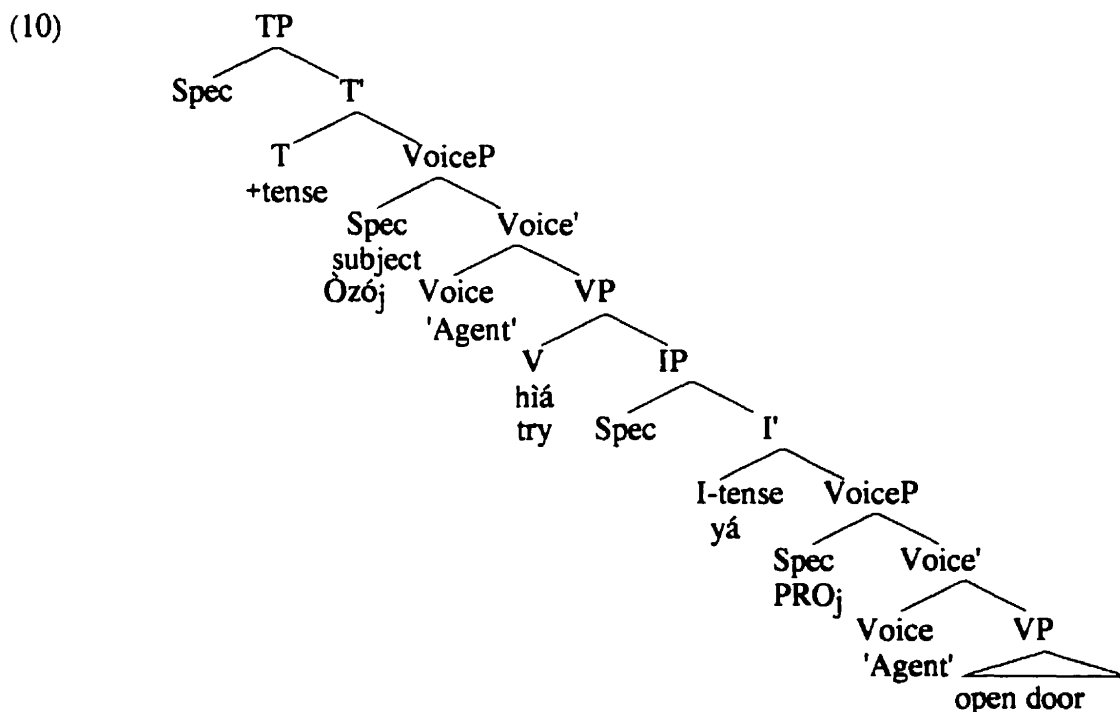
- (8) a. *Òzó *yá* hí!á
Ozo INFL try
- b. *Òzó *yá* mián!mián
Ozo INFL forget
- c. *Òzó *yá* rhió
Ozo INFL wake up early
- (9) a. Òzó híá *yá* kí!é èkhù
Ozo try INFL open door
'Ozo tried to open the door.'
- b. Òzó miánmián *yá* kí!é èkhù
Ozo forget INFL open door
'Ozo forgot to open the door.'
- c. Òzó rhió *yá* kí!é èkhù
Ozo wake up early INFL open door
'Ozo woke up early to open the door.'

From the sentences in (8) we observe that the morpheme *yá* cannot occur between the subject and verb in a simple clause with an aspectual verb. Since the position between the subject and verb is an INFL (Infl) position by definition, so, on the basis of the ungrammatical sentences in (8) we may conclude that *yá* cannot occur in the INFL position

² In fact, *yá* cannot even be nominalized and so could not become a noun by derivational morphology.

of a simple clause. In other words, *yá* does not occur in a tensed clause with an aspectual verb.

However, we observe from the sentences in (9) that *yá* can occur after the modal verb, before the second verb in the Modal-aspectual verb construction. Now, if we take the proposal that *yá* does not occur in a tensed clause seriously we are led to conclude that the second verb in (9) is in a separate and non-tensed clause, an embedded clause. Consequently, if the second verb is in an embedded clause we draw a comparison with the fact that there is no overt subject argument present in these embedded clauses and similar infinitival or gerundive complements in English which must license null subject PRO given standard assumptions (Chomsky 1981, Williams 1980 etc.). Therefore, I tentatively conclude that *yá* is the head of an embedded IP and so I propose that the Modal-aspectual verb construction involves clausal subordination as shown in (10) for (9a).³



³ Based on evidence from the distribution of *tòbòrè* particle in section 7.3.3.1, I will argue that the PRO subject of the embedded clause is base-generated in the Spec of VoiceP, this is comparable to the VP internal subject analysis of Sportiche (1988). At this point I will simply assume that PRO stays in this position, I will come back to this issue in section 7.3.3.1.

I will now present a second evidence that confirms this analysis of *yá* and this is based on its distribution in simple clauses with non-aspectual verbs. I will illustrate this point with both unergative and transitive verbs to show that *yá* heads an embedded infinitival Infl even with these verbs. Consider the following:

- (11) a. Òzọ́ yá ló!vbié
 Ozo INFL sleep
 'Ozo went to lie down.'
- b. Òzọ́ yá kí!é èkhù
 Ozo INFL open door
 'Ozo went to open the door.'

In the sentences in (11), notice that *yá* occurs before the main verb in contrast to the sentences in (8). Therefore, (11) appears to contradict the generalization that *yá* can only occur in embedded clauses. However, I will now show that what is actually happening in (11) is that *yá* is a morphologically complex form in these cases. Consider the following contrast:

- (12) a. Òzọ́ yá kí!é èkhù
 Ozo INFL open door
 'Ozo went to open the door'
- b. Òzọ́ yó yá kí!é èkhù
 Ozo go INFL open door
 'Ozo went to open the door'

(12a) is similar to (12b) in its interpretation. In both cases what we know is that Ozo went to do something, i.e., to open the door, but there is no implication that the door was actually opened. I propose that the semantic similarities between (12a) and (12b) are a reflection of the fact that there is an underlying structure for (12a) which has a null verb meaning 'go'; this brings about the sense of motion evident from the translations. More specifically, I propose that (12a) is derived from the sentence in (12b) that actually contains a preceding motion verb *yó* "go" and it is this verb that selects the infinitive complement

headed by *yá*. What we see on the surface in (12a) is the result of a phonological process of coalescence involving *yó* and *yá* that results in *yá*.⁴

Two pieces of evidence support this analysis that *yá* is morphologically complex before the verb in a seemingly simple clause as in (12). First, observe that *yá* cannot occur in the matrix clause where *yó* "go" is phonologically spelled-out. This contrast is shown in (13):

- (13) a. Òzọ (*yá) yó yá ló!vbié
 Ozo INFL go INFL sleep
 'Ozo went to lie down.'
- b. Òzọ (*yá) yó yá kí!é ékhù
 Ozo INFL go INFL open door
 'Ozo went to open the door.'

(13) shows that when the morphologically complex form *yá* is separately realized by the combination of the motion verb *yó* and the INFL particle *yá*, then it is ungrammatical for the matrix INFL to also be filled by a separate *yá* where the *yá* before *yó* is assumed to be in the matrix INFL. The impossibility of having *yá* occur before the motion verb is of course consistent with the generalization in (10) that *yá* can only occur in an embedded clause.

Second, the proposal that *yá* is generated in an embedded Infl makes a testable prediction based on the analysis from chapter six in which negation morphemes are seen as the realization of tense, generated in the matrix T node. Thus, consider the sentences in (14):

- (14) a. Òzọ má yó
 Ozo not go
 'Ozo did not go.'

⁴ Elision of [+ sonorant] sounds is a very common phonological phenomenon in Èdó (cf. Amayo 1976, Aikhionbare 1989 etc.). This is especially obvious in any word boundary context where nouns are being combined since all nouns must begin with a vowel and all words must end in a vowel. The most general rule for this sort of elision can be stated as; V(owel)1 + V(owel)2 = V2. It is fairly common to hear the form "yóa" in the speech of some Èdó speakers. In fact, this form is used in Omoregie (1983) and by other Edo authors. When used this way, the phonological process is less opaque and is indeed consistent with glide deletion rules, since glides are also [+sonorant].

- b. *Òzó hiá má kí'é èkhù
Ozo try not open door
- c. *Òzó hiá má yá kí'é èkhù
Ozo try not INFL open door
- d. Òzó má hí!á yá kí'é èkhù
Ozo not try INFL open door
'Ozo did not try to open the door.'

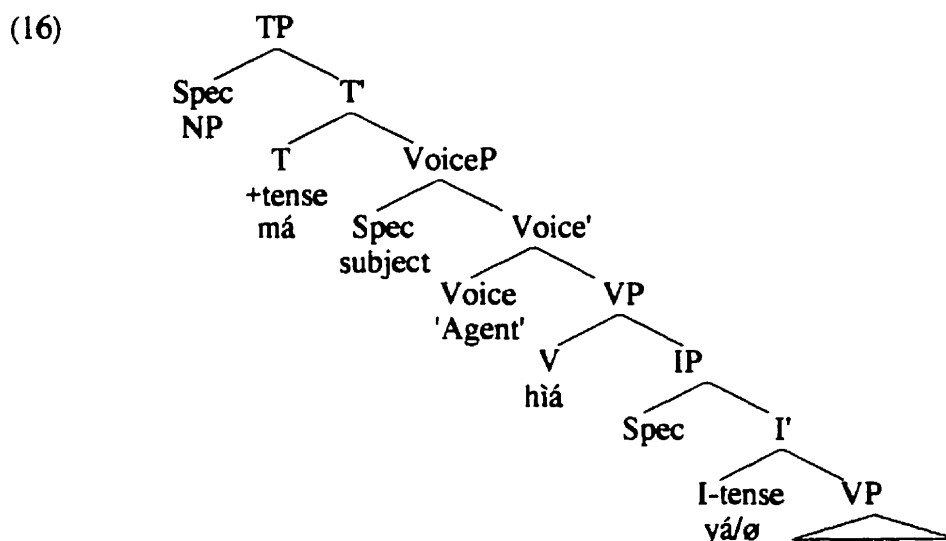
In (14a), we observe that the negation morpheme occurs before the verb in the Tense position. In (14b), the negation morpheme occurs before the second verb that I have assumed is dominated by a null headed IP and this sentence is ungrammatical. Similarly, in (14c) we observe that having the negation before an overtly filled Infl in the embedded clause is still ungrammatical. The ungrammaticality of these sentences confirms two previous proposals. First, the same co-occurrence restrictions hold for the Infl head before the second verb regardless of whether it is null or overt. This implies, for example, that the sentences in (3a) and (3b) have the same structure. Second, there is no Tense position before the second verb since negation cannot occur there. This implies that the embedded Infl is like an infinitive. These conclusions are verified by the grammatical sentence in (14d) where we observe that negation is generated in the Tense position in the matrix clause, while the embedded Infl is headed by *yá*. Consequently, I conclude that *yá* can only occur in the Infl position of an embedded clause.

I return now to the proposal that when *yá* occurs in what seems to be the matrix Infl it is morphologically complex. (14c) shows that both negation and *yá* morphemes cannot occur in the same clause, because they compete for the head of TP position. However, the two can occur in what looks like a simple matrix clause:

- (15) a. Òzó má yá kí'é ékhù
Ozo Neg INFL open door
'Ozo did not go to open the door.'
- b. Òzó má (yó) yá kí'é ékhù
Ozo Neg go INFL open door
'Ozo did not go to open the door.'

The fact that *má* can occur with *yá* suggests that *má* is in the Tense position of a matrix clause, while *yá* is in the Tense head of an embedded clause, with the phonologically elided motion (aspectual) verb *yó* 'go' coming between them. *Yá* is then the INFL of the complement of this aspectual verb, as shown in (10). Therefore, (15a) implies an underlying structure made up of two distinct functional heads with a possible surface realization being (15b).

Returning to the contrasts in (3) and (4), I propose that an embedded INFL is always structurally present in the Modal-aspectual verb construction and this head position could be either a null morpheme with a realis interpretation or an overt morpheme (*yá*) with an irrealis interpretation. The emerging structure is illustrated in (16).



According to (16), a sentence in which the embedded INFL head is null would have the realis interpretation, while in the case where it is overt such a sentence would have an irrealis interpretation. I will now discuss two further consequences of this analysis.

First, *yá* can be compared to another word (closed class) which is *ghá*. Two types of *ghá* must be distinguished, which are different in terms of distribution and meaning. Consider the following:

- (17) a. Òzọ ghá sùén
Ozo FUT begin
'Ozo will begin.'
- b. #Òzọ sùén ghá má àkhé
Ozo begin FUT mold pot
'* as Ozo begin that he will mold pot'
'OK as Ozo began molding pot.'
- c. Òzọ sùén ghá má àkhé
Ozo begin IMP mold pot
'Ozo began moulding pots.'
- d. #Òzọ ghá má àkhé
Ozo IMP mold pot
'* as Ozo molding pots'
'OK as Ozo will mold pots.'
- e. Òzọ ghá sùén ghá má àkhé
Ozo FUT begin IMP mold pot
'Ozo will begin moulding pots.'

(17a) shows the distribution of future tense *ghá* in a simple sentence with an aspectual verb and we observe that it occurs in the Tense position between the subject and the verb. Now, in (17b) we observe that it is ungrammatical for this future tense *ghá* to occur in the embedded INFL position after the aspectual first verb and before the second verb. I take this as confirming evidence of the fact that there is no Tense position in the embedded clause on a par with that of the matrix clause. However, notice from (17c) that it is possible for a *ghá* morpheme with an imperfective, rather than future tense, meaning to occur in the embedded INFL position. (17d) confirms that there are two different functional heads associated with the two *ghás*, because the *ghá* with the imperfective meaning cannot occur in the Tense position of the matrix clause. This complementarity between the two *ghás* reflects the basic difference between the Tense head of the matrix clause where, for example, future tense *ghá* is generated and the INFL head in the embedded clause where, for example, the imperfective aspect *ghá* is generated. The two possibilities are seen most clearly in (17e) where each *ghá* occurs as a separate head.

Therefore, I conclude that irrealis *yá* and imperfective *ghá* and realis $\emptyset$ all occur in a subordinate INFL position and they indicate the fact that the second verb is in an embedded clause with irrealis, imperfective, and realis mood, respectively. Since *yá*, *ghá* and the null morpheme are all in the embedded INFL, this suggests that *yá* heads a functional rather than lexical projection.⁵

The immediate consequence of this conclusion that *ghá* and *yá* are functional heads is that, like other functional heads, we predict that the verbs which they govern will manifest the high tone copying effect discussed in section 2.7.2. This prediction is borne out by the data below.

- (18) a. Òzò sùén ghá dún!mwún èmà
 Ozo begin IMP pound yam
 'Ozo began pounding the yam'
- b. Òzò hìá yá dún!mwún èmà
 Ozo try INFL pound yam
 'Ozo tried to pound the yam'

As we observe from (18), the verb following an overtly filled INFL head exhibits the high-tone copying behavior, realized as a high-downstep-high tone sequence on the disyllabic verb. I will provide a more elaborate discussion of this general issue in section 7.3.1.

As a summary of the arguments presented in this section, I have argued that certain so-called serial verbs display properties which do not apply to either the resultative-consequential SVCs nor covert coordinations. One such property is the presence of an INFL projection that dominates the embedded second verb. There are potentially three fillers of the lower INFL: a null head, *yá*, or *ghá*. The difference between an overt and covert head is based on the meanings they contribute to the structure; *yá* implies that the action denoted by the embedded verb is irrealis, a null head implies that the action denoted

⁵ Notice that I am assuming at this point that (imperfective) *ghá* occurs in INFL. I am not confusing it with the iterative *ghá* from chapter two and so no contradiction is intended between the imperfective *ghá* in embedded INFL and iterative *ghá* in E. I will argue below that this difference is a direct consequence of the restructuring effect in modal-aspectual verb constructions that removes the E position, which is present in SVCs.

by the embedded verb is realis, while *ghá* implies that part of the event happened. This is summarized in (19).

(19) meanings of the morphemes in embedded INFL

- (a) $\emptyset$ morpheme = all of the event happened
- (b) *ghá* morpheme = part of the event happened
- (c) *yá* morpheme = none of the event happened

7.2.4 Modal-aspectual Verb Restriction

In this section, I turn my attention to another characteristic feature of the Modal-aspectual verb construction. A closer look at this construction reveals that only a limited class of verbs can be first verbs in this construction--roughly those modal/aspectual verbs which can take clausal or verbal complements. This fact is illustrated in (20):⁶

- (20) a. *Òzó hiá rí èvbàré*
 Ozo try eat food
 'Ozo tried (to) and he did eat the food.'
- b. *Ozo rhió kpá!á*
 Ozo wake up early leave
 'Ozo woke up early and left.'
- c. *Ozo há kí!é èkhù*
 Ozo start suddenly open door
 'Ozo got up suddenly and opened the door.'
- d. *Òzó miànmíán só*
 Ozo forget shouted
 'Ozo forgot and (inadvertently) shouted.'
- e. *Òzó yéé lé ùwònmwèn*
 Ozo remember cook soup
 'Ozo remembered and made the soup.'

⁶ Based on the analysis of the embedded INFL in the previous section, there is an underlying prediction that all of the sentences in (20) would have a close paraphrase in which *yá* occurs before the second verb with a corresponding aspect-mood change. This prediction is correct and I will assume that the data and interpretation can be understood in the light of the discussion so far.

- f. Òzọ yó tí!é èbé
 Ozo went read book
 'Ozo went and he read [his] book.'
- g. Ozo bá khú!é
 Ozo pretend bathe
 'Ozo pretended and bathe.'

The class of first verbs found in (20) can be contrasted with the verbs found in resultative-consequential SVCs and covert coordinations. Recall the fact the second verb of the resultative SVC must be unaccusative while both verbs must be transitive in the consequential SVC, and the covert coordination is essentially unrestricted. The Modal-aspectual verb construction is different from all these other constructions because the syntactic and/or semantic restrictions apply only to the first verb. As evident from the data in (20), the first verb of the Modal-aspectual verb construction typically takes a clausal complement. Thus, the aspectual verb can have a subcategorization frame as in (21)

(21) subcategorization of aspectual verb

[_ IP]

In other words, while the first verb of the resultative and consequential SVCs must license an object, the first verb of the Modal-aspectual construction does not have to do so, rather it mainly selects for a clausal complement. Furthermore, the aspectual verb is potentially capable of assigning external theta role; this is assumed to be realized via the Voice head in my analysis.

7.3 Restructuring in Modal-aspectual Verb Construction

This section focuses on the challenge of providing a systematic account for the observed differences between Modal-aspectual verb constructions and resultative-consequential SVCs, as well covert coordinations. These differences that were discussed in the previous section include;

- (a) the variation in mood associated with the embedded INFL head
- (b) the aspectual verb restriction on the first verb which requires that it does not select for an object NP, but rather a clausal complement.

The syntactic account of these two properties and other salient features of the Modal-aspectual verb construction will be carried out in two stages. First, I will provide evidence for a control and restructuring analysis (cf. Rizzi 1978). Second, I will show that all of the syntactic tests that were used to argue for the distinction between resultative and consequential SVCs, as well as covert coordinations, also consistently pick out and reinforce a restructuring analysis of the Modal-aspectual verb construction.

7.3.1. Evidence for Infinitival Complement

The evidence that can be used to argue for an infinitival complement in the Modal-aspectual verb construction is based on the observation that the second verb in this construction does not have the normal tone pattern like those found on the second verb in resultative-consequential SVCs or covert coordinations.

As background illustration of how tense is realized by tones, consider the following sentences with disyllabic verbs:

- (22) a. Òzọ̀ dùnmwùn ìyán 'habitual or progressive tenses'
 Ozo pound yam
 'Ozo pounds yam (habitual) or Ozo is pounding yam (present progressive)'
- b. Òzọ̀ dùnmwún ìyán 'past tense'
 Ozo pound yam
 'Ozo pounded yam' (past)'
- c. Òzọ̀ ghá dún!mwún ìyán 'future tense'
 Ozo Fut. pound yam
 'Ozo will pound yam (future) or is pounding yam (progressive)'

Stewart (1996) claims that Tense in Èdó is mostly realized supra-segmentally on verbs, however it is important to note that, now, the basic tense tones show up varied depending on the verb's syllable structure. Thus, on most disyllabic verbs habitual or progressive

tense is marked by two low tones (22a), while past tense is marked by a sequence of low-high tones (22b). Future tense is, however, realized by a morpheme with inherent high tone and this triggers a high tone spreading onto the verb because *ghá* is in a functional head position (22c). Generalizing from this, we predict that the tones on a verb dominated by a functional head that is occupied by a morpheme will always have a copy of that morpheme's high tone. I will now show that this is correct when the verb is dominated by the embedded INFL that is headed by either *ghá* (Imperfective) or *yá* / $\emptyset$ (infinitive). Consider the following.

- (23) a. Òzó gbé úpkù guòghó 'resultative SVC'
 Ozo hit cup break
 'Ozo broke the cup'
- b. Òzó dé iyán dùnmwún 'consequential SVC'
 Ozo buy yam pound
 'Ozo bought [the] yam and pounded it'
- c. Òzó gbòó iyán kpàán ívìn 'covert coordination'
 Ozo plant yam pluck coconut
 'Ozo planted yams and plucked coconuts'
- d. Òzó hiá dún!mwún iyán 'Modal-aspectual construction'
 Ozo try pound yam
 'Ozo tried and pounded [the] yams'

What we observe from the sentences in (23) is that in all cases of true SVCs in the simple past (23a-b), CC (23c), the second verb bears the normal low-high tone sequence just as in simple one-verb sentences. In contrast, in the Modal-aspectual verb construction (23d) the tone pattern on the second verb is high-downstep-high. This difference can be taken as confirming evidence for the proposal that the second verb in the Modal-aspectual verb construction is dominated by an INFL head. This head happens to be $\emptyset$ segmentally, but triggers the same tones as *ghá* and *yá*. Furthermore, on the basis of the contrast in (23) I propose that the tonal difference on the second verb in the Modal-aspectual verb construction is a reflection of the fact that it is not in a finite clause. This proposal is based on the standard definition of a finite clauses as tensed clauses. I should also point out the

fact that the tones on the second verb never changes even when the first verb has a different tense, and this implies that the second verb is not in a tensed clause (see example (24) below).

It is clear that the status of the second verb in the Modal-aspectual verb construction is not on a par with second verb in either the resultative-consequential SVCs or covert coordination because of the difference in tones. According to my analysis, this difference in tones comes from the fact that there is a projection of INFL that dominates only the second verb and this head triggers high tone copying. This analysis is consistent with the proposal in Wurmbrand (1997) that Restructuring Infinitives (RIs) do not have an internal tense specification; thus, it is expected that the complement of a Restructuring verb (RV) can never be a finite clause. This kind of fact that is based on the manner of tonal (tense) Inflection on the second verb brings together the attributes of the head of the lower IP. The parallel that I am establishing here is between the general fact that matrix clauses cannot be non-finite verb and the fact that *yá* is syntactically constrained to occur only in embedded contexts. My claim, therefore, is that the rather odd tonal properties on the embedded verb should be attributed to the presence of the INFL head dominating the verb and this prevents it from having its own tense specification. Therefore, I conclude that the second verb is in a non-finite clause.

A closely related fact is that *yá* or *ghá* do not vary tonally for tense like verbs normally do, neither does the verb in the embedded clause. Consider the following:

- (24) a. Òzọ́ há lóvb!íé 'past'
 Ozo start suddenly sleep
 'Ozo jumped suddenly to sleep.'
- b. Òzọ́ hà lóvb!íé 'habitual'
 Ozo start suddenly sleep
 'Ozo jumps suddenly to sleep.'
- c. Òzọ́ há (yá) lóvb!íé 'past'
 Ozo start suddenly INFL sleep
 'Ozo jumped suddenly to sleep.'

- d. *Òzó hà yà lòvbiè 'habitual'
 Ozo start suddenly INFL sleep

According to the data in (24), the INFL head is tenseless and the embedded verb is an infinitive that cannot inflect for habitual or present tense. Thus, in (24a-c) observe that the same pattern of tones occur on the second verb, irrespective of the fact that the verb in the matrix clause (first verb) is in the past tense in (24a) and in habitual tense (24b), regardless of whether INFL head is filled by *yá* or realis $\emptyset$ in (24c). Moreover, it is ungrammatical to change the tone on *yá* or on the verb that it governs (24d). This implies that there is no tense clash between the INFL head and the verb that it governs, consistent with the special pattern of tonal inflection on the embedded verb in the Modal-aspectual verb construction.⁷

Consequently, I propose that the contrast in the tones on the second verb between resultative-consequential SVCs and Modal-aspectual verb construction is evidence for the latter containing an infinitive clause. This then sets the stage for restructuring.

7.3.2. Evidence for Restructuring

A variety of the world's languages have the phenomenon of *restructuring* (cf. Rizzi 1978), and this involves the re-analysis of certain infinitives by means of the deletion or pruning of the S and S' nodes. In other words, restructuring involves clause unification between an infinitival embedded clause and the matrix clause. Much of the work on restructuring has been done in the Romance languages (e.g. Rizzi (1978), Burzio (1981), Zubizarreta (1982) etc.) and Germanic languages (e.g. Evers (1975, 1982), Haegeman & van Riemsdijk (1986)). Based on these works, it is a fairly standard assumption that there is a distinction between restructuring infinitives (RIs) and non-restructuring infinitives (NRIs). NRIs are said to act more or less like finite clauses in that they represent an

⁷ One consequence of this analysis of the Modal-aspectual verb construction is the prediction that it would be different from covert coordinations with respect to verb movement to Tense. This can be tested in two ways, when the head of INFL is filled by *yá* we predict that verb movement in the embedded clause will be blocked, and even more profound would be the claim that verb movement in the lower clause is predicted to be impossible because there is a minus Tense head that cannot attract the verb. I will come back to these issues in section 7.3.2.1 and argue that this is one more evidence for restructuring.

independent clausal domain for properties like clitic movement, passive, and scrambling, while RIs seem to lack this clausal character in many respects. In particular, RIs do not show clause-boundedness effects for similar processes (cf. Wurmbrand, 1997).

In Kwa languages, there is only one widely-known reference to restructuring and this has been proposed to account for infinitive verb raising phenomena within embedded clauses in Abe (Tellier 1986).⁸ Although, the usual tests for restructuring such as clitic climbing, long object preposing (Romance), long distance scrambling, and super-passive (German)) cannot be replicated in Èdó or Abe (Tellier 1986), there are, however, three arguments which point to a restructuring analysis for the Modal-aspectual verb construction.

7.3.2.1 Verb Raising and Object Cleft.

In arguing for restructuring in Romance and Germanic languages, one often-used test is Clitic Climbing. For example, in Italian, clitic (or 'weak') pronouns sometimes attach to the verb of which they are a complement in underlying structure (25a) and at other times to the verb of a higher clause (25b) (cf. Napoli, 1981 and others);

- (25) a. Voleva vedermi } 'she wanted to see me'
 b. mi voleva vedere } "

According to the data in (25), the clitic can remain attached to the embedded verb, or it may climb and cliticize onto the matrix verb. This instance in which the clitic climbs onto the verb of the matrix clause is taken as evidence that restructuring of the embedded infinitive has occurred causing the structure to act like a simple clause. This is taken as a fairly standard diagnostic in both Romance and Germanic languages. Essentially, restructuring has the effect of unifying the matrix and embedded clause so that the clitic is able to see the

⁸ An SOV language spoken in Cote d'Ivoire

entire (unified) clause as a single constituent. The standard view of this sort of object clitic movement (climbing) is that clitic movement is obligatory, but optional restructuring determines how it will apply, i.e., it can either remain with the lower verb or attach (climb up) to the higher verb, as illustrated in (25).

In Èdó, I will show that there is an abstract manifestation of the same thing; although there is no clitic climbing per se. The relevant data has to do with the clefting of the object of the embedded verb in the general context of verb raising to Tense in the Modal-aspectual verb construction. Note first of all that the very fact that verb raising to Tense is sometimes possible in this construction shows that it is different from true SVCs, where V-raising is always blocked (see chapter six). Here now is a description of the basic facts of verb movement to Tense in the Modal-aspectual verb construction:

- (26) a. Òzó gèlé miànmíán yá dé ìyán
 Ozo truly forget INFL buy yam
 'Ozo truly forgot to buy yam.'
- b. *Òzó gèlé miànmíán!rén yá dé ìyán
 Ozo truly forget INFL buy yam
- c. *Òzó miànmíán!rén gé!lé yá dé ìyán
 Ozo forget truly INFL buy yam
- d. ìyán òré Òzó miànmíán!rén gé!lé yá dé
 yam Foc. Ozo forget truly INFL buy
 'It is yam that Ozo truly forgot to buy.'

(26a) illustrates the ordering of I-type adverb with respect to the modal verb; it occurs to the left of the verb, as expected since the I-type adverb is generated as a left adjunct to the head of EP. (26b) shows that the modal verb cannot bear the past perfective suffix in its base-generated position. This too is expected, since -rV is in T position and obligatorily attracts the verb. Thus, overt verb movement is triggered, such that the verb raises to check a feature of Tense. This observation is particularly worth noting because in the previous discussion of verb movement in chapter six I used only transitive verbs.

However, it is quite possible for the past perfective suffix to show up on intransitives as in (27) (alluded to in chapter six):

- (27) a. Òzò giégìé sàán
Ozo quickly jump
'Ozo quickly jumped.'
- b. Òzò sá!ánrén giégìé
Ozo jump-rV quickly
'Ozo has jumped quickly.'
- c. *Òzò giégìé sá!ánrén
Ozo quickly jump-rV
'Ozo quickly has jumped.'

(27) shows that an intransitive verb can move past the adverb to Tense to support the -rV suffix (27b) but it can never bear this same Inflection in its unmoved position (27c). The point I am making here is that the aspectual verb resembles an intransitive verb because it does not have an internal object NP. Therefore, it seems that it should be able to undergo verb movement to Tense, because the issue of Case-licensing and object movement do not arise with neither aspectual nor intransitive verbs.

What this simple characterization of the facts predicts is that it should be possible in the Modal-aspectual verb construction for the first modal/aspectual verb alone to move to Tense without the clefting of an object NP since it does not subcategorize for an object NP to begin with, on a par with intransitives (27). However, (26c) shows that this prediction is incorrect as we see that it is ungrammatical for the modal verb to move past the adverb to Tense. In order to clearly illustrate the relevance of the ungrammaticality of (26c) let us compare it with a similar sentence in which there is a complementizer and tensed verb, rather than infinitival *yá*, after the modal verb and see if verb movement is possible. This is illustrated in (28):

- (28) a. Òzò gèlé miànmíán wèé úyì dè ìyán
Ozo truly forget that Uyi buy yam
'Ozo truly forgot that Uyi buys yams.'

- b. *Òzó gèlé miànmíánrén wèé úyì dé iyán
 Ozo truly forget-rV that Uyi buy yam
 'Ozo truly forgot that Uyi bought yams.'
- a. Òzó mián!miánrén gèlé wèé úyì dé iyán
 Ozo forget-rV truly that Uyi buy yam
 'Ozo forgot truly that Uyi bought yams.'

Contrast between (26) and (28) provides the first solid evidence of a restructuring account of the Modal-aspectual verb construction. (28a) illustrates the fact that the I-type adverb exhibits the same ordering relation with the aspectual verb. In addition, the presence of the complementizer in (28) also implies that the second verb is in a tensed clause and this can be independently verified by the fact that the embedded verb in (28a) has the low tone which marks habitual tense. In (28b) we repeat the previous observation that the presence of the -rV suffix on the verb requires that the verb move to Tense, and this has not happened in this case because the adverb precedes the verb; therefore, the sentence is ungrammatical. The striking contrast comes from (28c) where we observe that the aspectual verb can undergo verb movement when the complement clause is tensed, thus providing a minimal contrast with (26c). I propose that this contrast is one evidence that restructuring has occurred in the embedded infinitive with *yá* in the Modal-aspectual verb construction but not when there is a complementizer introducing a tensed clause.

Another striking fact about the Modal-aspectual verb construction with respect to verb movement is that when the direct object of the embedded verb is clefted as in (26d), we observe that the past-perfective suffix can occur on the matrix verb. Since the presence of the -rV suffix can only mean that the modal verb has moved to Tense, it means therefore that the direct object of the embedded verb acts as the object of the matrix verb, in the way that it facilitates verb movement. I propose that this interesting fact whereby the direct object of the embedded verb comes to act syntactically as the direct object of the matrix modal verb is compatible only with restructuring explanation. In this respect, object cleft from the Modal-aspectual verb construction is like Clitic Climbing in the Romance and Germanic languages because in both cases an otherwise objectless verb comes to have what

seems to function as a syntactic object of the matrix clause. The significance of the analysis of (26d) is based on the observations about verb-raising in section 6.4.2 where I showed that a transitive verb in a simple clause raises to Tense position if and only if its object is clefted, as shown in (29):

- (29) a. Òzó gbé ébólù
 Ozo hit ball
 'Ozo kicked the ball.'
- b. *Òzó gbé!ré ébólù
 Ozo hit -rV ball
 'Ozo has kicked the ball.'
- c. ébólù òré Òzó gbé!ré
 ball Foc Ozo hit -rV
 'Its the ball that Ozo has kicked.'

Therefore, the fact that the modal verb can raise to Tense only when the object of the verb in the embedded clause is clefted (26d) shows that restructuring has applied. Furthermore, (26d) provides a different kind of evidence for the analysis of restructuring in the Modal-aspectual verb construction. This evidence points to a possible parametric difference between restructuring in Èdó and the Romance/Germanic languages. Whereas restructuring (hence Clitic Climbing) is said to be optional in Romance and Germanic languages, (26c) shows that object cleft prior to verb raising in these restructuring contexts is obligatory. This would explain the ungrammaticality of (26c) where the object is not clefted and the verb raises past the adverb.

Therefore, I conclude that we are able to derive restructuring effects like Clitic Climbing based on the interaction between verb raising to Tense and object cleft. In fact, the pattern of facts in (26c) and (26d) along with the contrast from the tensed clause in (28) are only compatible with a restructuring account of the Modal-aspectual verb construction.

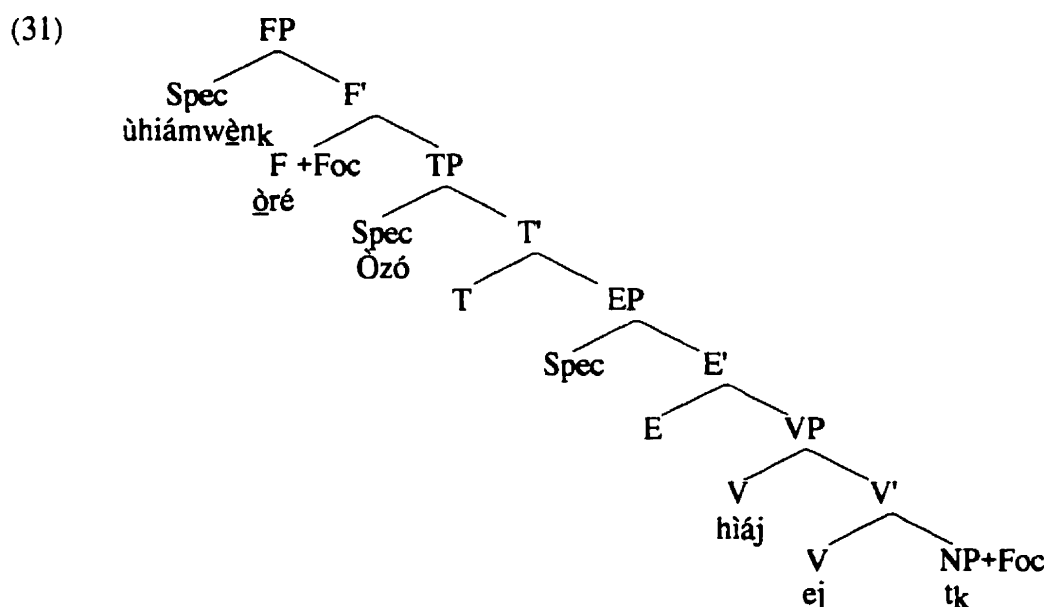
7.3.2.2. Predicate Clefts

This section provides another piece of evidence that supports my proposal for a restructuring analysis of the Modal-aspectual verb construction, based on event structure. My basic claim is that the clause unification involved in restructuring also implies that event identification (unification) has taken place. Confirmation of this comes from predicate clefts. I will argue that the two verbs involved in the Modal-aspectual verb construction combine to express a single event. This claim is modeled after some works on Romance/Germanic restructuring (cf. Rosen (1990), Napoli (1982), Wurmbrand (1997), etc.), where it has been proposed that the event structure of restructuring verbs (RVs) is underspecified and that RVs similar to auxiliary or light verbs form a single event structure with the infinitive. Thus, the prediction is that predicate clefts from the Modal-aspectual verb construction will exhibit the same properties as single event resultative SVC. Recall the fact from chapter three that neither verb can be clefted in a single event resultative SVC, although predicate clefts of the verbs in the two-event consequential SVC or covert coordinations are possible.

As a preliminary step to the discussion of predicate clefts in the Modal-aspectual verb construction, I will first illustrate the behavior of some modal verbs in simple clauses. This is illustrated in (30):

- (30) a. Òzó hià
 Ozo try
 'Ozo tries.'
- b. ùhiámwèn òré Òzó hià
 nom-try-nom Foc. Ozo try
 'Ozo is really managing, not that he is strong or well enough.'
- c. Òzó miànmíán
 Ozo forget
 'Ozo forgot.'
- d. ùmián!miánmwèn òré Òzó miá!nmíán
 nom-forget-nom Foc. Ozo forget
 'It is forgetting that Ozo did, not that he did it intentionally.'

As the data above shows, modal verbs like other verbs in the language can undergo predicate clefts for contrastive focus. According to my analysis, the grammaticality of the predicate clefts in (30) is derived from the idea that the cognate event argument of the modal verb, which is base-generated in the internal complement position of the VP, moves through Specifier of EP for checking on its way to Spec, FP/CP. I assume that there is only one such Specifier of EP position for each functional head. This raising of the event argument is also accompanied by the covert raising of the modal verb which is attracted by the functional head E, thus creating the relevant Spec-head configuration between the event argument and the verb to check the event-role. Thereafter, due to the [+Foc] feature on the event argument, it is attracted overtly by *òré* which is in the head of Focus Phrase (FP) to its Specifier position to check the focus feature and this gives us the surface order. This is illustrated for (30a) by the simple representation in (31) (VoiceP is omitted).



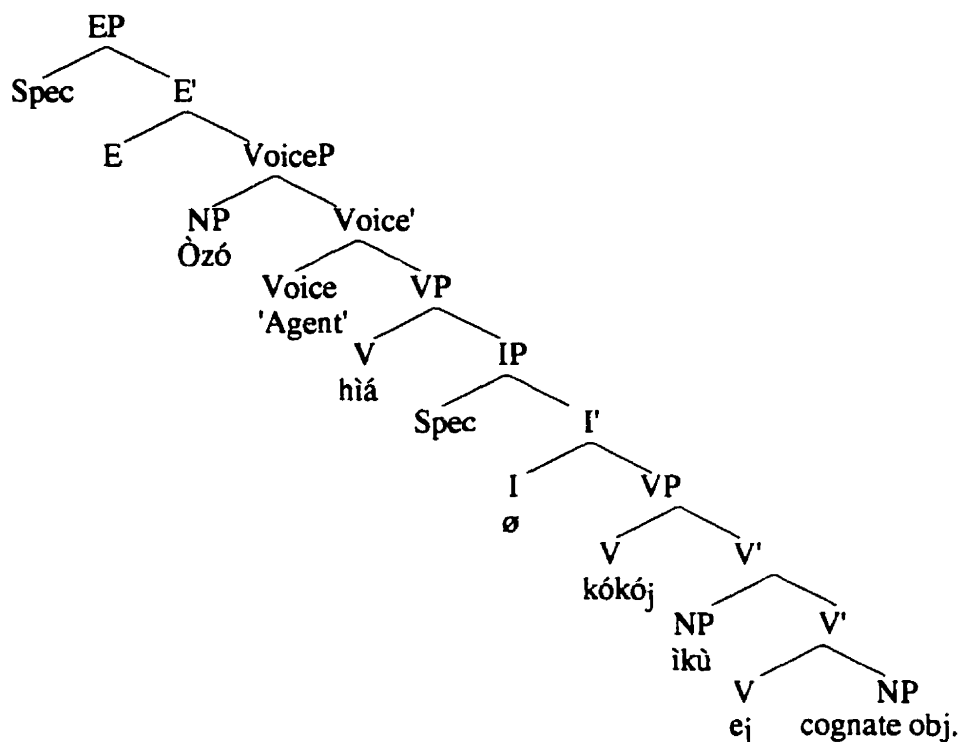
On the basis of this summary of predicate cleft licensing in simple clauses, let us consider the following sentences which illustrate predicate clefts from the Modal-aspectual verb construction:

- (32) a. Òzó hiá kó!kó ikù
Ozo try gather dirt
'Ozo tried and gathered the dirt [together].'
- b. *ùhiámwèn òré Òzó hí!á kó!kó ikù
nom-try-nom Foc. Ozo try gather dirt
- c. *ùkókómwèn òré Òzó hí!á kó!kó ikù
nom-gather-nom Foc. Ozo try gather dirt
- (33) a. Òzó miànmíán yá lé èvbàré
Ozo forget INFL cook food
'Ozo forgot to cook the food.'
- b. *ùmián!miánmwèn òré Òzó miá!nmíán yá lé èvbàré
nom-forget-nom Foc. Ozo forget INFL cook food
- c. *ùlémwèn òré Òzó miá!nmíán yá lé èvbàré
nom-cook-nom Foc. Ozo forget INFL cook food
- (34) a. Òzó miànmíán wèé úyì lé èvbàré
Ozo forget COMP Uyi cook food
'Ozo forgot that Uyi cooked the food.'
- b. ùmián!miánmwèn òré Òzó miá!nmíán wèé úyì lé èvbàré
nom-forget-nom Foc. Ozo forget COMP Uyi cook food
'It's forgetting that Ozo forgot that uyi cooked the food, not intended act.'
- c. ?ùlémwèn òré Òzó miá!nmíán wèé úyì lé èvbàré
nom-cook-nom Foc. Ozo forget COMP Uyi cook food
'It's cooking that Ozo forgot that Uyi did to the food, not selling.'

According to the sentences in (32) and (33), it is ungrammatical to have a predicate cleft of either of the verbs from the Modal-aspectual verb construction. This is so even though we know that each of the verbs can independently undergo predicate cleft (30) (although I have only shown this for modal verbs). In contrast, when there are two tensed clauses as in (34) the same verb can now undergo predicate cleft. Consequently, the ungrammaticality of predicate clefts of the verbs in the Modal-aspectual verb construction receive a consistent explanation if we assume that the event structure of the modal/aspectual verb is underspecified in this construction, and like an auxiliary or light verb it forms a single event with the embedded clause. This would imply that there is only a single projection of E(vent)Phrase for the two verbs which I assume, like in the single-event resultative SVC,

to be generated above the two verbs. Thus, (32a) would have a representation as in (35) (only the projections below TP are shown, I omit the lower VoiceP for simplicity).

(35)



In (35), I propose to represent the assumption that the event structure of the modal/aspectual verb is underspecified, thus forming a single event with the verb in the embedded clause, based on the requirement for the cognate event argument to move through the Specifier of EP on its way to Spec, FP/CP. As will become clear shortly, I propose that a single EP projection dominates both verbs, therefore, there is no intermediate EP projection for the embedded infinitive and this sets the Modal-aspectual verb construction apart from consequential SVC and covert coordination.

As before, I assume that multiple Specifiers are not allowed for functional projections, EP in this case. Therefore, the ungrammaticality of predicates clefts in the Modal-aspectual verb construction comes from the fact that both verbs are attracted at LF by the functional head E since there is no intervening node to block the LF raising of the embedded verb. However, there is only a single Specifier for the EP, so there is room for

Inversion), the two infinitive verbs do not form a constituent at S-structure and so it is ungrammatical for them to be clefted together.

These facts from Abe can be recast in a different way based on my proposed structural account of predicate cleft and restructuring. Accordingly, I propose that in (36a) there is a single projection of EP and like resultative SVCs in Yoruba (or Igbo resultative V-V compounds), both the event arguments of the two verbs undergo a coalescence and form a compound at LF; this is what allows predicate cleft under the relevant Spec-head configuration at LF. In the ungrammatical sentence (36b), there are separate projections of EP and this inhibits the predicate cleft of both verbs because the event argument of one of them will not be properly checked in the Specifier-head relation of a single EP. Therefore, predicate cleft facts from Abe are proof that clausal unification also involves event structure unification as well. Where restructuring has not taken place like in (36b) there is no evidence for event unification and the predicate cleft of both verbs together is ungrammatical. Note that examples like (36a) are ungrammatical in Èdó because of a surface morphological constraint against forming V-V compounds; compare the discussion of Èdó vs. Yoruba in section 3.5.1.

Now I must turn to the lack of an EP projection before the second verb which produces a rather unusual selection in the structure in (35) where IP immediately dominates VP without an intervening EP projection (see Travis, forthcoming). In fact, this is my specific claim for restructuring, i.e., that when clause unification occurs event structure unification also takes place, and this involves a lack of an EP projection within the embedded clause.

The empirical evidence to support this proposal comes from two related areas. First, consider the ungrammaticality of Modal-aspectual verb construction when an aspectual verb which selects for imperfective *ghá* takes an indefinite object as in (37).

- (37) #Òzó sùén ghá gbé èmá!tón
 Ozo begin IMP. hit metal
 '* as Ozo began hitting metal repeatedly'
 'OK as Ozo began hitting the metal'

(37) is intended to show the incompatibility of an iterative reading with an aspectual verb which selects for an IP that is progressive imperfective. Thus, it is ungrammatical to interpret the event iteratively as Ozo began hitting the metal repeatedly, rather than a single unfinished event which is Ozo began hitting the metal. This contrast of interpretation implies that an iteration meaning is absent in the Modal-aspectual verb construction like (37). Thus, I conclude that there is no EP projection before the second verb to host the iterative meaning of *ghá*, rather there is an INFL head where *ghá* (imperfective) is generated.

The second kind of data that supports the claim that there is no EP before the second verb in the Modal-aspectual verb construction comes from the observation that both INFL *yá* and iterative *ghá* cannot co-occur in the Modal-aspectual verb construction. This is illustrated in (38):

- (38) a. *Òzó miànmíán yá ghá lé iyán
 Ozo forget INFL iter. cook yam
 b. *Òzó yèé yá ghá dé ùkpòn
 Ozo remember INFL iter buy cloth
 c. Òzó miànmíán yá lé iyán
 Ozo forget INFL cook yam
 'Ozo forgot to cook yam.'
 d. Òzó yèé yá dé ùkpòn
 Ozo remember INFL buy cloth
 'Ozo remembered to a buy dress.'

Based on the grammaticality contrast between the sentences in (38), we observe that irrealis *yá* and iterative *ghá* cannot occur together (38a,b), while similar sentences without the iterative morpheme are perfectly grammatical (38c,d). Thus, the ungrammaticality of (38a,b) implies that there is no position in the structure for the iterative morpheme, and this

supports my claim that there is restructuring of the EP projection before the second verb in the Modal-aspectual verb construction.

7.3.2.3 The Class of Restructuring Verbs (RVs)

The final evidence which supports a restructuring analysis for the Modal-aspectual verb construction is based on a cross-linguistic similarity amongst these verbs of the class of known restructuring verbs (RVs) in other languages. Wurmbrand (1997) notes that although the class of RVs shows some variation across languages displaying restructuring effects, there is, a discernible core of RVs which is illustrated in (39a-c) with some typical RVs in Italian, German, and Dutch;

- (39) a. Italian:
modals, andare ('go'), cominciare ('begin'), continuare ('continue'), osare ('dare'), riuscire ('succeed'), sapere ('know'), venire ('come'), easy-adjectives.
- b. German:
modals, versuchen ('try'), beginnen ('begin'), gelingen ('succeed'), fortfahren ('continue'), wagen ('dare'), vergessen ('forget'), easy-adjectives.
- c. Dutch:
modals, beginnen ('begin'), dreigen ('threaten'), durven ('dare'), helpen ('help'), leren ('learn, teach'), menen ('think, believe, mean'), proberen ('try'), trachten ('try'), wagen ('dare'), weigeren ('refuse').

In a striking testimony to universal grammar (UG), it turns out that many of these verbs that are typical RVs in Romance and Germanic languages are similar to or the same as the modal, aspectual and motion verbs in Èdó that exhibit the restriction in (21). They constitute the class of verbs that can occur as the first verb in the Modal-aspectual verb construction as exemplified by the sentences in (20).

I will illustrate this comparison between Indo-European RVs and Èdó modal-aspectual verbs with three verbs from the list in (39) that were not included in (20). I will show that they also exhibit the properties associated with the modal-aspectual verb construction, albeit in a different way. Consider the following:

- (40) a. Òzọ sùén ghá yó èsùkú
 Ozo begin INFL attend school
 'Ozo began attending school.'
- b. Òzọ yó yá kí!é ékhù
 Ozo go INFL open door
 'ozo went to open the door.'
- c. Òzọ rènén yá lé èvbàré
 Ozo know INFL cook food
 'Ozo knew to cook the food.'

The verbs in (40) display strong selectional properties which require that the head of embedded INFL must be filled by an overt morpheme *ghá* (40a) or *yá* (40b,c) . What is striking about these sentences is the fact that they do not have the alternation with a realis version of the same sentence in which the INFL head is null. This fact is illustrated by the ungrammaticality of the following sentences:

- (41) a. *Òzọ sùén yó èsùkú
 Ozo begin attend school
- b. *Òzọ yó kíé ékhù
 Ozo go open door
- c. *Òzọ rènén lé èvbàré
 Ozo know cook food

Note that the examples in (40) do not fit under the traditional definition of SVCs because they are indeed linked together by markers of subordination like *yá* and *ghá* . Nevertheless, their syntactic behavior is substantially the same as other modal-aspectual verb constructions

Consequently, I propose that the fact that the list of aspectual verbs that can occur as the first verb in the Modal-aspectual verb construction is a subset of the RVs in Romance and Germanic (39) should be taken as evidence of a universal class of RVs. Thus, it is natural that the modal-aspectual verbs in Èdó should be analyzed in terms of restructuring.

The aspectual verbs in Èdó are listed in (42) which includes some verbs that do not easily translate into English or other Indo-European languages.

- (42) sùén ('begin, continue'), hiá ('try, manage'), yó ('go'), rẹ̀nrẹ̀n ('know'),
miànmíán ('forget'), rhió (wake up early), há (get up in a start/shock), bá
(walk in a tip-toe/act stealthily), yèé ('remember')⁹

The fundamental point arising from this observation about the class of RVs is the fact that these modal-aspectual verbs in Èdó based on the general subcategorization in (21) do not take object NPs in addition to the infinitival complements. This point is relevant because it has been suggested that subject control verbs with objects cannot restructure in Romance (Zushi 1995) and that object control verbs do not allow clitic climbing (Kayne 1989:248-49, 250-51). Thus, the subcategorization of these verbs in (42) is consistent with a restructuring analysis of the Modal-aspectual verb construction.

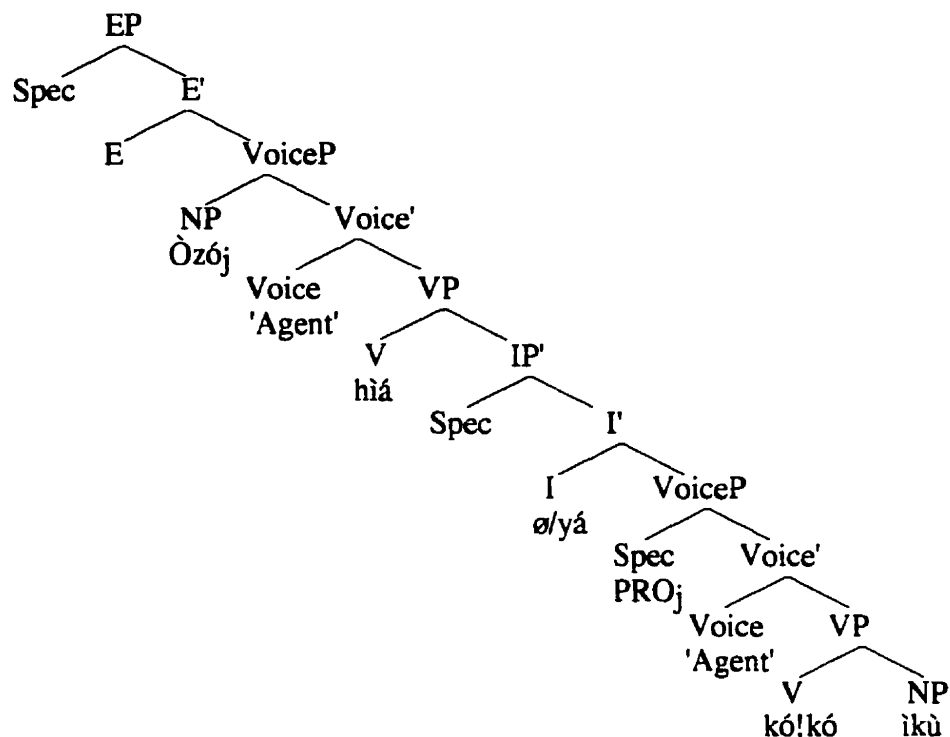
Therefore, I conclude this section by reiterating my basic claim that the Aspectual verb construction involves restructuring phenomena on a par with Romance and Germanic languages. This is in spite of the fact that object cleft seems to be obligatory in the Aspectual verb construction for the purpose of verb raising unlike the optional Clitic Climbing in the Romance and Germanic restructuring to which it is being compared.

7.3.3 Additional Syntactic Tests for Restructured Clause

This section continues the general project of showing that a restructuring account is consistent with the behavior of the verbs in the Modal-aspectual verb construction, making them different from SVCs or CCs. I will now turn my attention to filling out the details of the structure that I have proposed as in (43) (only the relevant projections below EP are shown).

⁹ For some unknown reason a verb like 'want' which is a typical RV in any language does not exhibit the properties associated with aspectual verbs. Thus, this argument based on the similarity between RVs and aspectual verbs is suggestive but would require more in-depth study. I will leave this open for further research whether this is a lexical idiosyncrasy or part of some other generalization.

(43)



I will argue that several of the same tests which were used to establish the structures of resultative SVCs, consequential SVCs, and CCs from the previous chapters also consistently support the structure in (43).

7.3.3.1 There are Two Subject Positions

In chapter two, I showed that there is only a single subject position in the resultative and consequential SVCs, while there are two positions in CCs. In this section, I will argue based on evidence from the distribution of the adverbial particle *tòbòrè* (it/her/him-self) that there is a subject position inside the VP of the embedded complement clause of the modal-aspectual verb construction. The leading idea here, also, is based on the assumption that *tòbòrè* can either right-adjoin to an overt NP or a trace of a moved NP. Consider the following sentences:

- (44) a. Òzój miànmián [PROj yá lé èvbàré
 Ozo forget INFL cook food
 'Ozo forgot to cook the food.'

- b. *Òzój miànmíán [tòbòrèj yá lé èvbàré
Ozo forget himself INFL cook food
'Ozo forgot to cook the food by himself.'
- c. Òzó miànmíán [PROj yá tòbòrèj lé èvbàré]
Ozo forget INFL himself cook food
'Ozoj forgot [PROj to cook the food by himself.'
- (45) a. Òzój hiá [PROj [ɪ' dún!mwún òyán
Ozo try pound yam
'Ozo tried and pounded the yam.'
- b. Òzó hiá [PROj [ɪ' tòbòrèj dún!mwún òyán]]
Ozo try himself pound yam
'Ozoj tried and [PROj pounded the yam by himself.'

Two sets of data have been presented in (44-45) which show the same distributional behavior of the particle when the INFL head is filled (44) and when it is null (45). In (44a) for example, we observe that the hypothesized PRO subject of the embedded infinitival clause is controlled by the matrix subject. This is consistent with the interpretation of the sentence whereby Ozo is the subject of the actions denoted by the two verbs. The evidence for this internal subject position comes from the contrast between (44b) and (44c) where we observe the distribution of the *tòbòrè* particle. In (44b) the particle occurs in the Spec of IP before the infinitive particle *yá* and this sentence is ungrammatical. I propose that the reason why (44b) is ungrammatical is because the particle can only either right-adjoin to an overt NP or to the trace of the moved NP. (44c) shows the correct distribution of the particle where it occurs below the infinitive *yá* and before the verb. I take this acceptable word order to be evidence of the fact that PRO subject is actually base-generated in the Spec of VoiceP below IP to which the particle right-adjoins.¹⁰

¹⁰ Now I can directly comment on the Spec position of the infinitive IP. The evidence from the distribution of *tòbòrè* indicates that PRO is generated below IP (Spec of VoiceP). The question is, does PRO move to Spec of IP afterwards as assumed in Sportiche (1988)? Alternatively PRO could move to check null case. (cf. Chomsky 1993, 1995) However, on the basis of the distribution of the particle in the consequential SVC where it attaches to *pro* in a sentence like (i);

(i) Òzó dé òyán lé pro_k tòbòrè_k

it is assumed that *pro* does not move (cf. Baker and Stewart 1997b), thus I make this generalization concerning PRO; that it does not move to Spec of IP in the modal-aspectual verb construction (cf. Baltin 1995). I will not go into any detail on this issue since it is not directly relevant to the point I want to make about restructuring and the fact that there is a subject position in the embedded clause of the modal-aspectual

These facts about the Modal-aspectual verb construction call to mind similar observations and analysis in Baltin (1995) and Sportiche (1988) concerning the distribution of the floated quantifier 'all' vis-a-vis an infinitival PRO in English. This is illustrated by the following:

- (46) a. *They tried all to leave
b. They tried to all leave

Baltin (1995) and Sportiche (1988), although with some differences in the implementation of their analyses, both take the contrast in (46) to imply that subjects are always generated within lexical projections, so that the subject at S-structure 'They' is actually generated within the VP. Thus, like floated quantifiers in English the *tòbòrè* particle presents evidence that there is an internal subject, PRO, that is generated within the extended projection of VP (VoiceP) of the embedded clause.

In the light of the foregoing, I propose the structural representation in (47) that accounts for the fact that the PRO subject originates in a low position consistent with the claim that there are two subjects; an overt subject in the matrix clause which binds a null PRO in the embedded IP that is consistent with certain assumptions regarding obligatory control in infinitival clauses (cf. Williams 1980).¹¹

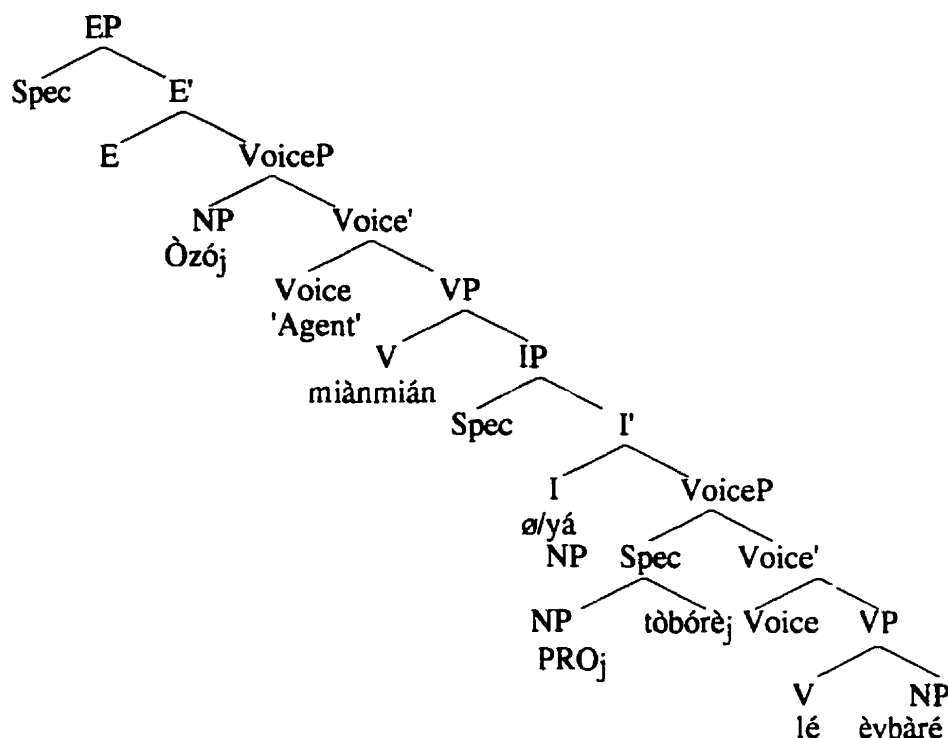
verb construction. Further evidence that this position must be PRO is based on the fact that it is ungrammatical to have an overt non-coreferential subject in the place of PRO. For example, the sentence in (ii) is ungrammatical.

- (i) *Òzó miànmíán úyì lé èvbàré
Ozo forgot Uyi cook food

I will leave these issues open for future research.

¹¹ I have assumed a simple representation for the embedded VP just for ease of representing the specific point being made here, although the structure could very well be more detailed both in terms of representing the object argument as well as the event arguments, which are not relevant in this case.

(47)



7.3.3.2 I-type Adverb before First Verb

We have seen from the discussion on V-to-I movement in section 6.2 that the I-type adverb occurs before the verb in the matrix clause and I have proposed that this kind of adverb is licensed as a left-adjunct to the head of EP. In this section, I will show that while this is true for the first verb in the Modal-aspectual verb construction, however, the consequence of restructuring whereby there is no EP projection before the second verb creates a situation in which the I-type adverb is now licensed as a left-adjunct to VP2. Therefore, I will argue that this licensing contrast between the two clauses with respect to I-type adverbs solves an apparent problem concerning their distribution in the embedded clause of Modal-aspectual verb construction, due to restructuring. Furthermore, this contrast in I-type adverb licensing provides a larger context of differentiating the Modal-aspectual verb construction from resultative SVCs, consequential SVCs, and CCs in terms of the contrast between E and Infl.

Therefore, this section is intended to show that there is no contrast between resultative-consequential SVCs and Modal-aspectual verb construction based on the distribution and licensing of the I-type adverb when they occur before the first verb. This confirms the assumption that in all these constructions there is an EP position before the first verb. Consider the following:

- (48) a. Òzó giègiè hià (yá) dún!mwún ìyán
 Ozo quickly try INFL pound yam
 'Ozo quickly tries (to) pound the yam.'
- b. Òzó gié!gié hiá (yá) dún!mwún ìyán
 Ozo quickly try INFL pound yam
 'Ozo quickly tried (to) pound the yam.'
- (49) a. Òzó giègiè fiàn ágá kànmwàn
 Ozo quickly cut chair be-short
 'Ozo quickly cuts the chair short.'
- b. Òzó gié!gié fián ágá kànmwán
 Ozo quickly cut chair be-short
 'Ozo quickly cut the chair short.'
- (50) a. Òzó giègiè dè èvbàré rè
 Ozo quickly buy food eat
 'Ozo quickly buys [the] food and he eats it (quickly).'
- b. Òzó gié!gié dé èvbàré ré
 Ozo quickly buy food eat
 'Ozo quickly bought [the] food and he ate it (quickly).'

(48) shows an I-type adverb before the first verb in the modal-Aspectual verb construction, while (49)-(50) show the same thing for the resultative SVC and consequential SVC respectively. Observe that in (48)-(50), the I-type adverb occurs in the same position before the verb and also the fact that in the (a) sentences the adverbs all show the same low tone Inflection for habitual-present tense, while in the (b) sentences the adverbs all have the same high tone past tense Inflection. This consistency implies that the I-type adverb is generated in the same position in both the Modal-aspectual verb construction and resultative

and consequential SVCs. In short, they all have an EP projection before the first verb which the I-type adverb left-adjoins to its head.¹²

7.3.3.3 Iterative vs. Imperfective

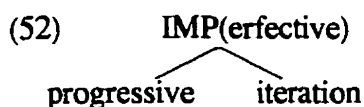
This section shows that there is a contrast between consequential SVCs and modal-aspectual verb construction with respect to the licensing of I-type adverbs in the position before the second verb. I will argue that this contrast is a reflection of the structural difference within the internal projections of both constructions: consequential SVCs have an internal E projection, while Modal-aspectual verb constructions only have an internal projection of INFL causing I-type adverbs to adjoin to the left of VP itself.

In order to present a minimal contrast between I-type adverb licensing in consequential SVCs and Modal-aspectual verb constructions, I propose to use differences in meaning of the morpheme *ghá* as test for the presence of either E or Infl projection before the second verb. This is based on the fact that the *ghá* morpheme can either have an iterative meaning, in which case I assume that it is in E, or a progressive meaning which is taken to imply that it is in Infl. This contrast is illustrated by the following sentences:

- (51) a. Òzọ hĩa ghá dún!mwún iyán nà
 Ozo try PRG pound yam this
 'Ozo tried pounding this yam'
- b. Òzọ dé iyán ghá dún!mwún
 Ozo buy yam ITE pound
 'Ozo bought [the] yams and pounded them repeatedly'

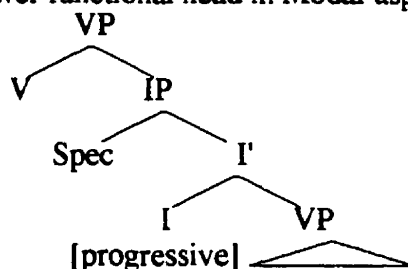
The two sentences in (51) illustrate very important points about the sort of aspect/mood interpretations that are compatible with either SVC or the Modal-aspectual verb construction. *A priori*, we could assume that iteration and progressive are subcases of the general semantic class of imperfective as shown in (52) (cf. Comrie, 1976).

¹² I do not attempt to provide examples with *ghá* before the adverb since the presence of *ghá* in INFL will cause tone copying across the clause.

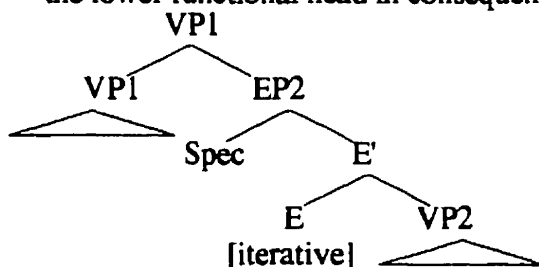


I propose that these two kinds of imperfective are actually disjoint in the structures of consequential SVCs and Modal-aspectual verb constructions. In the Modal-aspectual verb construction (51a) *ghá* can only have a progressive (continuing action) meaning because the only functional head available is Infl, as in (53a). In contrast, in the consequential SVC (51b) *ghá* can only have the iteration meaning because only E is structurally available for lexical insertion, as in (53b). Consequently, I propose that this meaning difference reflects a difference in the nature of heads that are compatible with each kind of construction.

(53a) the lower functional head in Modal-aspectual verb construction



(53b) the lower functional head in consequential SVC



The position of I-type adverbs before the second verb provides syntactic evidence that confirms this structural difference illustrated in (53). Compare the following:

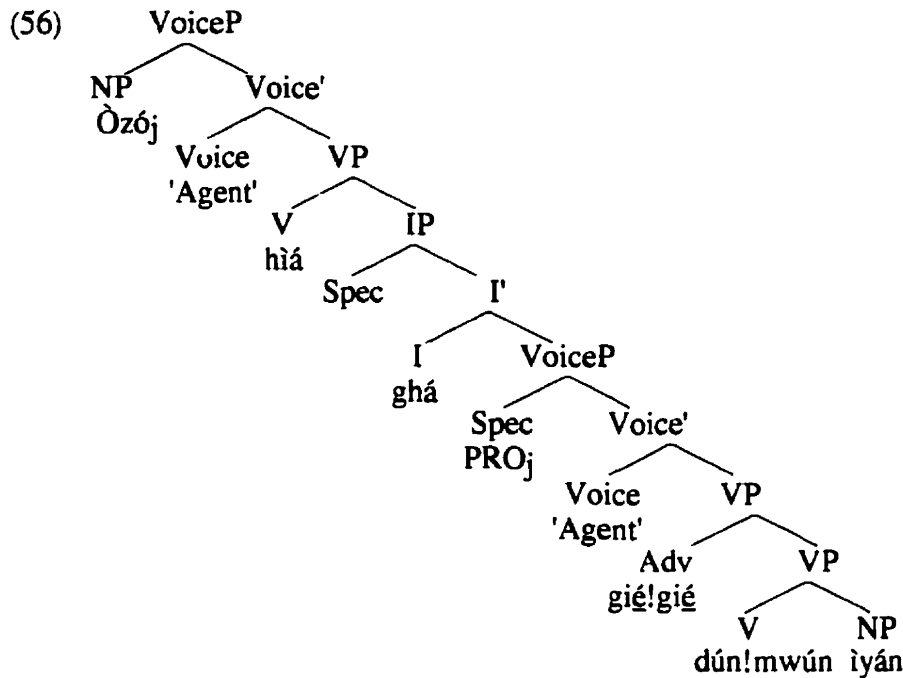
- (54) a. *Òzó hià giègiè ghá dún!mwún iyán *Adv+INFL order
 Ozo try quickly PROG pound yam
- b. *Òzó hià gié!gié ghá dún!mwún iyán "
 Ozo try quickly PROG pound yam

- c. Òzọ hìà ghá gié!gié dún!mwún òyán √INFL + Adv. order
 Ozo try PROG quickly pound yam
 'Ozo is trying quickly pounding the yam'
- d. Òzọ hìá ghá gié!gié dún!mwún òyán "
 Ozo try PROG quickly pound yam
 'Ozo tried quickly pounding the yam'
- (55) a. *Òzọ dè òyán ghá giègiè dún!mwún *E + Adv order
 Ozo buy yam ITE quickly pound
- b. *Òzọ dé òyán ghá giégié dún!mwún "
 Ozo buy yam ITE quickly pound
- c. Òzọ dè òyán giègiè ghá dún!mwún √Adv + E order
 Ozo buy yam quickly ITE pound
 'Ozo buys [the] yam and he quickly pounds it repeatedly'
- d. Òzọ dé òyán giégié ghá dún!mwún "
 Ozo buy yam quickly ITE pound
 'Ozo bought [the] yam and he pounded it quickly repeatedly'

The sentences in (54) and (55) illustrate a significant difference between the Modal-aspectual verb construction and the consequential SVC in terms of the nature of inner Infl head and the licensing of adverbs. This difference comes from word order of I-type adverb and the overt functional head. Observe from (54a,b) that the order in which the I-type adverb comes before the functional head *ghá* is ungrammatical in the Modal-aspectual verb construction. This implies that the I-type adverb cannot left adjoin to Infl. This is in sharp contrast with the consequential SVC (55c,d) where the order of I-type adverb before *ghá* is grammatical, implying that this *ghá* is an instance of E, to which the I-adverbs can left adjoin.

I propose that this contrast follows from the structural difference between the two constructions. Thus, while there is an E in the consequential SVC which is consistent with the licensing of I-type adverbs and the distribution and interpretation of iterative *ghá*, in the restructuring context of the Modal-aspectual verb construction there is only an INFL head present; and EP is "pruned" and so it requires a different kind of I-type adverb licensing. This is evident from the fact that the order of INFL + adv produces grammatical results as in (54c,d) which I assume implies that the I-type adverb adjoins to the left of VP, possibly

as a preverb. This is in sharp contrast to the order between the adverb and the functional head in the consequential SVC, where it is ungrammatical for the adverb to occur after *ghá* (55a,b). This contrast is therefore another primary evidence that there is restructuring in the Modal-aspectual verb construction. This VP-adjunction of the I-type adverb in restructuring context of the Modal-aspectual verb construction is illustrated in (56).



On the basis of the structure of the Modal-aspectual verb construction and the facts from the distribution of I-type adverbs, I propose that although the Modal-aspectual verb construction expresses a single event like the resultative SVC, the second verb can be modified by an adverb. Based on my assumptions about adverbs as predicates of events (cf. Parsons 1990) it follows that there is some sense in which the second verb has an event and this allows the I-type adverb to occur. Nevertheless, the overall nature of the event denoted in the Modal-aspectual verb construction is blurred by restructuring, as evident from the rather unexpected distribution of the I-type adverb.

7.3.3.4 N-type adverbs as VP Modifier

In this section, I will provide evidence based on the distribution of N-type adverb showing the phrasal status of the verbs in the Modal-aspectual verb construction. This will again support the proposal that there is a single event like in the resultative SVC. The primary assumption that underlies this analysis is that N-type adverbs only modify phrasal categories like VP by right adjoining to them, but not lexical category such as the verb. This will reveal the essential difference between non-phrasal nature of the first verb without its clausal complement, as opposed to the second verb which clearly projects a verb phrase. The background comparison is with similar distribution of N-type adverbs in resultative SVCs. Consider the following:

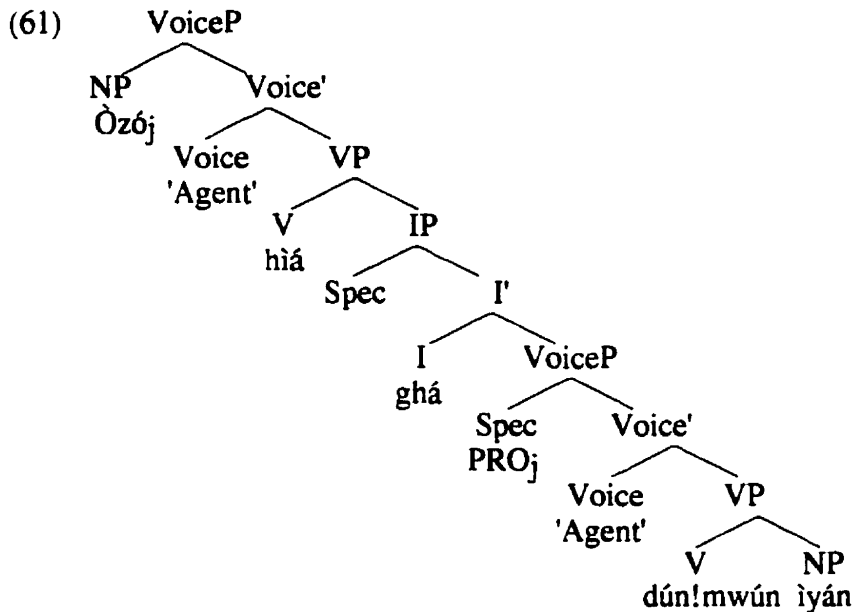
- (57) a. *Òzó hiá ègiégìé (yá) dún!mwún iyán
Ozo try quickly INFL pound yam
- b. Òzó hiá (yá) dún!mwún iyán ègiégìé
Ozo try INFL pound yam quickly
'Ozo tried to pound the yam quickly'
- (58) a. *Òzó kòkó àdésúwà ègiégìé mòsé
Ozo raise Adesuwa quickly be.beautiful
- b. Òzó kòkó àdésúwà mòsé ègiégìé
Ozo raise Adesuwa be.beautiful quickly
'Ozo raised Adesuwa to be beautiful quickly'
- (59) a. Òzó dé èvbàré ègiégìé ré
Ozo buy food quickly eat
'Ozo bought [the] food quickly and he ate it'
- b. Òzó dé èvbàré ré ègiégìé
Ozo buy food eat quickly
'Ozo bought [the] food and he ate it quickly'

In (57a), we observe that the N-type adverb cannot occur in the position after the first verb. One important control for (57a) is to see whether an N-type adverb can occur after the Aspectual verb in isolation. This is possible, as shown in (60):

- (60) a. Òzó hiá ègiégìé
Ozo try quickly
'Ozo tried quickly'

- b. Òzò sùén ègìégìé
 Ozo begin quickly
 'Ozo began quickly'

Based on the grammaticality of the N-type adverb modification with aspectual verbs in (60), I conclude that the ungrammaticality of (57a) is based on the fact it is impossible to have a separate modification of the first verb since there is no VP projection independent of its clausal complement (IP) to which the adverb can adjoin. The ungrammaticality of (57a) mirrors a similar fact in the resultative SVC, as shown in (58a). The distribution of the N-type adverb is consistent with the structure that I have proposed for the Modal-aspectual verb construction (56) modified appropriately in (61).



In fact, we can justify the account for why the N-type adverb cannot occur between the verb and its IP complement which is attributed to restructuring by contrasting (57a) with similar sentence in which there is a CP before the second verb. This is shown in (62).

- (62) Òzò miànmíán ègìégìé wèé ìrèn dùnmwún iyán
 Ozo forget quickly that he pound yam
 'Ozo forgot quickly that he pounded the yams'

The grammaticality of (62) where an N-type adverb can occur after the first verb and modify it provides another striking evidence based on the contrast between restructuring and non-restructuring contexts that there is restructuring in the modal-aspectual verb construction.

7.3.3.5 Locative Prepositional Phrase

This section provides evidence which shows that the first verb of the Modal-aspectual verb construction forms a syntactic unit with its clausal complement because of restructuring. Like N-type adverbs, locative PPs are assumed to be phrasal modifiers of the VP and so I predict similar ungrammaticality when it appears between the first verb and the IP. Consider the following:

- (63) a. Òzó miànmíán vbè òwá
 Ozo forget at home
 'Ozo forgot at home'
- b. *Òzó miànmíán vbè òwá (yá) dún!mwún òyán
 Ozo forget at home INFL pound yam
- c. Òzó miànmíán (yá) dún!mwún òyán vbè òwá
 Ozo forget INFL pound yam at home
 'Ozo forgot to pound the yam at home'
- d. Òzó miànmíán vbè òwá wèé òrèn dùnmwún òyán
 Ozo forget at home that he pound yam
 'Ozo forgot at home that he (Ozo) pounded yams'

The sentences in (63) illustrate an interesting fact about the Modal-aspectual verb construction. This is based on the analysis of locative PPs as a VP modifier, from which we observe that it exhibits the same structural constraints as that of the N-type adverb. (63a) shows that the locative PP can occur with an aspectual verb in a simple clause, however, in the modal-aspectual verb construction (63b) it is ungrammatical for the locative PP to immediately follow the verb. This implies therefore, that the first verb is not by itself a VP, rather it forms a VP with its clausal complement. Thus, when the locative PP occur

after the second verb (63c) the sentence is grammatical and I propose that this is the case because the first verb forms a tight syntactic unit with the clausal complement due to restructuring. The crucial contrast is between (63b) and (63d) where there is a CP in the latter and the locative PP like the adjunct N-type adverb can occur after the first verb, and I take this to be evidence for obligatory restructuring since a CP extraposition allows adjuncts to occur between the verb and its CP complement but not with restructuring infinitival IP. This contrast can only mean one thing; there is restructuring of the infinitival clause in the modal-aspectual verb construction.

On the basis of the foregoing discussion, I conclude that the Modal-aspectual verb construction involves restructuring. However, unlike the Romance and Germanic restructuring we observe that restructuring is obligatory in Èdó Modal-aspectual verb construction while it is optional in Romance and Germanic languages. I believe there is a possible parameter here that can be stated to account for this difference between Èdó and Romance/Germanic languages, but I will leave this open for future research.

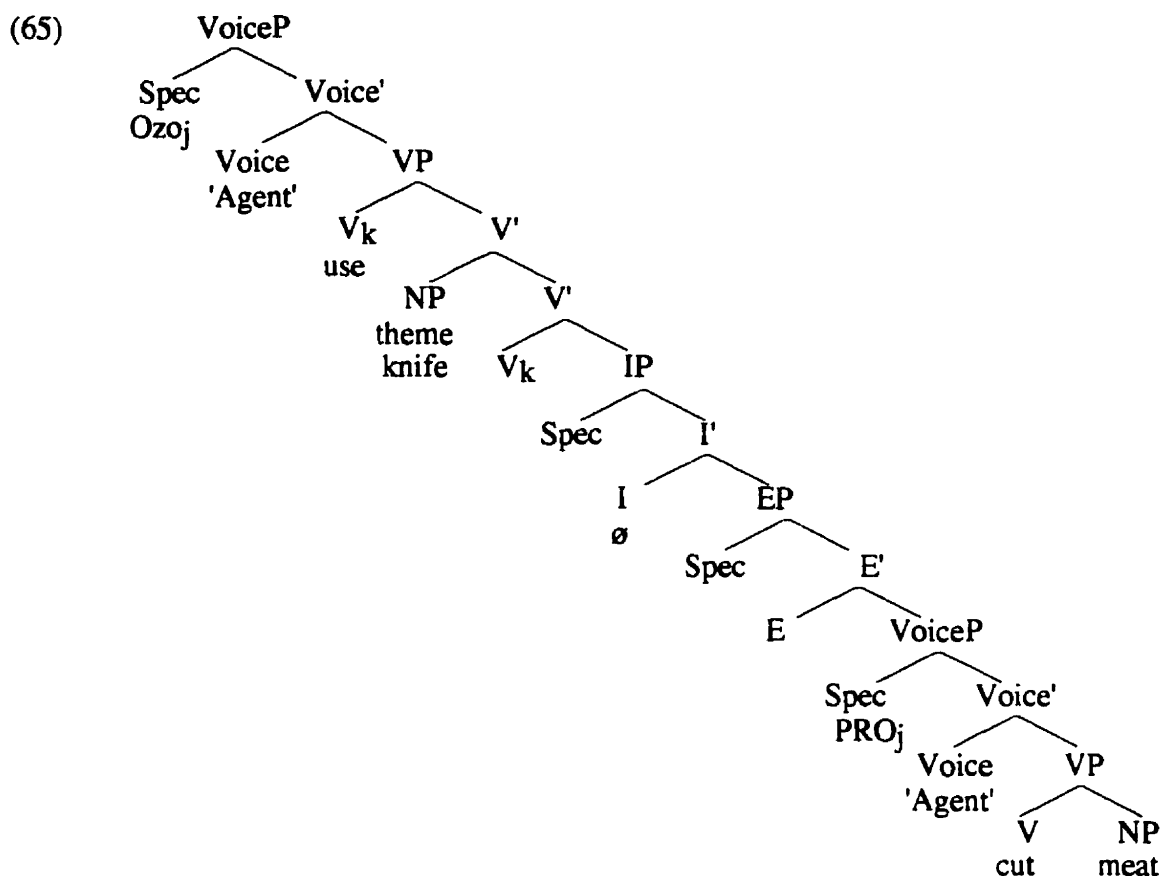
7.4 On Instrumental Constructions

In this section, I examine another kind of re-analysis concerning the underspecification of features internal to the verb rather than features associated with the verbal projection (7.2 above). The construction that I am concerned with here is instrumental constructions which have been assumed to be SVCs in a variety of African languages (cf. Awoyale 1988, Baker 1989, 1991, Lefebvre 1991, Li 1991, Sebba 1987, Déchaine 1993, Collins 1997, etc.), as well as Japanese (Nishiyama 1995) a language which is not usually classified as a SVC language .

Instrumental constructions appear on the surface to contain two verbs, each with its own object, and there is some semantic grounds to interpret the relations between the verbs

There are three distinct approaches that can be identified in the previous analyses that treat instrumental constructions as SVCs. First, the lexical approach (cf. Lefebvre 1991) where, for example, they are treated as causatives that are derived by some mechanism of 'conflation'. Such a 'conflation' process, according to Larson (1991), may take place at the Lexical Conceptual Structure (LCS). Alternatively, Li (1991) argues that the 'conflation' applies to 'prelexical representations' which allow substantial aspects of prelexical structure to remain thematically intact but 'invisible' while still exercising syntactic effects. Second, there is the syntactic approach in which instrumental constructions are considered to be object sharing SVCs where the second verb is allowed to assign a secondary theta role such as instrument to the object of the first verb (Baker 1989). As stated in chapter two, here also object sharing can be analyzed as either true internal object sharing under a co-headed VP in the sense of Baker (1989), or as control of an empty category, *pro* that is generated in the Specifier of a separate VP headed by the second verb (Collins 1997). Third, there is the bivalent projection analysis in Déchaine (1993) where although each verb forms a separate VP, one of them counts as the head of the whole construction in some sense (cf. Manfredi 1991).

In light of the foregoing, the goal of this section is to contribute to the study of so-called instrumental SVC based on data from the Èdó language. My basic claims are that the so-called instrumental SVC is not true SVC at all; rather it involves control, i.e., subject control, and that the first verb is a defective verb somewhat like a functor predicate or light verb (cf. Ritter and Rosen, 1993, Rosen 1990) which has no semantic content but can assign a theta role; it combines with a second verb that is fully lexical and transitive to express a single event. This is sketched in (65) (only the relevant projections are given).



My analysis is presented in two parts. The first part will provide arguments that support my proposal that the so-called instrumental SVC involves subject Control. The second part applies various syntactic arguments from previous chapters that support my analysis.

7.4.1. Motivating Subject Control

This section will show that the instrumental construction is like the Modal-aspectual verb construction in the respect that there is an Infl head before the second verb. However, there can be no restructuring in the instrumental construction since the first verb obligatorily selects for an object in contrast with the first verb in the Modal-aspectual verb construction with restructuring. The two constructions also differ in that there is no meaning alternation between a null Infl (which has a realis reading) and an overt *yá*, which should have an (irrealis) reading. In the instrumental construction, the presence of INFL is simply

associated with an infinitive clause. I will now present three arguments that support this proposal.

7.4..2 INFL before the Second Verb

In this section, I will demonstrate that there is a special tonal pattern on the second verb in the instrumental construction which is like the one on the second verb in the Modal-aspectual verb construction. I will argue that this tonal inflection is due to the presence of an Infl head before the second verb. Thus, the instrumental construction contrasts sharply with SVCs and CCs with respect to tense inflection, thus indicating a difference in clause structure. Consider the following sentences in which the second verb is disyllabic:

- (66) a. Òzọ yá ábẹ́ vá!lọ èmió!wó 'past'
 Ozo use knife slice meat
 'Ozo used the knife to slice the meat'
- b. Ìsòkẹ̀n yà òyìyà sá!lọ ètó 'habitual'
 Isoken use comb comb hair
 'Isoken uses the comb to comb her hair'

Observe that the tones on the second verb remain invariant in spite of the tense changes on the first verb; it is always the same sequence of high-downstep-high tones. This data contrasts in this respect with resultative and consequential SVCs, as shown in (67):

- (67) a. Òzọ fián ìrùn mwún kàn mwán (*kán!mwán)
 Ozo cut grass be.short
 'Ozo cut the grass short'
- b. Òzọ lé ìyán dùn mwún (*dún!mwún)
 Ozo cook yam pound
 'Ozo cooked the yam and pounded it'

(67) shows that there is a clear contrast between SVCs and the instrumental constructions in terms of the tones on the second verb. In fact, it is ungrammatical to have the high downstep-high tone sequence on the second verb in SVCs (this is in accordance with the tone matching condition from chapter six). What is even more striking is the fact that the

sentences in (66) cannot be made into covert coordinations where each verb would be within a different projection of Tense and have its normal, simple clause inflection. This is illustrated in (68).

- (68) a. *Òzó yá ábẹ̀ vǎlǒ èmió!wó 'past'
 Ozo use knife slice meat
- b. *Ìsòkẹ̀n yà òyiyà sàlò ètó 'habitual'
 Isoken use comb comb hair

Thus, we conclude that instrumental constructions must be different from true SVCs in at least two ways; (a) tense matching does not apply to the second verb, (b) the barrier to tense matching cannot be a finite Tense head or else covert coordination would be possible.

I propose that what is responsible for the tone difference on the second verb is the projection of an Infl head which introduces an infinitive clause. This head blocks tone matching from spreading onto the second verb and accounts for why covert coordination is not possible. Further evidence for positing the Infl head before the second verb comes from the following sentences, which freely alternate with those in (66).

- (69) a. Òzó yá ábẹ̀ yá vá!lǒ èmió!wó 'past'
 Ozo use knife INFL slice meat
 'Ozo used the knife to slice the meat'
- b. Ìsòkẹ̀n yà òyiyà yá sál!lǒ ètó 'habitual'
 Isoken use comb INFL comb hair
 'Isoken uses the comb to comb her hair'

These sentences show that the irrealis Infl particle *yá* can occur before the second verb--which again shows that these sentences are not on a par with the resultative or consequential SVCs. Following the analysis of similar facts involving the Modal-aspectual verb construction, I conclude that there is a structural Infl head that dominates the second

- c. *Òzó miànmián yá ghá lé èvbàré *INFL plus E heads
Ozo forget INFL ITER cook food
- (72) a. Òzó yá ábé yá fián émió!wó √INFL head
Ozo use knife INFL cut meat
'Ozo used the knife to cut the meat'
- b. Òzó yá ábé ghá fián émió!wó √E head
Ozo use knife ITER cut meat
'Ozo used the knife to cut the meat repeatedly'
- c. Òzó yá ábé yá ghá fián émió!wó √INFL plus E heads
Ozo use knife INFL ITER cut meat
'Ozo used the knife to cut the meat repeatedly'

It is impossible for iterative *ghá*, which is generated in the E head, to appear in the Modal-aspectual verb construction (71b), (71b), whereas *yá* that is generated in INFL head is possible (71a). This confirms the proposal that there is no E head before the second verb, because of restructuring. This pattern sharply contrasts with the distribution of similar morphemes in the instrumental construction, which does not involve restructuring. In (72a), we observe that *yá* can occur before the second verb, and (72b) shows that *ghá* can also occur before the second verb. These sentences suggest, therefore, that there are two separate heads, Infl and E, before the second verb. We can confirm this from (72c) where we observe that the iterative and infinitive morphemes can co-occur. This proves that the instrumental construction contains both Infl and E heads before the second verb, unlike the Modal-aspectual verb construction.

In conclusion, both Aspectual and instrumental constructions differ from true SVCs in that they have an embedded Infl projection. However, the instrumental construction is different from the Modal-aspectual verb construction in that it has an EP projection before the second verb unlike in the Modal-aspectual verb construction.

7.4.3 PRO Subject in Embedded Clause

The representation of the instrumental construction in (71) assumes that there is a PRO subject in the embedded IP that is controlled by the overt subject in the matrix clause. In this section, I will examine two kinds of data which support this proposal.

7.4.3.1 *tòbórè* particle

Given the discussion of *tòbórè* in the Modal-aspectual verb construction, we are able to predict its distribution in the instrumental construction where there is also an embedded INFL. Thus, if the previous assumption from section 7.2 about a PRO subject in the embedded IP is correct, then we predict that the particle will show up in the Specifier of VoiceP in the embedded clause. Consider the following:

- (73) a. [Òzój yá àdésúwàk [PROj/*k (yá) khuán íghó]]
 Ozo use Adesuwa INFL reap money
 'Ozo used Adesuwa to make money'
- b. [Òzój yá àdésúwàk [PROj/*k (yá) tòbórèj/*k khuán íghó]]
 Ozo use Adesuwa INFL himself reap money
 'Ozo used Adesuwa to make money'
- c. [Òzój yá àdésúwàk [PROj/*k (yá) khuán íghó tòbórèj/*k]]
 Ozo use Adesuwa INFL reap money himself
 'Ozo used Adesuwa to make money'

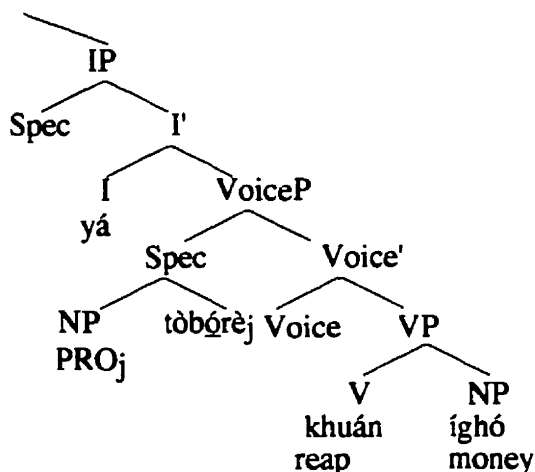
Observe that the same pattern of distribution with *tòbórè* as in the modal-aspectual verb construction occurs in the instrumental constructions (73). The interpretation of (73a) is that the action denoted by the second verb is performed by the matrix subject Ozo, not by the object of the matrix verb, Adesuwa. Therefore, the null PRO subject of the embedded clause must be controlled by Ozo. In (73b), we observe that *tòbórè* occurs after the Infl head, before the verb and is still interpreted as modifying the matrix subject. I assume that

this distribution of *tòbórè* provides evidence that PRO is generated low in the clause (in Specifier of VoiceP).¹⁷

The fact that the object of the matrix verb (*Adesuwa*) cannot be coreferent with *tòbórè* can be taken as evidence that the object NP (instrument) has not moved from anywhere within the lower IP. This data in (76b) constitutes evidence against previous analyses of the instrumental construction in which object sharing is invoked or in which an empty category is said to be controlled by the overt object (Baker 1989, Collins 1997 etc.).

Consequently, the coreference facts from the distribution of *tòbórè* can be seen as evidence that there is a PRO subject NP that is generated in the Specifier of VoiceP in the embedded clause, consistent with the structure in (74) where only the relevant projections are shown.

(74)



Therefore, I conclude that the instrumental construction is only compatible with a subject control analysis, not with an object sharing or empty category analysis that would unify them with SVCs, as has been previously assumed in the literature (cf. Law and Veenstra 1992, Carstens 1988, etc.).

¹⁷ As with the modal-aspectual verb construction, I will not go into any details as to whether PRO moves to Spec of IP, but simply assume based on the distribution of *tòbórè* that it is base-generated low, in the Specifier of VoiceP.

7.4.3.2 Purposive Clauses

This section examines a comparison between the instrumental construction and one form of Purpose clause in English (cf. Chomsky, 1977, Jones 1991 etc.) which provides indirect support for the proposal that there is a PRO subject in the embedded INFL in the Èdó instrumental construction. I propose that English purpose clause in which the first verb is 'use' (see Jones 1991) is like the instrumental constructions in Èdó in involving clausal complementation. The sentence in (75) illustrates what is usually classified as a kind of Purpose clause in English.

(75) John used the knife to cut the meat

In particular, Jones (1991) argues that sentences like this exhibit some of the diagnostics for a purposive clause.

(a) Purpose clauses are adjuncts. Observe that in (75), 'to cut the meat' is quite freely omissible, John used the knife being a well formed sentence. In this respect, it is like a purpose clause adjunct.

(b) The phrase *in order* can occur before the infinitive as in (76).

(76) John used the knife in order to cut the meat

Nevertheless, in spite of these two properties, I would like to claim that (75) is not exactly a Purposive construction; rather it is an instrumental construction somewhat like the one found in Èdó.

There are two reasons for making such a claim. First, observe the minor fact that (75) has a realis reading which asserts (or presupposes) that John actually did cut the meat. This interpretation is rather different from that of most purpose clauses. For example, contrast (75) with the clear case of purposive clause in (77).

(77) They brought John to talk to Mary (Jones=15a)

Notice that unlike (75), (77) is ambiguous: it could be that John actually spoke with Mary, or it could be that they brought John along for this purpose, but it was not achieved for one reason or another. I propose that this difference between (75) and (77) arise from the inherent lexical meaning of use (when one uses something, it entails that the action of the verb in the complement occurs). Given this, I propose that (75) is different from (77) in that the former is an instrumental construction while the latter is a purposive adjunct, contrary to Jones (1991) who treats both as Subject Purposive Clauses (SPCs).

The second and major reason to reject a unified analysis for both (75) and (77) comes from the difference between them with respect to wh-extraction of the object of the embedded verb. This contrast is illustrated in (78)

- (78) a. what did John use the knife to cut?
 b. *Who did they bring John to talk to

(78a) illustrates the extraction of the object of the embedded verb from the instrumental construction with use as first verb, while (78b) shows the same facts for an object in a clear purposive clause. They differ in grammaticality. In particular, the fact that it is possible to extract the object from the embedded clause in the use sentence in (78a) shows that it is not a purpose clause, given that purpose clauses are islands (Chomsky 1977). The expected island effect is clearly present in (78b), where we observe that it is ungrammatical to extract the object from a true purpose clause.

What is striking about this data is that the same contrast can be illustrated with respect to wh-extraction between the instrumental construction and a purpose clause in Èdó:¹⁸

¹⁸ I illustrate the purpose clause with the other kind of instrumental construction because *yá* does not select for a CP complement (I suppose this is part of its defective paradigm). This switch of first verbs is not a weakness of the argument being presented here since I assume that this other kind of instrumental construction with a fully lexical first verb is also compatible with a control (complementation) analysis as well. In fact, in (80) we are dealing with another construction and so the contrast holds.

- (79) a. Òzọ yá ábẹ́ yá vá!lọ́ émió!wó
 Ozo use knife INFL cut meat
 'Ozo used the knife to cut the meat'
- b. émió!wó òré Òzọ yá ábẹ́ yá vá!lọ́
 meat Foc. Ozo use knife INFL cut
 'It is the meat that Ozo used the knife to cut'
- (80) a. Òzọ rhié ábẹ́ nè ó yá vá!lọ́ émió!wó
 Ozo take knife that he INFL cut meat
 'Ozo used the knife in order to cut the meat'
- b. *émió!wó òré Òzọ rhié ábẹ́ nè ó yá vá!lọ́
 meat Foc. Ozo take knife that he INFL cut

It is quite possible for the object of the verb in the embedded clause of the instrumental construction to be wh-moved as shown in (79b), while a comparable extraction from a real purposive clause results in an ungrammatical sentence as shown in (80b). Consequently, based on the parallel with English I conclude that instrumental constructions are different from purposive clauses. Furthermore, since English allows a version of the instrumental construction like Èdó, but English is not a serializing language, therefore we have comparative evidence that instrumental constructions are not SVCs in any theoretical sense.

7.4.4 On the Syntax of 'use'-type Instrumental Construction

In section 7.4.2 (in particular, example (66)), we saw that *yá* can inflect for tense by varying its tones like verbs. However, in this section I will argue that it is 'underspecified' in several respects to be made clear by examining the other salient properties of this first verb with respect to the syntactic tests from previous chapters.¹⁹

¹⁹ We can clearly demonstrate the fact that *yá* is a verb in spite of its 'defective' nature based on the fact that it behaves like a verb in the language in terms of tonal inflection for tense

- (i) Òzọ yá ábẹ́ yá fián émió!wó 'past tense high tone on yá'
 Ozo use knife INFL cut meat
- (ii) Òzọ yà ábẹ́ yá fián émió!wó 'habitual tense low tone on yá'
 Ozo use knife INFL cut meat

Thus, we observe that the lexical *yá* is different from the one in the head of Infl in terms of tense tone inflection.

As a necessary background, consider the difference between the use verb and the take verb in (81) both of which are said to come from a closed class of verbs (Lefebvre 1991):

- (81) a. *Òzọ yá ábẹ́
Ozo take knife
- b. Òzọ rhié ábẹ́
Ozo take knife
'Ozo took the knife'

The contrast above shows that *yá* cannot occur in a simple clause, while *rhié* can. Thus, *yá* is some kind of defective verb (perhaps a functor predicate in the terminology of Ritter and Rosen 1993) while *rhié* is fully lexical. I propose that this is a significant contrast which we can use to explain the other rather different properties of the verb *yá*.

This contrast in (81) seems to mirror the distinction in English between a functor predicate such as *have* and a real causative verb like *make* proposed in Ritter and Rosen (R&R) (1993). This is illustrated in (82):

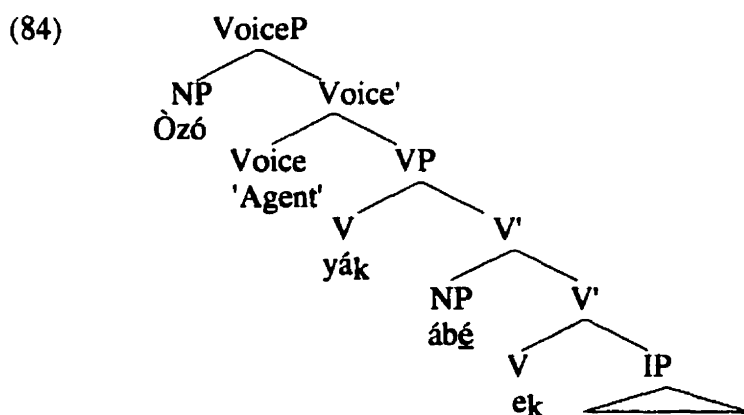
- (82) a. The teacher didn't make Bill write the article, but he did it anyway.
- b. *The teacher didn't have Bill write the article, but he did it anyway.

When *make* is negated as in (82a) the causing event has not taken place. However, the writing event may still occur, as indicated by the fact that it is possible to add the but clause, indicating that the writing took place without coercion. The functor predicate *have* works differently: in (82b) have cannot be negated when the embedded complement is presupposed to have happened. R&R (1993) propose that this difference with respect to negation in (82) is because make and write denote two distinct events in (82a), while the ungrammaticality of the but clause in (82b) comes from the fact that have and the embedded verb write denote a single event. Thus, the writing is automatically negated along with the causation.

When this distinction is applied to the verbs in (81), it seems that (81a) in which the defective verb *yá* occurs is comparable with the general semantic behavior of the functor predicate *have*. Interestingly enough, this verb also shows different behavior with respect to negation and presupposition (cf. Manfredi 1993 and papers in that volume). Consider the following:

- (83) a. Òzó má yá ábẹ́ yá fián èmió!wó,
 Ozo neg use knife INFL cut meat
 'Ozo did not use the knife to cut the meat'
- b. *Òzó má yá ábẹ́ yá fián èmió!wó, sòkpán ò yé rú èrè
 Ozo neg use knife INFL cut meat, but he still do it

In (83a) we observe that we can negate the two verbs of the instrumental construction. However, in (83b) we observe that one cannot negate a part of the instrumental construction (such as the first verb) and the second verb is presupposed. I conclude that (83b) is evidence in support of the proposal that the first verb takes an obligatory IP complement containing the second verb, and so it cannot be negated apart from its complement. This may be taken as an indication that both verbs may express a single event. The relation between the verb and its complement is diagrammed in (84).



It is predicted from (84) that the obligatory complement relation between the IP and the first verb cannot be violated by word-level or phrasal level categories, nor can the first verb act

independently from its complement with respect to predicate cleft and others. These issues and related ones are discussed in the following sections.

7.4.4.1 I-type Adverbs

This section explores the distribution of I-type adverbs in the instrumental construction, based on which I will argue that there are two structural E positions. Consider first the position before the first verb:

- (85) a. Òzọ giégié yá ábẹ́ (yá) fián èmió!wó
 Ozo quickly use knife INFL cut meat
 'Ozo quickly used the knife to cut the meat'
- b. Òzọ giégié yá ùkéké (yá) gbén èbé
 Ozo quickly use pen INFL write book
 'Ozo quickly used the pen to write the letter'

(85) shows that the I-type adverb can occur before the first verb in the instrumental construction. This is consistent with the generalization in chapter two that there is a fixed order of functional projections before the first verb in all main clauses. In terms of interpretation, the I-type adverb in this position modifies the actions denoted by both the first and second verbs, i.e., the cutting is quick as well as the using (85a), and the writing is quick as well as the using (85b).

Based on Parsons (1990), I propose that the interpretation of the I-type adverb in the position before the first verb in (85) reflects the event structure of the construction: there is a single (macro) event. I will come back to how this event relation between the two verbs is represented in section (7.4.4.5)

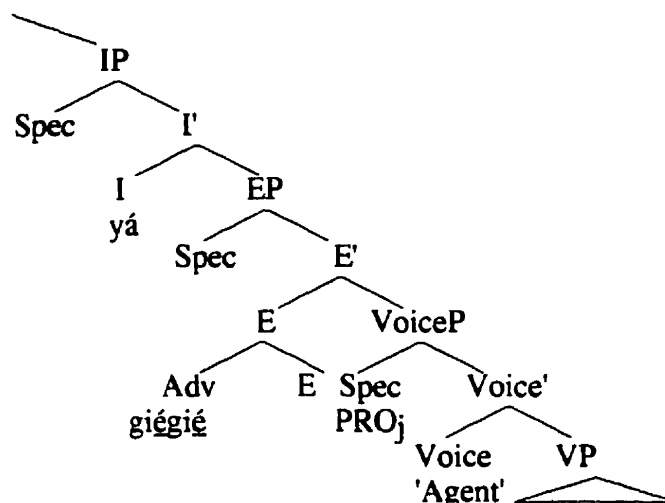
Next, let us turn our attention to the position before the second verb to examine the internal structure of the embedded clause. Consider the following:

- (86) a. Òzọ yá ábẹ́ (*giégié) (yá) giégié fián èmió!wó
 Ozo use knife quickly INFL quickly cut meat
 'Ozo used the knife to quickly cut the meat'

- b. Òzọ yá ùkéké (*giégié) (yá) giégié gbén èbé
 Ozo use pen quickly INFL quickly write book
 'Ozo used the pen to quickly write the letter'

In (86), we observe that the embedded clause shares a resemblance with the matrix clause in terms of the ordering of functional heads. This is based on the fact that the I-type adverb cannot occur before the Infl particle *yá* ; this shows that the licensing of this kind of adverb is uniform across all constructions except those affected by restructuring (the Modal-aspectual verb construction). In (86), the I-type adverb modifies the second verb only. Based on the analysis that I have proposed, this implies that there is an E position before the second verb. This structure of the embedded clause is shown in (87).

(87)



7.4.4.2 N-type Adverb

This section is intended to provide evidence in support of the structures given in (84) and (87) for the two clauses in the instrumental construction. This is based on the distribution of N-type adverb, which is assumed to be a VP modifier that adjoins to the right of a VP. The primary goal here is to reveal the difference between the first and second verbs in terms of their phrasal status. Consider the following:

- (88) a. *Òzọ yá ábẹ̀ ègiégié (yá) fián èmió!wó
 Ozo use knife quickly INFL cut meat
 'Ozo used the knife quickly to cut the meat'

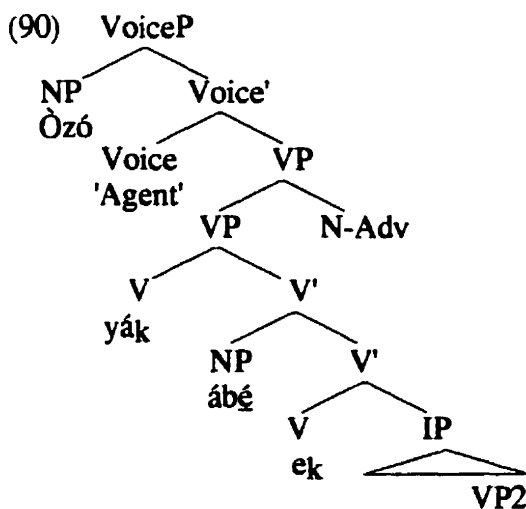
- b. *Òzọ yá ùkéké ègìégìé (yá) gbén èbé
 Ozo use pen quickly INFL write book
 'Ozo used the pen quickly to write the letter'

In (88), we observe that an N-type adverb cannot occur after the V1-NP sequence. Based on my assumptions about N-type adverb licensing, the ungrammaticality of the sentences in (88) must come from the fact that the V1-NP sequence does not constitute a VP to which the N-type adverb can right-adjoin. In addition, the ungrammaticality of (88) is also consistent with the view that the first verb does not denote an event by itself that is distinct from the second verb; they both form one large event expressed by the first verb and the verb contained within the IP complement. This is consistent with the structure in (84).

Predictably, the N-type adverb can occur after the second verb as shown in (89).

- (89) a. Òzọ yá ábẹ́ (yá) fián èmió!wó ègìégìé
 Ozo use knife INFL cut meat quickly
 'Ozo used the knife to cut the meat quickly'
- b. Òzọ yá ùkéké (yá) gbén èbé ègìégìé
 Ozo use pen INFL write book quickly
 'Ozo used the pen to write the letter quickly'

The interpretation of the N-type adverb in the sentence final position provides another indication that the two verbs in the instrumental construction express a single event. In (89), both verbs are modified, just as when the I-type adverb occurs in the position before the first verb. Structurally, this implies that the N-type adverb adjoins to the right of the VP in the matrix clause and modify both the first and second verbs. This is illustrated in (90).



7.4.4.3 Locative Prepositional Phrase

This section provides evidence which confirms the conclusions based on the distribution of N-type adverb. Like N-type adverb, locative PPs can only attach to a VP; thus, we predict similar distribution for these phrases as we saw with N-type adverbs. Consider the following:

- (91) a. Òzó yá ábẹ́ (*vbè òwá) (yá) fián èmió!wó (√vbè òwá)
 Ozo use knife at home INFL cut meat at home
 'Ozo used the knife to cut the meat at home'
- b. Òzó yá ùkéké (*vbè òwá) (yá) gbén èbé (√vbè òwá)
 Ozo use pen at home INFL write book at home
 'Ozo used the pen to write the letter at home'

In (91), we observe that the locative PP cannot occur after V1-NP1. This implies two things: there is no VP projection made up of the V1 and NP1; it confirms the proposal that there is a close affinity between the first verb and its complement which cannot be disrupted by placing syntactic material between them. However, the locative PP can occur in the sentence final position, after the VP2, where it has the meaning that the actions denoted by both verbs were done in the same location. This interpretation is compatible with the proposal that this kind of instrumental construction expresses a single event and, therefore, the action of the first verb cannot have a separate location from the action of the second verb. Rather, the two verbs must combine as one macro event, which can then be modified by the locative PP in the sentence final position.

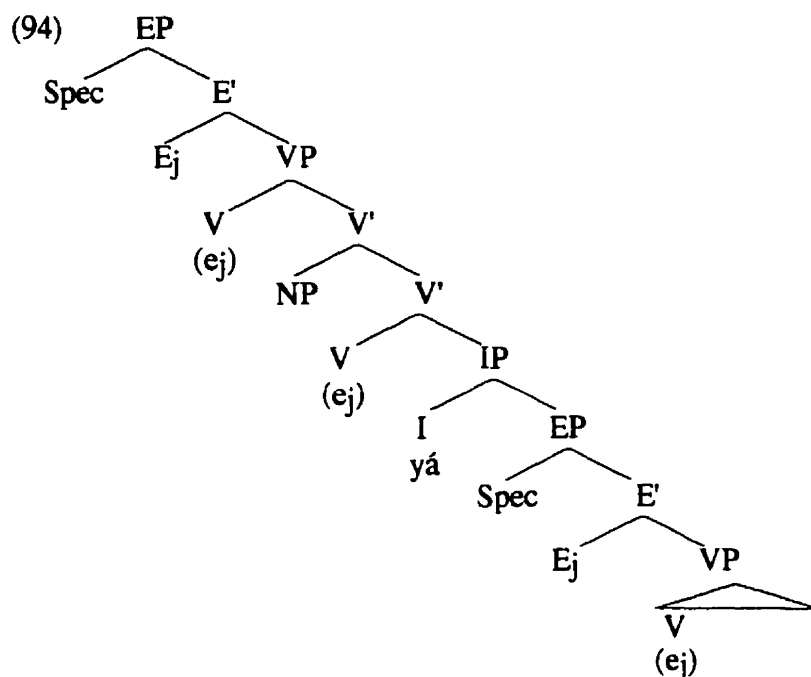
7.4.4.5 Predicate Clefts

This section elaborates the nature of the single event expressed by the two verbs in the instrumental construction based on their behavior in predicate clefts. Consider the following sentences:

- (92) a. *ùyámwèn òré Òzó yá ábẹ́ yá fián èmió!wó
 nom-use-nom Foc. Ozo use knife INFL cut meat

- b. *ùfiánmwèn òré Òzó yá ábé yá fián èmió!wó*
 nom-cut-nom Foc. Ozo use knife INFL cut meat
 'It is cutting that Ozo used the knife to cut the meat, not for slicing'
- (93) a. **ùyámwèn òré Òzó yá ùkéké (yá) gbén èbé*
 nom-use-nom Foc. Ozo use pen INFL write book
- b. *ùgbénmwèn òré Òzó yá ùkéké (yá) gbén èbé*
 nom-write-nom Foc. Ozo use pen INFL write book
 'Its writing that Ozo used the pen to write the letter, not for something else '

According to the data in (92) and (93) there is a sharp contrast between the two verbs in the instrumental construction with respect to predicate cleft; *yá* cannot be clefted while the verb in the IP complement can. Observe from the translations of the grammatical sentences in (92b) and (93b) that the using part denoted by the first verb is included in the contrastive focus of the clefted predicate: not that it was used for slicing (92b), not that it was used for something else (93b). My analysis of this contrast is as follows: the defective verb *yá* is a light verb in the sense of Parsons (1990) which does not introduce a new event quantification, and so cannot undergo predicate cleft; indeed there is no nominal form *ùyámwèn*. However, unlike the single event resultative SVC the second verb in this construction can undergo predicate cleft. I take this as evidence that the second verb is enough to define the large event based on a event chain between the E in the embedded clause and that in the matrix clause. This is realized via the indexing between the E heads and the verbs that they dominate. This is illustrated in (94) where only the relevant projections are represented.



Based on the event chain in (94), we are able to provide an account for the fact that the predicate cleft of the second verb provides a contrastive focus which includes the meaning of the first verb. The contrastive focus of the two verbs comes from the cognate event argument of the second verb moving to the Specifier of the EP in the embedded clause whose head attracts the verb covertly. The checking relation that holds between these two under Spec-head also applies to the higher E and its verb via a process of 'percolation' derived from the event chain. Therefore, the single event expressed by the two verbs is licensed as one.

This analysis of predicate cleft provides a consistent explanation for the distribution of adverbs and locative PPs in terms of picking out a single event and an obligatory selectional relation between the matrix and the embedded clause. In addition, it also illustrates the difference between single event true SVCs (resultative) and the single event non-SVC (instrumental) with respect to the properties of the verbs and the nature of E heads.

7.4.4.6 Verb Raising

In the last section, I argued that there is a difference between single event instrumental construction and single event resultative SVC based on differences in predicate cleft. In this section, I will further illustrate this distinction based on the analysis of verb movement to Infl which appears on the surface to be ungrammatical with either verb in the two constructions. However, I will argue that verb raising is ungrammatical in the instrumental construction for different reasons. Thus, another aspect of the defective paradigm of *yá* is based on the fact that it does not undergo verb raising. In addition, I will also show that the failure of V-raising by the second verb comes from the inability of a [-tense] Infl to attract. Consider the following :

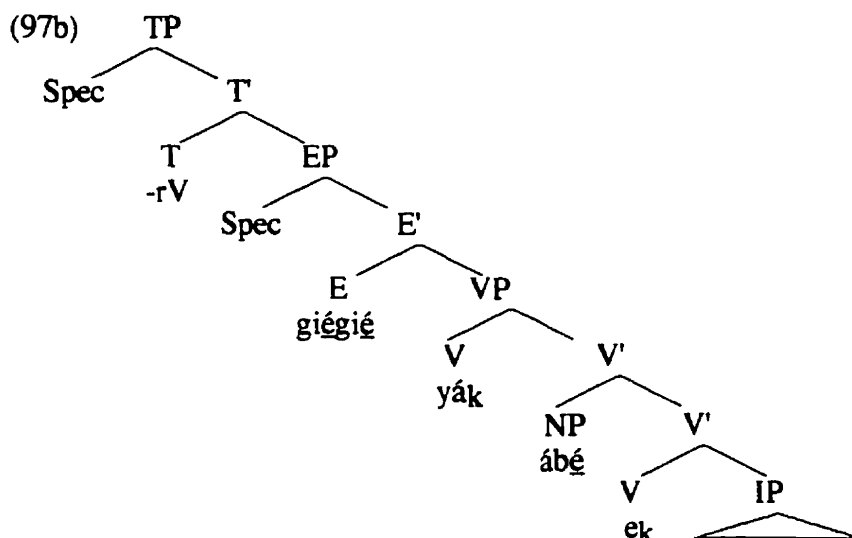
- (95) a. *ábé òré Òzó gié!gié yá -- fián èmió!wó*
 knife Foc. Ozo quickly use cut meat
 'Its a knife that Ozo quickly used to cut the meat'
- b. **ábé òré Òzó yá!ré gié!gié (yá) fián èmió!wó*
 knife Foc. Ozo use+rV quickly INFL cut meat
- c. **èmió!wó òré Òzó yá ábé fiá!nrén gié!gié*
 meat Foc. Ozo use knife cut+rV quickly
 'It is meat that Ozo used the knife to cut quickly'
- (96) a. *ùkéké òré Òzó gié!gié yá (yá) gbén èbé*
 pen Foc. Ozo quickly use INFL write book
 'Its a pen that Ozo quickly used to write the letter'
- b. **ùkéké òré Òzó yá!ré gié!gié (yá) gbén èbé*
 pen Foc. Ozo use+rV quickly INFL write book
- c. **èbé òré Òzó yá ùkéké (yá) gbén!rén gié!gié*
 book Foc. Ozo use pen INFL write+rV quickly

(96a) and (97a) show that it is possible to extract the object of *yá* and in this respect it behaves as a proper governor like other verbs. However, in the (b) sentences we observe that it is ungrammatical for *yá* to occur after the I-type adverb and bear the past perfective -rV suffix inflection. This is taken as evidence that *yá* cannot raise to Infl. This is

unexpected in a complementation structure (97b) based on the ATTRACT analysis of verb movement (97a):²⁰

(97a) ATTRACT

X attracts Y only if Y could check a feature of X,
and all Z such that Z could check a feature of X,
Y asymmetrically c-commands Z.

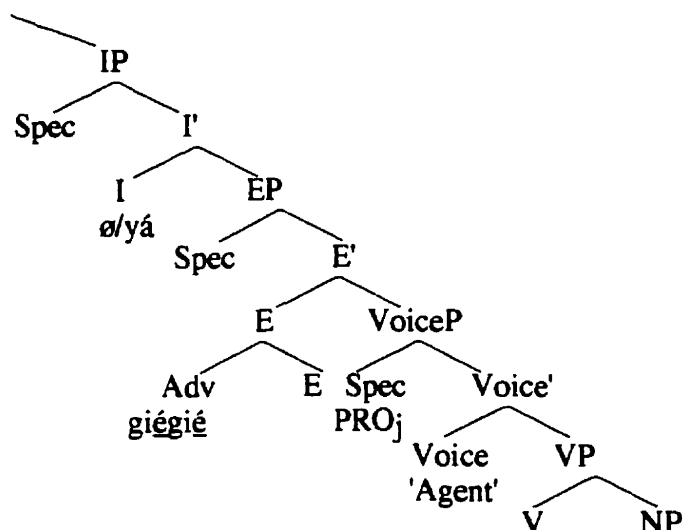


Clearly, the closest thing that could check a feature of Tense is the first verb *yák*, and we know independently that *yák* can inflect for tense, however as (95b) and (96b) show it cannot raise to support the *-rV*. Since instrumental constructions are different from true SVCs, and based on the fact that semantically light verbs like auxiliaries are better raisers in French (and possibly English), I propose that the failure of *yák* to raise to Tense is part of its defective paradigm along the same lines as the analysis of predicate cleft.

²⁰ For ease of illustration, I have base-generated the I-adverb in the head of EP rather than as an adjunct to the head. Under the analysis that I have assumed, generating the I-adverb as head poses a problem for head-movement when V-raising occurs. Thus, this discussion assumes that the I-adverb does not block V-raising since it is an adjunct rather than an actual head.

Turning now to (95c) and (96c), we observe that it is ungrammatical for the second verb to occur after the I-type adverb and bear the -rV suffix. Based on a comparison with (86), the structure of the embedded clause is given in (98):

(98)



Under the analysis of verb movement that is based on ATTRACT (97a), the closest thing that can check the relevant feature of Infl is the verb, but as the (c) sentences show, this is not possible. Consequently, I take the failure of the second verb to occur after the I-type adverb and bear the -rV suffix as evidence that it has failed to raise to INFL; this is based on the fact that the -rV cannot be generated in the Infl of the embedded clause (which must be $\emptyset$ or $yá$) and so the ATTRACT analysis holds in a different sort of way here because there is no relevant feature of Infl to be checked by the verb. Therefore, we observe that verb raising to Infl by either of the two verbs in the instrumental construction is ruled out by different interpretations of ATTRACT.

7.5 Conclusion

The most obvious point made in this chapter is that some previously analyzed SVCs turn out under careful scrutiny to involve two separate clauses: a main clause and an embedded infinitival clause, which makes them very distinct from true SVCs that have been

analyzed as single clauses. It was argued, however, in the case of the modal-aspectual verb construction that these two clauses have been affected by obligatory restructuring that results in what acts like a single clause. In addition, it was argued that one kind of instrumental construction manifests signs of re-analysis where the first verb is underspecified in several ways: it cannot be clefted since it is a light verb that does not introduce a new event quantification, it fails to undergo verb raising which is part of its defective paradigm. However, single event instrumental constructions are typically different from single event resultative SVCs in terms of what licenses predicate cleft and verb movement to Infl; in the former this was derived from the properties of the obligatory infinitival IP complementation structure, while in the latter it was derived from the properties of the co-headed VP structure.

Chapter Eight

SVC Consequences

8.1 Introduction

The preceding chapters have been filled with many detailed analyses of verb sequencing constructions with data mainly from Èdó, which was shown to accurately represent a cross-section of languages. The basic goals of the thesis have been the following: (a) to provide clear and systematic tests based on solid empirical evidence that could distinguish the various kinds of SVCs from one another as well as from other constructions that appear on the surface to be sequences of verbs, (b) to establish and formulate concretely the parameter that allows SVCs in some languages but not others. These will be discussed in turn.

8.2 On Resultative vs. Consequential SVCs, and Covert Coordinations

One of the themes of this dissertation has been to define the notion of SVCs--in which two or more verbs with their complements occur in a single clause without any form of coordination or subordination, sharing the same Tense/Aspect, subject, and object. These characteristics were offered as the general definition of SVCs based on observations about interpretation and verb sequencing in section 1.3, as summarized in (1).

(1) In a serial verb construction, the verbs must share external and internal arguments.

(1) provides argument sharing constraints on SVCs which rule out word order patterns such as [NP V1 V2 NP2], where V1 and V2 do not form a compound. It also rules out argument sharing with the object of a preposition (Baker and Stewart 1997b and Collins 1997). In addition, it implies that surface [NP V1 NP1 V2 NP2] is ambiguous between conjunction interpretation and SVC; it can only be the latter if the constraint in (1) hold.

One other implication of (1) is that the surface order of [NP V1 V2] can only be a SVC if the second verb is unaccusative, as in (2):

- (2) Òzọ khián kpàá Èdó
 Ozo walk leave
 'Ozo left by walking'

Thus, it was derived from (1) that one difference between resultative and consequential SVCs is that the second verb is typically unaccusative in the former while only sequences of transitive verbs are allowed in the latter, as summarized in (3):

- (3) Resultative SVCs are those in which the second verb is typically an unaccusative.
 Consequential SVCs are those in which there are sequences of two transitive verbs.

(3) provides the basis for distinguishing true SVCs from covert coordinations (CCs), which are characterized by two verbs where each has its own overt (thematic) object. Thus, covert coordinations do not involve internal argument sharing and so they are not SVCs. The significance of this is that, although CCs have been recognized in the literature on SVCs (Déchaine 1986, 1993, Manfredi 1991, Baker 1989, 1991, Collins 1997, Campbell 1989 etc.), they have never been carefully distinguished from true SVCs (cf. Stewart 1996)-- a sort of dumping ground for things that did not fit into the mainstream analysis of what are assumed to be SVCs. Throughout this dissertation, CCs are shown to be systematically different from true SVCs. The distinction between true SVCs and CCs provides useful materials for experiments with sentence processing because speakers parse true SVCs as a single prosodic unit, while CCs are processed as two separate prosodic units that are conjoined.

On the basis of (1), it was proposed, therefore, that there are two kinds of SVCs: resultative and consequential. The intuition behind these labels echoes the observations from the earliest analysis of SVCs (Christaller 1875); resultatives are made up from two verbs in which the first is 'principal', the second is supplemental (a complement), and both

form a VP, while consequentials are those in which two or more verbs express successive precedence-consequence actions. Thus, it was argued in Chapter two that resultatives are constrained to just two verbs which together express an accomplishment being made up of a process-activity first verb and a state or result second verb. Consequential SVCs are less constrained so long as they involve sequences of transitive verbs that can be parsed as one prosodic unit.

The issue that arises from (1) is what is the exact mechanism for the licensing of argument sharing with object and subject in true SVCs? This thesis shows that there is a single functional head, E, that existentially quantifies over the two verbs and this contrasts very sharply with CCs which involve separate quantification with two separate E heads. The event or events expressed by the verbs in SVCs and CCs were shown to derive from the nature of this functional head E. Thus, the single head E in resultative SVCs combines the 'sub-atomic' events of the two verbs which are licensed as one single event. The verbs in consequential SVCs express 'atomic' events which are combined by a single E head to form a complex 'macro event'. Within this 'macro event', the event denoted by the second verb can be independently quantified over by a lower E operator, unlike in the resultative SVC, but this lower E operator is referentially dependent on a higher E which binds the closest event (that of the first verb) and the one expressed by the second verb. Thus, the syntactic generalization from this is that resultative SVCs have a co-headed VP structure with a single E, while consequential SVCs have an adjunction structure with two Es, where the lower E is in the c-command domain of a higher E.

One consequence of this analysis based on the nature of the functional head E is that it correlates with that of subjects. It was shown that in true SVCs there is a single subject (Agent) which sets about the plan of action expressed by the verbs. For example, an ungrammatical reading of a sentence like 'Òzọ dé èbé tié' (John bought the book and read it) is 'John went to the store to buy a book for Bill and then after buying it he changed his mind and read the book instead'. The sentence can only have a reading in which the subject

must have set out to achieve a plan involving both actions and does them. Thus, subjects in true SVCs are analyzed as being introduced by a single Voice head which hosts the external theta role (CAUSE) feature of the verbs. This contrasts with CCs where there are indications of two subject positions and hence two subjects (one of which is deleted under identity for pragmatic reasons).

On object sharing in SVCs, it was argued that resultative SVCs are characterized by true internal argument sharing which states that there is a single object that is shared by both verbs and there is no empty category as previously claimed in Collins (1997). The concept of true internal argument sharing is consistent with the structure in Baker (1989) but not his generalization since it turns out, in fact, that there is no object sharing, in the sense of Baker, in consequential SVCs. Rather, object sharing involves an empty category. This is essentially the claim made in Collins (1997), which is the same conclusion reached in Baker and Stewart (1997b).

Theoretically, my analysis provides a way to remove the lack of generalization from these other analyses based on the empirically-motivated distinction between resultatives and consequentials. Of immediate relevance here is that we are able to account for the constraints on the second verb in true SVCs: there is a true internal object sharing in the resultative because the unaccusative second verb lacks accusative Case (Burzio 1986) and so cannot assign Case to a null *pro* (Rizzi 1986). On the other hand, an empty category, *pro*, is involved in object sharing in the consequential SVC because the transitive second verb can Case-license the null *pro*. This account is lost under an approach that unifies both constructions as in Baker (1989) and Collins (1997).

Yet another consequence that can be derived from the nature of E heads in true SVCs and CCs is the licensing of predicate clefts which provides further support for the distinction between resultative and consequential SVCs. Predicate clefts are analyzed as being derived from cognate objects which are non-thematic objects (event argument). Thus, based on an account of predicate cleft licensing which involves Spec-head matching in EP

at LF, we are able to provide an elegant account for the failure of either of the two verbs to cleft in resultative SVCs, but not in the consequential SVCs, or CCs. It follows that if resultatives have a single E head and multiple Specifiers are not allowed, there cannot be Spec-head matching since one of the cognate event arguments of the raised verbs will not be properly licensed. However, in consequential SVCs where there are two E heads, the predicate cleft of the cognate object of either of the two verbs will be properly licensed in the relevant EP at LF. This is also true for CCs.

However, apart from providing a basis for the distinction between resultative and consequential SVCs, Chapter three discusses some of the cross-linguistic ramifications of predicate clefts on the basis of evidence from Èdó. For example, the Èdó data shows that the clefted copy is a nominal and an XP rather than an X^0 as proposed in Koopman (1984). In addition, the proposal that predicate cleft is derived from cognate objects presents a new way to view the *Se* morpheme in Haitian (Lumsden and Lefebvre 1990, DeGraff 1993, Manfredi 1993 etc.) since the language is said to lack cognate objects (Lefebvre, p.c.). Finally, the discussion of predicate clefts provides a new outlook for the analysis of the reduplicative prefix in Yoruba which I claim involve partial nominalization unlike the complete nominalization in Èdó. The consequence of this is that while predicate cleft asymmetry can be shown clearly between resultative SVCs and consequential SVCs in Èdó, there are cases of overlap in Yoruba which although are not at variance with my analysis but they subsequently could get more refined on the basis of the distinction between resultative and consequential SVCs and the analysis thereof in this thesis.

The discussion of double object constructions in this thesis is a new discovery in the literature on SVCs, and it also clearly illustrates the distinction between resultative and consequential SVCs. The basic fact is that DOCs can occur in consequential but not in resultative SVCs. Again, the contrast is based on differences in lexical and functional structure of the clause. Resultatives by definition are accomplishments which imply a single inner complement position for the delimiter. It was shown that both the V-bar dominating

the second verb and the second object of the DOC compete for this inner complement position and so DOCs or double delimiters are not allowed in resultative constructions in general (cf. Hoekstra 1992, Tenny 1987 etc.) On the other hand, consequential SVCs do not have rigid aspectual properties. Consequently, DOCs are allowed since there is no competition for the inner complement position. The theoretical consequence of this is that it shows that analyses such as Baker (1989, 1991) make the wrong claim. For example, Baker would predict that if DOCs are possible the second object should be in the projection of the lower V-bar, but this is contrary to fact because both objects are within the projection of the first verb only and this creates a real split between the verbs unlike the co-headed VP structure assumed by Baker.

A general consequence of the analysis of DOCs is that only the object (theme) can be shared in SVCs and not the derived object. Thus, this provides the window of opportunity to assess the distinction between underlying and derived objects. This distinction and the analysis of DOCs interacts very nicely with the licensing of null *pro* in the consequential SVC. It was argued that the underlying (direct) object is generated in the Specifier of VP, while the derived (indirect) object occupies the Specifier of AspP (Travis 1991), and so based on an ECP account (cf. Koopman and Sportiche 1982), it follows that only the (theme) direct object will be shared but not the indirect object (cf. Collins 1997, Baker and Stewart 1997b). This analysis was also shown to have implications for DOCs in English, Heavy NP shift, as well as locative alternations where there are curious properties associated with moving the derived object. According to my analysis, this stems from an ECP violation, which can be observed in English because it does not have the resumptive pronoun strategy like Èdó or Yoruba.

8.3 On the Serial Verb Construction Parameter

The distinction between resultative and consequential SVCs was shown to be cross-linguistically relevant in that a language such as Igbo which is a neighbor (genetically and

geographically) to Èdó and Yoruba has more pronounced V-V compounds and less of what is often controversially classified as SVCs. This puzzle was solved in this thesis by showing that Èdó resultative SVCs consistently show up as (resultative) V-V compounds in Igbo. This difference between SVCs and V-V compounds was derived from the difference in V-to-Infl movement in the two languages: in Igbo V-V compounds, the verbs must obligatorily raise to check a feature of Infl but not in Èdó SVCs. This difference in verb raising comes from the ATTRACT condition given in (4):

(4) ATTRACT

X attracts Y only if Y could check a feature of X,
and all Z such that Z could check a feature of X,
Y asymmetrically c-commands Z

It turns out in Èdó that verbs in SVCs cannot bear any morphological inflection which is generalized as the bare stem condition (BSC) stated in (5):

(5) The Bare Stem Condition (BSC) in SVCs

No verb in the serial verb construction can bear morphological tense inflection.

What Igbo does with (4) and (5) that is not allowed in Èdó is that there is obligatory V-incorporation thus creating a single word which is then the closest thing to be attracted and this leads to V-V compounds. However, there is a PF filter that rules out morphological forms like V-V compounds in Èdó and so both verbs are likely candidates for ATTRACT. Since there is mutual c-command (cf. Aoun and Sportiche 1983), both verbs fail to be attracted and this results in SVCs. Thus, SVCs occur in languages where a functional head bearing a tense feature fails to attract (being licensed in situ by a Tense copying rule). The SVC parameter is formalized in (6):

(6) V-raising serial verb parameter

A verb serializing language is one in which Tense (or other Infl type categories) does not need to be checked.

This analysis extends to resultative V-V compounds in Chinese where it was shown that resultative notions translate as V-V compounds but not putative SVCs, like in Igbo. Thus, based on the fact that the two verbs must bear the aspect maker -le, it was proposed that verb raising to the functional head bearing -le is obligatory, on a par with Igbo, and this results in surface V-V compounds.

Furthermore, the serial verb parameter also accounts for why English does not have SVCs. The discussion focused on the AP vs. VP contrast based on striking similarities between AP and VP resultatives, with both occurring in Èdó while VP resultatives are ungrammatical in English (hence not an SVC language). This contrast is also partially based on the fact that a consequential SVC, with its intricate interpretation and structure, lacks any real analogue in English contra Larson (1991).

Now, in the AP resultative in English and Èdó, Tense sees only the verb because the adjective cannot check a feature of Infl and so there is only a Y and this gets attracted at the relevant level in the two languages. Since it is standardly assumed that Verb raising takes place at LF in English, the question is why can't it have a VP resultative. The answer is that it is because the resulting structure with two verbs in the resultative construction is ruled out at LF by the same S-structure condition in Èdó. This is based on the fact that both verbs will mutually c-command each other and so none of them would count as the closest thing to be attracted and so the derivation would crash. Thus, English cannot have SVCs even at LF. Based on Pollock (1989), French would be like Igbo where Tense has strong V-feature which can be checked by the verb, and, therefore by assuming that French does not allow Igbo type V-V compounds (even at LF), it follows that verbs must raise obligatorily in French due to the strength of Tense and so Verb Serialization also fails to occur.

8.3.1 True SVCs vs. other Surface Verb Constructions

The other way to illustrate the serial verb parameter is based on the analysis of other constructions which have been previously analyzed as SVCs. Now, this is where English and French are typically different since there are clear indicators of clausal embedding. In many of these SVC languages there is very little morphology to show clausal embedding; however, the serial verb parameter illustrates the difference clearly. The basic assumption is that true SVCs have a single Tense projection while clausal coordinations have two. It turns out that either of the verb in CCs can undergo Verb raising thus confirming that they are not SVCs. Furthermore, it was shown that what were previously classified as manner SVCs (Oyelaran 1982, George 1975, 1976) are constructions involving two clauses that have undergone restructuring and even then the Verb raising parameter still applies. This discussion has important empirical and theoretical consequences. On the empirical level, the contrast between modal-aspectual constructions serves to illustrate the definition of true SVCs as we observe point by point differences in the syntactic tests that were developed in this thesis.

On a theoretical level, the idea of a restructuring analysis for so-called SVCs (Modal-aspectual verb construction) is interesting and the fact that restructuring is obligatory in the Modal-aspectual verb construction compared with the Romance and Germanic cases where it is assumed to be optional opens up a new area of comparative research. Finally, the thesis recognizes two kinds of instrumental constructions and shows that they also involve two separate clauses and so are not true SVCs as has been previously claimed. One particular kind was focused on, and it was shown that the first verb is a defective verb that obligatorily takes an IP complement. The interesting consequence of this analysis is that it provides an avenue for making the cross-linguistic proposal for Èdó and English about the use-type of instrumental construction: it is not only different from SVCs but also must be distinguished from a purpose clause. The conclusion from this is that,

since no one has ever analyzed the English sentence 'John used the knife to cut the meat' as being a SVC, then instrumental constructions cannot be SVC.

8.4 Conclusion

This thesis has shown that the core of SVCs is much more restricted than has been generally assumed; resultative and consequential. It is hoped that the cross-linguistic success illustrating the empirical and theoretical results from this thesis will launch a new approach to the analysis of SVCs.

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