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Semi-lexical Categories

The Function of Content Words
and
the Content of Function Words

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Underspecification in serial verb constructions

Tjerk Hagemeijer

1. Introduction

Serial verb constructions (henceforth SVCs) occur in several Asian (e.g. Mandarin), West-African (e.g. Yoruba) and Creole languages (e.g. Haitian). Despite the crosslinguistic differences due to language specific properties, at surface structure many similarities can be pointed out between serializing languages (Lord 1993). Benefactive constructions expressed by a (reanalyzed) verb meaning 'to give' or directional constructions involving a manner of motion and a directed motion verb are examples of constructions that occur in most serializing languages.

In the present paper¹, I will draw mainly on evidence from SVCs in São-Tomense (henceforth ST), a Portuguese-based Creole language spoken on the island of São Tomé in the Gulf of Guinea, in order to show that in these constructions verbs are often defective with regard to their semantic and/or categorial selection properties.

More specifically, it will be argued that verbs in the first position (henceforth V1s) are to some extent semantically unspecified, although categorially well specified. Here I draw a parallel between V1s and light verbs. I will argue that inside the verbal complex predicate the verb in second position (henceforth V2s) contributes semantic features lacking on V1.

V2s, on the other hand, exhibit an unstable categorial label in some cases. Syntactic tests show that several lexical items with a verbal appearance do not carry a verbal categorial label. More interestingly, in some cases verbs in the V2 slot display hybrid categorial behavior between V and P. I will present some evidence supporting the claim that these lexical items are underspecified for the [V] feature in the lexicon.

In the next section, a brief definition of SVCs in ST will be given; section 3 gives an outline of SVCs under a complex verbal predicate approach; in section 4, I will bring forth some arguments that support the semantic

defectivity or semi-lexicality of verbs in the first position; section 5 then takes a closer look at the verbs in second position, i.e., reanalyzed and mixed lexical items; section 6, finally, gives an insight in the grammaticalization paths mainly based upon the evidence from section 4 and 5.

2. Serial Verb Constructions

The next definition of SVCs will be used to set SVCs apart from other constructions in ST.

- (a) two (or more) verbs behaving like a single event;
- (b) one overt subject;
- (c) one tense marker on V1;
- (d) one negation marker on V1;
- (e) only one or a repeated aspect marker;
- (f) no subordinate or coordinate conjunctions;
- (g) no discourse pauses.

In (1)–(4), some types of SVCs that occur in ST are presented.

- (1) *Bisu vwa subli.* (directional SVC)
bird fly go.up
'The bird flew upwards.'
- (2) *Ome tufu djelu pe djibela d'e.* (locative SVC)
man put money put pocket of-3SG
'The man put the money in his pocket.'
- (3) *Zon toma mantchin kota po* (instrumental SVC)
Zon take machete cut tree
'Zon cut the tree with the machete.'
- (4) *Tlabado d'e ku po mata.* (resultative SVC)
worker give-3SG with stick kill
'The worker beat him to death with a stick.'

Serializing languages mainly seem to differ among each other with regard to the tense and aspect criteria and the directionality of scope as a result of basic word order settings. Serializing SOV languages, like Ijo, are rare and although they govern to the left the order between events is iconic, i.e. the order between the verb phrases is not the inverted one of serializing SVO languages (Muysken 1987).

In a rigid SVO language like ST, the tense, mood, aspect (TMA) and negation nodes are always on V1 with scope over V2. Aspect marker *ka* (generally used for habitual actions), however, can be placed on both verbs in a SVC in order to emphasize an iterative or durative reading, but crucially none of the other lexicalized functional nodes can be repeated.² Yet, not always does there exist a semantically clear-cut distinction between only one or a repeated aspect marker, which might ultimately be seen as a tendency towards the weakening of V2's verbal status (cf. section 5). Nevertheless, the double aspect marking criterion is helpful in the sense that it precludes all apparently related constructions from being SVCs. Compare example (5) to (6)–(9).³

- (5) a. *Zon ka dese ba poson.* (SVC)
Zon ASP go.down go city
'Zon uses to go down to the city of S. Tomé.'
- b. *Zon ka dese ka ba poson.*
Zon ASP go.down ASP go city
'Zon always goes down to the city of S. Tomé.'
- (6) *Inen komesa *(ka) fla.* (aspectual verbs)
3PL start (ASP) talk
'They started to talk.'
- (7) *E dese lwa *(ka) glita.* (overlapping events)
3SG go-down street ASP scream
'He went down the street screaming.'
- (8) *Zwana manda Zon (*ka) tlaba.* (causative verbs)
Zwana order John (ASP) work
'Zwana orders Zon to work.'
- (9) *Zon ka tende Zwana (ka) fla.* (perception verbs)
Zon ASP hear Zwana (ASP) speak
'Zon hears Zwana speaking.'

From the examples it follows that in the non-serializing constructions in ST the aspect marker is either obligatory or prohibited on the second verb. In constructions with perception verbs, aspect marking on V2 is optional, but crucially not interacting semantically with aspect marking on V1, since it does not induce the required iterativity effects.

3. SVCs as verbal complex predicates

A great many different analyses for SVCs have been proposed, most of which have been analyses of coordination or subordination (either adjunction or complementation). Yet, there remains little doubt that crosslinguistically, or even language internally, SVCs cannot be simply subsumed under one and the same analysis. Perhaps the main factor of convergence consists in the tight and specific relation between both verbs. This section will therefore focus essentially on the complex predicate effects exhibited by these constructions, since the required close interaction between verbs forms the basis for the results I will arrive at later.

In the first place, it has frequently been noted that the properties displayed by SVCs do not immediately support a coordination analysis. Ready argument extraction out of both conjuncts in (10) and (11) seems to enter in conflict with Ross' (1967) Coordinate Structure Constraint:

- (10) [Ke kwa]_i ku Zon koye t_i pe kwali.
 what thing REL Zon pick put basket
 'What did Zon put in the basket.'

- (11) [Andji]_i ku Zon koye gweva pe t_i.
 'Where did Zon put the guavas.'

Ross' Constraint applies specifically to symmetric coordinations. If anything, SVCs are asymmetric coordination structures. The strict order between both verb phrases and the c-command relations illustrate the tight organization these constructions obey. Veenstra (1997) claims that only an adjunct analysis is able to account for the different syntactic properties exhibited by SVCs. Crucially, c-command asymmetries, adjunct extraction (cf. 12) and reflexivization (cf. 13) do not hold under a complementation or an analysis where the first verb phrase is adjoined to the second.

- (12) a. [De ke modo]_i ku bo toma kwa se t_i pe
 Of which way KU 2SG take thing DEM put
 n'ala t_i?
 in-over.there
 'How did you take that object and put it over there?'

- b. N tom'e ku do-dosu mon.
 1SG take-3SG with REDUPL-two hand
 'I took it with both hands.'

- c. ^{??}N pe'e n'ala sosegadu achi.
 1SG put-3SG in-there calmly like.this
 'I put it over there in a gentle way.'

- (13) Zon_i toma mina_j PRO_i pya kala d'e plopi_{j/*k}.
 Zon take child see face of-3SG self.
 'Zon recognized himself (his own face) through the child('s face).'

In example (12) it becomes clear that wh-extraction out of the second conjunct is worse, since (12c) is only a marginally accepted answer to (12a). The comitative take-serial in (13) has two possible binders c-commanding the reflexive anaphor *d'e plopi* (note that pronouns lack gender specification). Yet, there is an intervening element that assigns the preferred reading to the matrix subject and not the theoretically closest binder of the reflexive. Like most authors, I assume there is a PRO establishing a control relation between the matrix subject and the second verb phrase.

Munn (1993) provides another important argument for an adjunction analysis, since it is claimed that coordination structures behave similar to parasitic gap structures. Therefore it is argued by this author that coordinations are best treated as adjunction structures. Additional evidence for adjunction structure comes from adverb placement. In ST, adverbs can be stacked between the two verb phrases in both the constructions and presumably delimit the right edge of the first verb phrase (cf. 14).⁴ These adverbs do not interfere with the observed free extraction patterns, in (15).

- (14) Zon toma faka {ni fagon/ tres ola} va mpon.
 Zon take knife {in kitchen/three hour} cut bread
 'Zon cut the bread with the knife in the kitchen/at three o'clock.'

- (15) Sa mpon_i se ku Zon toma faka {ni fagon/tres ola} va t_i.
 'It was the bread Zon cut with the knife in the kitchen/at three o'clock.'

Apparently, island violations still seem to contradict the extraction patterns out of the second verb phrase on either a coordinate or an adjunct account. However, as both Déchaine (1993) and Williams (1994) observe, in the specific case of asymmetric coordination the second verb phrase is trans-

parent to extraction. Therefore, it seems that a asymmetrically coordinated adjunct is basically on the right track in order to explain many of the facts about SVCs, and especially take-serials.

Additional evidence for the specific status of SVCs comes from negation. Negation in ST consist of two disjoined particles, *na...fa*, one of them occurring in preverbal position and one globally in clause final position. As is shown, the negation particles have the whole construction in their scope (on the pretended single event reading).

- (16) *Zon na toma faka (*fa) va mpon (ku-e) fa.*
 Zon NEG1 take (NEG2) cut bread (with-3SG) NEG2
 'Zon didn't cut the bread with a knife.'

Although *fa* is able to cross for example complementizers introducing finite clauses without negating the subordinated clause, as in (17), this item will never cross clear-cut cases of overt and covert conjunction (cf. 18). Moreover, (19) shows that adjuncts are always in the syntactic scope of *na...fa*.

- (17) *Non na sebe kuma kwa se pasa fa.*
 1PL NEG1 know how thing DEM happen NEG2
 'We don't know how that thing happened.'
- (18) *Inen na kume fa, na bebe fa, dansa montchi.*
 3PL NEG1 eat NEG2 NEG1 drink NEG2 dance much
 'They didn't eat, they didn't drink, (but) danced a lot.'
- (19) *Inen na kota po ku-inen mantchin se n'obo fa.*
 3PL NEG1 cut tree with-3PL machete DEM in-jungle NEG2
 'They didn't cut trees in the jungle with the machetes.'

Contrary to what Collins (1997) claims for Ewe and Campbell (1996) for Akan (and its dialects), ST cannot be considered an object-drop language. Examples with object-drop inside a verb of two and three places, in (20) and (21) respectively, and an instance of topicalization, in (22), crucially show that take-serials are distinct in not allowing an overt cliticized pronoun on V2 in order to recover the preceding object (cf. 23).

- (20) *Ch'inen kuji kalu, non ka {zug'e/*zuga} buta.*
 If-3PL cook kalu 1PL ASP throw-3SG/throw throw
 'If they cook *kalu* (typical plate), we will throw it away.'

- (21) *Ch'inen ka fe kume, non ka da mina *(ele).*
 If-3PL ASP make food, 1PL ASP give child 3SG
 'If they prepare food, we will give it to the child.'
- (22) *Inen livlu se, Zon {tchil'inen/*tchila} se paga.*
 3PL book DEM Zon take/take-3PL without paying.
 'These books, Zon took them without paying.'
- (23) *Kaso mode bisu {mata/*mat'e}.*
 dog bite bird {kill/kill-3SG}
 'The dog bit the bird to death.'

Predicate cleft of either V1 or V2 in SVCs is in most cases accepted. If V2 lost all or part of its verbal features, however, clefting becomes ungrammatical or highly marginal. It is important to note that, whenever instances of predicate or verb phrase clefting (cf. 24) or fronting (cf. (25)-(26)) occur, the fronted V is always recovered in the original sentence.⁵ We take this structure preserving constraint as another strong piece of evidence for the tight relation between both verbs in SVCs.

- (24) *Sa [va mpon] ku sun Pedu toma faka *(va).*
 be cut bread REL mister Pedu take knife cut
 'It was cutting the bread that mr. Pedu did with the knife.'
- (25) *[Tlega san], ome ligi mina *(tlega).*
 Hand.over lady, man lift.up child hand.over
 'To the lady, the man gave handed over the child.'
- (26) *[Bi fesa], inen migu kole *(bi).*
 come party, 3PL friend run come
 'From the party, the friends came running.'

A final argument for the specific relation between the two verb phrases comes from instrumental take-serials. If a discourse pause occurs, the pronoun on the clause final preposition has to agree with the sandwiched object (*mantchin*), identifying an instance of covert coordination (cf. 28); if not, this agreement is crucially lacking and the serial reading gets activated (cf. 27).

- (27) *Ome tom' inen mantchin se kota po (ku-e/*ku-inen).*
 Ome take-3PL machete DEM cut tree {with-3SG/with-3PL}
 'The men cut the trees with the machetes.'
- (28) *Tlabado tom' inen mantchin se, kota po (ku-inen/*ku-e).*
 'The workers take the machetes and cut the trees with them.'

Implicit is the fact that verb compounding or at least verb adjacency at some level of the derivation are a wanted consequence in order to support any claim for complex predicates. Lefebvre (1991) argues that the lexical conceptual structures of both verbs are conflated in the lexicon (but crucially not in the syntax). Veenstra's (1996), however, postulates a deep structure adjacency requirement based on data from tonal sandhi in Saramaccan. Furthermore, Collins (1997) claims that in SVCs the second verb incorporates into the first one at LF, his proposal respects adjacency at some early level in the derivation, which in turn is similar to Larson's (1991) shelled proposal for SVCs. Yoruba's nominalizing double predicate cleft and Igbo's strict V-V compounding, rather than serialization, should be seen as intermediate stages between SVCs and (Bantu) incorporation (Baker 1991).

4. Verbs in the first position as semi-lexical heads

In this section I will provide some evidence for the semi-lexical or defective semantic status of V1. The central claim will be that V1 inherits (part of) its semantic structure from V2, the semantic head of the construction. In other words, V1 is unspecified for certain semantic features, but crucially not for categorial ones, since it receives all the lexicalized functional nodes associated to verbs. It should be noted though that, according to the type of SVC, semantic feature un(der)specification can come in different ways.

In the verbal domain, other instances of semi-lexicity can arguably be detected in Dutch and German V-to-V raising constructions (Van Riemsdijk 1998), with restructuring verbs *latu sensu* (Emonds; Haider; Cardinaletti and Giusti, this volume), or with light verbs (in the Grimshaw and Mester 1988 sense) forming a verb class distinct from both auxiliaries and main verbs (Butt and Geuder, this volume).

4.1. Against the auxiliary status of V1

TMA in serializing (Creole) languages is generally expressed by means of preverbal functionalized lexical elements. These lexical items are often stored as "particles" without any further assumptions. A quick survey of ST, and presumably also other serializing languages, tells us that these particles do not constitute a homogeneous class when submitted to several syntactic tests.

Like regular verbs, past tense marker *tava* 'had' (approx.) for non-stative predicates is able to occur as a copula or in constructions of verb ellipsis. Habitual aspect marker *ka*, however, does not occur in either of these concepts, while progressive aspect marker *s(a)ka* only accepts the copula environment. Further research is required in order to test if the designation lexical-functional element is sufficient to cover all these items as being distinct from purely (covert) functional, lexical, and semi-lexical categories.

Verbs in the first position of SVCs cannot be treated as auxiliary verbs. Perhaps the most relevant test to demonstrate this is constituted by question-answer environments.⁶ It follows from the contrast between the SVCs in (29) and the auxiliaries *latu sensu* (TMA, aspectual verbs, motion verbs, etc.) in (30)-(32) that only in the former case both verbs are able to occur as an answer in a question-answer environment.⁷

- (29) a. *Zon kole bi ke?* (SVC)
 Zon run come home
 'Did Zon run home?'
 b. *Efan, e kole/bi/kole bi.*
 'Yes, he did.'
- (30) a. *Zon ka/ska kole?* (Aspect markers)
 Zon ASP/ASP run
 'Does Zon run' / 'Is Zon running.'
 b. **E ka/ska.*
- (31) a. *Zon tava kole?*
 Zon T run
 'Zon had run?'
 b. *Efan, e tava/*kole.*
 'Yes, he had.'

- (32) a. *Zon bi kume pichi?* (motion auxiliary)
 Zon come eat fish
 'Did Zon come to eat fish?'
 b. *Efan, e bi/*kume.*
 'Yes, he did.'

4.2. Light verbs

In the spirit of the Grimshaw and Mester (1988), light verbs are distinct from Chomsky's (1995) hypothesis, in which a small *v* stands for null elements or (abstract) affixes attracting features.

Grimshaw and Mester study the properties of Japanese *suru*, a full lexical item, which is claimed to be a thematically incomplete verb: it carries inflection and assigns accusative Case to a non-argument position. Through a process of Argument Transfer, light verbs become theta-marking and form a complex item with the item they Case-mark. According to these authors, light verbs show lexical variation. On their account, English *do*, for example, may be seen as an intransitive counterpart of Japanese *suru*. The following example was taken from Grimshaw and Mester (1988: 212):

- (33) *John-wa murabito-ni [[ookami-ga kuru-to]-o*
 John-Top villager-to wolf-NOM come-COMP-GEN
 keikoku]-o shita.
 warning-ACC *suru*
 'John warned the villagers that the wolf was coming.'

Keikoku is a noun meaning 'warning' and composes with *shita* (past form of *suru*). The process of Transfer goes as follows.⁸

- (34) a. *keikoku* (Agent, Goal, Theme)
 b. *suru* () <Acc>
 c. *keikoku* (Theme) + *suru* (Agent, Goal) <Acc>

In a more radical version *suru* absorbs all the arguments of the noun. In other words, *keikoku* always loses argument positions to *suru*. Grimshaw and Mester (1988: 229) state that "[t]he Verb *suru* illustrates one kind of Light Verb: its argument structure is so highly underspecified that it is incapable of Θ -assignment of any kind. Other Light verbs, like *saseru* [causative form of *suru*], have a more fully specified argument structure:

incomplete, but with some arguments specified.'". It is also presumed that this analysis extends to lexicalized expressions like idiom chunks. Hence, it readily follows that light verbs show different degrees of defectivity.

In example (35) from Saramaccan, the light status of *dá* 'to give' results from a definiteness restriction on the noun it combines with. Veenstra (1996) claims that the NP in this construction has to be indefinite, otherwise the reading would be one of regular transfer of the knife. Syntactically, *dá* behaves as a normal double object verb.

- (35) *Mí dá hen wán fáka.* (Saramaccan; Veenstra 1996: 163)
 1SG give 3SG DET knife
 'I stabbed him.'

In these crosslinguistically common verb-noun complexes, the lexically weakened verb leans on the semantic information of the noun.

Instances of light VIs inside SVCs can readily be detected in ST. In some cases, these verbs form a unit with their internal argument without respecting the typical selection properties associated to them. Manner of motion verbs like *kole* 'to run' do not usually take direct internal arguments, but in (36) it combines exceptionally with the noun *we* 'eye(s)'. Yet, the ungrammatical examples in (37) show that the contribution of *we* transitivezes the complex predicate (cf. 38) rather than affecting the properties of one of the verbs only.

- (36) *E kole we dese.*
 3SG run eye go.down.
 'He looked down.'
 (37) **E kole we./*We dese./*E dese we.*
 (38) *E kole dese.*
 'He ran down(wards).'

Hence, the data above do not immediately support a traditional small clause configuration, but rather support an analysis like the one proposed by Neeleman (1994), who treats verb-particle and verb-resultative constructions as complex predicates. In the spirit of his hypothesis, the prominent relation is between the verb and the non-verbal predicate (in English, Dutch, etc.) rather than between the internal argument of the verb and the non-verbal predicate. Hence, the verb and the non-verbal predicate form

complex heads. If we extend this hypothesis to serializing languages, these are arguably distinct from non-serializing languages in allowing verbal predicates instead of the non-verbal ones referred above.⁹ Both verbs in SVCs would therefore have to be in adjacent position in deep structure or before spell-out, which corresponds to (39). To derive the surface structure, the first verb needs to move out of the complex V to a higher shell.

Verbal idiom chunks, as in (40), can also be subsumed under this analysis.

- (40) *Mwala bila we subli.*
 Woman turn eye go.up
 'The woman cursed.'

Butt and Geuder (this volume) treat a restricted class of verbs in Urdu as semi-lexical heads, i.e., light verbs forming complex predicates with another verbal head. It is argued that these verbs are lexically defective (but crucially still lexical) exhibiting a different behavior from both auxiliaries and main verbs. Since Urdu's complex predicates resemble SVCs in many respects, this approach to light verbs seems readily extendable to the latter constructions, since they propose a theory which accounts for the different properties of verbs within verbal complex predicates.

Semantic defectivity may involve an incomplete theta-grid or simply absence of specific semantic features. The underlying idea is that verbs may not in all circumstances be full verbs in the different modules of grammar (e.g. restructuring environments), in a similar way nouns may not be fully specified in certain environments (compare verbal complex predicates to container noun constructions, etc.).

4.3. Take-serials

The properties of the take-verb in so-called take-serials differ from language to language. In some languages, like Mandarin (from Den Dikken and Sybesma 1998: 3) and Kwawu (Campbell 1996: 93), take-verbs are grammaticalized items.

- (41) *Zhang San ba beizi da-sui-le.* (Mandarin)
 Zhang San take cup hit-break-PRF
 'Zhang san broke the cup.'

- (42) *Me-de nwoma no maa Kofi.*¹⁰ (Kwawu)
 I-de book that gave Kofi
 'I gave the book to Kofi.'

Despite the somewhat different details of their analyses, these authors converge on the fact that these take-verbs are "dummies" assigning accusative Case but no thematic role. Since it is documented that Mandarin's *ba* (and arguably also Kwawu's *de*) was once a verb, this means it lost all of its verbal properties. Yet, it seems natural to assume that they passed through different stages before full grammaticalization was achieved. Den Dikken and Sybesma (1998) and Den Dikken (1998) build on evidence from Mandarin and Fon to support their claim that these take-verbs are the overt representation of Chomsky's little *v*.

Fon is indeed an interesting case where a take-verb (*só*) exhibits a different behavior in and outside SVCs. Inside SVCs, this verb can select for abstract complements; outside of these constructions, this option is simply not available. Here, a totally distinct take-verb is required. Lefebvre (1991: 71) thus argues that the abstract complement *flāse* in (43) is not directly selected for by the take-verb. In other words, it can be deduced that it belongs to the argument structure of V2.

- (43) *Jacques Cartier {só/zé} flāsé yí Québec.* (Fon)
 Jacques Cartier take French go Québec
 'Jacques Cartier brought French to Québec.'

It is also shown by Lefebvre that in some cases where a Goal and a Theme argument occur Fon exhibits phenomena of clitic climbing. According to her, this is possible if the two verbs that form a SVC have a common thematic grid.

- (44) *Kòkú só àsó nã è.* (Fon; Lefebvre: 1991: 72)
 Koku take crab give her
 'Koku gave her a crab.'
- (45) *Kòkú só è àsõ ná (è).*
 Koku take her crab give (her)
 'Koku gave her a crab.'

Therefore, the case of take-serials in Fon presents us with a double argument supporting the idea that V1 is semi-lexical: the "shared" argument belongs to V2 rather than V1 and clitic climbing, a typical property of Italian restructuring predicates (Rizzi 1982), is possible.

It has also been noticed that take-verbs contribute an external argument to the clause. The following examples show that there exists a relevant difference between a SVC and its non-serial counterpart with regard to volitionality. In Mandarin, there is no restriction on the semantics of the external argument in the *ba*-construction, which forms an additional argument for its high degree of defectivity, while take-serials in ST (or Fon) exhibit a clear volitionality constraint. The contrast is between (46) and (47)-(48).

- (46) *Feng ba shu gua-dao-le.* (Mandarin; Sybesma 1992: 121)
 Wind take tree blow-fall-LE
 'The wind has blown over the trees.'
- (47) {*Zon/ventu*} *kebla lodoma.*
 {*Zon/wind*} break bottle
 'Zon broke the bottle.' (on purpose or accidentally)
- (48) *Zon/*ventu toma lodoma kebla.*
 Zon/wind take bottle break.
 'Zon broke the bottle.' (on purpose)

Several authors (Baker 1989; Campbell 1996; Collins 1997, etc.) claim that internal argument sharing by both verbs is an obligatory property of SVCs. In the spirit of Den Dikken and Sybesma (1998) and Campbell (1996), Mandarin's *ba*, Fon's *só*, and Kwawu's *de* do not select for an internal argument, i.e., this argument presumably originates from inside the second verb phrase.

In ST, take-verbs (and V1s in SVCs in general) still exhibit strong lexical behavior. Outside and inside SVCs, take-verbs select for direct objects or double object constructions with a Source and a Theme argument. In Hagemeijer (2000) it is therefore argued that Theme/Instrumental arguments are base-generated in this language and that the relation between the shared argument is mediated by an operator-variable chain, which follows essentially from evidence of preposition stranding and parasitic gaps. Moreover, I argue that instruments in take-serials should be considered Themes to V1 but Instruments to the complex predicate.

Yet, there are a few arguments suggesting that the first verb phrase is less a constituent than the second. In the first place, the second verb phrase - but crucially not the first - can be fronted.

- (49) *Va mpon, Zon toma faka va.*¹¹
 Take bread Zon take knife cut
 'Cut the bread, Zon did with a knife.'
- (50) **Toma faka, Zon toma va mpon.*
 Take knife Zon take cut bread

In (51), ellipsis of the second verb phrase does not license the first verb phrase with its instrumental meaning, although the instrumental meaning comes about if V2 is repeated and followed by a regular instrumental PP (ku faka 'with a knife').

- (51) *Zon toma mantchin kota po, magi Maya {*(kota) ku*
Zon take machete cut tree but Maya {(cut) with
*faka/*toma faka}.*
knife/take knife}
 'Zon cut the tree with a machete, but Maya (did so) with a knife.'

There is also a sharp contrast between "frontings" of the first and the second verb phrase in those constructions without instruments.

- (52) **Toma mpon, Zon toma va.*
 take bread Zon take cut
- (53) *Va mpon, Zon toma va.*
 'It was cutting the bread Zon did.'

Although take-verbs in ST are far more lexical than its counterparts in other serializing languages, it followed from the ungrammatical sentences above that the first verb phrase is considered less a constituent than the second. Hence, in the instrumental construction, the second verb phrase contributes to a change of the semantic information of the first verb phrase, which (partially) reanalyzes as the Instrument of the complex predicate. More generally, the semantic properties of the second verb phrase rather than those of the first derive these constructions.

4.4. Evidence from motion SVCs

Another argument for the specific relation between the first and the second verb phrase comes from motion SVCs. These require a combination of two verbs sharing a [Motion] feature. In typical motion construction, V1 is a manner of motion or directed motion verb and V2 a directed motion verb. The following table presents some combinations between intransitive motion verbs.

Table 1. Motion SVCs: combinations based on intransitive verbs.¹²

Figure	V1: Manner of Motion +	V2: Dir. Motion+Path (+Deixis)	Ground
	<i>kole, landa, nda, vwa, ...</i> (run, swim, walk, fly)	<i>be, ba, bi, subli, dese</i> (go, go, come, go up, go down)	((P) NP)
Figure	V1: Directed Motion +	V2: Dir. Motion+Path (+Deixis)	Ground
	<i>subli, dese</i> (go up, go down)	<i>be, ba, bi</i> (go, go, come)	((P) NP)

Non-directional contexts with *ba* in V2 are ungrammatical under a serial reading, although they can be acceptable as instances of covert coordination with an intervening discourse pause (cf. 55). Therefore we are dealing with closed-class items in both slots.

- (54) *Zon kole ba ke.*
Zon run go home
'Zon ran home.'

- (55) **Zon {kume/fla} ba...* (but: *Zon kume, ba ke...*)
Zon {eat/speak} go

The altered semantic properties of V1 become clear once we find the prototypical verb of directed motion *ba* in the V2 slot, since *ba* (to go) is crucially found in complementary distribution with *be* (to go). This is illustrated in Table 2.

Table 2. Complementary distribution of *ba* and *be* 'to go'.

<i>Ba</i>	<i>Be</i>
<i>E ba</i> [_{PP} <i>n'ala</i>]. 'he went over there.'	<i>E be</i> [_{PP} <i>d'ai</i>]. 'He went from here.'
<i>E ba</i> [_{NP} <i>ke</i>]. 'He went home'	<i>E be</i> [_{PP} <i>ku bo</i>]. 'He went with you.'
<i>E ba</i> [_{NP} <i>omali</i>]. 'He went to the sea.'	<i>E be</i> [_{PP} <i>d'omali</i>]. 'He went by sea.'
<i>E ba</i> [_{PP} <i>we karu</i>]. 'He went to the front seat of the car.'	<i>E be</i> [_{PP} <i>ni we karu</i>]. 'He went in the front seat of the car.'

From Table 2 it follows that *ba* is used for contexts of motion with a specified Goal, while in the case of *be* the Goal is unspecified. In other words, a feature [α telic] is responsible for this distribution. I assume that *ba* is an unaccusative and *be* an unergative verb. Let us also assume that the pair *ba/be* is exceptional in the sense that there is overt morphology marked in the verb, whereas in all other cases the unaccusative/unergative distinction is not overtly marked.

Additional language internal evidence for the unaccusative/unergative distinction comes from verb reduplication patterns in ST. Unlike unergatives (cf. (56)-(57)), unaccusatives (cf. (58)-(59)) cannot be reduplicated, which follows from their semantic nature.

- (56) *Zon landa-landa, so chiga kanwa.*
Zon swim-swim then arrive canoe
'Zon kept swimming and then made it to the canoe.'
- (57) *Zon be-be, so chiga losa.*
Zon go-go then arrive plantation
'Zon kept going and then made it to the plantation.'
- (58) **Zon mole-mole ku dolo muntu.*
Zon die-die with pain much
- (59) **Zon ba-ba poson.*
Zon go-go town.

Furthermore, *ba* conflates the features [Directed Motion], [Deixis] and [Path], while *be* crucially has a negative value for the latter of these three

features. If we assume that intransitive motion verbs are underspecified for [Path] in the lexicon, the derivation determines whether *ba* or *be* surfaces. This prediction is borne in the following examples, where adjacency determines whether *ba* or *be* is selected.

- (60) *E ba* [_{NP} *ke Zon*] [_{PP} *ku- inen mina se*].
3SG go home Zon with-3PL child DEM

- (61) *E be* [_{PP} *ku inen mina se*] [_{NP} *ke Zon*].
Both: 'He went to John's place with those children.'

[Path] corresponds to [Telic], a feature that is activated compositionally by the operation of merge with the adjacent constituent. Hence, the reduced tree structure in (44) accounts for feature matching between both verb phrases: after composition, the second verb phrase assigns a telic or non-telic role to the intervening aspectual node, where the value is picked up by the higher verb phrase. This approach predicts that in directional SVCs unaccusatives go strictly with unaccusatives and unergatives strictly with unergatives.¹³ I argue that a telic feature spreads from the second verb phrase to the telicity unspecified first verb phrase by means of regular percolation, as represented in (62).

The next two examples illustrate the difference between telic and non-telic events.

- (63) *Inen ladlon se* [_{-telic} *kole* [*be*]]. (unerg. motion SVC)
3PL thief DEM run go
'The thieves ran away.'

- (64) *Inen ladlon se* [_{+telic} *kole* [*ba karu*]]. (unacc. motion SVC)
3PL thief DEM run go car
'The thieves ran to the car.'

Locative constructions constitute another subtype of complex motion predicates. I argue that locative V2 imposes a semantic constraint on V1, since it requires that a transitive verb with a dynamic or motion feature is in the V1 slot. Then, as expected, a clear contrast arises in those cases where a directional and a non-directional interpretation can be obtained. Maurer (1999: 3-4)¹⁴ gives the following pair for ST.

- (65) *E saya kanwa pe matu.* (directional)
3SG pull canoe put bush
'He pulled the canoe towards the bushes.'
- (66) *E saya kanwa n matu.* (non-directional)
3SG pull canoe in bush
'He pulled the canoe inside the bushes.' (i.e., the place where he does the pulling)

Given the constraints on V1, the verbs that may occur in the V1 position belong to a restricted class. In section 5, it will be shown that locative *pe* is halfway being reanalyzed as a preposition.

I will conclude this subsection with a short note on verb reduplication, a strategy we first presented in examples (56)-(57). Verb reduplication is a property of many (non-stative) predicates in ST, allowing predicates to obtain an iterative, continuative or focus reading. An example of these strategies can be seen in (67)-(69) respectively.

- (67) *Bendepanu posa-posa ni tudu floli ku-e kontla.*
Butterfly sit.down-sit.down in all flower REL-3SG find
'The butterfly sits down on all the flowers she finds on her way.'

- (68) *N dumu-dumu andjin ante ku fomi da mu.*
1SG pound-pound andjin until that hunger give 1SG
'I kept pounding andjin until hunger struck me.'

- (69) *Ome pobli bi-bi kume.*
 man poor come-come eat
 'The poor man came exclusively for the purpose of eating.'

In SVCs, however, I could not find any instance of V1 (or V2) reduplication.

- (70) **Zwana (saka) kole-kole be/ba ke.*
 Zwana (ASP) run-run {go/go home}
 (71) **Zon (saka) saya-saya kanwa pe matu.*
 Zon (ASP) pull-pull canoe put bush
 (72) **Mosu (saka) toma-toma inen faka se va mpon.*
 boy (ASP) take-take 3PL knife DEM cut bread

I assume this happens because the second verb phrase functions as the result or culmination point of the preceding event and therefore blocks reduplication. Verb reduplication is even ungrammatical in those constructions with repeated aspect markers which normally trigger the iterative/durative reading. In these cases it is likely that reduplication is precluded because the complex predicate remains resultative in nature in all the sub-intervals of the global aspect. Hence, reduplication may be considered an additional piece of evidence for the way the second verb phrase constrains the higher one. Still, it is not clear to me why the reduplicative focus reading is blocked.

4.5. The semi-lexical configuration

In conclusion, V1s in SVCs belong to a restricted (or semi-open) class of verbs and are underspecified for different types of semantic information, although they maintain a great deal of their lexical properties. The following reduced tree structure represents the relation between both Vs in verbal complex predicates.¹⁵

While comparing SVCs and direct partitive constructions in the nominal domain, which Van Riemsdijk treats as semi-lexical heads, it turns out that several parallels can be drawn. N2 in the latter constructions is defective for taking functional heads of Determiner/Quantifier type, whereas V2 is defective for tense, mood and negation. Moreover, both SVCs and partitive constructions are able to take adjuncts (adverbial and adjectival ones respectively). The indirect partitive construction studied by the same author then resembles covert coordination of verb phrases, where V2 is able to be marked for those nodes that are missing in SVCs proper. In the latter constructions, we are not dealing with semi-lexical heads.

5. Verbs in the second position

In this section, a closer look will be taken at the properties of V2 in SVCs. This verb is defective because it is always in the scope of the lexicalized functional nodes on V1. For several reasons pointed out later on, the weakened verbal status of V2 leads to reanalysis. First I will present two cases of reanalysis and then study two cases of verbs that are only halfway a new categorial label.

5.1. "Reanalyzed" verbs¹⁶

Instances of lexical items in the V2 slot with a phonetically verbal shape which do not show any verbal behavior are readily identifiable.¹⁷

- *Pasa* 'to (sur) pass'
Besides other functions (directional serials, main verbs), *pasa* occurs as a comparative or degree marker in respectively (74) and (75)-(76).

(74) *Ope bo sa tamen pasa ope mu.*
foot 2SG be big surpass foot POS.1SG
'Your feet are bigger than mine.'

(75) *Kaso se sa bluku pasa.*
dog DEM be mean surpass
'That dog is extremely mean.'

(76) *Ome ba liba pasa.*
Man go up surpass
'The man went up very high.'

The non-verbal behavior of *pasa* in these examples follows from the impossibility of predicate cleft and aspect marking.

(77) **Sa pasa ku kaso se sa bluku pasa.*

(78) *Ope bo sa tamen (*ka) pasa ope mu.*

In contexts (75)-(76), *pasa* lost the capacity of taking an internal or external argument and modifies verbs, adjectives, prepositions or adverbs, which is the typical distribution of degree-words. In the view of Grimshaw (1991), degree elements are category neutral functional elements receiving its specifications by inheritance from the lexical head. In that particular analysis, degree elements are unspecified for the feature that distinguishes Adv from Adj. Since Degree-like *pasa* is a closed-class item modifying Adv, Adj, P and V, I will adopt this category neutrality hypothesis, an idea that can be traced back to Lefebvre and Massam's (1988) claim made for the noun phrase domain in Haitian Creole.

Comparative *pasa* in (74), on the other hand, still shows clear signs of transitivity and, given its non-verbal behavior, could then either be a preposition or a complementizer. Although pronouns are able to cliticize phonologically on prepositions and complementizers, the former option is preferred, since the argument of *pasa* is not part of an elliptic structure like in English and other languages. The contrast reads between (79) and (80).

(79) *Zon sa tamen pasa mu (*sa).*
Zon be tall surpass 1SG (be)
'Zon is taller than I.'

(80) John is taller than I (am).

- *Da* 'to give'

This lexical item in the V2 slot behaves in all respects like a normal Case marking preposition. It introduces different types of thematic roles, like Source (cf. 81), Experiencer (cf. 82) Benefactive (cf. 83) and Goal (cf. 84).

(81) *Inen mina se tava ka kole da koblo.*
3PL child DEM T ASP run give snake
'Those children were running away from the snake.'

(82) *Fogon ka sa kentchi da non.*
kitchen ASP be hot give 1PL
'The kitchen is becoming hot for us.'

(83) *Zon tava ka tlabada sun Glomo.*
Zon TNS ASP work give mister Glomo
'Zon used to work for mister Glomo.'

(84) ...*so n'ga zuga vunvu se da nglentu ke.*
...then 1SG-ASP throw bee DEM give inside house
'...then I will throw these bees inside the house.'

Like true prepositions, *da* in the environments above cannot be clefted nor receive any preverbal markers. In addition, unlike SVCs, subjects can be dropped in non pro-drop environments (cf. 85b) and null verb phrases are not allowed (cf. 85c), which is the typical distribution of prepositions.

(85) a. *E tlabada sun Glomo?*
3SG work give mister Glomo
'Did he work for Mr. Glomo?'

- b. (*E) *da sun Glomo?* subject-drop
 (3SG) give mister Glomo
 'For Mr. Glomo?'
- c. *Efan, e tlaba { *da/*d-e }.* null VP
 yes 3SG work {give/give-3SG}
 'He did.'

This type of reanalysis is crosslinguistically very common in serializing languages. Mandarin for example has a *gei* (to give) as a normal main verb and a *gei* in serial-like constructions. Zhang (1990) argues that the former is a verb, since it receives aspect marking and can be stranded, while the latter *gei* behaves like a regular preposition.¹⁸ This is roughly the same distribution we find in other Asian, West-African and Creole languages. Saramaccan is claimed to have at least three different uses of *dá* ('to give'): preposition, verb and prepositional complementizer (Veenstra 1996).

In ST, however, there is at least one syntactic test that provides us with a piece of evidence that *da* presumably did not start out right away as a full-fledged preposition. The relevant contrast is between (86), on the one hand, and (87)–(88) on the other.

- (86) [*Ke nge*]_i *ku Zon tlaba {da t_i/*d'e}?*
 which person KU Zon work {give/give-3SG}
 'Who did Zon work for?'
- (87) [*Andji*]_i *ku mina-ome be {n'e_i/*ni}?*
 where KU child-man go {in-3G/in}
 'In where did the boy go?'
- (88) [*Ke kwa*]_i *ku piskado bili vwado {ku-e_i/*ku}?*
 what thing KU fisherman open flying.fish {with-3G/with}
 'What did the fisherman open the flying fish with?'

These instances of wh-movement into the specifier position of CP show that regular prepositions like *ni* (or its contracting variant *n*) and *ku* in respectively (87) and (88) are always stranded with an invariable spelled-out trace with the phonetic shape of the third person singular pronoun.¹⁹ *Da* in (86) crucially lacks this spelled-out trace. We take this to be evidence of its former verbal status, since verbs also show up without this trace.

5.2. Mixed items

At his point we will discuss several lexical items in the V2 slot that do not show a uniform behavior with respect to their categorial label. The discussion centers on the properties of V2 in locative and directional serials. It will be claimed that V2s in the former two constructions display simultaneously verbal and prepositional behavior.

5.2.1. Locative serials

Tests concerning (repeated) aspect marking, verb cleft, subject-drop and null verb phrases show the following results when applied to *pe*.

- (89) *Zon ka bloka awa ka pe lata.* aspect marking
 Zon ASP pour water ASP put tin
 'Zon always pours the water in the tin(s).'
- (90) ??*Sa pe ku Zon bloka awa pe lata.* verb cleft
 Be put that Zon pour water put tin
- (91) a. *Andji ku mana d-e deta kabesa {pe/*pe-e}?*
 Where that sister of-3SG put head {put/put-3SG}
 'Where did his sister put her head?'
- b. *Pe (liba) meza.* subject-drop
 Put (on) table
 'On top of the table.'
- (92) a. *E bloka awa pe lata?*
 3SG throw water put tin
 'Did he throw the water in the tin.'
- b. *E blok'e *(pe).* null VP
 3SG throw-3SG (put)
 'He did.'

From the examples it follows that *pe* simultaneously shows verbal and prepositional features. On the one hand, evidence for the former behavior are context (89) and (92), where *pe*, like verbs, receives respectively aspect marking and, unlike prepositions, occurs together with V1 in answers to global interrogative clauses. On the other hand, there is a parallel between *pe* and true prepositions because, similar to what happens to this latter cat-

egory, predicate clefting is considered ungrammatical (cf. 90) and in answers to partial interrogatives *pe* occurs without the expected pronoun (cf. 91), similarly to *da* in (85b). Once more it needs to be pointed out that ST cannot drop subjects in these environments.

Additional evidence for the hybrid status of *pe* comes from external argument sharing. If *pe* still is a verb, we expect the subject of the second verb phrase to be a PRO controlled by the matrix subject. If *pe* would behave like a prepositions, however, PRO is excluded. In (93), PRO is c-commanded by the matrix subject and the (human) Theme argument. Both are able to bind the reflexive.

- (93) *Zon_i saya Maya_j pe nglentu ke d'e plopi_{i/j}.*
 Zon pull Maya put inside house of-3SG self
 'Zon pulled Maya inside his/her own home.'

Thus, it seems that the verbal interpretation of *pe* triggers a PRO reading, while the prepositional interpretation precludes that same PRO reading. Partial categorial reanalysis is presumably eroding the PRO argument.

With repeated aspectual markers, a verbhood test for V2, the prediction is that the Theme cannot bind the reflexive anymore. This, however, is not borne out.

- (94) *Zon_i ka saya Maya_j ka pe nglentu ke d'e plopi_{i/j}.*
 'Zon keeps on pulling Maya inside his/her own home.'

Since it is not directly relevant for the present purposes, I will not pursue whether we are dealing with a case of semantics preceding syntax or rather with a PRO argument that is able to take an arbitrary (but specified) referent.

5.2.2. Directional serials

The same syntactic tests applied to *pe* in the previous section are now applied to *ba*. Note that the results also apply to other verbs of directed motion.

- (95) *Zon ka subli ka ba losa.* aspect marking
 Zon ASP go.up ASP go plantation.
 'Zon always goes up to the plantation.'

- (96) *Sa be ku Zon subli ba losa.* verb cleft
 be go that Zon go.up go plantation.
 'It was going up to the plantation that Zon did.' (approx.)
- (97) a. *Andji kwe subli be?*
 Where that-3SG go.up go
 'Where did he go up to?'
 b. **(E) ba losa.* subject-drop
 (3SG) go plantation
 'He went to the plantation.' (not: 'To the plantation.')
- (98) a. *E subli ba losa?*
 3SG go.up go plantation
 'Did he go up to the plantation?'
 b. *E subli (be).* null VP
 'He did (go up).'

From the grammaticality of verb cleft and the impossibility of licensing null subjects in question-answer contexts, it follows that *ba* is quite distinct from *pe* in the sense that it still exhibits strong verbal behavior. Nevertheless, below it will be claimed that directed motion verbs have a prepositional counterpart in cleft constructions.

Comitative SVCs constitute some evidence for the fact that verbs of directed motion in ST are slightly affected from a categorial point of view. Comitatives typically make use of directed motion verbs (essentially 'to come' and 'to go') in the V2 slot. Although we do not predict a "hybrid" PRO interpretation along the same lines for what was observed with respect to *pe*, in (99) coreference of PRO with a Theme is somewhat marginally acceptable, despite the preference for the matrix subject control.

- (99) *Mwala_i toma ome_j bi ku-e ke d'e plopi_{i/?j/*k}.*
 Woman take man come with-3SG home of-3SG self
 'The woman brought the man to her own place.'

5.3. Evidence for splitting features

There is some interesting evidence which seems to support the claim for the hybrid nature of the two items studied in the subsection above. I would like

to argue that cleft constructions allow the prepositional features of *pe* to be split off of the verbal one at surface structure.

- (100) *Sa* [_{?P} *pe fogo*] *ku ome ka tufu mon* [_{ASP} [_{ASP} (?) *ka* [_{VP} [_V *pe*]]]].
 be put fire that man ASP put hand ASP put

- (101) *Sa* [_{PP} *ni fogo*] *ku ome ka tufu djelu* [_{ASP} [_{ASP} (?) *ka* [_{VP} [_V *pe*]]]].
 both: 'It is in the fire that the man always puts his hands.'

In the former section it was shown that *pe* is hybrid as to its categorial specification. Furthermore, clefted *pe* in (100) can be easily replaced by true preposition *ni* (cf. 101), which follows naturally if we claim that *pe djibela* is an instance of PP cleft. I assume that the clefted element in this construction has lost its dynamic or motion feature, which remains exclusively on the clause final item. That the latter item displays verbal behavior follows readily from the presence of aspect marker *ka*. Just like the case of *ba*, *ni* can be claimed to be the [Path] feature that was split off of V.

Now let us try to extend this splitting hypothesis to motion verbs like *ba*. I will argue again that ?P cleft, in (102), show that it is possible to split the verbal or motion feature off of the inherently preposition-like path feature.

- (102) *Sa* [_{?P} *ba losa*] *ku Zon ka subli* [_{ASP} [_{ASP} *ka* [_{VP} [_V [_V *be*]]]]].
 be go plantation that Zon ASP go.up ASP go
 'It is upwards to the plantation Zon always goes.'

Despite the fact that *ba* in SVCs resembles a preposition, I argued it still exhibits strong verbal behavior. However, earlier it was proposed that verbs of directed motion are [α Path] in the lexicon. At surface structure, a positive value rewrites as a incorporated P feature, which crucially is lacking for *be*.

- (103)
- ```

 ba
 / \
 V P

```
- ```

    be
    |
    V
  
```

Unlike the case of *pe* in (100)-(101), we do not dispose of an alternative construction for (103) with a true preposition. Yet, another verb of directed motion in (104) provides us with a piece of evidence which allows us to argue that the clefted ?P is reanalyzed as a PP.

- (104) *Sa* [_{?P} *subli/liba oke*] *ku munken ka nda* [_{ASP} [_{ASP} *ka* [_{VP} [_V *subli*]]]].
 be go.up/up hill REL *munken* ASP walk ASP go.up
 'It is up the hill that the *munken* (dove species) always walks.'

The example above shows in fact that a motion verb in a clefted position can be readily replaced by a regular preposition (*liba* 'up'), similarly to what we claimed for *pe*. But how to deal now with the items left behind, i.e. the mirror image of (102)?

- (105) *Sa* [_V *be*] *ku Zon ka subli* [_{ASP} [_{ASP} *ka* [_{VP} [_V *ba losa*]]]].
 be go that Zon ASP go.up ASP plantation.
 'It is really going up to the plantation that Zon always does.'

In both (102) and (105), V2 can be preceded by an aspect marker, which warrants the verbal features of the item in this position. I argued that *be* is verbal in nature and can be split off of *ba losa*. In this environment, clause final *ba (losa)* needs to be a V, because the V feature has to be preserved inside the complex predicate to guarantee that the first verb phrase can match its features with the lower one.

Earlier on it was argued that *da* had grammaticalized. Therefore the prediction that it behaves prepositionally in both environments should be borne out in (106).

- (106) *Sa* [_{PP} *da sum*] *Glomo ku Zon ka tlab* (**ka*) [_P *da*].
 Be give mr. Glomo that Zon ASP work (ASP) give
 'It is for mr. Glomo that Zon uses to work.'

As we saw in a section 5.1, *da* lacks verbal features. Therefore the prediction that it cannot be preceded by aspect marker *ka* is borne out, since we expect *da* to behave as a preposition in both the clefted and the clause final position.

If items in the V2 slot go through a complete process of reanalysis (cf. *da*), the complex predicate effects cease to exist. In consequence of predicate restructuring, V1 will have to abandon its defective semantic status.

Given the facts above, it follows that SVCs are potentially problematic for several claims which have been made concerning feature specification. If an item shows simultaneously prepositional and verbal behavior at surface structure, we have to find a mechanism to explain this distribution. On the classic account, Ps are [-N, -V] (Emonds 1985; Van Riemsdijk 1998)²⁰ and Vs [-N, +V]. Therefore, the N feature unifies both categories.

Hence, I claim that the V feature is unspecified, i.e. $[\alpha V]$. If we then assume that a lexical insertion process in the course of the derivation determines the exact value of α , items like *pe* and *ba* can be stored in the lexicon without any further assumptions. The main verb counterparts of mixed items do not require a separate storage in the lexicon, since they can be derived by the very same mechanism. For a grammaticalized item like *da*, no additional claims are necessary, because it behaves prepositionally in any relevant context when found in the V2 slot of SVCs. Hence on a traditional account its features would be $[-N, -V]$ in that specific position and $[-N, +V]$ whenever it patterns as a main verb. In alternative, it might deserve some consideration to posit an $[\alpha V]$ feature for this and other items too.

6. Grammaticalization paths

Table 3 centers on the shift from V to P and summarizes several of the properties of the verbs we have been dealing with.

Table 3. From verbs towards prepositions.

	V_1		$V_2 \rightarrow P$			
	V1	<i>ba, be,</i> etc.	<i>pe</i>	<i>da</i>	<i>pasa</i>	P
negation	+	-	-	-	-	-
tense/mood markers	+	-	-	-	-	-
aspect marker	+	+	+	-	-	-
internal argument	+	-/+	+	+	+	+
verb clefting	+	+	??	-	-	-
pied piping	-	+	+	+	-	+
VP/PP cleft + copy in situ	+	+	+	+	-	-
stranding + trace	-	-	-	-	-	+
null VP/PP in question-answer	n.a.	+/-	-	+	n.a.	+
subject-drop in question-answer	-	-	+	+	-	+

Table 3 gives us the insight that each item exhibits distinct properties. Unlike in other languages, in ST any verb in the V1 slot is still a full-fledged lexical verb which receives all the lexicalized functional nodes (TMA) and Case and, if transitive, theta-marks an internal argument. Verbs like *pe* and *ba* in the V2 slot are always preceded by verbs with a motion/(a)telic fea-

ture. Therefore, V1 belongs to a semi-open class of verbs matching some of its feature(s) with the second verb phrase.

Verbs in the second position cannot receive TMA or negation markers. It was shown that *pasa* and *da* cannot be treated as verbs. Locative *pe*, however, exhibits hybrid behavior, while verbs of directed motion were arguably closer to full-fledged verbs.

I assume that the following strongly interrelated factors can be identified in the unidirectional process by which verbs in the V2 slot of SVCs start losing their verbal behavior:

- Scope: all the (lexicalized) functional heads (TMA and negation) concentrate on V1 and have simultaneously scope over V2;
- Frequency: high utilization frequency of an item supports its grammaticalization (Hopper and Traugott 1993);
- Tightness: the tighter the relation between two verbs, the higher the grammaticalization probabilities of V;
- Availability: only a restricted number of verbs is selected for functional positions;
- Superstrate pressure: Portuguese uses non-verbal lexical items in the relevant environments;
- Identification: reduced verbal morphology facilitates a categorial shift (of V2), since both V and P are relational, assigning their internal Θ -role directly.

Therefore the status of V2 is of crucial importance to what is going on in SVCs. If V2 becomes fully recategorized, V1 cannot maintain the unspecified semantic features it exhibited inside the verbal complex predicate due to predicate restructuring effects, i.e. VP-VP structures become, for example, VP-PP structures.

It is suggestive to conclude that there are several diachronic paths for a semi-lexical head: they may fully functionalize, which is arguably what happened in many cases to TMA markers, which in Creoles are often claimed to derive from verbs; they may receive full specifications again, i.e. lexicalize, when V2 becomes, for example, relabeled as a preposition; finally, they may remain semantically underspecified up to different degrees, like Mandarin's *ba*, Fon's *só*, etc. In the light of the latter scenario, a tendency towards full functionalization may be expected over time.

- (107) V1: a. lexical $\rightarrow$ semi-lexical $\rightarrow$ lexical-functional (TMA, Mandarin's *ba*, Kwawu's *de*)
 b. lexical $\rightarrow$ semi-lexical $\rightarrow$ semi-lexical (restructuring predicates, Urdu's light verbs, SVCs)
 c. lexical $\rightarrow$ semi-lexical $\rightarrow$ lexical (reanalyzed *da* in V2: $V_{SL}+V_L$ becomes V_L+P)

(108) V2: lexical $\rightarrow$ (lexical-)functional (*pasa* constructions)

I will not address the complex issue concerning the status of prepositions, i.e. whether they form (semi-)lexical and/or functional classes of items. This applies mainly to (107c) and (108).

7. Concluding remarks

The main conclusion one draws from the facts described above is that SVCs as verbal complex predicates have significant effects on both verbs in these constructions. Unlike covert coordination structures, SVCs are combinations of lexically restricted classes of syntactic and semantic heads fusing two argument structures into a single one. The semantic head (V2) imposes s-selection restrictions on the syntactic head, which we argued to be semantically unspecified up to some degree. The syntactic head (V1), in turn, is able to weaken the verbal status of V2, which can ultimately become recategorized.

Notes

1. I would like to thank Inês Duarte for her valuable comments, my informants, especially Jerónimo Pontes, for helping me out at any time, and an anonymous reviewer for several accurate comments. The source of this paper was within the context of the Subprogram of Science and Technology of PRAXIS XXI, Lisbon, Portugal.
2. Saramaccan, a Surinam Creole, shows a similar pattern as ST with regard to aspect marking in SVCs, but Haitian Creole, for example, does not allow aspect marking on the second verb. A crosslinguistic survey of SVCs arguably suggests that repeated tense marking is not a property of SVCs, but rather a symptom of covert coordination. Collins (1997) forcefully argues that in Ewe constructions with repeated tense markers are instances of covert coordination. In the spirit of this author, serializing languages are distinct from non-serializing

languages because, in the former, tense is able to license multiple verbal heads (see also Campbell 1996 for the same line of reasoning).

3. ST does not yet have an official orthography (Ferraz 1979: 56-7 for a brief proposal). I will not distinguish between low and middle vowels, since they are minimally contrastive; affricates are realized as *dj* and *tch*; [ʃ] is represented by *ch* before vowels and as *s* before consonants; nasals are represented as *m* (before bilabials) or *n* (other contexts); as for homorganics, I take the articulation point to be determining (ex. *mpon* 'bread'; *nge* 'person'); vowel drop resulting from contractions is represented by means of an apostrophe (ex. *da+e* [de] > *d'e* 'give him/her'); semivocalization as a consequence of contraction of two words or compounds are represented by means of a hyphen (ex. *ku+e* [kwe] > *ku-e* 'with him/her'); nearly all verbs receive their accent on the final syllable and other items usually on the last but one.
4. Campbell (1996) uses the adverb placement test in defense of a distinction between accusative and non-accusative SVCs, the latter being a typical ECM configuration. Crucially, in Kwawu, an Akan dialect, only the accusative (adjunction) type of SVCs allows for adverb stacking.
5. Prepositions undergo the same constraint, but the item that remains *in situ* always receives a spelled-out trace:
 - (i) *N' kanwa, piskado che n'e.*
 in-canoe fisherman leave in-3SG
 'In the canoe, the fisherman took off.'
 In Hagemeijer (2000), some evidence is presented for the fact that in ST topicalizations (cf. (ii)) are base-generated, while it can be argued that cleft constructions (cf. (iii)) involve instances of real movement.
 - (ii) *Zon, bo kunda kuma/*ku-e mata ploko.*
 Zon, 2SG think that/that-3SG kill pig
 'Zon, you thought he killed the pig.'
 - (iii) *Sa Zon_i ku bo kunda ku/*kuma t_i mata ploko.*
 'It was Zon you thought that/that killed the pig.'
 Like most or all verbs of mental activity, *kunda* 'to think' takes complementizer *kuma*. Whenever (wh-)arguments are moved out of the embedded clause, the extracted item moves through SPEC,CP where it agrees with the head *kuma*, which undergoes a phonetic change. Old Irish, Ewe or French are examples of languages with similar phenomena.
6. Note that the possibility of predicate cleft of V1 and V2 (separately) distinguishes SVCs from most but not all constructions with a tendency to monoclausal behavior.
7. In some locative constructions with *pe* 'to put', both verbs obligatory co-occur in answers:
 - (i) a. *Sun tufu djelu pe djibela?*
 gentleman put money put pocket
 'Did the gentleman put money in his pocket?'

- b. Efan, e tufu *(pe).
'Yes, he did.'
8. Grimshaw and Mester, p. 212.
 9. Larson (1991) claims that serializing languages allow for verbal secondary predicates.
 10. Campbell mentions that *de* is sometimes glossed as 'to take'.
 11. It should be noticed that verbs like *va* 'to cut' do not take obligatory instrumental adjuncts nor do they license double object constructions, i.e. instruments like *faka* 'knife' are not part of the (explicit) argument structure of these verbs.
 12. Table adapted from Winford (1993) for English based Caribbean Creoles.
 13. Collins (1997: 468, footnote 12) briefly refers that manner of motion verbs may become unaccusative when telic. Similarly, in languages like Dutch and Italian, telicity determines the selection of perfective auxiliaries in motion predicates. Arguably, perfective auxiliaries are also semi-lexical in nature.
 14. The original glosses and translations are in Spanish.
 15. It could very well be the case that tense marker *tava* heads an independent verb phrase, since exceptionally some adverbs like *sempre* 'always' may occur in between the tense phrase and the aspectual phrase (cf. also section 4.1).
 16. The quotation marks mean to illustrate that it is unclear whether the items in this section were reanalyzed or not from a diachronic point of view.
 17. It is important to note that all V2s in SVCs also show up as regular main verbs.
 18. In South East Asian languages, grammaticalized V2s are usually referred to as co-verbs.
 19. At first hand it might look as if we are dealing with a resumptive strategy, but from the next examples taken from Hagemeijer (2000) we learn that number agreement (gender is not marked on pronouns) with the antecedent forms the characterizing property of this strategy. For all other cases, I claim that preposition stranding is involved.
 - (i) [*Inen nge se* [_{CP} *ku bo fla* {*ku-e*/**ku-inen*}]] [{*se kons* /**kons'inen*}].
3PL person DEM REL 2SG talk {to-3SG/to-3PL} {without know/know-3PL}
'The persons you talked to without knowing.'
 - (ii) [*Inen mwala se* [_{CP} *ku n tende* [_{NP} *ome* [_{CP} *ku fla* {*n'inen*/**n'e*}]]]]
3PL women DEM REL 1SG hear man REL talk {in-3PL/in-3SG}
[{*se kons'inen*/**kons*}]
{without know-3PL/know}
*'The women that I heard the man that talked about them without knowing them.'

I claim that (i) is the stranding context. Not only is agreement lacking between the relativized noun and the spelled-out trace on the preposition, but also the traditional adjunction analysis predicts that the (for the case spelled-out) variable stranded after operator movement licenses parasitic gaps (Chomsky 1986; Cinque 1990, etc.). In the situation in (ii) an extra CP was embedded to

create a complex NP island. Since we are dealing with a strong island, wh-movement is blocked and the only way to rescue the derivation is by inserting a resumptive pronoun. This pronoun agrees in number with the relativized noun and crucially does not license a parasitic gap as in (i).

20. Grimshaw (1991), however, claims that Ps are [+N,-V] forming extended projections with DP and NP.

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