



EVENTS AND MULTI-VERB CONSTRUCTIONS IN ÈDÓ

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•Introduction

- This paper examines the issue of segmentation of events in multi-verb constructions in Èdó a Benue-Congo language spoken in Mid-Western Nigeria from the point of view of information packing and causality and the mapping between events and constructions.
- Multi-verb constructions are verbs in series that function as independent verbs in simple constructions with no overt marker of co-ordination or subordination. The verbs in series need not share objects as with serial verb constructions. Serial verb constructions are thus a subtype of multi-verb constructions.
- 11 constructions are examined in this paper and based on their syntactic and semantic properties, 7 are identified as multi-verb constructions and 4 as reanalyzed modifier constructions.

Introduction

- 1) Construction Parameters: Positive-declarative -----accomplishment-
multiplePredicate consequentialSVC

Construction labels: svSuObIDALLsuAgobAff-v1tr-v2tr-EVENTSEQ

Òzó lé izé ré

“Ozo cooked rice and ate”

<u>Òzó</u>	<u>lé</u>	<u>izé</u>	<u>ré</u>
<u>òzó</u>	<u>lé</u>	<u>izé</u>	<u>ré</u>
<u>Ozo.SBJ.AGT/CR</u>	<u>cook.PAST.H</u>	<u>rice.AFF.DO</u>	<u>eat.PAST.H</u>
<u>PN</u>	<u>Vtr</u>	<u>CN</u>	<u>Vtr</u>

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- 2) Construction parameter: positive-declarative -----achievement-singlePredicate
intransitiveVerb- V+modifier.

Construction labels: v-intr-suAg-ACHVMNT-MOTION_DIRECTED

Òzó rhùlé -rè kpàá

“Ozo ran away”

<u>Òzó</u>	<u>rhùlé -rè</u>		<u>kpàá</u>
<u>òzó</u>	<u>rhùlé</u>	<u>rè</u>	<u>kpàá</u>
<u>Ozo.SBJ.AGT</u>	<u>run</u>	<u>PAST.RT</u>	<u>leave.V>ADV</u>
<u>PN</u>	<u>Vitr</u>		<u>ADV</u>

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• Introduction

- Events may be causal or non-causal and micro, macro or distinct.
- Properties used in the determination of causality include: mediation and contact and they have implication for the intergratedness of events as micro or macro events .
- Sub-events composing micro and macro events share temporal spans and temporal markers must have scope over all the events in series. Distinct events do not share temporal spans and temporal markers need not have scope over the events in series. Pre-verbal adverbs have scope over the whole event for micro and macro events while for distinct events they have scope only over the VP they modify.
- Two schemas are posited for the constructions; *Verb-serial-compl (ement)-phrase* with a complementation structure; *Serial-mod-phrase* with an adjunction structure.

Introduction

- Background assumptions are from the following sources; Hellan, Sæthero and Beermann (2003); implemented Head-Driven Phrase Structure Grammars for Norwegian (Hellan 2003); Ga (Hellan 2007); Kropp Dakubu and Hellan (2009); Èdó (Ogie 2009,2010).
- The data used in this paper is generated in an online documentation tool TypeCraft (Beermann et al 2006), a tool for typological analysis that allows for annotation, classification and search of data along different morphological, syntactic, semantic and pragmatic criteria.

Multi- verb constructions in Èdó: 11 constructions with no overt marking of co-ordination and sub-ordination

- Durational constructions: The event depicted by V1 is either delimited by V2 indicating the nature and type of ending of V1, and V2 specifies the duration of V1. V2 is predicated of the event expressed by V1. V1 and V2 are micro events.
- Directional constructions: V2 performs a deictic/ aspectual function and specifies the direction of motion for V1 and is predicated of the subject of V1. There are two kinds of directional constructions: the deictic directional and the non-deictic directional that are differentiated by how the events expressed by V1-V2 unfold. Deictic directional constructions unfold at the same time while the event depicted by V1 in non-deictic constructions commences before that depicted by V2 with both ending simultaneously. V1 and V2 are micro events.
- Comitative constructions: V1 indicates group participation in an event. V1 and V2 are micro events.
- Instrumental constructions: V1 indicates the means by which the event depicted by V2 is carried out. V1 and V2 are micro events.
- Resultative constructions: V1 may cause the realization of the event depicted by V2. There are two types of resultative constructions: V2 is a degree verb and V2 is an achievement verb. V1 and V2 are micro events.

• Multi-verb constructions in Èdó: 11 constructions with no overt marking of co-ordination and sub-ordination

- Negative resultatives constructions: The event depicted by V1 causes a negative state which is contra to the expectation of the agent participant in the event depicted by V2. V1 and V2 are macro events.
- Locational constructions: V1 combines with dynamic preposition constructions consisting of reanalyzed verbs. The re-analyzed V2 is predicated of the event depicted by V1. V1 and V2 are micro events.
- Manner constructions: V1 depicts the body posture of the participant while performing V2. V1 and V2 are micro events.
- Purpose constructions: The combination of V1 and V2 expresses a purpose of the participant which can be deliberate or non-deliberate. However unlike in languages like Nupe where the event depicted by V2 is in the irrealis mood, in Èdó, the event is in the realis mood. V1 and V2 are micro events.
- Consequential constructions: Two or more verbs in series express a natural sequence of events and are temporally ordered in a precedence-consequence relationship. V1 and V2 are macro events.
- Covert co-ordination constructions: Two or more separate and distinct events are coordinated without any overt marker of co-ordination between the verbs in series.

• Identification of multi-verb constructions

- The following properties are applied in the identification of multi-verb constructions:
- Extraction; Scope of tense, aspect and negation; Distribution of a floating quantifier *tòbòrè* “by pronoun self”; Adverbial modification; Argument sharing patterns.
- Based on the syntactic and semantic characterization of the 11 constructions, 7 multi-verb constructions are identified in Èdó as belonging to the following structural types:
- *V (P) +V (P) constructions*: resultatives, negative resultatives, consequential and covert co-ordination constructions
- *V + mood constructions*: purpose constructions
- *V+ infinitival complement constructions*: comitative and instrumental constructions.
- Four of the construction types are identified as consisting of a verb and a reanalyzed verb:
- *V+ modifier constructions*: durational, directional, locational, manner constructions

Multi- Verb constructions in Èdó : properties

Construct- ion type	Structure	-rV Suffix Licensed	Infinitival Marker <i>yá</i> Before V2	Floating anaphor before V2	VP Adjuncts After VP 1	Token Sharing of subjects	Switch Sharing	Covert reference sharing Of subjects	Token Sharing Of objects	Overt Reference Sharing of objects	Objects are not shared
V+modifier: durational Locational	Adjunction	Yes	No No	No No	No No	Not Applicable	Not Applica- ble	Not Applicable	Not Applicable	Not Applicable	Not Applica- ble
Directional Manner			No No	No No	No No	Yes Yes	No No	No No	No No	No No	No No
V(P)+V(P): Resultatives Conseq. Neg.result. Covert- coordination	Compl. Adjunction Adjunction Adjunction	No No No	No No No	No No No	No Yes Yes	No Yes Yes	Yes No No	No No No	No Yes No	No No No	Yes No Yes
V+mood	Adjunction	Yes	No	No	Yes	Yes	No	No	Yes	No	No
V+infinitival complement	Compl.	Yes	Yes	Yes	No	No	No	Yes	No	No	Yes

Aspectual classes of multi-verb constructions

V1 (Eventuality type)	V2 (Eventuality type)	CONSTRUCTION TYPE	ASPECTUAL TYPE OF CONSTRUCTION
Process	State	Duration, resultative, direction, instrumental	State
	Achievement	Location, directional, commitative, durational, instrumental	Achievement
	Accomplishment	Commitative, instrumental	Accomplishment
Accomplishment (Accompl.)	State	Durational, resultatives	State
	Achievement	Durational, consequential	Achievement
	Accomplishment	Consequential, negative resultatives	Accomplishment
Achievement	Achievement	Purpose, resultatives, consequential, negative resultatives, instrumental	Achievement
	Accomplishment	Purpose, consequential	Accomplishment
State (temporal position state)	Event	Manner	Event

•Structural types

- Two schemas are posited to account for the constructions:
 - *Verb-serial-compl (ement)-phrase* with a complementation structure for the
 - $V (P) +V (P)$ resultative and $V+infinitival$ complement constructions.
 - *Serial-mod-phrase* with an adjunction structure for $V+mood$ constructions, $V+modifier$ constructions and $V (P) +V (P)$; consequential, purpose, and negative resultative, covert coordination constructions.

Event types and causation

- Events are classified into three different sorts based on their temporal characteristics: processes, states and transitions.
- A process or activity is a sequence of sub-events identifying the same semantic expression.
- A state is a single event which is evaluated relative to no other event. The opposition is left implicit.
- A transition is an event identifying a semantic expression that is relative to its opposition.
- Transitions are causative while processes and states are not. Transitions may consist of a process event and a result event and are of the event type accomplishment. Transitions consisting of only result events are achievements.

Combinations of eventuality types in Èdó multi-verb constructions

V1 (Eventuality type)	V2 (Eventuality type)	CONSTRUCTION TYPE	ASPECTUAL TYPE OF CONSTRUCTION
Process	State	Duration, resultative, direction, instrumental	State
	Achievement	Location, directional, comitative, durational, instrumental	Achievement
	Accomplishment	Comitative, instrumental	Accomplishment
Accomplishment (Accompl.)	State	Durational, resultatives	State
	Achievement	Durational, consequential	Achievement
	Accomplishment	Consequential, negative resultatives	Accomplishment
Achievement	Achievement	Purpose, resultatives, consequential, negative resultatives, instrumental	Achievement
	Accomplishment	Purpose, consequential	Accomplishment
State (temporal position state)	Event	Manner	Event

• Transitions are causative while states are not. The following properties identify causative event-structures in Èdó:

- A floating anaphor *tòbó* + 3singular pronoun 'by his/herself'.
- Causative paraphrases (Rappaport and Levin 1999).

Example with floating anaphor

3) Construction parameter: Positive-declarative-----achievement-
multiplePredicate consequentialSVC

⊕ Construction label: svSuObIDALLsuAgobAff-v1tr-v2tr- EVENTSEQ

Òzó tóbó rẹ̀ gbèn èbé khièn

“Ozo writes and sells books by himself”

<i>Òzó</i>	<i>tóbó rẹ̀</i>	<i>gbèn</i>	<i>èbé</i>	<i>khièn</i>
<i>òzó</i>	<i>tóbó rẹ̀</i>	<i>gbèn</i>	<i>èbé</i>	<i>khièn</i>
<i>Ozo.SBJ.AGT/CR</i>	<i>by.selv.ANA.3SG.REFL</i>	<i>write.PRES.L</i>	<i>book.DO.TH/AFF</i>	<i>sell.PRES.L</i>
PN		Vtr	CN	Vtr

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In example (3), the subject *Òzó* performs the writing and selling events by himself.

□

•Floating anaphor and type shift

4) Construction parameter: positive-declarative -----achievement-SinglePredicate-

V+modifier

Construction label: v-intr-suAg-ACHVMNT-MOTION_DIRECTED

Òzó tòbòrè rhùlé -rè kpàá

“Ozo ran away”

Òzó

tòbòrè

rhùlé-rè

kpàá

òzó

tòbòrè

rhùlé

rè

kpàá

Ozo.SBJ.AGT/CR by.selv.ANA.3SG run

PAST.RT leave.V>ADV

PN

Vitr

ADV

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Causative paraphrases

Causative paraphrases require combinations of process and result events. They are licensed by the $V(P) + V(P)$ constructions; consequential, resultative (V2 is degree verb and V2 is an achievement), negative resultatives and covert co-ordination (example 5). They are not licensed by the $V+\text{modifier}$, the $V+\text{mood}$ (example 6) and the $V+\text{infinitival complements}$ constructions :

5) Construction parameter: positive-declarative -----achievement-causation

Construction label: cauSuIDALLsuAg -v1tr-v1obThincrem-v2intr-v3tr-v3ObAff-
CAUSATION_WITH_CAUSEINGENITY

Òzó òré ó gbèn èbé òré ó zé né ó ná khièn iràn

"It is Ozo that writes books that is why he sells them"

<u>Òzó</u>	<u>òré</u>	<u>ó</u>	<u>gbèn</u>	<u>èbé</u>	<u>òré</u>	<u>ó</u>	<u>zé</u>	<u>né</u>	<u>ó</u>	<u>ná</u>	<u>khièn</u>	<u>iràn</u>		
<u>òzó</u>	<u>òré</u>	<u>ó</u>	<u>gbèn</u>	<u>èbé</u>	<u>òré</u>	<u>ó</u>	<u>zé</u>	<u>né</u>	<u>ó</u>	<u>ná</u>	<u>khièn</u>	<u>iràn</u>		
<u>Ozo</u>	<u>SBJ.AGT/CR</u>	<u>FOC</u>	<u>PLUG</u>	<u>write</u>	<u>PRESL</u>	<u>book</u>	<u>DO.TH</u>	<u>FOC</u>	<u>PLUG</u>	<u>cause</u>	<u>SBJ.AGT.3SG</u>	<u>SECM</u>	<u>sell</u>	<u>Aff3PL</u>
<u>PN</u>			<u>Vtr</u>	<u>CN</u>			<u>V</u>	<u>COMP</u>			<u>Vtr</u>	<u>PRON</u>		

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•Causative paraphrases

6) Construction Parameter: positive-declarative -----achievement- causation
 Construction label: cau v1 v2 SuID su Cr -v1 tr-v1 ob Th-v2 intr-v3 tr-v3 su Ce ob Aff-
 CAUSATION_WITH_CAUSEINGENITY

* Òzó òré ó mién àlimói òré ó zé né ó ná kpá!án ónrèn

*"*It is Ozo that saw an orange that is why he plucked it."*

<u>Òzó</u>	<u>òré</u>	<u>ó</u>	<u>mién</u>	<u>àlimói</u>	<u>òré</u>	<u>ó</u>	<u>zé</u>	<u>né</u>	<u>ó</u>	<u>ná</u>	<u>kpá!án</u>	<u>ónrèn</u>
<u>òzó</u>	<u>òré</u>	<u>ó</u>	<u>mién</u>	<u>àlimói</u>	<u>òré</u>	<u>ó</u>	<u>zé</u>	<u>né</u>	<u>ó</u>	<u>ná</u>	<u>kpá!án</u>	<u>ónrèn</u>
<u>Ozo</u> .Cr.SB	FOC	<u>PLUG</u>	<u>see</u> .PAST.	<u>orange</u> .DO.T	FOC	<u>PLUG</u> .SB	<u>cause</u> .PAST.	CE.SBJ.3S	SECM	<u>pluck</u> .PAST.!	Aff.DI.3S	
J			H	H		J	H	G		H		G
PN			<u>Vtr</u>	CN			V	COMP	PRON		<u>Vtr</u>	PRON

Generated in TypeCraft

Mediation

- Mediation refers to the number of participants in an event and the roles they play in it. The roles are determined by the kind of event in which a participant is involved. Four roles are distinguished:
- Causer (CR): The participant that is the instigator of the event.
- Causee (CE): An animate participant who may or may not have some degree of control over the event.
- Instrument (IN): an inanimate participant over which the CR/CE has complete control.
- Affectee (AF): The participant that undergoes a change of state.
- Bohnemeyer et al (in press) distinguishes four mediation types:
- CR> AF: a causer directly effecting a change on an affectee without involvement of a causee or instrument
- CR>IN>AF: a causer effecting a change on some affectee with the help of an instrument.
- CR>CE>AF: a causer effecting a change on an affectee with the mediation of a causee.
- CR>CE>IN>AF: a causer affecting a change in an affecting mediated by a cause with the help of an instrument.

9) Construction parameter: positive-declarative -----accomplishment-multiplePredicate-instrument

Construction label: mvcSuIDALLsuAg-v1 tr-v1 obIn-v2 tr-v2 obThincrem-EVENTINSTR

Òzó yè èbàró (yá) gbèn èbé

“Ozo is using a pen to write a book”

Òzó yè èbàró yá gbèn èbé

òzó yè èbàró yá gbèn èbé

Ozo.SBJ.AGT/CR *use*.PRES.L *Pen*.INSTR INF *write*.PRES.L *book*.DO.TH/AFF

PN V CN Vtr CN

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•Mediation type CR>IN>AF and type shift: complement clause determine event
intergratedness: micro event

- When the instrumental verb ye occurs with V(P)+ V(P) and V+ mood constructions a type shift occurs rendering the complex construction as an instrumental construction. The resultative construction where V2 is an achievement verb is used for illustration:

10) Construction parameter: positive-declarative -----achievement-multiplePredicate-instrument

Construction label: mvc-v1 tr-v2SuIDsuAg-v1 obTh-v2tr-v2obIn-v3tr-v3 suTh-
EVENTINSTR

Òzó yè èvbàré yá kòkò Àzàrí mèsè

“Ozo used food to raise Azari to be beautiful”

Òzó yè èvbàré yá kòkò Àzàrí mèsè

òzó yè èvbàré yá kòkò àzàrí mèsè

Ozo.SBJ.AGT use.PRES.L food INF raise.PRES Azari.AFF.DO be.beautiful.PRES.L

PN V CN Vtr PN Vitr

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•Mediation type CR>IN>AF and type shift: complement clause determines event intergratedness: macro-event

11) Construction parameter: positive-declarative -----accomplishment-
multiple Predicate instrumental

Construction label: mvcSuIDALLsuAg-v1tr-v1obIn-v2tr-v2Th-v3tr-v3obThincrem-
EVENTINSTR

Òzó yè òbó dà èbé yí gbén

“Ozo held the book in his hands and wrote”

Òzó yè òbó dà èbé yí gbén

òzó yè òbó dà èbé yí gbén

Ozo.SBJ.AGT use.PRES.L hand hold book.DO.TH particle write.PRES.L

PN V Vtr CN Vtr

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• Test for event intergratedness

- A test for event intergratedness is the licensing of preverbal adverb before V2 and the scope of preverbal adverbs. Preverbal adverbs are licensed before V1 in all the construction types. They have scope over the verbs in series for micro and macro events and for distinct events they have scope only over V1. The micro event constructions V+modifier, V+infinitival complement and resultative constructions do not license preverbal adverbs before V2. The macro event constructions: consequential constructions, negative resultatives, purpose and the distinct event construction, the covert coordination constructions license preverbal adverbs before V2. For the macro events the preverbal adverb has scope over the verbs in series while for the distinct event it has scope only over the VP it modifies. The non-licensing of the preverbal adverb in example (12) shows that it determines the event intergratedness of the events in series while for example (13) the accomplishment construction determines the event intergration and the preverbal adverb is licensed.

Test for event intergratedness:Preverbal adverbs are licensed before V1 in all the construction types. They have scope over the verbs in series for micro and macro events and for distinct events they have scope only over V1.

12) Construction Parameter: positive-declarative -----achievement-
multiplePredicate instrumental

Construction label: mvc-v1 tr-v2SuIDSuAg-v1 obTh-v2tr-v2obIn-v3tr-v3suTh-
EVENTINSTR

*Òzó yè èvbàré yá kòkò Àzàrí gèlé mòsé

*"*Ozo used food to raise Azari to be truly beautiful"*

<u>Òzó yè</u>	<u>èvbàré yá</u>	<u>kòkò</u>	<u>Àzàrí</u>	<u>gèlé</u>	<u>mòsé</u>
<u>òzó yè</u>	<u>èvbàré yá</u>	<u>kòkò</u>	<u>àzàrí</u>	<u>gèlé</u>	<u>mòsé</u>
<u>òzó use.PRES.L</u>	<u>food</u>	<u>INF raise.PRES</u>	<u>Azari.AFF.DO</u>	<u>really.PRES.L.H</u>	<u>be.beautiful.PAST.H</u>
<u>PN</u>	<u>V</u>	<u>CN</u>	<u>Vtr</u>	<u>PN</u>	<u>ADV</u>
				<u>Vitr</u>	

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13) Construction parameter: positive-declarative -----accomplishment-
multiplePredicate instrumental

Construction label: mvcSuIDALLsuAg-v1 tr-v1obIn-v2tr-v2Th-v3tr-v3obThinrem-
EVENTINSTR

Òzó yè òbó dà èbé yí giègié gbén

"Ozo held the book in his hands and quicky wrote"

<u>Òzó</u>	<u>yè</u>	<u>òbó</u>	<u>dà</u>	<u>èbé</u>	<u>yí</u>	<u>giègié</u>	<u>gbén</u>
<u>òzó</u>	<u>yè</u>	<u>òbó</u>	<u>dà</u>	<u>èbé</u>	<u>yí</u>	<u>giègié</u>	<u>gbèn</u>
<u>Ozo.SBJ.AGT</u>	<u>use.PRES.L</u>	<u>hand</u>	<u>hold</u>	<u>book.DO.TH</u>	<u>particle</u>	<u>quickly.PRES</u>	<u>write.PRES.L</u>
<u>PN</u>	<u>V</u>	<u>CN</u>	<u>Vtr</u>	<u>CN</u>		<u>ADV</u>	<u>Vtr</u>

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mediation type CR>CE>AF>: Not a multi-verb construction in Èdó and consist of distinct events.

14) Construction parameter: positive-declarative -----achievement-causation

Construction label: cauV2v3SuIDsuCe -v1intr-v1suCr-v2tr-v2ObThincrem-v3tr-v3ObAff- CAUSATION_WITH_CAUSEINGENITY

Òzó gèlé gí Àzàrí giègié gbèn èbé fèkó khièn

“Ozo truly let Azari quickly write books and sell slowly.”

<u>Òzó</u>	<u>gèlé</u>	<u>gí</u>	<u>Àzàrí</u>	<u>giègié</u>	<u>gbèn</u>	<u>èbé</u>	<u>fèkó</u>	<u>khièn</u>
òzó	gèlé	gí	àzàrí	giègié	gbèn	èbé	fèkó	khièn

Ozo.SBJ.AGT really PRES L H let Azari.CE.SBJ quickly PRES write PRES L book.DO.TH slowly sell.PRES L

PN	ADV	V	PN	ADV	Vtr	CN	ADV	Vtr
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15) Construction parameter: positive-declarative -----achievement-causation

Construction label: cauV2v3SuIDCe -v1intr-v1suCr-v2tr-v2ObThincrem-v3tr-v3ObAff- CAUSATION_WITH_CAUSEINGENITY

Òzó òré ó zé ighé Àzàrí gbèn èbé khièn

“It is Ozo that caused Azari to write a book and sell”

<u>Òzó</u>	<u>òré</u>	<u>ó</u>	<u>zé</u>	<u>ighé</u>	<u>Àzàrí</u>	<u>gbèn</u>	<u>èbé</u>	<u>khièn</u>
òzó	òré	ó	zé	ighé	àzàrí	gbèn	èbé	khièn

Ozo.SBJ.AGT FOC PLUG cause COMPL Azari.CE.DO write.PRES.L book.DO.TH sell.PRES.L

PN			V		PN	Vtr	CN	Vtr
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Mediation type CR>CE>AF> and CR>CE>IN>AF

16) Construction parameter: positive-declarative -----causation-

Construction label: Cauv2objIDv3su-v1intr-v1suCr-v2tr-v2suCe_obAff-v3intr-v3suAff-CAUSATION_WITH_CAUSEINGENITY

Íràn gèlé gí Òzó fèkó kòkò Àzàrí mòsè

"They truly let Ozo slowly raise Azari to be beautiful"

<u>Íràn</u>	<u>gèlé</u>	<u>gí</u>	<u>Òzó</u>	<u>fèkó</u>	<u>kòkò</u>	<u>Àzàrí</u>	<u>mòsè</u>
<u>íràn</u>	<u>gèlé</u>	<u>gí</u>	<u>òzó</u>	<u>fèkó</u>	<u>kòkò</u>	<u>àzàrí</u>	<u>mòsè</u>
<u>SBJ.3SG.A</u>	<u>really.PRES.</u>	<u>let.PRES</u>	<u>Ozo.CE.S</u>	<u>slowl</u>	<u>raise.PRE</u>	<u>Azari.AFF.</u>	<u>be.beautiful.PR</u>
<u>GT</u>	<u>L.H</u>	<u>.L</u>	<u>BJ</u>	<u>y</u>	<u>S.L</u>	<u>DO</u>	<u>ES.L</u>
<u>PRON</u>	<u>ADV</u>	<u>V</u>	<u>PN</u>	<u>ADV</u>	<u>Vtr</u>	<u>PN</u>	<u>Vitr</u>

Generated in TypeCraft.

17) Construction parameter: positive-declarative -----causation-

Construction label: cauV2v3v4SuIDSuCe -v1intr-v1suCr-v2tr-v2obInstr-v3tr-v3obThincrm-v4tr-v4obAff-CAUSATION_WITH_CAUSEINGENITY

Òzó giègié gí Àzàrí yè èkòmpútá gbèn èbé fèkó khièn

"it is Ozo that quickly let Azari use a computer to write books and slowly sell"

<u>Òzó</u>	<u>giègié</u>	<u>gí</u>	<u>Àzàrí</u>	<u>yè</u>	<u>èkòmpútá gbèn</u>	<u>èbé</u>	<u>fèkó</u>	<u>khièn</u>
<u>òzó</u>	<u>giègié</u>	<u>gí</u>	<u>àzàrí</u>	<u>yè</u>	<u>èkòmpútá gbèn</u>	<u>èbé</u>	<u>fèkó</u>	<u>khièn</u>
<u>Ozo.SBJAGT</u>	<u>quickly.PRES</u>	<u>let.PRES.L</u>	<u>Azari.CE.SBJ</u>	<u>use.PRES.L</u>	<u>èkòmpútá write.PRES.L</u>	<u>book.DO.TH</u>	<u>slowly</u>	<u>sell.PRES.L</u>
<u>PN</u>	<u>ADV</u>	<u>V</u>	<u>PN</u>	<u>V</u>	<u>CN</u>	<u>Vtr</u>	<u>CN</u>	<u>ADV</u>
							<u>Vtr</u>	

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Mediation type Contact

- The mediation type contact depicts intergratedness between the events in series by the extent of contact between the participants in the events.
- Some verbs encode contact lexically. Examples are the verbs *khue* 'to bathe' , *rhie* 'to take' and *kpee* 'to wash' . Examples (18) – (22) are of the type CR>AFF while example (23) is of the type CR>CE>IN>AFF. Examples (18)-(20) are micro events, examples (21) and (22) are macro events and involves direct contact between the agent/causer and the affected participants. Example (23) a distinct event, does not involve direct contact between the agent/causer and the affected participant. Contact is mediated by the cause and instrument participant .

Mediation type contact: CR>AFF

18) Construction parameter: positive-declarative -----achievement-
multiple Predicate resultative SVC

Construction label: sv-v1 obj ID v2 su-v1 tr-v1 suAg-v1 obAff-v2-int-v2 obAff-
CAUSE_RESULT

Òzó khué ómómó mósé

“Ozo bathed the baby to be beautiful”

Òzó khué ómómó mósé

òzó khué ómómó mósé

Ozo.SBJ.AGT/CR *bathe*.PAST.H *baby*.AFF.DO *be.beautiful*.PAST.H

PN Vtr CN Vitr

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Mediation type contact: CR>AFF

19) Construction parameter: positive-declarative -----accomplishment-V+modifier
Construction label: v-SuIDALLsuAg-v1 tr-v1obTh-v2intr-ACHVMNT-MOTION_DIRECTED

Òzó rhié ómómó dèé

“Ozo is coming with the baby”

<u>Òzó</u>	<u>rhié</u>	<u>ómómó</u>	<u>dèé</u>
<u>òzó</u>	<u>rhié</u>	<u>ómómó</u>	<u>dèé</u>
<u>Ozo.SBJ.AGT/CR</u>	<u>take.PAST.H</u>	<u>baby.AFF.DO</u>	<u>come.PRES.PROG</u>
<u>PN</u>	<u>Vtr</u>	<u>CN</u>	<u>Vitr</u>

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20) Construction parameter: positive-declarative -----achievement- v+modifier|
Construction label: v-SuIDALLsuAg-v1 tr-v1obTh-v2intr-ACHVMNT-MOTION_DIRECTED

Òzó mù ómómó dèé

“Ozo is bringing the baby”

<u>Òzó</u>	<u>mù</u>	<u>ómómó</u>	<u>dèé</u>
<u>òzó</u>	<u>mù</u>	<u>ómómó</u>	<u>dèé</u>
<u>Ozo.SBJ.AGT/CR</u>	<u>carry.PRES.L</u>	<u>baby.AFF.DO</u>	<u>come.PRES.PROG</u>
<u>PN</u>	<u>Vtr</u>	<u>CN</u>	<u>Vitr</u>

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•Mediation type contact: CR>AFF

21) Construction parameter: positive-declarative -----accomplishment-multiplePredicate SVC
Construction label: svSuObIDALLsuAgobAff-v1 tr-v2tr-EVENTSEQ

Òzó kpé ízè lé

“Ozo washed the rice and cooked”

<u>Òzó</u>	<u>kpé</u>	<u>ízè</u>	<u>lé</u>
<u>òzó</u>	<u>kpé</u>	<u>ízè</u>	<u>lé</u>
<u>Ozo.SBJ.AGT/CR</u>	<u>wash.PAST.H</u>	<u>rice.AFF.DO</u>	<u>cook.PAST.H</u>
<u>PN</u>	<u>Vtr</u>	<u>CN</u>	<u>Vtr</u>

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22) Construction parameter: positive-declarative -----accomplishment-multiplePredicate SVC
Construction label: svSuObIDALLsuAgobAff-v1 tr-v2tr-EVENTSEQ

Òzó rriá ízè lé

“Ozo rinsed the rice and cooked”

<u>Òzó</u>	<u>rriá</u>	<u>ízè</u>	<u>lé</u>
<u>òzó</u>	<u>rriá</u>	<u>ízè</u>	<u>lé</u>
<u>Ozo.SBJ.AGT/CR</u>	<u>rinsed.PAST.H</u>	<u>rice.AFF.DO</u>	<u>cook.PAST.H</u>
<u>PN</u>	<u>Vtr</u>	<u>CN</u>	<u>Vtr</u>

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•Mediation type contact: CR>CE>IN>AFF

23) Construction parameter: positive-declarative -----accomplishment-multiplePredicate SVC

Construction label: Cauv3objIDv4su-v1 intr-v1 suCr-v2tr-v2suCe_obAff-v3tr-v3obAff-v4intr-v4suAff-CAUSATION_WITH_CAUSEINGENITY

Òzó gì Àzàrí yè òbó khúé ómómó mòsé

"Ozo let Azari use his hands to bathe the baby to be beautiful"

Òzó gì Àzàrí yè òbó khúé ómómó mòsé

òzó gì àzàrí yè òbó khúé ómómó mòsé

Ozo SBJ AGT/CR let Azari CE use PRES L Hand INSTR DO bathe PAST H baby DO AFF be beautiful PAST H

PN V PN V CN Vtr CN Vtr

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• A head driven phrase structure analysis

- Èdó GrammatMatrix (Ogie 2009)
- Norsource GrammarMatrix (Hellan 2003), Hellan and Haugereid 2004)
- Construction Labels (Kropp Dakubu and Hellan 2009, Ogie 2010).

25) Construction parameter: Positive-declarative-----achievement-
multiplePredicate consequentialSVC

Construction label: svsuIDALLsuAg-v1tr-v1obThincrem-v2tr-v2obAff-EVENTSEQ

Òzó gbèn èbé khièn

“Ozo writes and sells books”

<u>Òzó</u>	<u>gbèn</u>	<u>èbé</u>	<u>khièn</u>
<u>òzó</u>	<u>gbèn</u>	<u>èbé</u>	<u>khièn</u>
<u>Ozo.SBJ.AGT/CR</u>	<u>write.PRES.L</u>	<u>book.DO.TH/AFF</u>	<u>sell.PRES.L</u>
<u>PN</u>	<u>Vtr</u>	<u>CN</u>	<u>Vtr</u>

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26) Construction parameter: positive-declarative-----achievement-multiplePredicate-
Instrumental construction

Construction label: mv cv1 v2suIDsuAg-v2obIDsu v3su-v1tr-v1obInstr-v2tr-v2obAff-
v3tr-v3suAff-EVENTINSTR

Òzó yè èvbàré kòkò Àzàrí mòsè

“Ozo used food to raise Azari to be beautiful”

<u>Òzó</u>	<u>yè</u>	<u>èvbàré</u>	<u>kòkò</u>	<u>Àzàrí</u>	<u>mòsè</u>
<u>òzó</u>	<u>yè</u>	<u>èvbàré</u>	<u>kòkò</u>	<u>àzàrí</u>	<u>mòsè</u>
<u>Ozo.SBJ.AGT</u>	<u>use.PRES.L</u>	<u>food</u>	<u>raise.PRES</u>	<u>Azari.AFF.DO</u>	<u>be.beautiful.PRES.L</u>
<u>PN</u>	<u>V</u>	<u>CN</u>	<u>Vtr</u>	<u>PN</u>	<u>Vitr</u>

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Construction labels

- The construction parameter in examples (25) and (26) is explained as follows: the global tags *multiple predicate kernel -SVC-* provides information about constituent type, *achievement* provides information about situation and aspect types, *declarative* provides information about propositional types and *positive* about polarity.
- The construction labels have the following structure: Area1 (in italics for ease of exposition) gives the global labels, the number of verbs in series (*ie sv, sv3, sv4*) as well as argument sharing information (coded by the label *IDALL*) and information about thematic relations holding across the verb in series. Area 2 gives the valence information as well as information about grammatical function and thematic roles (italics and underling are for ease of exposition). Information about the situation type of the construction is provided by Area 3 and is written in capital letters.

Linking of the templates to Attribute Value Matrix (AVM) used in HPSG and all the matrix grammar for example is as follows (example (25) is used for exemplification):

27)

tr →

$$\left[\begin{array}{l} \text{verb} \\ \text{SYNSEMLOCAL.CAT} \left[\begin{array}{l} \text{val} \\ \text{SUBJ } \langle [] \rangle \\ \text{COMP } \langle [] \rangle \end{array} \right] \\ \text{SYNSEMLOCAL.CAT.QVAL} \left[\begin{array}{l} \text{qval} \\ \text{SUBJECT } \textit{subject} \\ \text{OBJECT } \textit{object} \end{array} \right] \end{array} \right]$$

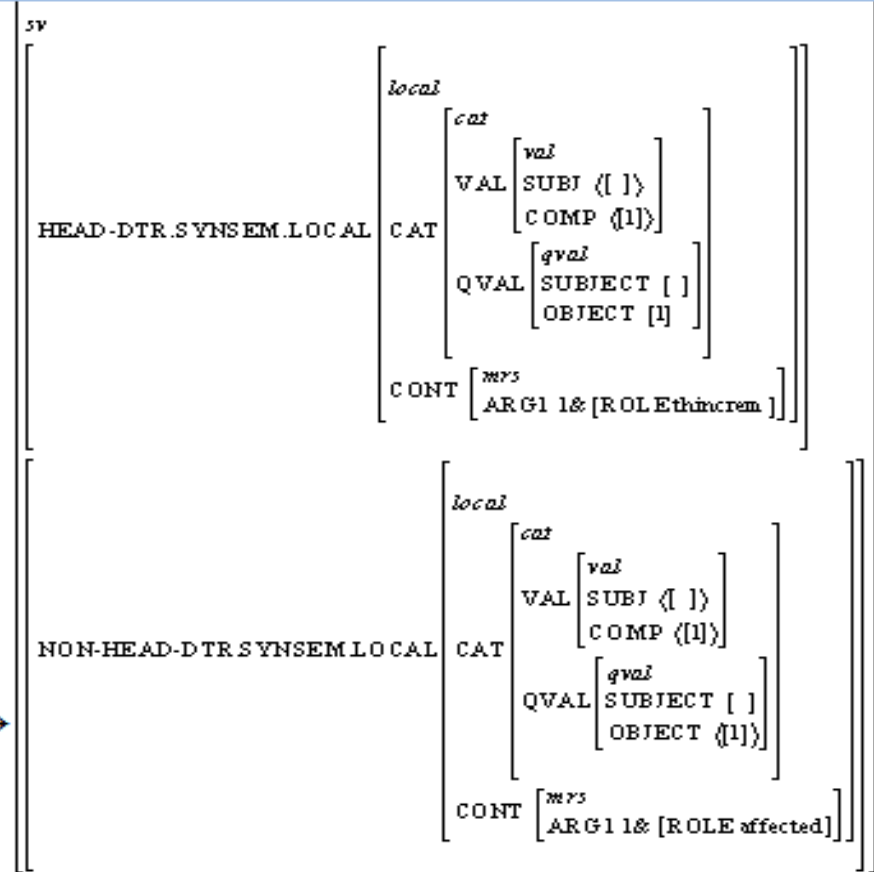
suIDALLsuAg →

$$\left[\begin{array}{l} \text{sv} \\ \left[\begin{array}{l} \text{HEAD-DTR.SYNSEMLOCAL} \\ \text{NON-HEAD-DTR.SYNSEMLOCAL} \end{array} \right] \left[\begin{array}{l} \text{local} \\ \text{CAT} \left[\begin{array}{l} \text{cat} \\ \text{VAL} \left[\begin{array}{l} \text{val} \\ \text{SUBJ } \langle [1] \rangle \end{array} \right] \\ \text{QVAL} \left[\begin{array}{l} \text{qval} \\ \text{SUBJECT } [1] \end{array} \right] \end{array} \right] \\ \text{CONT} \left[\begin{array}{l} \text{mrs} \\ \text{ARG1 1\& [ROLE agent]} \end{array} \right] \end{array} \right] \left[\begin{array}{l} \text{local} \\ \text{CAT} \left[\begin{array}{l} \text{cat} \\ \text{VAL} \left[\begin{array}{l} \text{val} \\ \text{SUBJ } \langle [1] \rangle \end{array} \right] \\ \text{QVAL} \left[\begin{array}{l} \text{qval} \\ \text{SUBJECT } [1] \end{array} \right] \end{array} \right] \\ \text{CONT} \left[\begin{array}{l} \text{mrs} \\ \text{ARG1 1\& [ROLE agent]} \end{array} \right] \end{array} \right] \end{array} \right]$$

•Linking of the templates to Attribute Value Matrix (AVM) used in HPSG and an the matrix grammar for example is as follows (example (25) is used for exemplification:

v1tr-v1obThincrem-v2tr-v2obAff →

EVENTSEQ →



• This is represented formally in a grammarMatrix analysis by two schemas: (cf. Ogie 2009): Verb-serial-compl-phrase schemata

verb-serial-compl-phrase

SYNSEM.LOCAL

CAT	$\begin{bmatrix} \text{cat} \\ \text{HEAD} \begin{bmatrix} \text{verb} \\ \text{TONE high-or-low} \end{bmatrix} \\ \text{VAL} \begin{bmatrix} \text{SUBJ} < [1] > \\ \text{COMPS} < > \end{bmatrix} \\ \text{QVAL} \begin{bmatrix} \text{SUBJECT} [1] \end{bmatrix} \end{bmatrix}$
CONT	$\begin{bmatrix} \text{mrs} \\ \text{HOOK INDEX \#3} \\ \text{RELS} \langle ! [4], [5] ! \rangle \\ \text{SITPAIR-COND} \langle \begin{bmatrix} \text{sitpair-cond} \\ \text{EVENT 1} [4] \\ \text{EVENT 2} [5] \\ \text{TEMP-REL temporal-relation} \\ \text{TEMPORAL time-span} \end{bmatrix} .6 \rangle \end{bmatrix}$

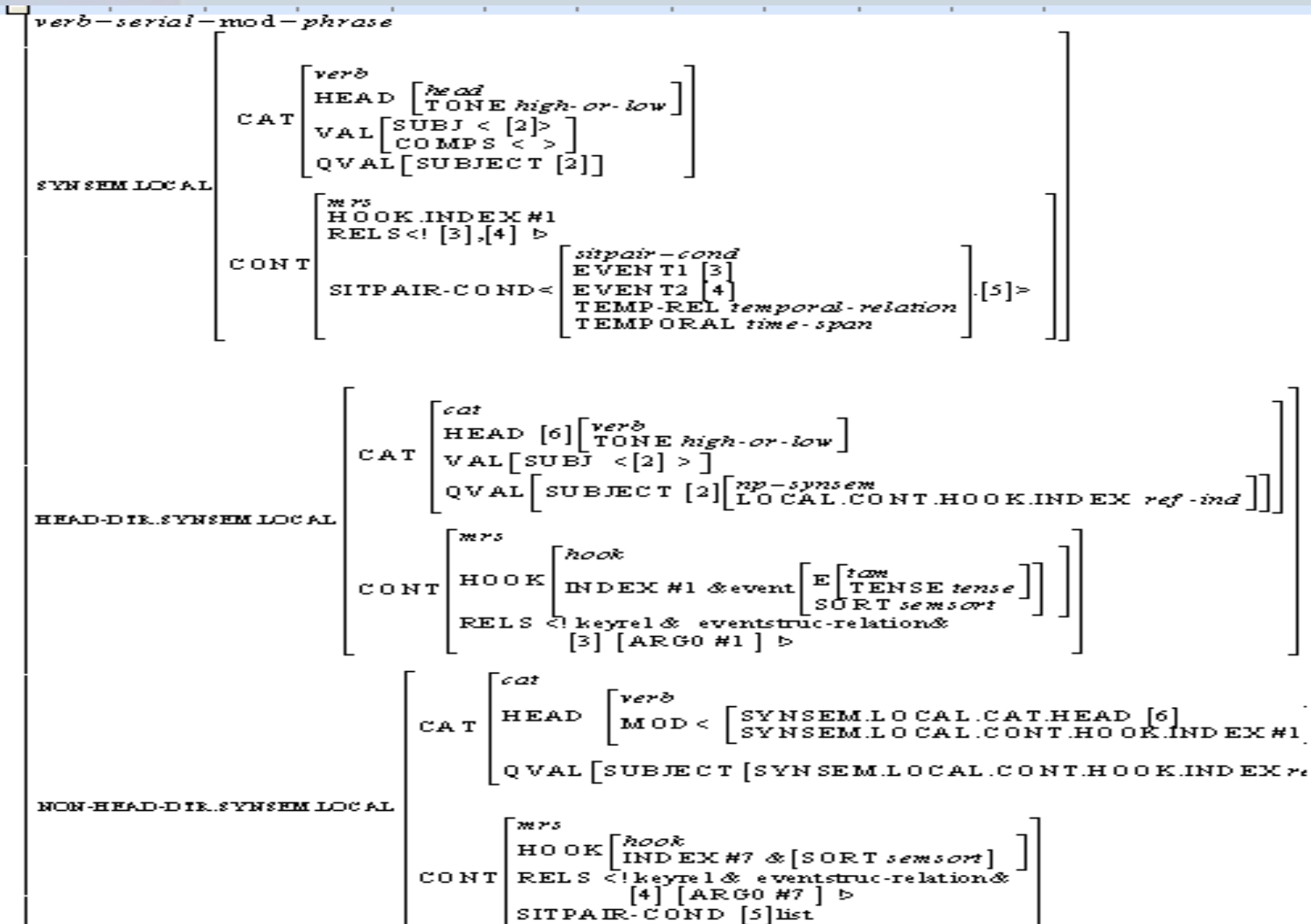
HEAD-DTR.SYNSEM.LOCAL

CAT	$\begin{bmatrix} \text{HEAD} [\text{verb}] \\ \text{VAL} \begin{bmatrix} \text{SUBJ} < [1] > \\ \text{COMPS} < [7] > \end{bmatrix} \\ \text{QVAL} \begin{bmatrix} \text{SUBJECT} [1] \begin{bmatrix} \text{np-synsem} \\ \text{LOCAL.CONT.HOOK.INDEX \& ref-ind} \end{bmatrix} \end{bmatrix} \end{bmatrix}$
CONT	$\begin{bmatrix} \text{mrs} \\ \text{HOOK} \begin{bmatrix} \text{hook} \\ \text{INDEX \#3 \& event} \begin{bmatrix} \text{E} \begin{bmatrix} \text{tam} \\ \text{TENSE tense} \end{bmatrix} \\ \text{SORT semsort} \end{bmatrix} \end{bmatrix} \\ \text{RELS} \langle ! \text{keyrel \& eventstruc-relation\&} \\ [4] [\text{ARGO \#3}] ! \rangle \end{bmatrix}$

NON-HEAD-DTR.SYNSEM.LOCAL [7]

CAT	$\begin{bmatrix} \text{HEAD} \begin{bmatrix} \text{verb} \\ \text{TONE high-or-low} \end{bmatrix} \\ \text{VAL} \begin{bmatrix} \text{SUBJ} < \begin{bmatrix} \text{np-synsem} \\ \text{LOCAL.CONT.HOOK.INDEX \#2} \end{bmatrix} > \\ \text{QVAL} \begin{bmatrix} \text{SUBJECT} \begin{bmatrix} \text{np-synsem} \\ \text{LOCAL.CONT.HOOK.INDEX \#2 \& ref-ind} \end{bmatrix} \end{bmatrix} \end{bmatrix}$
CONT	$\begin{bmatrix} \text{mrs} \\ \text{HOOK} \begin{bmatrix} \text{hook} \\ \text{INDEX \#8} \end{bmatrix} \\ \text{RELS} \langle ! \text{keyrel \& transition-eventstruc-relation\&} \\ [5] [\text{ARGO \#8}] ! \rangle \\ \text{SITPAIR-COND} [6] \text{list} \end{bmatrix}$

Ogie 2009): Verb-serial-mod-phrase schemata

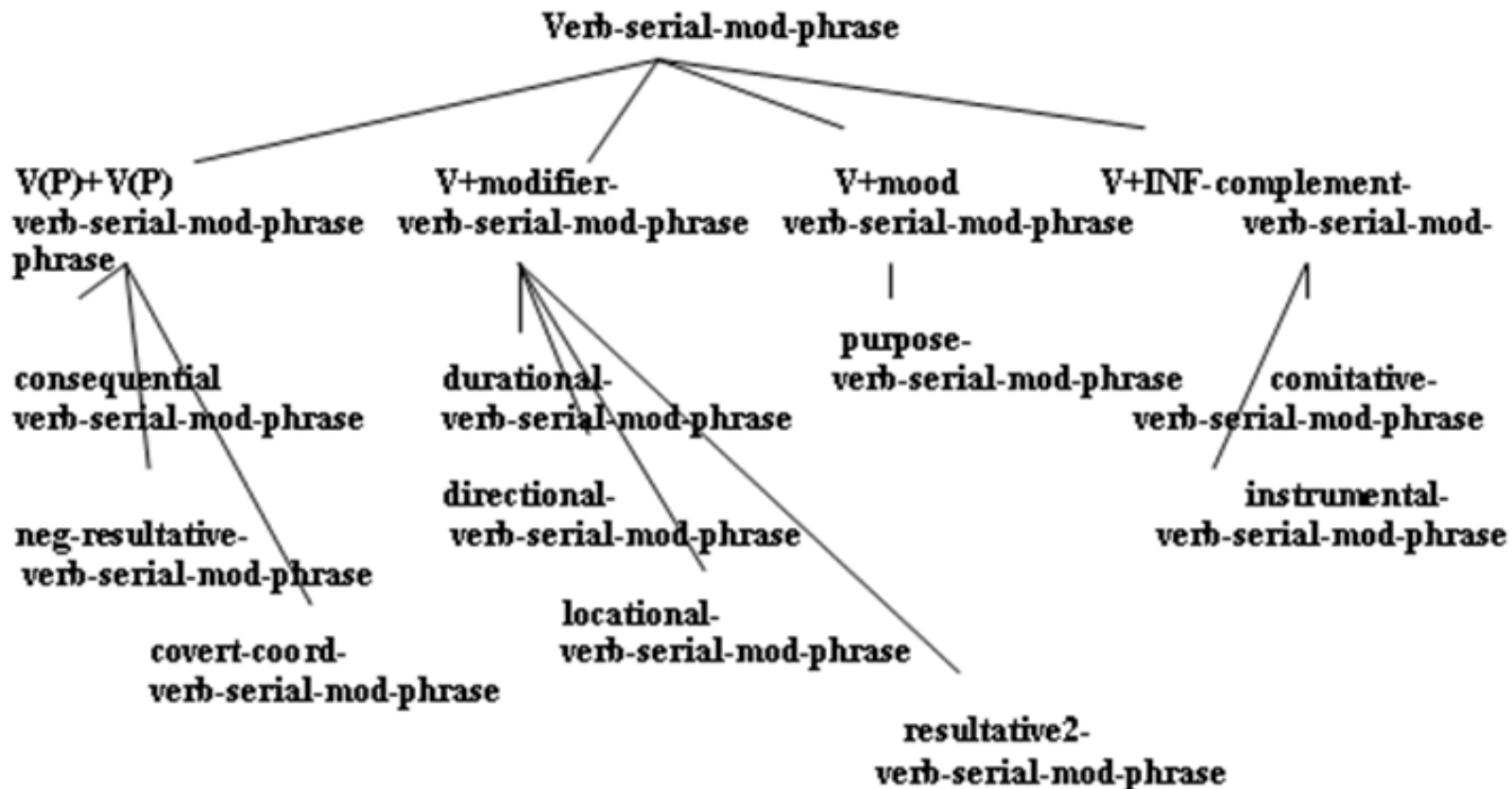


The following subtypes inherit from these schemata

30) A hierarchy of verb –serial-compl-phrase



31) A hierarchy of verb-serial-mod-phrase



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