Ossetian Complex Predicates: Act Naturally (Act II, Event Structure)[1]

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0. Introduction

Iranian languages display a phenomenon called "Complex Predicate" (CoPr hereafter): many concepts that expressed by simple verbal items in European languages in Iranian are introduced by the nominal + verb compounds. This clearly shows that verbal phrases really have (multi)shell structure, as was recently proposed on English data (Larson 1988, Chomsky 1995, 2000 a.o.) This phenomenon also favors up theories of Lexical Decomposition (Hoekstra 2004; Hale & Keyser 1993, 1997, 1998, 2001, Ramchand 2008; Folli, Harley, Karimi 2005, Karimi-Doostan 2004) that have quite a speculative status if one ground them on the basis of European languages only.

1. Aims of the research

It is evident that being constructed of very primitive items, complex predicates can not be further decomposed. This fact poses a challenge:

- Which decompositional technics suits better for Iranian?

This is one of the two most important questions that I am going to discuss in the current paper.
It seems also important to investigate:

- What study of Ossetian CoPrs may contribute to vP structure?

Finally, there is a straightforward quiestion:

- What is the structure for complex predicates?

2. Theories of argument structure in decomposed VPs and their applications

Below I briefly outline some proposals, describing argument structure in light of lexical decomposition theory. The two of them are clearly theoretical systems, H&K's theory (Hale & Keyser 1993, 1997, 1998, 2001) and Ramchand's approach (Ramchand 2008). Some others were built on the data of other Iranian languages (primarily Persian), here I will briefly consider (Folli, Harley, Karimi 2005) and (Karimi-Doostan 2004), that I will attribute as F-H-K and KD respectively.

2.1. The characteristic properties of H&K's theory

- Argument structure relies on the idiosyncratic (lexical class, thematic class,…) properties of underlying elements
- Deadjectival verbs are unaccusatives, denominal verbs are unergatives, (abstract) PP structures feed location/locatum verbs

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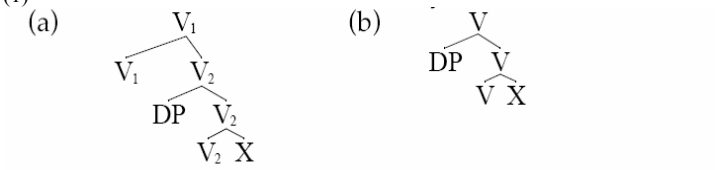
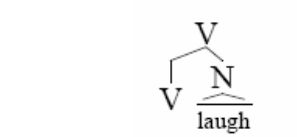
- The structure of deadjectival intransitives (a) stands for transitive, (b) for intransitive variants:

(1)



- The structure for unergative denominals:

(2)



- Denominal verbs (=unergatives) do not participate in transitive-inchoative alternation

("This follows straighforwardly from the fact that the verbal head of the lexical structure of *laugh* projects no specifier, nor does its complement (the noun *laugh*) belong to the type of elements whose members force the appearance of a specifier in the projection of the host verb." H&K, 1998)

- The structure of location / locatum verbs:

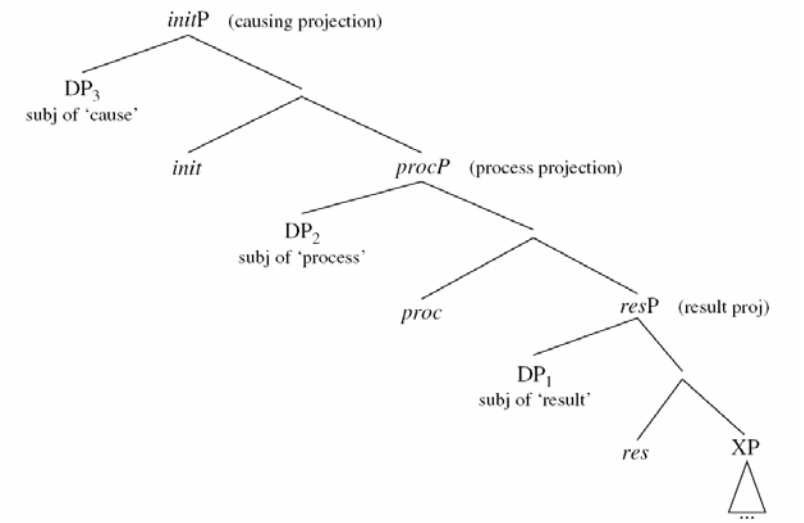
(3)

…

"Our conclusion, in general, is that aspect is orthogonal to argument structure. Whenever we deal with questions of interface and interaction in this domain, we observe that argument structure is for the most part autonomous. Its properties and characteristics are strictly local, being defined in terms of the structural relations of complement and specifier. To be sure, any argument structure configuration associated with an actual predicate in sentential syntax will be interpreted in terms of one or another aspectual type (achievement, accomplishment, etc.) and its arguments will be associated with one or another aspectual role (measure, path, terminus, etc. (Tenny, 1994)). But argument structure is a distinct and separate component of grammar." (H&K 2001)

2.2. The characteristic properties of Ramchand's system:

- Argument structure relies on the event structure
- The three basic parts of argument structure are those that depend on "a causing subevent, a process-denoting subevent and a subevent corresponding to result state":



- "procP is present in every dynamic verb"
- "initP exists when the verb expresses a causational or initiational state that leads to the process"
- "resP only exists when there is a result state explicitly expressed by the lexical predicate"
- Semantic roles are mechanically defined by the type of functional category that project them, in particular:
  - (i) "initP introduces the causation event and licenses the external argument ('subject' of cause = initiator)
  - (ii) procP specifies the nature of the change or process and licenses the entity undergoing change or process ('subject' of process = undergoer)
  - (iii) resP gives the 'telos'or 'result state'of the event and licenses the entity that comes to hold the result state ('subject' of result = resultee)"
- The same DP may be placed in different Spec positions thus receiving different thematic roles
- The same (verbal) root may occupy more than one head position thus assigning different thematic roles
- Those intransitives that compose the roles of initiator and undergoer (and result) can not feed the transitive-inchoative alternation (**Michael ran Karena* **Kayleigh arrived Katherine*)
- Bitransitives are init-proc-res verbs in which possessive relations are established by the resP

…

"I will attempt to show that it is a mistake to take argument structure/event structure facts as a property of the lexicon" (Ramchand 2008: 24)

"The semantics of event structure and event participants is read directly off the structure, and not directly off information encoded by lexical items" (Ramchand 2008: 53)

NB! If a verb, according to Ramchand is built up from some levels representing some subevent each it is hard to expect the further decomposition of adjectival and nominal roots forming CoPrs.

2.3. The characteristic properties of F-H-K's system

- Constructionalist, not projectionist approach
- Agentivity established by the light verb
- If a light verb allows for event structure variation (*xordan*, 'collide'), then the event structure and telicity are established by nominal element in the following way:

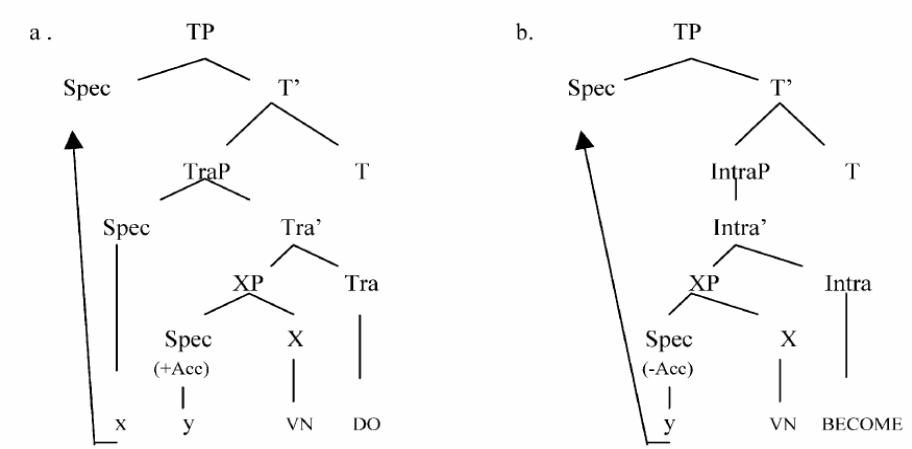
Category of NV	**Telic**	**Atelic**
Non-eventive Noun	*	√
Eventive Noun	Either, depending on the noun	
A/Adv Particle/PP	√	*

- Other light verbs strongly fix the event structure (thus, *shodan* 'become' gives rise only to accomplishments and achievements)
- Light verb in Persian are also responsible for stativity / eventivity and duration in a vP
- Atelic CoPrs are derived by the combination of the non-eventive nominals and a light verb
- Telic CoPrs are construed from prepositions, particals, adjectives and eventive nominals

2.4. The characteristic properties of KD's system

- Transitive and unergative LVCs are formed only with 'DO'-type LVs, while unaccusative CoPrs may be formed with 'DO' or 'BECOME'
- 'DO' type light verbs but not 'BECOME' type light verbs may appear in atelic VPs
- Persian VNs are similar to English gerunds: they can take possessive modifiers (but not determiners), but at the same time they allow adverbial modification and cannot be pluralized
- Nominal elements are responsible for the number and types of arguments
- Light verbs do not determine the thematic properties of CoPrs

(4)



- The internal argument (y) generated in Spec XP, the external argument (x) appears in Spec TraP
- 'DO' (but not 'BECOME') light verbs always assign accusative case; in unergatives the nominative wins the accusative due to priority reasons

3. What are Complex Predicates in Ossetian?

3.1. Distributional Facts

3.1.1. CoPrs = NE + LV

Some (nominal) lexical items can be used either as a part of VP (5-6.a) or in its' "canonical" use, see (5.b) for attribution and (6.b) for head noun:

(5.a)	æž	[$_{VP}$	ænk'ard	kænyn]	(5.b)	[$_{DP}$	ænk'ard	adæjmag]
	I		sad	do.1Sg			sad	man
I feel myself sad.					*a sad man*			
(6.a)	læppu	[$_{VP}$	lænk	kæny]	(6.b)	[$_{DP}$	læppu-jy	lænk]
	boy		swim	do.3Sg			boy-Gen	swim
A boy swims.					*swim of a boy*			

Ossetian constructions like (5-6.a) that exhibit properties as in 3.1.1.-3.1.5. I will address to as **Complex Predicates** (**CoPr**), consisting of a **Nominal Element** (**NE**), *ænk'ard*, and a **Light Verbs** (**LV**), *kænyn*.

3.1.2. Prefixation

Prefixes are specified in (but not restricted to) telicity and are normaly placed on the NE of the CoPrs, (7.a), but they may be attached to the LV as well, (7.b):

(7.a)	æž	zul	a-lyg	kodton	(7.b)	æž	zul	lyg	a-kodton
	I	bread	Pref-cutting	did.1Sg		I	bread	cutting	Pref-did.1Sg
I cut the bread.									

That is allowed only in this particular class of cases that is defined as CoPr. Marking of the nominals with any verbal prefix is totally out in any other construction, cf., for instance, the combination of the verb *kænyn* with the noun *nestle* which does not form a CoPr:

(8.a)	*c'iwtæ	š-axšton	kodtoj	(8.b)	c'iwtæ	axšton	š-kodtoj
	birds	Pref-nestle	did.3Pl		birds	nestle	Pref-did.3Pl
Birds built a nestle.							

3.1.3. Negation

The verbal negative prefix *ne-* (preceding the telic prefixes) is usually located on the nominal part of CoPr (a bit preffered option) or on the LV:

(9.a)	æž	næ-gæp	kodton	(9.b)	æž	gæp	næ-kodton
	I	Neg-jump	did.1Sg		I	jump	Neg-did.1Sg
I did not jump.							

(10.a)	æž	ne-gæp	kodton	(10.b)	æž	gæp	ne-kodton
	I	Neg+Pref-jump	did.1Sg		I	jump	Neg+Pref-did.1Sg
I have not jumped.							

NB! The perfective / negative prefixes can not attach to the NE if it is used not in CoPr, see the following example for the attributive / head noun representation of NEs:

(11.a)	*ne-žærond	adæjmag	(11.b)	*næ-lavar
	Neg+Pref-old	man		Neg-gift
(int.) not an old man			*(int.) not a gift*	

3.1.4. Linear ordering

NE and LV can not be separated by any other material or be reversed (except the second position clitics, see below):

(12)	æž	wyj	fæ-rox	kodton						
	I	this	Pref-forgotten	did.1Sg						
(13.a)	*æž	fæ-rox	wyj	kodton	(13.b)	*æž	wyj	kodton	fæ-rox
	I	Pref-forgotten	this	did.1Sg		I	this	did.1Sg	Pref-forgotten
I forgot it.									

NB! If we are faced with the lexical, not light instance of *kænyn*, 'do', both constraints are not valid:

(14.a)	c'iwtæ	axšton	žnon	kodtoj	(14.b)	c'iwtæ	kodtoj	axšton
	birds	nestle	yesterday	did.3Pl		birds	did.3Pl	nestle
Birds built a nestle yesterday.					*Birds built a nestle.*			

3.1.5. Inability of NE branching

NEs can not take their modifiers:

(15)	Zaur	Fatimajy	p'a	kodta
	Zaur	Fatima.Acc	kiss	did.3Sg
Zaur kissed Fatima.				

(16)	*Zaur	Fatimajy	dyuwæ	p'ajy	kodta
	Zaur	FatimaAcc	two	kiss.Gen	did.3Sg
(int.) Zaur kissed Fatima twice.					

NB! However, the Ossetian dictionary (Abaev 1970) gives us an intersting example where a possessive pronoun may attach to a NE:

(17.a)	(ba-)ævdžyd	kænyn		(17.b)	xi	ævdžyd	kænyn
	(Pref-)responsibility	do			Poss	responsibility	do
to charge smb. with smth.				*to take smth./smb. under ones responsibility*			

NB! The facts listed in sections 3.1.1.-3.1.5. align a specific group of predicates. A combination of a nominal element and light verb either exhibit all these properties and then it is a CoPr, or do not exhibit any of them.

NB! This fluent study of the vP structure in CoPrs shows that NEs are VP-internal heads (not XPs), immediately dominated by the light verbs.

3.1.6. Second position clitics

SP clitics have to be placed between the NE and the LV, if the former start the clause (for instance, in pro-drop sentences):

(18)	fæ-rox	dæ	kodton
	Pref-forgotten	you.SP	did.1Sg
I forgot you.			

3.2. NEs: Adjectives, nouns, onomatopoetics, reduplication

There are three types of NEs in Ossetian, let's consider in brief each of them.

3.2.1. Adjectives

This type seems to be the most productive one: both gradable, (19.a) adjective and non-gradable, (19.b) adjectives may form CoPrs:

(19.a)	æž	ba-darg'	kodton	zyqq	(19.b)	æž	š-rašt	kodton	rædydtæ
	I	Pref-long	did.1Sg	hole		I	Pref-right	did.1Sg	mistakes
I lengthened the hole.					*I corrected the mistakes.*				

(20.a)	darg'	zyqq	(20.b)	rašt	zyapp
	long	hole		correct	answer
long hole			*correct answer*		

NB! The lexicon is operative in the domain of CoPrs: not every adjective can form CoPrs, even if its semantics suits perfectly for this, cf.:

(21.a)	(š-)sættæ	kænyn	(21.b)	*ba-addžyn	kænyn
	Pref-ready	did.1Sg		Pref-tasty	do
to cook, to prepare meal			*(int.) to make the meal tasty*		

3.2.2. Nouns

Noun + LV is also a very productive model.

NB! In this case we find some lexical restrictions on CoPr formation as well, thus the "classic" example of unergatives, *sing* is not a CoPr, cf. the CoPr in (21.a) and non-CoPr in (22.b):

(22.a)	(ba-)aqaž	kænyn	(22b.)	*b/*a-žaryn	kænyn
	Pref-help	did.1Sg		Pref-song	do
to help			*(int.) to sing*		

NB! There is no concrete object noun functioning as NE in CoPrs (*salt, stone, water,…*), only event nominals (that potentially may give rise to result nominals) are allowed in this function.

(23)	jæ	aqaž	adæmæn	wydi	štyr
	his	help	people.Dat	was	big
His help to the people was significant.					

3.2.3. Onomatopoetics and reduplications

Another regular model for CoPr is a combination of light verbs with onomatopoetics that may be reduplicated. As can be seen from the glossing, such onomatopetic items tend to lexicalize into process nouns:

(24.a)	Zaur	(ny-)xšit	kodta		(24.b)	Alan	činyg	(a-)šyr(-šyr)	kodta
	Zaur	Pref-whistle	did.3Sg			Alan	book	Pref-shyr-shyr	did.3Sg
Zaur whistled.					*Alan rustled with a book.*				

3.3. Light verbs

3.3.1. Lexical items for LV

In comparison with Persian, which utilise a vast variety of LVs, nearly all CoPrs in Ossetian are formed with 'do' (*kænyn*) or 'be' (*wyn*) auxiliaries. Rare exceptions from this are CoPrs derived with *kæšyn,*'look'; *lašyn,* 'creep'; *mary,* 'kill', for instance:

(25)	læppu	a-mæšt-æj	mardta	čyždž-y
	boy	Pref-temper-Abl	killed.3Sg	girl-Acc
A boy angered a girl.				

3.3.2. Restrictions on the distribution of 'do' and 'be' LVs

3.3.2.1. Distribution of 'do'

3.3.2.1.1. Unprefixed stems (=imperfective)

Three major types are attested here: intransitive (26), obligatory transitive (27) and alternating (28):

(26.a)	læppu	lænk	kodta		(26.b)	*Zaur	læppu-jy	lænk	kodta
	boy	swim	did.3Sg			Zaur	boy-Acc	swim	did.3Sg
The boy swam.					*(int.) Zaur make the boy swim.*				

(27.a)	*zul	lyg	kodta		(27.b)	læppu	zul	lyg	kodta
	bread	cutting	did.3Sg			boy	bread	cutting	did.3Sg
(int.) The bread was getting cut.					*The boy cut the bread.*				

(28.a)	dwar	gom	kodta		(28.b)	læppu	dwar	gom	kodta
	door	open	did.3Sg			boy	door	open	did.3Sg
The door opened.					*The boy opened the door.*				

They pattern as follows:

(29) Lexical groups formed by the CoPrs without telic prefixes

Intransitive:	**Obligatory Transitive**	**Transitive-Intransitive**
to whistle	*to make a present*	*to worsen*
to jump	*to cut*	*to animate*
to shoot	*to kiss*	*to open*
to surprise	*to injure*	*to enlarge*
to swim		*to illuminate*
to regret		*to grow bold*
to intend		*to angry*
to envy		*to forget*
to make use of smth.		*to sleep*
to snort		*to sale*
...		*...*

3.3.2.1.2. Stems with telic prefixes (=perfective)

Here we observe two major patterns, intransitive and obligatory transitive. The first one is composed from the same items as in the case of imperfective verbs. Verbs that alternate in imperfective become obligatory transitive, on a pair with obligatory transitives in imperfective:

(30.a) læppu a-lænk kodta
boy Pref-swim did.3Sg
The boy swam.

(30.b) *Zaur læppu-jy a-lænk kodta
Zaur boy-Acc Pref-swim did.3Sg
(int.) Zaur make the boy swim.

(31.a) *zul a-lyg kodta
bread Pref-cutting did.3Sg
(int.) The bread got cut.

(31.b) læppu zul a-lyg kodta
boy bread Pref-cutting did.3Sg
The boy cut the bread.

(32.a) *dwar a-gom kodta
door Pref-opened did.3Sg
(int.) The door opened.

(33.b) læppu dwar a-gom kodta
boy door Pref-opened did.3Sg
The boy opened the door.

(34) Lexical groups formed by the perfective prefixed CoPrs

Intransitive:	**Obligatory Transitive**
to whistle	*to make a present*
to jump	*to cut*
to shoot	*to kiss*
to surprise	*to injure*
to swim	*to worsen*
to regret	*to animate*
to intend	*to open*
to envy	*to enlarge*
to make use of smth.	*to illuminate*
to snort	*to grow bold*
...	*to angry*
	to forget
	to sleep
	to sale
	...

NB! The only departure from the intransitive vs transitive dichotomy is given by the so-called emission verbs. Thus, verbs *to rustle, to smoke, to scratch,…* seem to participate in the causative-inchoative alternation in perfective:[3]

(35.a) šyftæ a-šyr-šyr kodtoj
leaves Pref-šyr-šyr did.3Pl
The leaves rustled.

(35.b) Zaur šyftæ a-šyr-šyr kodta
Zaur leaves Pref-šyr-šyr did.3Sg
Zaur rustled with the leaves (lit. Zaur rustled the leaves).

3.3.2.1.3. Passive participle

The lexical border between intransitives and transitives perfectly correlates with that (dis)allowing to derive passive participles. The verbs that are intransitive in imperfective can not derive passive participle, whereas obligatory transitive and alternating in imperfective feed passive participles:

(36.a) *lænk gond
swim do.PartPass
(int.) swum

(36.b) *gærax gond
shot do.PartPass
(int.) shot

(36.c) *mašt gond
sorrow do.PartPass
(int.) sorrowed

(37.a) lævar gond
given do.PartPass
given

(37.b) gom gond
open do.PartPass
opened

(37.c) sættæ gond
ready do.PartPass
cooked/ready/prepared

3.3.2.2. Distribution of 'be'

'Be' gives rise only to intransitive predicates with inchoative meaning. Here I will speak about 'be' having in mind primarily its prefixed variant since otherwise CoPr can be mixed with the nominal predication.

The distribution is as follows: all the verbs that are intransitive and obligatory transitive in imperfective do not allow 'be' in the function of LV. All imperfective-alternating verbs are grammatical with the light verb 'be':

(38) *šyf / læppu a-lænk iš
leaf / boy Pref-wim be.3Sg
(int.) A leaf / a boy has swum.

(39) *zul a-lyg iš
bread Pref-cutting be.3Sg
(int.) The bread got cut.

(40) dwar a-gom iš
door Pref-opened be.3Sg
The door got opened.

…

NB! As one can observe from the examples above, the three selected groups of verbs correlate with the traditionally distinguished unergative, transitive and unaccusative verbs.

Namely, those verbs that are **intransitive in imperfective** are **unergatives**, those that are **obligatory transitive in imperfective** are **transitives**, the **verbs that alternate in imperfective** are **unaccusatives**.

[3] Thanks Ekaterina Lyutikova for attracting my attention at this class of predicates.

The propeties of these three groups are summarised below:

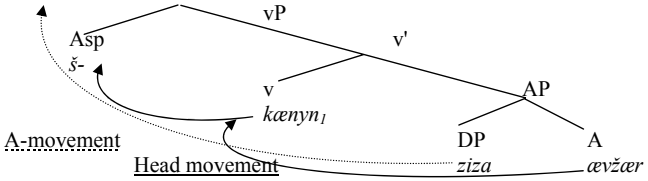
(41) Properties of unergative, unaccusative and transitive CoPrs in Ossetian

	Alternation in Imperfective	Transitivisation in Perfective	Passive Participle	'be'
Unergative	-	-	-	-
Transitive	-	+	+	-
Unaccusative	+	+	+	+

4. Proposal

4.1. Unaccusatives are derived from the state-denoting A-roots that project √P with Internal Arguments[4] in their Specs as Undergoers. The abstract meaning of unaccusative structures is 'the State e attributing to the Undergoer x is bringing into the scene'.[5]

(42.a) AspP — vP structure



(cf. H&K's (1.b) structure)

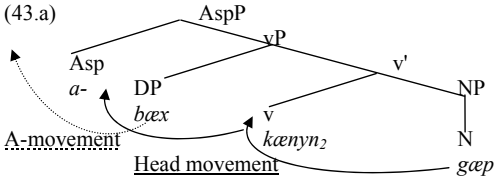
(42.b) [TP *ziza* [T-v-A *ævžær kodta*] [vP t_{Subj} t_H]] — surface structure (imperfective)

meat bad did

The meat spoiled.

4.2. Unergatives are derived from the event-denoting N-roots. The External Arguments are Causers inserted by the light verb. The abstract meaning of unergative structures is 'Causer x initiates the Event e'.

(43.a) AspP — vP structure



(cf. H&K's (2) structure)

(43.b) [TP *bæx* [T-v-A *gæp kodta*] [vP t_{Subj} t_H]] — surface structure (imperfective)

horse jump did

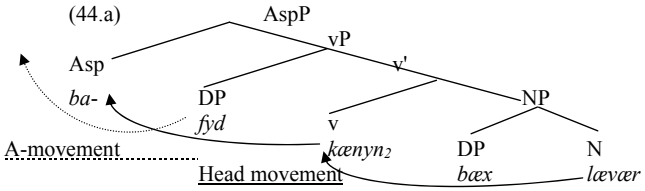
The horse jumped.

[4] IA = Internal Arguments, EA = External Arguments

[5] In this case the "defective" light verb 'do' is used (the one that is responsible for passive structures).

4.3. Transitives have both IAs merged as √P Specs and EAs merged as Causers by the LVs. The abstract meaning of inherent (=non-alternating) transitives is 'Causer x initiates the Event e that affects the Undergoer y'.

(44.a) AspP — vP structure



(44.b) [TP *fyd* [T-v-A *lævær kodta*]H [vP t_{Subj} *bæx* t_H]] — surface structure (imperfective)

father gift did horse

The father gave a horse.

NB! The thematic role ascribed to the theme DP in this case is similar to those expressed by "low" or "internal" genitives in constructions like *X's presenting the horse*:

(45) [NP [DP bæx] [N lævar]]

horse giving

presenting (of) the horse

5. Analysis

5.1. 'do' light verb

5.1.1. External arguments

There are two instances of lexical *kænyn* ('do'): one that assign the agentive theta-role and describes the process of creation, (46.a), and another one that used as a copula in inchoative situations, (46.b):

(46.a) æž kodton dæwæn xærinag

I did.1Sg you.Dat food

I prepared food for you.

(46.b) læppu kodta štyr

boy did.3Sg big

Boy became big.

I claim that these two varities of 'do' are relevant in case of CoPr formation. Agentive/creation 'do' is used when it is necessary to introduce an External Argument. Inchoative 'do' is used as a light verb when one needs to create a CoPr that lacks EAs.

The causative 'do' selects as its complement an event-denoting N projection or state-denoting A projection (depending on its non/alternating status), the external argument merged as a Spec of such causative light verb initiates and controls the event.

NB! This claim is confirmed by the fact, mentioned in 3.3.2.2., let me repeat it:

- **Only those verbs that have EAs, i.e. the ones that either strongly intransitive or strongly tranritive can not be used with *wyn* 'be' copula. All imperfective-alternating CoPrs may be used with *wyn*.**

Thus the predicates the meaning of which demands EA (=unergatives and transitive) do not allow for the 'be' light verb, that is consistent with the well-known inability of 'be' to assign external theta roles.

NB! We receive another confirmation for the claim that there are two different verbs *kænyn*, the causative and the inchoative one from the following constraint on coordination: one can not coordinate the transitive and the unaccusative CoPrs having common LV:

(47.a)	Fatima	šyvællætty	qomyl	kodta	æmæ	žærond	kodta
	Fatima	children	adult	did.3Sg	and	old	did.3Sg
(47.b)	*Fatima	šyvællætty	qomyl		æmæ	žærond	kodta
	Fatima	children	adult		and	old	did.3Sg

Fatima was bringing up her children and getting older.

5.1.2. Internal arguments

On the contrary, IAs are always introduced by the NE.

The important observation concerning Ossetian CoPrs is the following: all Ossetian CoPrs that alternate in imperfective consist of the adjectival NE. All the CoPrs that are created from nouns are either strongly transitive or intransitive, i.e. they can not alternate in imperfective:

(48) Categorial status of NEs and ability to alternate in imperfective

NE category	**A**	**N**
Alternation in imperfective	**+**	**-**

NB! Adjectival heads with a DP being merged in Spec position denote the final state that is predicated to the undergoer DP. This interpretation is not accessible in case of N roots:

(49) [$_{AP}$ [$_{DP}$ ziza] [$_{A}$ ævžær]]
meat bad

~ the meat is spoiled

NB! This views on IAs receive confirmation by the fact stated in 3.3.2.1.3.:

- **Only those CoPrs that have IA, i.e. those that are either obligatory transitive or alternating in imperfective, can derive passive participles.**

This is naturally follows from the fact that the presence of IA is crucial for the passive participle, which describes the result state of such IA.

5.1.3. Summary of analysis

- **The ability of taking EAs is due to the causative variety of the verb *kænyn* ('do'), the ability to take IAs is due to the A value of categorial status of NE.**

(50) External (light cells) and internal (dark cells) argument merge

	Type of lexical category used in CoPr	**Type of 'do' used in CoPr in imperfective**
Unergative	N	Causative
Transitive	N/A	Causative
Unaccusative	A	Inchoative

Trivial consequences of the analysis are:

- ✓ Unergatives are derived by the combination of causative 'do' and N root and thus have only EA
- ✓ Unacusatives are derived by the combination of inchoative 'do' and A root and so have only IA
- ✓ Transitives, either inherent or derived from unaccusatives, are formed by the combination of causative 'do' and N/A roots and thus have both arguments

NB! Only unaccusatives, i.e. those CoPrs that: (i) include A root; (ii) do not imply use of EA, can alternate. Their intransitive variant arises from the combination of A root with inchoative 'do', whereas its transitive counterpart arises from the combination of A root with causative 'do'.

6. More facts about Ossetian CoPrs

6.1. (Im)Perfectivity

6.1.1. Obligatory transitivization of alternating verbs in perfective

(see also examples in 3.3.2.1.1.)

(51.a)	Alan	mæšty	kodta		(51.b)	Alan	*(Zaury)	š-mæšty	kodta
	Alan	angry	did.3Sg			Alan	Zaur.Acc	Pref-angry	did.3Sg
Alan angried.					*Alan has angried Zaur.*				
(52.a)	Mæ	fyd	lægwyn	kodta	(52.b)	Mæ	fyd	a-lægwyn	kodta
	my	father	bold	did.3Sg		my	father	Pref-bold	did.3Sg
My father was growing bold.					*My father made smb. bold.*				

6.1.2. Interpretive differences between imperfectively intransitive and alternating vs transitive verbs after perfectivization

As we see from the example below, the alternating / transitive CoPrs in perfective always describe a new state that results from the overall event. At the same time in case of intransitives we just have a meaning that the action is completed, and no resultant state observed:

(53.a)	Alan	Zaury	š-sæf	kodta	
	Alan	Zaur.Acc	Pref-angry	did.3Sg	
Alan injured Zaur.					→ Zaur has a wound
(53.b)	Alan	s-ævžær	kodta	ziza	
	Alan	Pref-bad	did.3Sg	meat	
Alan spoiled the meat.					→ the meat is spoiled

(53.c)	læppu	a-lænk	kodta
	boy	Pref-swim	did.3Sg

The boy had a swim.

6.1.3. Perfective and negative prefixes are either both on NE or on LV

Examples from 3.1.3. reapeted:

(54.a)	æž	næ-gæp	kodton	(54.b)	æž	gæp	næ-kodton
	I	Neg-jump	did.1Sg		I	jump	Neg-did.1Sg
I did not jump.							
(55.a)	æž	ne-gæp	kodton	(55.b)	æž	gæp	ne-kodton
	I	Neg+Pref-jump	did.1Sg		I	jump	Neg+Pref-did.1Sg
I have not jumped.							

6.1.4. Coordination:

6.1.4.1. Two NEs can not be merged under the same prefix

It is possible to coordinate two perfective CoPrs, either each having its own prefix and LV, (56.a) or having common LV, (56.b) or having two prefixed LVs, (56.c), or common prefixed LV, (56.d):

(56.a)	Zaur	š-art	kodta	æmæ	š-fæždæg	kodta
	Zaur	Pref-flame	did.3Sg	and	Pref-smoke	did.3Sg
(56.b)	Zaur	š-art		æmæ	š-fæždæg	kodta
	Zaur	Pref-flame		and	Pref-smoke	did.3Sg
(56.c)	Zaur	art	š-kodta	æmæ	fæždæg	š-kodta
	Zaur	flame	Pref-did.3Sg	and	smoke	Pref-did.3Sg
(56.d)	Zaur	art		æmæ	fæždæg	š-kodta
	Zaur	flame		and	smoke	Pref-did.3Sg

Zaur fired and smoked.

But the two coordinated NEs can not have common prefix, even this prefix has the same phonological realization in both CoPrs:

(56.e)	*Zaur	š-art	æmæ	fæždæg	kodta
	Zaur	Pref-flame	and	smoke	did.3Sg

(int.) Zaur fired and smoked.

It is possible that this fact is due to the constraint on group prefixation (group flection is allowed). If it is so, we have a prefixed and un-prefixed varities of vP, that can not be coordinated:

(56.f)	*Zaur	art	æmæ	š-fæždæg	kodta
	Zaur	flame	and	Pref-smoke	did.3Sg

(int.) Zaur fired and smoked.

6.1.4.2. Coordination with two and one LVs

Being coordinated with two LVs, when every NE has its own LV, CoPrs can describe either the two simultaneous events or the two events one of which follows after/from another:

(57)	Alan	anæxæn	sard	živæg	kodta	æmæ	urš	kodta
	Alan	whole	life	laziness	did.3Sg	and	white	did.3Sg

(i) *Alan was lazy and was turning grey.*

(ii) *Alan was spending his life in laziness and that was turning him grey.*

When two CoPrs have common 'do' LV, only simultaneous reading accessible:

(58)	Alan	anæxæn	sard	živæg	æmæ	urš	kodta
	Alan	whole	life	laziness	and	white	did.3Sg

(i) *Alan was lazy and was turning grey.*

*(ii) *Alan was spending his life in laziness and that was turning him grey.*

The last example calls for explanation – why it is possible to coordinate predicates with a nominal (a putative unergative) and an adjectival (a putative unaccusative) NEs?

6.2. No alternation in regular verbs[6]

(59.a)	æmbæhšyn	(59.b)	bašættyn
	*to hide smth./smb.; *to hide oneself*		√*to conquer smb.; *to get conquer*

[6] This observation is due to Sergei Tatevosov and Ekaterina Lyutikova, many thanks!!

6.3. No location-locatum verbs

(60.a)	šarγ	*[šarγ kænyn]	(60.b)	tapka/tærhæg/wælvæjnæg	*[tapka/tærhæg/wælvæjnæg kænyn]
	saddle	*(int.) to saddle*		*shelve*	*(int) to shelve*

6.4. Oblique arguments

"Standart" nominal predications with NEs and CoPrs display different patterns to introduce oblique arguments.

6.3.1. Only 'be' licenses (benefactive) datives

Benefactive datives assigned by A roots in nominal predications are not preserved in CoPrs (note, that the variety of 'be' copula used below is not the same as in CoPrs):

(61)	adžinæg	šyvællættæn	ævžær	u	/	*kodta
	sweet	children.Dat	bad	be.3Sg	/	did.3Sg

The sweet was harmful for the children.

(62)	xur	xorž	u	/	*kodta	šyvællættæn
	sun	good	be.3Sg	/	did.3Sg	children.Dat

The sun was helpful to the children.

However, N roots do preserve dative arguments in CoPrs:

(63)	Alan	Zauræn	(b-)aqaž	kodta
	Alan	Zaur.Dat	(Pref-)help	did.3Sg

Alan helped Zaur.

(64)	Alan	Zauræn	(ba-)lævar	kodta	bæx
	Alan	Zaur.Dat	(Pref-)gift	did.3Sg	horse

Alan present a horse to Zaur.

6.3.2. Dative to lative replacement

Sometimes lative noun phrases can replace datives, but this is allowed in imperfective only:

(65.a)	Alan	Zauræn	mæšty	u	/	*kodta
	Alan	Zaur.Dat	angry	be.3Sg	/	did.3Sg
(65.b)	Alan	Zaurmæ	mæšty	u	/	kodta
	Alan	Zaur.Lat	angry	be.3Sg	/	did.3Sg

Alan was angry at Zaur.

(65.c)	*Alan	Zaurmæ	š-mæšty	kodta
	Alan	Zaur.Lat	Pref-angry	did.3Sg

Alan has angried at Zaur.

6.5. Nominal markers on NE

6.5.1. Plural marking

Plural markers productively attach to either N or A NEs adding the meaning of multiple instances of the same situation:

(66.a)	Zaur	xwævkæ	kodta		(66.b)	Zaur	xwævkæ-tæ	kodta
	Zaur	HWÆVKÆ	did.3Sg			Zaur	HWÆVKÆ-Pl	did.3Sg
Zaur coughed.					*Zaur had fits of coughing.*			

The plural marking on the NE marks the iterativity of the situations and not the plurality of the objects. The adjectival NE describes states resulting from the overall process. Thus, the plural marker below means that the one and the same book achived the same state ('is forgotten') more than once:

(67) Fatima činyg rox-tæ kodta
Fatima book forgotten-Pl did.3Sg
Fatima often forgot the book.

Only with the creation/consumption verbs plural marking on NEs implies plurality of the object, but it naturally follows from the fact that some unique object may be created (destroyed) only once:[7]

(68.a) *Fatima čiri ššættæ -tæ kodta
Fatima pie prepared-Pl did.3Sg
(int.) Fatima coocked pies/one pie many times.

(68.b) Fatima čiri-tæ ššættæ -tæ kodta
Fatima pie-Pl prepared-Pl did.3Sg
Fatima coocked pies.

Then, under plural marking of NE, every object can not be attributed its own result state, i.e. the distributive interpretation (ii) is not attested:

(69) Fatima činyg-tæ rox-tæ kodta
Fatima book-Pl forgotten-Pl did.3Sg
(i) *Fatima often forgot books.*
*(ii) *Fatima once forgot many books.*

6.5.2. Comparative

Gradable adjectives used as NEs often attach comparative marking:

(70) æž fe-štyr-dær kodton zyqq
I Pref-big-Comp did.1Sg hole
I increased the hole.

6.5.3. Case

There are some idiomatic uses of oblique case forms attested in CoPrs. Oblique case markers in such CoPrs can not be omitted:

(71) æž ænxæl-mæ kæšyn mæ fydy
I waiting-Lat look.1Sg my father
I'm waiting for the father.

(72) læppu a-mæšt-æj mardta čyzgy
boy Pref-bitter-Abl killed.3Sg girl.Acc
A boy annoyed a girl.

NB! It is intersting, that all examples of this sort are provided not by 'do', but by the minority of "alternative" light verbs.

[7] Thanks Sergei Tatevosov for pointing me this.

7. A bit more analysis

Let me proceed with the problems that have not been explained so far.

7.1. Obligatory transitivization with perfectives

I claim that the inchoative 'do' (*kænyn*$_1$) does not merge with perfective prefixes by semantic reasons. Indeed, inspite of the fact that any Ossetian verb can derive a prefixed form, this is not allowed for *kænyn*$_1$ in its lexical (not light verb) function:

(73.a) Alan kodta axwyrgænæg
Alan did teacher
Alan was becoming a teacher.

(73.b) *Alan š-kodta axwyrgænæg
Alan Pref-did teacher
Alan became a teacher.

(74.a) ziza yvžær u
meat bad be.3Sg
The meat is bad.

(74.b) *ziza š-yvžær u
meat Pref-bad be.3Sg
The meat (has) spoiled .

(74.c) *ziza yvžær š-u
meat bad Pref-be.3Sg

There are only two verbs with such properties in Ossetian, inchoative 'do' (*kænyn*$_1$) and habitual *u* copula, see (73.b) and (74.b-c) respectively.
So, only *kænyn*$_2$ allows prefixation, that is why intransitive adjectival CoPrs are out.

NB! The fact that unergative (=adnominal) CoPrs has no resultant meaning is in agreement with the statement that adjectives in (unaccusative) CoPrs describe the resultant state of the action, whereas nouns (unergative CoPrs) introduce a process.

7.2. No alternation with regular verbs

Why simplex unaccusatives do not alternate? I propose the following answer.
Simplex verbs do not have such split lexical entries as *kænyn* does: they can assign either one (internal or external) argument, or both external and internal arguments at the same time.

NB! We can formulate the following observation: no verb merged as a lexical V item is able to have causative / defective ambiguity, only light verbs are.

7.3. Ossetian copula typology

There is one more instance of a copula that has not been discussed yet. Namely, apart from the *i(š)* variety of the verb *wyn* 'be', there is another kind of 'be', which has the third person singular form *u* (past tense). This *u* instance of 'be' has a clear semantic distribution: it is used in locative and generic contexts. Expression of location is not allowed with other copulas:

(75.a) læppu bælašy sur u
boy tree.Gen near be.3Sg

(75.b) *læppu bælašy sur i(š)
boy tree.Gen near be.3Sg

(75.c) *læppu bælašy sur kæny
boy tree.Gen near do.3Sg

Let me thus summarize:

(76) The typology of copula verbs in Ossetian:

Copula	Function
Causative ‘do’	Transitive / unergative (a)telic predications
Inchoative ‘do’	Unaccusative inchoative predications
i(š) instance of ‘be’	Inchoative (unprefixed) and resultative (prefixed) predications
u instance of ‘be’	Habitual and locative predications

Thus, we have an explanation for the fact that no CoPrs with the meaning *to saddle, to shelve, to lie, to seat* etc. attested in Ossetian:

Only *u* variety of ‘be’ copula is able to express locational meaning but this very copula denotes only states and has no process meaning. This results, as has been said, in its inability to attach prefixes that:

(77.a) ziza yvžær u
meat bad be.3Sg
The meat is bad.

(77.b) *ziza š-yvžær u (77.c) *ziza yvžær š-u
meat Pref-bad be.3Sg meat bad Pref-be.3Sg
The meat (has) spoiled .

7.4. Benefactive dative suppression

The explanation here will proceed in the similar lines as in the previous section. The interpretive difference betweeen the nominal predication in (78.a) and the CoPr, (78.b) can be described as follows. In case of nominal predication we have the “constant” bearer of the adjectival property (‘be bad’) and the addressee that is affected by this property. But the use of this construction as a CoPr suppose that the relation ‘to be bad’ established between *the sweet* and *the children* is subject to change in time due to inchoative reading of the *kodta* LV:

(78.a) adžinæg šyvællættæn ævžær u (78.b) *adžinæg šyvællættæn ævžær kodta
sweet children.Dat bad be.3Sg sweet children.Dat bad did.3Sg
The sweet is harmful for the children. *The sweet harms the children.*

This interpretation is surely not pragmatically correct. If speakers need to express the meaning (78.a) by CoPrs, they would use the transitive variant of this construction with the causative ‘do’ verb:

(78.c) adžinæg šyvællætty ævžær kæny
sweet children.Acc bad do.3Sg
The sweet harms / spoiles the children.

8. Summary

The following factors determine the argument structure of Ossetian CoPr:

- **Lexical class of the NE**
- **Causative / inchoative type of copula**

It seems that no other factor affects argument structure. This generally confirms the proposal of H&K and shows that the conceptualization of some meaning as a state (adjecives) or event (nouns) defines the properties of vPs derived from them.

Moreover, Ossetian clearly favours up some statements concerning light verbs that remained quite a hypothetical when the were tested on the data of European languages:

- **Light v is overtly present in Ossetian (as well as in some other Iranian)**
- **Osettian possesses two instances of light ‘do’ that correspond to causative and defective varities of v recently proposed in (Alexiadou 2001, Mahajan 1997 among others)**

9. Conclusion

The most important facts from Ossetian that receive explanation under current analysis:

- ✓ Ability of CoPrs to exhibit transitive-intransitive alternation
- ✓ Constraint on the alternation of N roots
- ✓ Restrictions on combination with copulas and passive participles
- ✓ Obligatory transitivisation of the perfective forms of alternating verbs
- ✓ Absence of the location/locatum CoPrs

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