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KABARDIAN CAUSATIVES, CORE JUNCTURES, AND CASE MARKING DOMAINS

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0. Introduction

0.1. Kabardian (East Circassian) is an ergative head-marking language spoken in the Caucasus (NW Caucasian, Adyghe-Kabardian subgroup; ca. 500 000 speakers). It is spoken mostly in the Kabardino-Balkar Republic of the Russian Federation. There are also many speakers in the diaspora (Turkey, Jordan, Israel, USA, Kosovo).

0.2. Kabardian is written in a modified Cyrillic script. The principles of translitteration used in this paper can be found in my "Short Grammar of Kabardian" (Matasović 2009a).

0.3. The outline of this paper is as follows: in Section 1, I present the basic typological properties of the causative construction in Kabardian, using Dixon's (2000) typology of causatives. Section 2 discusses the case marking in Kabardian causative construction; it is argued that arguments of causativized verbs preserve the same cases they are assigned by the underlying non-causatives, in accordance with the "dependent-first" strategy of case assignment (Matasović 2009). In Section 3, I address the problem of the juncture/nextus type of Kabardian causatives. A number of arguments is used to show that we are dealing with core coordination. Finally, in Section 4 I discuss a number of theoretical issues relevant to RRG, especially the problem of the domain of case assignment in Kabardian causatives. The apparent problem that case-marked independent RPs in Kabardian are outside the core, which is supposed to be the domain of case assignment, is resolved by positing the clause as the universal case assignment domain for all languages. The typological differences between languages such as English (where only one RP in the clause can receive the Nominative case) and Icelandic (where RPs in different co-ordinated cores can be marked for the Nominative) boil down to the contrast between "head-first" case assignment (as in English) and "dependent-first" case assignment (as in Icelandic and Kabardian).

1. Basic typological properties of Kabardian causatives

1.1. The causative is formed with the prefix *-ġa-*.[1] It is regularly the last prefix in the prefix chain, occurring immediately before the verbal root (the only prefix that can occur between the causative prefix and the root is the is the factitive prefix *-wə-*):

(1) *wə-q'-ya-z-ġa-h-ā-ś*
2sg.U-dir.-3sg.-1sg.A-caus.-carry-pret.-aff.

[1] This prefix, as well as the causative formation itself, are inherited from Proto-Northwest Caucasian. The Abkhaz cognate, the causative prefix *-ra-* is also found in the position immediately preceding the verbal root (Hewitt 2004: 125).

"I made him carry you"

1.2. Causatives can be formed from both transitive and intransitive verbs:

(2) *k'^{w}an* "go": *ġa-k'^{w}an* "send"

(3) *hən* "carry": *hən* "make someone carry"

Note that in many languages the formation of causatives is limited to intransitive bases only (Dixon 2000).

1.3. Causatives can be formed from ditransitive verbs, but these often sound "unnatural", fabricated. The following examples are elicited (I have not been able to find a causative of a ditransitive verb in my text corpus):

(4) *sa wa ābə-xa-m sə-rā-w-z-ġā-t-ā-ś*
I you(sg.) he-pl.-ERG 1sg.-3pl.-2sg.-1sg.-caus.-give-pret.-aff.
"I made you give me to them"

1.4. "Double causatives" (causatives of causatives) are possible, as, e.g., in Turkish:

(5) *sawpə-r (q'a-)v-ā-ś* "the soup was boiling"
soup-NOM (dir.)-boil-pret.-af.

(6) *ś'āla-m sawpə-r q'-yə-ġā-v-ā-ś* "the boy was cooking soup"
boy-ERG soup-ABS dir.-3sg.-caus.-boil-pret.-af.

(7) *śāla-m yə āna-m sawpə-r yə-r-yə-ġa-ġā-v-ā-ś*
boy-ERG his mother-ERG soup-ABS 3sg.-3sg.-3sg.-caus.-caus.-boil-pret.-af.
"The boy made his mother cook the soup"

1.5. Double causatives can also be formed from transitive verbs; this contradicts Dixon (2000: 61), who claims such causatives are unattested; however the following example is elicited from a native speaker - I was unable to find a similar example in my text corpus:

(8) *śāla-m āna-m ɬ'əź-əm pyəsmaw-r*
boy-ERG mother-ABS old.man-ERG letter-ABS

yə-r-yə-ġa-ġā-tx-ā-ś
3sg.-3sg.-3sg.-caus.-caus.-write-pret.-aff.
"The boy made mother make the old man write the letter"

1.6. Causativized verbs are freely combined with other valence-changing affixes, e.g. with applicatives and reflexives:

(9) *pśāśa-m ɬ'ə-m fəz-xa-m z-ā-də-r-yə-ġa-š-ā-ś*
girl-ERG man-ERG woman-pl.-ERG refl.-3pl.-appl.-3sg.-3sg.-caus.-carry-pret.-aff.
"The girl made the man carry himself (together) with the women"
(Kumaxov & Vamling 2006: 57)

(10) *s-x^{w}ə-ya-b-ġa-š-ā-ś*
1sg.-appl.-3sg.-2sg.-caus.-lead-pret.-aff.
"You made him carry it for me"

1.7. Causatives can be formed from all verbal bases, irrespective of their Aktionsart.

1.8. The causative construction does not imply that the causer has control over the caused act. Inanimate causers are possible as well as the animate ones:

(11) *dəġa-m məl-ər yə-ġa-v-ā-ś*
sun-ERG ice-ABS 3sg.-caus.-melt-pret.-aff.
"The Sun melted the ice"

1.9. Almost universally, with animate causees, the caused action is intentional. Kabardian has a verbal prefix used to indicate unintentional action, *?aś'a-*, but this prefix seems to be incompatible with the causative. However, I found one instance of the "involuntary causation" in my corpus:

(12) *bźāχ^{w}yə-pł'ə-r zadyəł-ryə čəc' c'ək^{ʷ}ə-r*
bee-keeper-4 together.rise-and he.goat small-NOM

dəġ^{w}əźə-m q'ə-?aś'ā-ġa-x^{w}-ā-ś
wolf-ERG dir.-invol.3pl.-caus.-put-pret.-af.

"The four bee-keepers rose together and made the wolf (unintentionally) drop the little goat" (an example from the folk-tale about Žabagy Qazanoqo).

Note that the prefix *-?aśa-* modifies the action of the original actor (the wolf), which is the derived causee, rather than the action of the derived actor (the four bee-keepers). This is again an indication that the causee preserves some subject properties.

1.10 Unlike e.g. in Korean (Park 1993), Kabardian causatives imply that the action caused by the causer is actually performed by the causee. This means that it is impossible to say (without contradicting oneself), e.g. "The boy made the girl go, but she did not go". Such a sentence would be possible in Korean.

1.11. The Kabardian causatives can, with some hesitation, be characterized as direct and coercive (Shibatani 1975, Bishop 1992, Dixon 2000): the causative implies a straightforward means of bringing about the effect event, and it may imply the resistance on the part of the causee. However, the implication is not necessary. The causative form can also mean that the causer asked the causee to perform the caused action.

(13) *ł'əźə-m ś'āla-m pχa-r yə-r-yə-ġa-q^{ʷ}ət-ā-ś*
old.man-ERG boy-ERG tree-NOM 3sg.-3sg.-3sg.-caus.-break-pret.-aff.
"The old man made the boy cut the tree" / "The old man had the boy cut the tree"

The preceding sentence can mean both that the old man ordered the boy to cut the tree, but also that he asked him to do so. The correct interpretation must be inferred from the context.

2. Case marking in causative constructions

2.1. Kabardian has two grammatical cases: Ergative/oblique (glossed ERG) and Absolutive (sometimes also called "Nominative", here glossed ABS). Absolutive is the case of the lowest ranking macrorole argument, while Ergative is the case of the other core arguments (it can also mark some adjuncts). Indefinite NPs do not receive case marking. For a RRG account of case marking in Kabardian, see Matasović 2008.

2.2. The case of the arguments in a causative construction is not determined by the argument structure of the causativized verb, which is always transitive, but by the verb from which the causative verb is derived.

2.2.1. If the base is an intransitive monovalent verb, its single argument becomes the causee of the derived causative, and receives the Absolutive, the same case it was in in the underived construction:

(14) *ś'āla-r* *gʷəbġʷa-m* *mā-kʼʷa*
boy-ABS field-ERG 3sg.pres.-go
"The boy goes into the field"

(15) *āna-m* *ś'āla-r* *gʷəbġʷa-m* *yə-ġā-kʼʷa*
mother-ERG boy-ABS field-ERG 3sg-caus.-go
"The mother sends the boy into the field"

This case is unproblematic, since *ś'āla* "boy" is the lowest ranking macrorole of both the base verb and the derived causative verb.

2.2.2. Again, if the base is an intransitive bivalent verb (e.g. *džan* "read"), its single macrorole argument (its undergoer) remains in the Absolutive in the derived causative construction:

(16) *yaġadžākʼʷa-m* *yadžākʼʷa-r* *wəsa-m* *q'-rə-y-ġa-dž-ā-ś*
teacher-ERG student-ABS poem-ERG dir.-3sg.-3sg.-caus.-read-pret.-af.
"The teacher made the student read the poem"

Here the case marking pattern is unexpected, since *wəsa* "poem" is the lowest ranking macrorole in the derived transitive causative verb; however, it remains in the Ergative, since *wəsa* is the non-MR core argument of the base intransitive verb *džan* "read".

2.2.3. Finally, if the base is a transitive verb (e.g. *hən* "carry"), its lowest ranking macrorole (its Undergoer) again remains in the Absolutive:

(17) *ł'əźə-m* *ś'āla-m* *χədžabzə-r* *yə-r-yə-ġa-h-ā-ś*
old.man-ERG boy-ERG girl-ABS 3sg.-3sg.-3.sg.-caus.-carry-pret.-aff.
"The old man made the boy carry the girl"

(18) *ɬ'əźə-m ś'āla-m pχa-r yə-r-yə-ġa-q^{w}ət-ā-ś*
old.man-ERG boy-ERG tree-ABS 3sg.-3sg.-3sg.-caus.-cut-pret.-aff.
"The old man made the boy cut the tree"

Here the lowest ranking macrorole of the derived causative verb is in the Absolutive, since it is also the lowest-ranking macrorole of the base transitive verb.

According to Dixon (2000: 49) Kabardian would belong to a small group of languages in which the causee in a causative derived from a transitive verb retains its A-marking (marking of agents of transitive verbs, or Actors, in RRG terms). As a similar case he adduces an isolate, Trumai (Brasil), in which both the causer and the causee take the ergative marking in a causative construction.

2.3. However, the situation in Kabardian should be seen from a broader typological perspective. In Kabardian, as in many languages, the single macrorole argument of an intransitive verb becomes the Undergoer of the causative verb; this follows from two facts:

1. it is marked by the Absolutive case;
2. it is cross-referenced by the Undergoer form of the person prefix:

(19) *wə-z-aw-ġa-txa*
2sg.U-1sg.A-pres.-write
"I make you write"

(20) *wə-z-aw-h*
2sg.U-1sg.A-pres.-carry
"I carry you"

In causativized transitives, the causee becomes the non-MR core argument, as in French, Turkish, and many other languages; this also follows from two facts:

1. it is marked by the Ergative case, as, e.g., the recipient arguments of the verbs of giving;
2. it is indexed by the non-Undergoer form of the person prefix:

(21) *0-wa-z-ġa-ś'-ā-ś*
3sg.U-2sg.-1sg.-do-pret.-aff.
"I made you do it"

(22) *0-wa-s-t-ā-ś*
3sg.U-2sg.-1sg.A-give-pret.aff.
"I gave it to you"

Note that the form of the 2nd person prefix is different for Undergoers (*wə-*) and for non-MR core arguments (*wa-*).

2.4. There are other languages in which subjects retain some subject properties as causees in causatives, e.g. Japanese subjects preserve their ability to bind the reflexive pronoun *zibun* (Comrie 1985: 336); this is also the case in Kabardian (see 2.3 above):

Taroo ga Hanako ni zibun no hon o watasi-ta
T. Nom. H. Dat. self Gen. book Acc. hand-past.
"Taroo handed Hanako his/*her book"

Taroo ga Hanako ni zibun no huku o ki-sase-ta
T. Nom. H. Dat. self Gen. clothes Acc. wear-cause-past
"Taroo made Hanako put on his/her clothes"

In Qiang (Tibeto-Burman) the original transitive subject preserves its ergative case marking in the causative construction (Dixon 2000: 49):

qa the:-wu pəitsə-e-ze zə-pə:-dza
1sg. 3sg.-Agent cup-one-classifier dir.-buy-caus.1sg.
"I made him/her buy a cup"
(the pronominal suffix to the verb cross-references the causer; however, the causer NP never takes the agentive/subject marker *-wu*. It is the causee (the original Subject) that takes *-wu*. Still, the causer is cross-referenced on the verb as subjects normally are.

2.5. However, in Kabardian, the intransitive "subjects" also remain "subjects". What is special about Kabardian is that in causatives derived from intransitive verbs, the case marking of arguments remains the same as in the non-derived intransitives. If we assume that the causative prefix is the head, and the base verb the dependent element in a complex causative construction, we clearly have what I have termed the "Dependent First" pattern of case assignment (Matasović 2009).

In Korean, we also find the DF pattern of case assignment in causatives formed from both transitive and intransitive verbs (Sohn 1999: 377):

Minho ka [Mia ka/lul wus-key] hay-ss-e.yo
M. NOM M. NOM/ACC laugh-to do.-past-polite
"Minho caused Mia to laugh"

*Minho ka Mia lul /*ka wus-ky-ess-e.yo*
M. NOM M. ACC/*NOM laugh-caus.-past-polite

The following example is from Park (1993: 38):

nay-ka Chelswu-ka say os-ul ip-key ha-ess-ta
I -NOM Chelsu-NOM new clothes-ACC wear-com do-past-dec
'I made Chelswu wear the new clothes'

It is important to note that this pattern of case marking in Korean is possible only in the analytic causative construction (Sohn's "long-form" or periphrastic causatives), but not in the synthetic causative (Park's "lexical causatives", cf. Park 1993), which is comparable to Kabardian causatives. Park (1993: 38ff.) argues that the periphrastic causatives actually involve core coordination.

3. The Juncture and Nexus type of Kabardian causatives

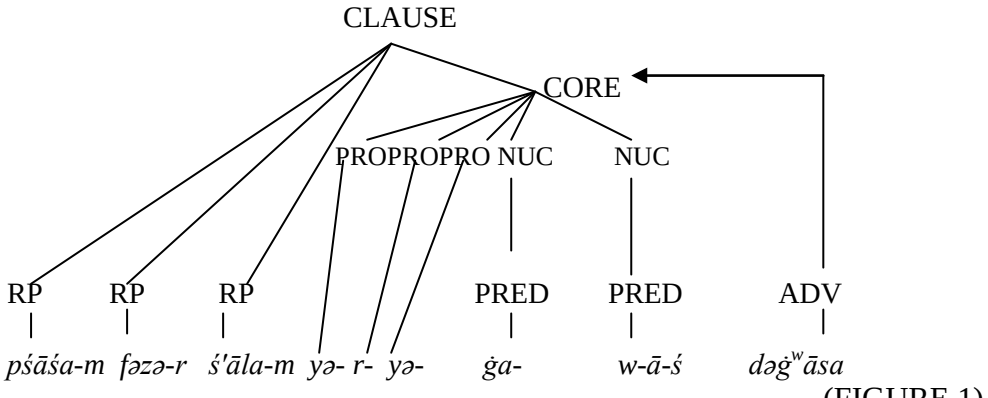
3.1. Previous work on causatives in RRG (Park 1993, Toratani 2002:136ff., Paris 1999), has shown that languages can have several types of causative constructions, involving different types of nexus and different levels of juncture. The interclausal relations hierarchy proposed by RRG (e.g. Van Valin 2005: 206-208) predicts that the closer the connection between the two events, the stronger the syntactic relation between the syntactic elements depicting these events. Since the causative relation of the Kabardian type (direct causation) is at the very top of the hierarchy, we would expect the juncture to be at the nucleus level. And indeed, there are some indications that this is the case. For one thing, nothing except the factitive prefix can intervene between the causative marker and the verbal root, implying the closeness of their connection.

3.2. We may first try a test used by Toratani (2002) in her RRG analysis of Japanese causatives. Temporal modifiers in Kabardian necessarily modify the causative structure as a whole, rather than modifying individual verbal cores (adverbials are core modifiers in the Layered Structure of the Clause). This means that it is impossible to say things like "Today, the girl had the boy read the poem" in the sense that the girl said to the boy today to read the poem at a later stage (perhaps tomorrow).

(23) *pśāśa-m fəzə-r ś'āla-m yə-r-yə-ġa-w-ā-ś dəġ^{w}āsa*
girl-ERG woman-ABS boy-ERG 3sg.-3sg.-3sg.-caus.-hit-pret.-aff. yesterday
"Yesterday, the girl made the woman hit the boy"

The preceding sentence cannot be taken to mean that the girl asked the woman yesterday to hit the boy at some other time; it is implied that both the causing and the caused act were performed yesterday. This could mean that the sentence contains one core rather than two distinct cores, which implies that the juncture level is the nucleus (FIGURE 1).

Since the core and nuclear operators can modify both cores and nuclei independently, this seems to imply that the nexus type is coordination; if it is so indeed, we are dealing with nucleus coordination in Kabardian causatives:



(FIGURE 1)

3.3. However, the arguments adduced in favor of nuclear coordination as the juncture/nexus type are not conclusive. Whereas it may be true that the possibility of modifying two causal events by different temporal modifiers implies that we are dealing with core juncture (two distinct cores being independently modified), the converse does not hold: the obligatory scope of a temporal modifier over the whole causative construction may be the result of different factors, e.g. the culturally specific way in which causation is conceptualized in a particular language. Languages vary greatly with respect to the scope of time modifiers (Bohnemeyer et al. 2007), but it appears that generally individual cores have the "Macro-Event property" (MEP, the property of being necessarily within the scope of temporal modifiers). However, core junctures appear to be of two types (J. Bohnemayer and R. Van Valin, p.c.). In core subordination, both cores often behave as a single core (i. e. the construction has the MEP), while in core coordination they do not (i. e. the construction lacks the MEP: individual subevents expressed by the core juncture can be in the scope of different temporal modifiers). In languages such as Ewe and Thai (Bohnemeyer et alii, to appear: 14-15), periphrastic causatives formed with light verbs have the MEP, i.e. the two parts of the causal event cannot be modified by two different time adverbials (with scope over only one subevent), although the causative constructions in question look like prototypical core junctures. According to the same authors (ibid, p. 20), Japanese is typologically peculiar in requiring the use of multiple Macro-Event expressions to encode the causal relation between the initial cause and the final change of state.

Thus, even if the construction involves two individual cores, it is still possible for the default interpretation of core adjunts to be one in which they modify both cores simultaneously, rather than one fused core. One crucial piece of evidence in deciding the question comes from reflexivization.

3.4. If a causative form is reflexivized, the reflexive prefix *z-* is bound by the causee, rather than by the causer (cp. also (9) above):

(24) *pśāśa-m ś'āla-m z-r-yə-ġa-wəč'-ā-ś*
girl-ERG boy-ERG refl.-3sg.-3sg.-caus.-kill-pret.-aff.
"The girl made the boy kill himself"

The same phenomenon is observed in other languages in which causatives are core junctures, e.g. in Spanish (Paris 1999: 56) and English:

(25) *Juan lo hizo a Pedro peinar-se*
J. him-ACC made to P.$_i$ comb-refl.$_i$
"Juan made Pedro comb him" (litt. "comb himself", i.e. comb Pedro).

(26a) **John made Mary hit himself*
(26b) *John made Mary hit herself*

In (26a), reflexivization cannot operate across the core boundary, but within the embedded core it is perfectly possible (in the second example). This is completely parallel to the situation we have in Kabardian.

In nuclear causative junctures, e.g. in Jakaltek, French, and German, causers can bind reflexives (VVLP 607):

(27) *X-0-w-a'* *maka-'hin-ba* *t-aw-et* (Jakaltek)
past-3abs.-1sg.erg.-make hit--inf1sg.erg-self. aug.-2sg.erg.-to
"I made you hit me" (lit. "I made you hit myself")

This pattern of reflexivization is impossible in Kabardian, which appears to show that Kabardian causatives are core junctures.

3.3. It remains to determine the nexus type of Kabardian causatives. Modal operators, which take the core as their scope, by default modify just the first core in the causative construction:

(28) *s-x^{w}-ya-ġa-txə-r-q'əm*
1sg.-pot.-3sg.-caus.-write-pres.-neg.
"I cannot make him write it"

The preceding example cannot mean *"I do not make him be able to write it".

3.4. The aspectual adverb *q'āna śəmə?awə* "completely" appears to be able to modify just one event in the causative construction (for a similar test in Japanese see Toratani 2002):

(29) *ɬ'əźə-m* *ś'āla-m* *pχa-r* *yə-r-yə-ġa-q'^{w}ət-ā-ś*
old.man-ERG boy-ERG tree-ABS 3sg.-3sg.-3sg.-caus.-to cut-pret.-af.

q'āna śə-mə-?a-wə
rest dir.-neg.-have-ger.
"The old man made the boy cut the tree completely"

According to my informant, the preceding sentence can also mean that the old man forced the boy to cut the tree, but that the tree was not cut completely. The other meaning is also possible: the old man made the boy cut the tree, and the tree is completely cut.

3.5. In the following examples, the aspectual operator (the imperfect suffix *-t-*) has the scope only over the lexical verb, not over the causative prefix:

(30) *pśāśa-m fəz -ər* *ś'āla-m* *yə-r-yə-ġā-wa-t*
girl-ERG woman-ABS boy-ERG 3sg.-3sg.-3sg.-caus.-hit-impf.
"The girl made the woman to keep hitting the boy"

According to my informant, this sentence does not mean that the girl repeatedly asked/forced the woman to hit the boy, who was hit only once. Rather, it must mean that the girl once asked/forced the woman to hit the boy many times.

(31) *dawx^{w}tər- əm səmādža-r x^{w}əśχwa-m* *yə-r-yə-ġā-fa-t*
doctor-ERG sick.man-ABS medicine-ERG 3sg.-3sg.-3sg.-caus.-drink-impf.
"The doctor made the sick man drink the medicine repeatedly"

Again, (31) does not mean that the causing was done repeatedly, but rather than the caused action (drinking) was done repeatedly.

3.6. Since it appears that the operators do not necessarily have scope over both cores (see above), we can determine the juncture/nexus type of Kabardian causatives as core coordination (FIGURE 2).[2]

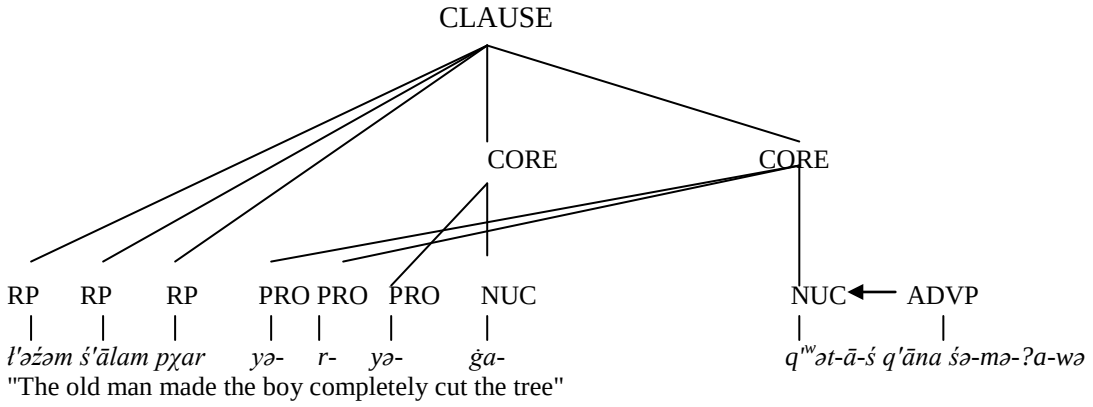


FIGURE 2

4. Domain of case assignment in Kabardian causative construction

4.1. Kabardian is a Head-Marking (HM) language (Nichols 1992). In a HM language, personal affixes are core arguments (Van Valin 2005), and lexical RPs are in the "extra-core position" (or ECP, Van Valin, p. c.); I believe this is the same structural position as the precore/postcore slot, but elements occurring in it are not necessarily focal (i.e. their status in the focus structure projection is not specified). Pre-core slot and Post-core slot are just Extra Core Positions with special features imposed to them by the focus structure projection. In HM languages the ECPs do not necessarily interact with focus structure, which is why there can be more than one of them (for two or more RPs). On the other hand, I believe there is a universal prohibition against two instantiations of a lexical RP within a single clause, which explains why RPs do not occur in ECPs in dependent-marking languages: the only possible occurrence of lexical RPs in those languages is in the argument positions within the core of the clause (which is not the same as the core of the word). Since they have to occur in the core, they obviously cannot occur again in the ECP, because this would violate the restriction against more than one instantiation of lexical RPs in a single clause.

This restriction may appear to be *ad hoc*, since it was introduced to account for a theoretical claim that needs to be justified in the first place, but I believe it is actually

[2] Note, however, that we have shown in 3.3. that Kabardian causatives have the MEP ("Macro-Event Property"), which means that temporal adverbs cannot modify individual cores in the juncture separately. According to Bohnemayer and Van Valin (p. c.) this is expected in core subordination rather than core coordination. If our analysis is correct, Kabardian is typologically unusual (which is hardly news), but it is also highly relevant to Bohnemayer's theory of MEPs.

independently motivated. The prohibition against two or more instantiations of lexical RPs per clause also helps us understand why all languages have reflexives, either as independent pronouns (as English or Croatian), or as bound markers on verbs (e.g. Kabardian). There is, to my knowledge, no language in which the equivalent of English *John saw himself* would be expressed as **John saw John*, because that would represent a violation of the restriction against more than one instantiation of a lexical RP per clause.

4.2. Kabardian allows multiple Absolutive RPs in a clause (in constructions with core coordination):

(32) *ā-r txəł-ər yə-txə-nwə x^wayź-ā-ś*
he-ABS book-ABS 3sg.-write-inf. begin-pret.-aff.
"He began to write the book"
(Kumaxov & Vamling 1998: 201)

If presence of more than one Absolutive RP in a clause is taken as indication of the domain of case assignment, then it would appear that in Kabardian individual cores are domains of case assignment, rather than clauses (as in English, which does not tolerate more than one Nominative RP per clause). In the preceding example, the intransitive verb *x^wayźan* "begin" assigns the Absolutive to *its* only macrorole, the pronoun *ā* "he" (the argument it shares with the linked verb), and the verb *txən* "write" assigns the Absolutive to *its* lowest ranking macrorole (*txəł* "book"); however, since the linked verb is transitive, the sentence above would have been possible with the shared argument (*ā*) in the Ergative (with a slightly different word order), since it is the other core argument of the linked verb. This is the so-called "Dependent-First" (DF) pattern of case assignment (Matasović 2009), which appears to be an areal feature in the Caucasus.

We find the same DF pattern in Kabardian causative constructions. It is easiest to assume that, in causative constructions, the head core (the causative "root") core assigns case to its arguments after the dependent core (the lexical verbal "root") had already assigned case to its arguments. But now an interesting problem comes to mind. Since the lexical RPs receiving case are outside the core, in the "extra-core position", they are outside the domain of case assignment. How can this be?

4.3. In the RRG linking algorithm, case is assigned to RPs before they receive their place in a constructional template (Van Valin 2005: 225-6). This means, e.g., that Wh-words can be assigned case if they are in a precore-slot (i.e. outside the core) in a language in which cores are domains of case assignment (e.g. in Icelandic). The same solution might apply to Kabardian: the case is assigned to lexical RPs in the linking algorithm before the constructional template is applied. But still, I feel a little uneasy about this, since in Kabardian, the lexical RPs will be outside their "case assignment domain" in every single constructional template that exists in the language, which is awkward.

4.4. Therefore, here is a different proposal: let us assume that the clause is the domain of case assignment in all languages, in the sense that case-marked RPs are always within the clause, but that individual cores assign case to their arguments. The

differences between languages like English, on the one side, and Icelandic and Kabardian, on the other, can be reduced to the difference between the Head-first and Dependent-first patterns of case assignment. Here is how.

4.4.1. Consider the following English example:

(33) *She$_{NOM}$ believed him$_{NOM}$ to have hit her$_{ACC}$*

In the English sentence above, the syntactic structure is core coordination. There are two cores, the matrix (*believe*) and the linked core (*have hit*). Since English always applies the Head-first pattern of case assignment, the case is first assigned to the arguments of *believe*, and consequently, the single macrorole of *believe* (*she*) receives the nominative, and the other core argument (*him*) the accusative case. Since *him* is the argument that the matrix core shares with the linked core, its case is already assigned when the linked verb *have hit* takes its turn at case assignment. Consequently, it assigns the accusative case to its remaining argument, and the whole clause ends up with only one argument in the nominative. If the order of case assignment had been reversed, we would have **She believed she to have hit her*, but this would be the consequence of the Dependent-first pattern of case assignment, rather than of the domain of case assignment.

4.4.2. Unlike English, Icelandic allows the Dependent-first case assignment in at least some constructions; the following example is taken from Van Valin 2005: 259:

(34) *Jón-0 tel-ur mér haf-a alltaf þótt*
J.-m.sg.nom believe-3sg.pres. 1sg.dat. have-inf. always think.past.pple.

Ólaf-ur leiðinleg-ur
O.-m.sg.nom. boring-m.sg.nom.
"John believes me to have always considered Olaf boring"

In this example there are two nominative RPs, one in each core. This is because case is first assigned to the arguments of the linked core in which *Ólaf-ur* is the highest ranking macrorole marked by the nominative. In the second step, case is assigned to the arguments of the matrix verb, so that the highest ranking macrorole of the verb *telja* "believe" can be assigned the second nominative in the clause (*Jón*).[3] It is important to note that a language can have the HF pattern of case assignment in some constructions, and the DF pattern (which is cross-linguistically much rarer) in others. In Enga (VVLP 580), the HF pattern in purposive constructions is the default, but the DF pattern is also possible:

(35) *baa-(mé) mená dóko pyá-la pe-ly-á-mo*
3sg.-(ERG) pig def. kill-inf. go-pres.-3sg.-declarative
"He is going (somewhere) to kill the pig"

In (35) the ergative marking on the shared argument is preferred, but not necessary; it is assigned by the linked verb in accordance with the DF pattern of case assignment.

[3] The linked verb *þykja* (pple *þótt*) also takes the dative case of its non-MR core argument (the experiencer *mér*) shared with the matrix verb (Minger 2002: 38).

Note that in Enga it would be awkward to explain the possibility of variable case marking in (35) by involving a difference in case-marking domains, rather than by the difference between the HF and DF strategies.[4]

4.5. If this analysis is accepted, the typological contrast between languages differing in the domain of case assignment is reduced to the difference in the order of case assignment, i.e. to the difference between "Head first" and "Dependent first" patterns of case assignment. As argued elsewhere (Matasović 2008, 2009), this difference is independently motivated in syntactic theory.

[4] In principle, one could perhaps argue that the ergative marking in (35) implies that only one Absolutive RP per clause is allowed, hence that the clause is the case marking domain. If the ergative on *baa-* is omitted, on the other hand, then one might say that the individual cores are domains of clause assignment, each of them permitting one Absolutive (unmarked) RP. But then it is difficult to see why the Ergative is disfavored when the linked verb is "to get" rather than "to kill" (VVLP 580): this clearly shows that it is the logical structure of the linked verb that is crucial to the issue of case assignment, i.e. that we are dealing with the DF pattern of case assignment, and that the clause is the domain in Enga. As Van Valin justly observes (VVLP 581), if the core were the domain, it would be impossible for the linked verb to affect the case assignment of the matrix verb in examples such as (35).

REFERENCES

Bishop, N. "A Typology of Causatives, Pragmatically Speaking", in: S. J. J. Hwang & W. R. Merrifield (eds.), *Language in Context: Essays for Robert E. Longacre*, SIL & The University of Texas at Arlington, 1992: 295-304.

Bohnemeyer, J. et alii "Principles of event segmentation in language: The case of motion events", *Language* 83, 3/2007: 495-532.

Bohnemeyer, J. et alii "The macro-event property: The segmentation of causal chains", to appear in: J. Bohnemeyer and E. Pederson (eds.), *Event representation in language and cognition*. Cambridge: Cambridge University Press.

Colarusso, J. *A Grammar of the Kabardian Language*, University of Calgary Press, Calgary 1992.

Cole, P. "The grammatical role of the causee in universal grammar", *IJAL* 49: 115-133.

Comrie, B. "Causatives and Universal Grammar", *Transactions of th ePhilological Society* 1974: 1-31.

Comrie, B. "The syntax of causative constructions: cross-language similarities and divergences", in: Shibatani, M. (ed.), *Syntax and Semantics, Vol VI: The grammar of causative constructions*, Academic Press, NY 1976: 261-312.

Comrie, B. "Causative verb formation and other verb-deriving morphology", in: T. Shopen (ed.) *Language Typology and Syntactic Description*, III, C.U.P., Cambridge 1985: 309-348.

Dixon, R. M. W. "A Typology of Causatives: Form, Syntax, and Animacy", in: R. M. W. Dixon and A. Aikhenvald (eds.), *Changing Valency*, C.U.P., Cambridge 2000: 30-83.

Hewitt, G. *Introduction to the Study of the Languages of the Caucasus*, Lincom, Munich 2004.

Klimov, G. A. *Vvedenie v kavkazskoe jazykoznanie*, Nauka, Moskva 1986.

Kumaxov, M. A. *Sravnitel'no-istoričeskaja grammatika adygskix (čerkesskix) jazykov*, Nauka, Moskva 1989.

Kumaxov, M. A. (ed.) *Kabardino-čerkesskij jazyk (I-II)*, Izdatel'skij centr Èl'-Fa, Nal'čik 2006.

Kumaxov, M. A. & K. Vamling, *Dopolnitel'nye konstrukcii v kabardinskom jazyke*, The Lund University Press, Lund 1998.

Kumaxov, M. A. & K. Vamling, *Èrgativnost' v čerkesskix jazykax*, Malmö University, Malmö 2006.

Matasović, R. "Transitivity in Kabardian", in: R. D. Van Valin Jr. (ed.), *Investigations of the Syntax-Semantics-Pragmatics Interface*, John Benjamins, Amsterdam 2008: 59-74.

Matasović, R. "A new typology of control constructions within the framework of Role and Reference Grammar", in: *Studies in Role and Reference Grammar*, Lilián Guerrero, Sergio Ibáñez-Cerda, Valeria A. Belloro (editors), México City: Universidad Nacional Autónoma de México, 2009: 305-318.

Matasović, R. *A Short Grammar of Kabardian* (pdf): http://www.ffzg.hr/~rmatasov 2009a.

Minger, D. *An Analysis of Grammatical Relations and Case Marking in Icelandic*, MA Thesis, UC Davis 2002, downloadable from the RRG website.

Nichols, J. *Linguistic Diversity in Space and Time*, The University of Chicago Press, Chicago 1992.

Paris, L. A. *The Spanish Causative Construction 'hacer-infinitive'. A Role and Reference Grammar Description*, MA Thesis, Buffalo 1999, downloadable from the RRG website.

Park, K. *Korean Causatives in Role and Reference Grammar*, MA thesis, Buffalo 1993, downloadable from the RRG website.

Shibatani, M. *A linguistic study of causative constructions*, Indiana University Press, Bloomington 1975.

Sohn, H-M. *The Korean Language*, CUP, Cambridge 1999.

Toratani, K. The morphoyntax and the logical structures of compound verbs in Japanese, Ph.D. (Buffalo 2002), downloadable from the RRG website.

Van Valin, R. *Exploring the Syntax-Semantics Interface*, CUP, Cambridge 2005.

VVLP = Van Valin, R. & LaPolla, R. *Syntax. Structure, Meaning, and Function*, CUP, Cambridge 1997.

WALS = *The World Atlas of Linguistic Structures*, ed. by M. Haspelmath *et alii*, CUP, Cambridge 2006.