

GAPPING AND SOME AGREEMENT PUZZLES
Konstantin I. Kazenin
Moscow State University and University of Tübingen
kazenin@philol.msu.ru

1. In general, two approaches to Gapping exist. The first one treats Gapping as a deletion phenomenon (what undergoes deletion, under this approach, can be either a bare head, as e.g. Chao 1987 suggests, or a phrase, e.g. an IP, after extracting remnants out of it). Under the second approach, no deletion takes place in constructions with Gapping. Instead, the remnants of Gapping (e.g. Subject + Object) are generated as kind of a non-standard constituent, which does not include the verb (and other "gapped" elements, if there are any) at any stage of the derivation. Within the generative framework, such approach is developed by Zoerner (1995). Most informally, the deep structure which Zoerner assigns to constructions with Gapping can be represented in (1'):

- (1) Robin eats beans, and Kim rice.
(1') Eats [[Robin, beans] and [Kim, rice]]

The verb occurs only once in this deep structure, being combined with coordination of pairs of arguments of the first and the second conjunct (some details of Zoerner's analysis will be discussed in section 4). Outside the generative framework, a similar approach to Gapping is developed in the Categorical grammar (see Steedman 1990, 2000).

My purpose is not to evaluate the particular assumptions and technicalities of the above-mentioned analyses, but rather to claim that there is evidence, up to now mostly overlooked in studies on Gapping, which favors the "non-deletion" approach to Gapping in a crucial way. This evidence comes from constructions which can schematically be represented as in (2):

- (2) [Subject₁ + X₁] + [Subject₂ + X₂] + Verb_{plural}

I will first briefly consider this construction in Dargwa, an SOV language of the Caucasus, and then in more detail in Russian. In Russian this construction is clearly distinguished from Gapping, but still shows some non-trivial similarities with Gapping, both in syntax and in semantics. In section 4 I will claim that these similarities can be easily accounted for as soon as, following Zoerner, we postulate a structure depicted in (1') as the deep structure for Gapping. Both Gapping and the construction represented in (2) could then be derived from (1'). In contrast, the "deletion" analysis of Gapping cannot account for the similarities between Gapping and the construction in (2).

2.Dargwa

Dargwa is an ergative language, where the verb demonstrates class agreement with the Absolutive NP. As expected for SOV languages (see Ross 1970, Maling 1972, Zoerner 1995, among many others), Gapping takes place in the first clause, producing the order SO + SO + V. Crucially, the verb takes plural class agreement, even if in

each clause the Absolutive NP is singular:

(3)

dul	mutal,	dil	rasul	ma1Ha1[Qalalij
I:ERG	Mutal.ABS(1Cl)	you:ERG	Rasul.ABS(1Cl)	to.Makhachkala

b-/*w-ata1Ribda
1Cl.PI-/*1Cl.Sg-send.PAST

I sent Mutal to Makhachkala, and you (sent) Rasul (to Makhachkala).

The singular class agreement is impossible, as shown in (3). Note that in the monoclausal construction taking any subject-object pair from (4) singular class agreement is the only possibility:

(4)

dul	mutal	ma1Ha1[Qalalij	(*b-/)w-ata1Ribda
I:ERG	Mutal.ABS(1Cl)	to.Makhachkala	(*1Cl.PI-/)1Cl.Sg-send.PAST

I sent Mutal to Makhachkala.

Now imagine that (3) is base-generated as coordination of two clauses, with subsequent deletion of the verb in the first clause. Obviously, in each clause singular class agreement of the verb would be expected. But then it would be left unexplained why the verb which is retained after Gapping takes plural class agreement.

Explaining the agreement becomes less of a problem if (3) is analyzed according to Zoerner (or in the spirit of the Categorical grammar). In that case (3) gets a monoclausal structure which comprises coordination of the "S+O" constituents:

(5) [S₁ O₁] & [S₂ O₂] V

The plural agreement of the verb in this structure can be accounted for if only it is assumed that the verb takes a plural form either whenever it combines with two (or more) Absolutive NPs, be that coordination of bare Absolutive NPs, as in (6), or coordination of non-standard constituents which involve Absolutive NPs, as in (5):

(6) S₁ [O₁] [O₂] V

Of course, this result can be achieved by different frameworks in different ways. Unfortunately, neither Zoerner nor students in Gapping who work within the categorial framework suggest any discussion of agreement phenomena, and neither am I going to propose any particular account of Dargwa class agreement, a rather complex phenomenon by itself, in the present paper. My only point is that the plural agreement cannot be accounted for under the deletion approach to Gapping, as there the verb will not cooccur with two patients within one clause at any level of representation.

3.Russian

Consider Russian sentences in (7):

(7)a.

Maše	podarili:	Vasja knigu,	a	Kolja kompakt-disk
Masha.DAT	presented.PL	Vasja book.ACC	but	Kolja CD.ACC

Vasja presented Masha a book, and Kolja a CD.

b. Zavtra poedut: Kolja v Moskvu, a Vasja v Peterburg
 tomorrow will.go.PL Kolja to Moscow but Vasja to StPetersburg
 Tomorrow Kolja will go to Moscow, but Vasja to StPetersburg.

c. Včera kupili: Vasja žurnal, a Kolja slovar'.
 yesterday bought.PL Vasja journal but Kolja dictionary
 Yesterday Vasja bought a journal, and Kolja a dictionary.

In these sentences the verb takes plural subject agreement and is combined with a pair list, which includes subjects and objects in (7a,c) and subjects and directional PPs in (7b). Again, the subject in each pair is singular. Thus treating (7a-c) as coordination of clauses, with subsequent deletion of the verb in one of them, cannot explain the agreement.

Note that the verb in (7a-c) is not the only components which is not repeated in both conjuncts. The Dative NP in (7a) and the adverbs in (7b-c) also are taken, so to say, "out of the brackets". When an NP taken "out of the brackets" is interpreted distributively, i.e. corresponds to different entities in different conjuncts, it takes plural form:

(7)d. Kupili podarki: Vasja Maše, a Kolja Svete.
 bought.PL present.PL Vasja Masha.DAT but Kolja Sveta.DAT
 lit. (They) bought presents: Vasja to Masha, but Kolja to Sveta.

This sentence allows two interpretations: either each person bought several presents, or each bought one present.

Semantically, the sentences in (7) resemble Gapping: in each pair, the leftmost component is interpreted as a contrastive topic, and the rightmost component as a focus. Actually these sentences are interchangeable with "canonical" Gapping constructions:

(8) a. Vasja podaril Maše knigu, a Kolja kompakt-disk
 Vasja presented.SG Masha.DAT book.ACC but Kolja CD.ACC
 Vasja presented Masha a book, and Kolja a CD

b. Kolja poedet zavtra v Moskvu, a Vasja v
 Kolja will.go.SG tomorrow to Moscow but Vasja to
 Peterburg
 StPetersburg

Kolja will go tomorrow to Moscow, and Vasja to StPetersburg.

Syntactically, (8) and (7) differ in agreement and in linear position of the verb. The plural verb in (7) must take the position on the margin of the list of pairs; in contrast, the singular verb in (8) has to intervene between the topic and the focus of the first pair (thus creating the order standard for gapped sentences of SVO languages: SVO + SO). The plural agreement of the verb in (8) is prohibited:

(9) a. *Vasja podarili Maše knigu, a Kolja kompakt-disk
 Vasja presented.PL Masha.DAT book.ACC but Kolja CD.ACC
 Vasja presented Masha a book, and Kolja a CD

b. *Kolja poedut zavtra v Moskvu, a Vasja v
 Kolja will.go.PL tomorrow to Moscow but Vasja to
 Peterburg
 StPetersburg
 Kolja will go tomorrow to Moscow, and Vasja to StPetersburg.

The singular agreement of the verb in (7) is impossible, too:

(10) a. *Maše podaril Vasja knigu, a Kolja kompakt-disk
 Masha.DAT presented.SG Vasja book.ACC but Kolja CD.ACC
 Vasja presented Masha a book, and Kolja a CD

b. *Zavtra poedet: Kolja v Moskvu, a Vasja v Peterburg
 tomorrow will.go.SG Kolja to Moscow but Vasja to StPetersburg
 Tomorrow Kolja will go to Moscow, but Vasja to StPetersburg.

To conclude, we see that, apart from Gapping, Russian possesses a construction where the plural verb combines with topic-focus pairs, each of them involving a (possibly, singular) subject. This construction corresponds to the scheme in (2) and will be called "pair-list construction" below.

Note that pair-list constructions, at least superficially, look very similar with the deep structure which Zoerner assigns to Gapping. Now I would like to claim that pair-list constructions demonstrate some further similarities with Gapping as well.

3.1. Locality

It is well known that Gapping obeys Subjacency (cf. Neijt 1979). Although some dependents of the verb can undergo Gapping together with it, they cannot belong to an island. The examples in (11)-(12) demonstrate this for Russian Gapping:

(11) *Kolja sel na poezd, iduščij v Peterburg, a Vasja v
 Kolja sat on train going to StPetersburg but Vasja to
 Moskvu
 Moscow

Kolja took the train which was going to StPetersburg, and Vasja (took the train which was going) to Moscow.

(12) *Jaušjol kogda prišjol Petja, a ty Vasja
 I left when came Pete but you Vasja
 I left when Pete came, and you (left when) Vasja (came).

The corresponding pair-list constructions with plural agreement are impossible, too:

(13)*Seli na poezda iduščie Kolja v Peterburg,
 sat.PL on train.PL going.PL Kolja to StPetersburg
 a Vasja v Moskvu
 but Vasja to Moscow

lit. (They) took trains which were going: Kolja to StPetersburg, and Vasja to Moscow.

(14)*Ušli kogda prišli ja Petja, a ty Vasja.
 left.PL when came.PL I Pete but you Vasja

lit. (They) left when (they) came: I Pete, but you Vasja.

Russian Gapping also satisfies the Tensed Clause constraint: dependents which undergo Gapping together with the matrix verb can refer to an infinitive complement (15), but not to a tensed complement (16):

(15) Ja xoču poexat' v Moskvu, a Kolja v Peterburg.
 I want to.go to Moscow but Kolja to StPetersburg
 I want to go to Moscow, but Kolja (wants to go) to StPetersburg.

(16)*Jaskazal čto poedu v Moskvu, a Kolja v
 I said that I.will.go to Moscow but Kolja to
 Peterburg.
 StPetersburg

I said that I will go to Moscow, but Kolja (said that he will go) to StPetersburg.

The pair-list constructions with plural verb obey the Tensed Clause condition as well:

(17) Xotjat poexat' Kolja v Moskvu, a Vasja
 want.PL to.go Kolja to Moscow, but Vasja
 v Peterburg.
 to StPetersburg

lit. (They) want to go: Kolja to Moscow, but Vasja to StPetersburg.

(18)*Skazali čto poedut: Vasja v Moskvu, a Kolja v Peterburg.
 said.PL that will.go.PL Vasja to Moscow but Kolja to StPetersburg

lit. (They) said that (they) will go: Vasja to Moscow, but Kolja to StPetersburg.

So far the observed parallelism between Gapping and pair-list constructions merely shows that both obey locality constraints. This is so because tensed clauses introduced by the complementiser *čto* behave as islands elsewhere in Russian syntax as well; thus, they normally block wh-extraction (see Franks 1995):

(19)*Kuda Vasja skazal, čto poedet?
 where Vasja said that will.go

Where did Vasja say that he will go.

However, it is not the case that wh-extraction is blocked by any Tensed complement in Russian. It is possible from complements introduced by the complementiser *čtoby*, cf.:

(20) *Kuda ty xočeš čtoby Vasja poexal?
 where you want COMP Vasja go
 lit. Where do you want that Vasja goes?

Whatever the explanation for this asymmetry between the two complementizers could be, it is important that this asymmetry does not exist either in Gapping or in pair-list constructions. The sentence in (21) shows that Gapping cannot "eat into" a *čtoby*-clause, and (22) demonstrates that in pair-list constructions, a dependent of a *čtoby*-clause cannot be an element of the list:

(21) *Petja xočet čtoby Vasja poexal v Peterburg, a Kolja
 Pete wants COMP Vasja goes to StPetersburg but Kolja
 v Moskvu
 to Moscow

Pete wants Vasja to go to StPetersburg, and Kolja (wants for Vasja to go) to Moscow.

(22) *Xotjat čtoby Vasja poexal Petja v Peterburg, a Kolja
 want.PL COMP Vasja goes Pete to StPetersburg but Kolja
 v Moskvu
 to Moscow

lit. (They) want Vasja to go: Pete to StPetersburg, but Kolja to Moscow.

Thus in complex sentences Gapping and pair-list constructions are constrained identically, and not in the way other island-sensitive phenomena are constrained in Russian.

Gapping in Russian can also "eat into" NPs, deleting the head noun and retaining its dependent:

(23) Ja pročital pis'mo ot Vasi, a ty ot Koli.
 I read letter from Vasja but you from Kolja
 I read a letter from Vasja, and you (read a letter) from Kolja.

Dependents of NPs can function as separate pair-list elements as well, cf.:

(23') Pročitali pis'ma: Vasja ot Oli, a Kolja ot Svety.
 read.PL letters Vasja from Olja but Kolja from Sveta
 lit. (They) read letters: Vasja (a letter) from Olja, and Kolja (a letter) from Sveta.

Finally, Gapping and pair-list constructions show parallelism with respect to PPs: Gapping cannot affect a preposition retaining the dependent NP (24), and in pair-list constructions prepositions cannot be separated from their dependents as verbs and nouns can (25):

(24) *Vasja poexal v Moskvu, a Kolja Peterburg.
 Vasja went to Moscow but Kolja StPetersburg
 Vasja went to Moscow, but Kolja (went to) StPetersburg.

(25) *Poexali v Vasja Moskvu, a Kolja Peterburg.

went(PL) to Vasja Moscow, but Kolja StPetersburg
lit. (They) went to: Vasja Moscow, and Kolja StPetersburg.

To conclude, we see that Gapping and pair-list constructions are constrained in an identical way, but partly differently from wh-movement.

3.2. The non-identity requirement

It is well known that Gapping does not allow that identical dependents of the verb be retained in both sentences, cf.:

- (26) Vasja kupil cvety Maše, a Kolja (*cvety)
Vasja bought flowers Masha.DAT but Kolja (*flowers)
Svete.
Sveta.DAT

Vasja bought flowers for Masha, but Kolja (*flowers) for Sveta.

The same constraint is operative in pair-list constructions: no identical constituent can be repeated within the members of the list; instead, every such constituent has to be taken "out of the brackets":

- (27) a. Kupili cvety Vasja Maše, a Kolja Svete.
bought.PL flowers Vasja Masha.DAT but Kolja Sveta.DAT
lit. (They) bought flowers: Vasja to Masha, but Kolja to Sveta.

- b. *Kupili Vasja cvety Maše, a Kolja cvety
bought.PL Vasja flowers Masha.DAT but Kolja flowers
Svete.
Sveta.DAT

lit. (They) bought: Vasja flowers to Masha, but Kolja flowers to Sveta.

3.3. Conjunctions

Russian Gapping is impossible with the standard conjunction *i* 'and'; it requires the conjunctions *a* or *no* 'but' (semantically, *a* corresponds to German *sondern*, and *no* to *aber*):

- (28) *Vasja podaril Maše knigu, i Kolja kompakt-disk
Vasja presented.SG Masha.DAT book.ACC and Kolja CD.ACC
Vasja presented Masha a book, and Kolja a CD.

In pair-list constructions, *i* 'and' is prohibited, too, *a/no* being required instead:

- (29) *Maše podarili: Vasja knigu, i Kolja kompakt-disk
Masha.DAT presented.PL Vasja book.ACC and Kolja CD.ACC
Vasja presented Masha a book, and Kolja a CD.

It looks as if no other type of coordination in Russian (including coordination without

deletion, with subject deletion, with object deletion, with VP/IP deletion) show this kind of preference towards *a/no: i* is also possible there, choice between the conjunctions being semantically motivated.

Thus we can conclude that Russian pair-list constructions, being semantically close to constructions with Gapping, show a number of non-trivial syntactic similarities with Gapping, too. The next section suggests a preliminary discussion of possible ways of analysis of Russian pair-list constructions in their relation to Gapping.

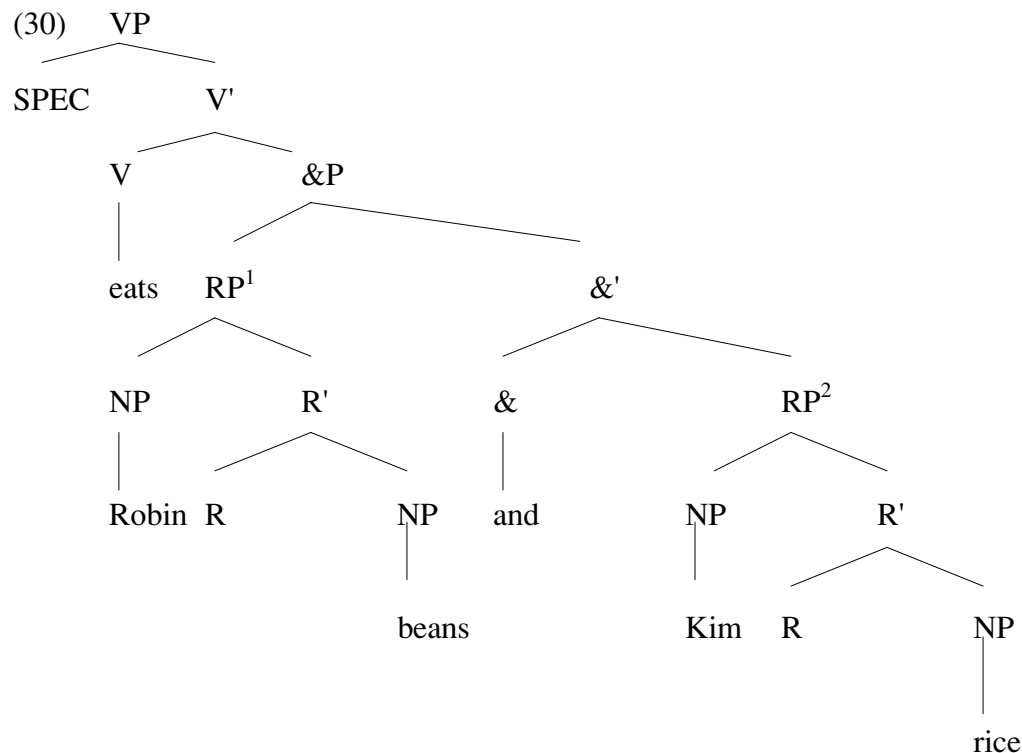
4. Towards an analysis

As already stated above, treating pair-list constructions as coordination of clauses (with subsequent deletion of the verb in all clauses but one) does not give any possibility to explain why the verb obligatorily is in the plural in such constructions. The alternative way of analysis is to assume that the only verb of a pair-list construction combines with a coordinate structure where each conjunct is a non-standard constituent, e.g. a constituent of the type "S + O" in (7c). Although the idea of "non-standard constituents" looks strongly unorthodox, the theory of coordination proposed by Zoerner (1995) suggests a possible implementation of this idea within the generative framework.

As mentioned in section 1, Zoerner does not consider pair-list constructions (which possibly do not exist in the languages which he treats). An analysis which accommodates non-standard constituents is developed by Zoerner for Gapping. Below I will briefly introduce Zoerner's treatment of Gapping, and then suggest that pair-list constructions can be derived from the same structure as Zoerner proposes for Gapping. Although the latter result would require some additional stipulations, I believe that the analysis is on the right track, as the parallelism between Gapping and pair-list constructions which we have observed above will fall out for free under it. In the end I will show that the proposed approach also is able to accommodate the plural form of the verb in Gapping constructions of SOV languages like Dargwa.

The key assumption of Zoerner's analysis is that a language can have a special category which Zoerner calls "Relation Phrase"(RP). The head of an RP (R^0) lacks features by definition. For case to be assigned to the elements in the Spec and the Comp of the RP, R^0 has to inherit features from some other head. Conditions under which this inheritance takes place are defined by Zoerner in a certain configurational way and will not be discussed here.

If, for example, an RP can inherit features from a verb, any pair of arguments of that verb can occupy the Spec and the Comp of that RP. This enables Zoerner to assign the following deep structure representation to English sentences with Gapping of a transitive verb:



The two RPs, each consisting of a subject and an object, are coordinated in (30) (note that coordinate structure is treated by Zoerner as a phrase which is headed by the marker of coordination '&' and has conjuncts in its Spec and Comp; Zoerner also suggests a mechanism which makes sure that subcategorization requirements of the verb are satisfied in (30)).

Of course, this structure does not account for the surface SVO + SO order in English constructions with Gapping. To derive this order, Zoerner has to view, first, movement of RP¹ into the Spec of the VP (this violates the Coordinate Structure Constraint, but Zoerner eliminates it, deriving its effects, where they are observed, from some other principle(s)). Further on, the subject and the object of RP¹ move into the Spec of Agr_SP and Agr_OP, respectively. In this way, agreement of the verb with the subject as well as the SVO order is derived.

What is remarkable about the structure in (30) is that there are good reasons to assign this structure also to Russian pair-list constructions; e.g. it would exactly match the structure we would like to assign to (7c), where the pair-list consists of subjects and objects. First, the word order in (30) reflects the one of (7c), as the verb takes the position on the margin of the pair-list. Second, and more importantly, assigning the same deep structure to Gapping and pair-list constructions would automatically predict the parallelism between these constructions which we have observed above — in whatever way the properties of Russian Gapping mentioned in section 3 are accounted for, they will expected in pair-list constructions as well.

There is, however, one big problem with (30) as the structure for Russian pair-list constructions: one has to make sure that plural agreement of the verb is accountable under such structure. Definitely, in Russian pair-list constructions the subject of RP¹ cannot move into the Spec of the Agr_SP, as in such case agreement of the verb with

that (possibly, singular) subject would be predicted, contrary to fact (also this would derive an incorrect word order).

One possibility to overcome this problem would be to suggest that the Spec of the Agr_SP in pair-list constructions is empty, and the verb gets kind of a "default" plural agreement, both subjects remaining in their RPs. But there is evidence that the agreement of the verb in pair-list constructions actually is not quite "default". This becomes clear when at least in one of the conjuncts the subject is not third person. The following rule is operative: if one of the conjuncts has first person subject, the verb takes first person plural agreement (31a); if one of the conjuncts has second person subject, but none has first person subject, the verb takes second person plural agreement (31b):

(31)a. Zavtra poedem ja v Moskvu, a ty/Vasja v Peterburg
tomorrow **we**.will.go I to Moscow but you/Vasja to StPetersburg
lit. Tomorrow (we) will go: I to Moscow, but Vasja/you to StPetersburg.

b. Zavtra poedete ty v Moskvu, a Vasja v Peterburg
tomorrow **you(pl)**.will.go you to Moscow but Vasja to StPetersburg
lit. Tomorrow (you.pl) will go: you(sg) to Moscow, but Vasja to StPetersburg.

This shows that the agreement of the verb depends upon person values of the subjects inside the RPs. If we still want to keep the word order in (30) as the surface word order of Russian pair-list constructions, we will have to suggest that what moves into the Spec of the Agr_SP in such constructions are not constituents (subjects), but rather their features (on the possibility of movement of features, see Chomsky 1995, Holmberg 1997). If features of both subjects move, the agreement of the verb depends upon their combination.

Since Russian allows Gapping on a par with pair-list constructions, one will have to acknowledge that the structure in (30) allows two options for agreement: either the subject of RP¹ moves into the Spec of the Agr_SP, or features of both subjects move.

Of course what I have just sketched above is but a hint on a potential solution, which would need to be carefully worked through from the technical side. However, a couple of further remarks can be made even at the present stage.

First, it can be noted that if we view movement of features in (30), we will have to acknowledge that it is possible in Russian on a par with usual movement of a constituent, viz. the subject of the leftmost RP, into the Spec of the Agr_SP, the latter option materializing in Gapping.

Second, it can be noted even at the present stage that the agreement by means of movement of features is not universally possible. Thus, among SVO languages it can be allowed for Russian, but not for English, as otherwise English would be expected to have pair-list constructions as well. The same asymmetry would be observed between SOV languages. Thus, in Germanic SOV structures Gapping never triggers plural agreement of the verb, cf. German:

(32)Ich glaube, dass Robin Fish, und Kim Reis isst/*essen.

In contrast, we have seen in section 2 that Dargwa requires plural agreement of the verb in such constructions. Thus one can hypothesize that in German, in line with Zoerner's proposal, the subject of the first RP conjunct moves into the Spec of the Agr_SP, but in Dargwa features of both subjects move instead. (Note that in SOV languages the two alternatives are not distinguished by word order, as they are in SVO languages.) As far as V1 languages are concerned, by now I do not possess any example of a language of that class that has plural verb agreement in Gapping.

5. Conclusion

In Russian and Dargwa, we have found constructions with rather strange agreement properties schematically represented in (2): the verb takes a plural form, although the subject in each conjunct is singular. In Dargwa, such agreement is the only option for Gapping. In Russian, the construction demonstrating this agreement pattern is distinguished from "standard" Gapping. However, we have observed that it has some crucial similarities with Gapping, and that these similarities can be accounted for if Gapping and the construction in (2) get identical deep structure representation. But this is possible only when the structure assigned to Gapping does not include coordination of clauses with subsequent deletion of the verb, but rather views coordination of "non-standard" constituents, e.g. constituents of the type S+O, combined with a single verb.

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