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## **Agreement in Role and Reference Grammar: a Typology of Possible Targets**

This paper presents a sketch of a theory of agreement within the framework of Role and Reference Grammar and proposes an implicational universal that can be formulated rather elegantly due to RRG's conception of the layered structure of the clause. It is argued that, in the RRG framework, controllers of agreement are always elements represented in the Constituent Projection, while targets of agreement may be represented both in the Constituent Projection and in the Operator Projection. On the basis of a sample of 300 languages, we propose an implicational universal stating that languages cannot have agreement on operators, unless they also have agreement on syntactic elements represented on the constituent projection (the converse does not hold). This claim can be shown to have very few apparent counter-examples, and holds for both the domains of the NP (RP) and the Clause. It lends further support to the distinction between operator projection and constituent projection, which is one of the foundations of RRG's approach to syntax.

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### **1. Is there a RRG theory of Agreement?**

Role and Reference Grammar (RRG) is one of the most important functionalist, typologically-oriented syntactic theories in contemporary linguistics.<sup>1</sup> It has been successfully applied to many languages and to a large number of syntactic phenomena, but very little work in the RRG framework has been dedicated to agreement. Only two references in the RRG Bibliography Online ([http://www.acsu.buffalo.edu/~rrgpage/rrg/RRGBib\\_for\\_2015\\_final.pdf](http://www.acsu.buffalo.edu/~rrgpage/rrg/RRGBib_for_2015_final.pdf)) contain the word "agreement" and none contain the word "concord" (the term largely synonymous with "agreement" in traditional grammar). Works in the RRG

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1 A previous version of this paper was read at the International Conference on Role and Reference Grammar in Tokyo University, in July 2017. I would like to thank the organizer, Toshio Ohori, Robert D. Van Valin, Jr., as well as the participants of the conference for their comments and feedback to my theses.

framework that do treat agreement (e.g. Kailuweit 2008, Belloro 2012, Bentley, Ciconte and Crus 2013) discuss specific issues, such as grammatical relations that trigger agreement (“Privileged Syntactic Arguments” (PSAs) or semantic macroroles rather than the traditional notion of ‘subject’), but do not develop a comprehensive theory of agreement. The intention of this paper is to present a sketch of a theory of agreement within the framework of RRG and to propose an implicational universal that can be formulated rather elegantly due to RRG’s conception of the layered structure of the clause (cf., e.g., Van Valin 2005: 3–30). It is based on a sample of 300 languages from all continents and from more than fifty families (Matasović, in press).

For reasons of space, we shall assume that the reader has some basic knowledge of the key concepts of RRG, such as the Layered Structure of the Clause (LSC), the distinction between the Operator Projection (OP) and the Constituent Projection (CP), etc. (for these notions see Van Valin and LaPolla 1997, Van Valin 2005).

## 2. What is Agreement?

Agreement is a “systematic covariance between a semantic or formal property of one element and a formal property of another” (Corbett 2006: 4, cf. also Moravcsik 1978, 1988, Wechsler 2015: 309). This definition can also be stated in more formal terms:

*The target Y agrees with the controller X in the syntactic domain D if and only if the presence of the feature A on X triggers the presence of A on Y if both X and Y are in the domain D.*

In the remainder of this paper, we shall be using the key terms mentioned in that definition; they can be illustrated in the following example from Croatian:

- (1) *Marija vol-i*                      *zgodn-e*                      *dečke-e*  
 Marija love-3SG.PRES    beautiful-ACC.PL    boy-ACC.P  
 “Marija loves handsome boys”<sup>2</sup>

In (1), the subject (or “PSA”) *Marija* is the controller of agreement in the features person and number on the verb (*voli*), which is the target. The domain of person/number agreement is the clause; the head noun *djevojke* is the controller of number/case agreement on the adjective (*zgodne*), which is the target of this agreement pattern, and its domain is the noun phrase (NP).

2 An anonymous reviewer pointed out that the original example (1) proposed in the manuscript of this article, *Ivan voli zgodne djevojke* (“Ivan loves beautiful girls”) “could be considered as sexist by some readers”, and so it was replaced by a more neutral one. However, one should never jump to conclusions about gender roles from simple onomastic conventions.

This definition of agreement can easily be used in the RRG framework, and serve as a basis for the theory of agreement. A RRG theory of agreement should: a) capture all of the universal features of agreement systems without imposing features on languages in which there is no evidence for them, and b) represent comparable patterns of agreement in different languages in comparable ways (cf. Van Valin 2005: 3 on a general theory of clause structure). Our definition allows us not only to compare agreement systems across languages, but also to capture important differences of agreement patterns found in different languages, e.g. the differences in possible targets and controllers, the differences in syntactic domains showing agreement, and the differences in grammatical features involved in agreement.

In typological literature on agreement (e.g. Corbett 2006, Matasović 2014, Wechsler 2015) the clause and the noun phrase are usually claimed to be the principal domains in which this syntactic process is manifested. Thus, English is said to have number agreement in the domain of the NP (*this flower* vs. *these flowers*), but person/number agreement in the domain of the clause (*the boy sings* vs. *the boys sing*). However, the layered structure of the clause and of the NP (or RP, Referential Phrase),<sup>3</sup> posited by RRG, allows us to define the exact syntactic domains of agreement more precisely: the Nucleus, the Core, the Clause and the Sentence are all potential domains of individual syntactic rules and processes, including agreement. Moreover, RRG posits three independent projections, on which syntactic elements are represented: the Constituent Projection (CP), the Operator Projection (OP) and the Focus Structure Projection (FSP). The CP contains the syntactic elements defined by immediate constituent analysis through standard tests for constituency: substitution, permutation and coordination (see, e.g., Van Valin 2001: 110–119). The OP contains syntactic elements that have scope and whose primary function is to modify different layers of the clause and the NP (Van Valin 2004: 8–9); for example, aspect is a nuclear operator, modifying the nucleus of the clause (usually the verb), while tense is a clausal operator, modifying the clause (i.e. the core, consisting of the verb and its arguments, and the periphery, which usually contains various adverbials, fronted question words, etc.).<sup>4</sup> Finally, the information structure of the sentence, especially the information-bearing units such as the topic and the focus, is represented in the FSP.

Two of the three projections posited by RRG, CP and OP, can contain elements involved in agreement.<sup>5</sup> Moreover, there is an interesting asymmetry between controllers and targets: controllers are always elements of the Constituent projection, while targets can be both constituents and operators (note

3 For reasons explained by Van Valin (2008) the term “noun phrase” should be replaced by “referential phrase” in RRG; while accepting Van Valin’s arguments, we shall continue to use the traditional term and its abbreviation (NP) in order not to confuse readers who are unfamiliar with the current literature on RRG.

4 For a list of operators and their domains, as posited by RRG, see the Appendix below.

5 In some languages, e.g. in Moseţen (on which see below), elements in the FSP can also be involved in agreement, but such cases are marginal and will be disregarded in the rest of this paper. Moreover, all elements in the FSP are also represented in the other two projections, but this cannot be said for the elements of the OP and the CP.

also that some elements in RRG appear on both the CP and the OP). The goal of this paper is to develop a typology of the possible targets and controllers of agreement in the RRG framework.

### 3. The Agreement Target Universal

The task of the theory of agreement is to determine how languages differ with respect to possible targets, controllers and syntactic domains, as well as features that may be involved in agreement. In this paper we shall focus on possible targets of agreement, as RRG allows us to posit an implicational universal, supported by the analysis of the languages in our sample. Let us call it *Agreement Target Universal* (henceforth ATU):

*Languages cannot have agreement on operators, unless they also have agreement on syntactic elements represented on the constituent projection (the converse does not hold).*

ATU can be understood in two senses, strong and weak; in the *strong* sense, it holds for *every* agreement domain individually. It states, for example, that in any language, there cannot be agreement on operators in the Clause unless there is also agreement on constituents in the Clause, and the same holds for Core, NP, and other possible domains of agreement. In the *weak* sense, a language cannot have agreement on operators unless it also has agreement on constituents in *at least some* syntactic domain. In this sense, a language could have agreement on operators in the NP and no agreement on elements of the constituent projection of the NP; however, the ATU would still not be violated if that language had agreement on elements of the constituent projection in the Clause (say, person/number agreement on verbs).

ATU may be valid in both strong and weak senses, but it is certainly more difficult to prove in the strong sense, and it will not be attempted to do so in this article. While there may be a few counter-examples to ATU in the strong sense, in the weak sense it is virtually exceptionless.

### 4. Possible targets of agreement

In this paragraph, we shall review the possible targets of agreement found in the languages in our sample (Matasović, in press). First, let us look at the elements in the CP that can be targets of agreement.

#### 4.1 Elements in the constituent projection:

In many languages, including Croatian (2), we find agreement in person/number expressed on the verb (the Nucleus), with the verb's subject as the Controller and the Core as the domain of agreement.

- (2) *Marija*            *udar-a*            *Ivan-a*  
 Marija.NOM.SG hit-3.SG.PRES    Ivan-ACC.SG  
 “Marija hits Ivan”

This pattern is found only in Dependent-marking languages, in which the arguments of the verb are independent lexical items in the Core, rather than being bound markers on the verb. In Head-marking languages bound pronominal affixes are arguments, and free NPs are (optional) clausal adjuncts (Van Valin 2005: 17); hence, arguments do not need to be controllers of agreement (adjuncts can be controllers as well). This is what we find in Abkhaz (NW Caucasian, Chirikba 2003: 38), where the controllers of agreement in gender/number/person are adjunct NPs, the targets are arguments, expressed as prefixes on the verb, and the domain of agreement is the Clause (2):

- (3) (*sara lara*)            *jə-lə-s-ta-0-jt'*  
 I    SG.F            3SG.O-3SG.F.IO-1SG.S-give-AOR.-DYN  
 “I gave it to her”

Agreement can also occur between the arguments of a verb in the subordinated clause and the nucleus of a verb in the matrix clause, as in Tsez (NE Caucasian, Corbett 2006: 66). In this language, the absolutive argument of the matrix clause, expressed by a gender prefix (*b-* in 4)), agrees with the absolutive argument in the embedded clause. Thus, in (4), the matrix verb *bixxo* ‘knows’ shows gender 3 agreement and thus agrees with *magalu* ‘bread’, which is within the complement clause. This is called “Long-distance Agreement” (Corbett 2006) or “Dependent-first” pattern of gender agreement (Matasović 2009).

- (4) *eni-r*                    [*už-ā*            *magalu*            *b-āc'-ru-hi*]  
 mother(CL.2)-DAT boy(CL.1)-ERG bread(CL.3.ABS) CL.3-eat-PART-  
 NOMINALIZER(ABS)  
  
*b-iy-xo*  
 cl.3-know-PRES  
 “The mother knows that the boy ate the bread”

In Coahuilteco (Isolate formerly spoken in Texas, Troike 1981), we find a typologically rare pattern in which there is agreement between the arguments of the verb. In that language, the object agrees with the subject in person and number: in (5), the object article *tupo-* receives a different suffix (*-n* or *-m*) depending on the person of the subject. Since Coahuilteco is a Dependent-marking language, in which independent NPs in the Core are arguments, the domain of agreement is the Core. Although rare, this pattern is also found in Archi (NE Caucasian) and Ripatransone (an Italian dialect) (see Matasović, in press).

- (5) a) *Dios tupo–n*                      *naxo–xt'e:wal*                      *wako*  
 god ART–ACC.1SG.SUBJ. 1SG.SUBJ.–offend CAUSATIVE  
 “I offended God”
- b) *Dios tupo–m*                      *xa–ka:wa*                      *xo*                      *e?*  
 god ART–ACC.2SG.SUBJ 2SG.SUBJ–love AUX INTERR.  
 “Do you love God?”

In Tsakhur (NE Caucasian, Ibragimov 1990: 72) there is gender agreement between an argument of the verb and a non–argument NP in the Periphery. In that language, the Clause is the domain of agreement, since non–arguments are outside the Core. In (6), the verb (*ališšu* viz. *aliwšu* ‘buy’) agrees with the absolutive argument (*mašin* ‘car’ in a), *parče* ‘cloth’ in b)); the oblique argument (*duxajs* ‘son’) also agrees with the absolutive argument, provided it is focused with the suffix glossed as ‘also’ (–*yd* for gender 2, agreeing with *mašin* ‘car’, –*yb* for gender 1, agreeing with *parče* ‘cloth’).

- (6) a) *duxajs–yd*                      *mašin ališšu*  
 for.son–also.CL.2 car he.bought(CL.2)  
 “He bought a car also for the son”
- b) *duxajs–yb*                      *parče aliwšu*  
 for.son–also.CL.1 cloth he.bought(CL.1)  
 “He bought cloth also for the son”

Adverbials are seldom targets of agreement, but they agree in gender with the absolutive argument of the verb in Archi (NE Caucasian, Bond et al. 2016: 71). In (7), *horo:keij<t’>u* “a long time ago” agrees in gender 4 with the absolutive argument of the verb. The domain of agreement is the Clause, as temporal adverbials modify the Clause. Agreement on adverbs is also found in Mosestén, an isolate language of Bolivia.

- (7) *godo–r*                      *laha–n*                      *ummi*                      *ez*  
 that–cl.2.SG child(2).SG.OBL–GEN father(2).SG.ERG [CL.4]1SG.DAT
- horo:keij<t’>u*                      č’at                      *klo–li*                      *edi*  
 long.time.ago<CL.4.SG> word(4)[SG.ABS] [4.SG]give.PF–CVB [4.SG]be.PST  
 “The father of that girl gave me his word a very long time ago”

An even more unusual target of agreement is the Clause–linkage marker, or subordinator in West Flemish (Germanic, Haegeman 1992: 48). In that language, the subordinator *da–* agrees in person/number with the subject of the subordinated clause. The domain of agreement is the sentence, if a bi–clausal representation of the structure in (8a–b) is accepted:

- (8) a) *K=peinzen dan=k (ik) morgen goan*  
 1SG=think that=1SG (I) tomorrow go  
 ‘I think that I’ll go tomorrow’
- b) *K=peinzen da=j (gie) morgen goat*  
 1SG=think that=2SG (you) tomorrow go  
 ‘I think that you’ll go tomorrow’

We turn now to agreement in adpositional phrases and noun phrases. Yagua (Peba–Yaguan, Van Valin 2005: 23) has prepositions that agree in gender with the head noun in the adpositional phrase (9); the preposition *viimú-* agrees in the inanimate gender with the head noun *jumuñu* ‘canoe’:

- (9) *rá-viimú (jumuñu)*  
 3.INAN–inside canoe  
 ‘inside the canoe’

Similar patterns of agreement with adpositional phrases as domains, head nouns as controllers and adpositions as targets are found in many Head-marking languages, e.g. in Abkhaz.

Within the NP, controllers are usually head nouns, and targets can be any of the modifying elements within the layered structure of the NP. In English (10a–b), demonstratives agree in number with the head noun; the domain is the NP, and the target (the demonstrative) is an element in the NP-initial position:

- (10a) *this book*
- (10b) *these books*

In possessive constructions in Head-marking languages we often find adjunct NPs as targets. This is the case, e.g., in Lakota (Siouan, Van Valin and LaPolla 1997: 61). In (11), the head noun (*Fred*) is the controller, and the possessed noun, which is syntactically an adjunct NP, is the target, agreeing in person and number:

- (11) *Fred 0-thá-wowapi ki*  
 Fred 3SG.–POSS–book DEF  
 ‘Fred’s book’

Finally, Core<sub>N</sub> (the core of the NP) can also be the domain of agreement. In Russian, adjectives (adjuncts in the NP periphery) agree with the head noun in gender/number and case, as in (12a–b):

- (12a) *star-yj gorod* (12b) *star-aja mašina*  
 old–M.SG.NOM town old–F.SG.NOM car  
 ‘old town’ ‘old car’

#### 4.2. Agreement on operators

We turn now to syntactic patterns in which elements of the operator projection are targets of agreement. In many cases a single syntactic element can be represented in different ways, and often elements of the OP can be also represented on the CP, the particular analysis depending on the theoretical and descriptive approach taken. A good example is the agreement in person and number on the “negative verbs” in Finnish and other Fennic languages of the Uralic family. In (13a–b), the negation *e-* agrees in person and number with the subject (the 1<sup>st</sup> and the 2<sup>nd</sup> person sg.). Auxiliaries are only represented in the OP (Van Valin 2005: Chapter 1), so we can claim that the Finnish examples instantiate agreement on operators. If *e-* (the negation) were treated as a lexical verb (which is counter-intuitive), then the target would be represented on the CP as well; however, since negation is always an operator (nuclear, core, or clausal), on any analysis we would have to say that here the target of agreement is an operator, while the controller is an argument of the verb. In (13a–b) the domain of agreement is the clause, since *e-* is apparently clausal negation.

- |       |                 |              |       |                   |              |
|-------|-----------------|--------------|-------|-------------------|--------------|
| (13a) | <i>e-n</i>      | <i>tiedä</i> | (13b) | <i>e-t</i>        | <i>tiedä</i> |
|       | not-1SG.PRES    | know         |       | not-2SG.PRES      | know         |
|       | “I do not know” |              |       | “You do not know” |              |

Tense–aspect–mood (TAM) markers can also be targets of agreement. In Basque (isolate) we find agreement in person/number on auxiliaries; only auxiliaries are inflected for TAM, while lexical verbs remain uninflected for these categories. In (14a–b) the auxiliary verb agrees with the subject (the 1st person sg.) in number/person and it is inflected for tense, which is a clause level operator, hence the clause is the domain of agreement. If auxiliaries are syntactically treated in the same manner as lexical verbs, then the target of agreement should be represented on both CP and OP, but – as indicated above – this would contradict the standard RRG analysis of auxiliaries.

- |       |                  |                 |       |                       |              |
|-------|------------------|-----------------|-------|-----------------------|--------------|
| (14a) | <i>etor-tzen</i> | <i>n-intzen</i> | (14b) | <i>etor-tzen</i>      | <i>n-aiz</i> |
|       | come-IPF.PPLE    | 1SG-BE.past     |       | come-IPF.PPLE         | 1SG-BE.pres  |
|       | “I used to come” |                 |       | “I come (habitually)” |              |

In Mosestén (Mosetenan, Sakel 2002: 123) we find agreement in gender on directionals (15); it is unclear from the examples whether *-wë* ‘downriver’ is a nuclear or a core directional, but under any analysis it would have to be represented in the OP. Agreement is with the topical argument (rather than with the subject, or “privileged syntactic argument”), so Mosestén is a language in which elements of the FSP can be controllers of agreement, which is typologically rather rare.

- |      |   |             |            |                  |                    |
|------|---|-------------|------------|------------------|--------------------|
| (15) | <i>Mi?</i>                                | <i>jen?</i> | <i>mi?</i> | <i>ji-te-?</i>   | <i>Maria mö-wë</i> |
|      | 3. M.SG                                   | father      | 3.M.SG     | send-VD.DT-3.F.O | M. F-DR            |
|      | “The father sent Maria there (downriver)” |             |            |                  |                    |

Mosetén also seems to have agreement on evidential markers, which are clause-level operators, but material contained in Sakel's (2002) grammar is insufficient to be certain about that.

In Latin and in many other Indo-European languages, which treat quantifiers as adjectives, we find agreement in the NP in which the head noun is the controller, the quantifiers are targets, and the domain of agreement is  $Core_N$ , as in (16a-b), where the quantifier stem *omn-* agrees in gender/number and case with the head noun:

- |                     |              |                    |              |
|---------------------|--------------|--------------------|--------------|
| (16a) <i>omn-is</i> | <i>hom-o</i> | (16b) <i>omn-e</i> | <i>genus</i> |
| every-M/F.SG.NOM    | man-NOM.SG   | every-N.SG.NOM     | kind.NOM.SG  |
| 'every man'         |              | 'every kind'       |              |

If we choose to represent Latin *omnis/omne* in the same way as the lexical adjectives (e.g. *bonus* 'good', *ruber* 'red', etc.), then it would be represented both in the OP and in the CP (as an adjunct in the NP periphery, similarly to Russian adjectives in 12a-b).

In German, there is a special NP negation *kein-*, which is morphologically an adjective. However, as a negation marker it is also an operator with the NP as its scope, and in (17a-b) it agrees in gender/number and case with the head noun in the NP; the domain of agreement is  $Core_N$ :

- |                  |               |                    |              |
|------------------|---------------|--------------------|--------------|
| 17a) <i>kein</i> | <i>Mensch</i> | 17b) <i>kein-e</i> | <i>Frau</i>  |
| no.M.NOM.SG      | man.NOM.SG    | no-F.NOM.SG        | woman.NOM.SG |
| 'no man'         |               | 'no woman'         |              |

Again, since *kein* is morphologically an adjective, we may choose to represent it as an element in the CP (as an adjunct in the NP periphery), but since it is also a negation marker it has to be represented in the OP.

Articles are targets of agreement in many languages; since they are definiteness markers, we have to treat them as operators, and in French (18a-b) they agree with the head noun in gender and number:

- |                 |               |                  |              |
|-----------------|---------------|------------------|--------------|
| (18a) <i>le</i> | <i>cheval</i> | (18b) <i>l-a</i> | <i>vache</i> |
| ART.M.SG        | horse         | ART.F.SG         | cow          |
| 'the horse'     |               | 'the cow'        |              |

Finally, languages in which demonstrative pronouns agree with their head nouns (in any category) can be said to display agreement on deixis markers, which are operators in the NP. In Hungarian (Uralic, Rounds 2001: 132) the demonstrative *az-* agrees in number and case with its head noun (19):

- |                       |           |                     |
|-----------------------|-----------|---------------------|
| (19) <i>az-ok-ról</i> | <i>az</i> | <i>ember-ek-ről</i> |
| that-PL-DEL           | ART       | man-PL-DEL          |
| 'about those people'  |           |                     |

### 4.3. Discussion

This survey of the possible targets of agreement is reasonably exhaustive with respect to the languages in our sample. However, there may be (and probably are) other targets, mentioned in literature of agreement, e.g. agreement on coordinating conjunctions, which is reported for Tsakhur (NE Caucasian) and Walman (Torricelli) (see Corbett 2006: 52). Likewise, agreement in some typologically rare features, such as mood/aspect/polarity agreement on arguments in Kayardild (Evans 2003: 2015) does not appear on targets otherwise not found in our sample, and does not require any modification of our conclusions.

An overview of the attested patterns of agreement can be seen in Table 1 and Table 2 (in both tables, targets are listed in the leftmost column and controllers in the first row; examples from languages listed are above).

	<i>Argument (in main clause)</i>	<i>Adjunct NPs</i>	<i>Argument in subordinated clauses</i>	<i>Argument</i>	<i>Head nouns (NP)</i>
<i>Nucleus</i>	Croatian		Tsez		
<i>Arguments</i>		Abkhaz		Coahuilteco	
<i>Non- argument NP in the Periphery</i>	Tsakhur				
<i>PPs in the Periphery</i>	Archi				
<i>CLMs</i>	West Flemish				
<i>Adpositions</i>					Yagua
<i>Elements in the NPIP</i>					English
<i>Adjunct NP</i>					Lakhota
<i>Adjuncts in the NP Periphery</i>					Russian

Table 1: Patterns of agreement with elements in the CP as targets

	<i>Argument</i>	<i>Head nouns (NP)</i>
<i>Negation</i>	Finnish	
<i>TAM markers</i>	Basque	
<i>Directionals</i>	Mosetén	
<i>Quantifiers</i>		Latin
<i>NP negation</i>		German
<i>Def. markers</i>		French
<i>Deixis markers</i>		Hungarian

Table 2: Patterns of agreement with elements in the OP as targets

## 5. Possible exceptions to ATU?

Our sample of 300 languages does not contain any blatant counter-example to ATU, but this is the right place to ask ourselves: what would such a language be like?<sup>6</sup> For example, let us suppose there was a language with no agreement on lexical verbs, but with agreement on particles expressing categories such as tense, evidentiality and/or modality. If such a language also lacked any agreement in the NP, we would say that it contradicts the ATU, since its agreement targets would be operators, but not elements represented in the CP. However, no such language is found in our sample, and there are reasons to doubt whether such a language exists at all; this is doubtlessly a consequence of the fact that more than 80% of the languages (Matasović, in press) have some sort of verbal agreement, and agreement on particles of any kind is at best rare, as we already mentioned above.

A more likely type of language contradicting ATU would have demonstratives that cannot be used as heads of NPs, but only adnominally; they would be represented in the OP, but not in the CP (Van Valin 2005: 29). If such adnominal demonstratives showed agreement (in any category), and if there was no other agreement pattern in the language, this would represent a clear violation of ATU.

There are several languages in our sample that have agreement only on demonstratives in the NP. In Fula (North Atlantic branch of Niger–Kordofanian) there is gender/number agreement on demonstratives and numerals in the NP, but not on adjectives (or nouns); however, demonstratives can be heads of NPs (Koval’ and Zubko 1986: 105–113):

6 Here we will only discuss possible counter-examples to ATU in the weak sense, as defined above.

- (20a) *o nyaamii* ‘he has eaten’ vs. *nge nyaamii* ‘she has eaten’  
 (20b) *o gorko* ‘that man’ vs. *nge debbo* ‘that woman’

Similarly, Diegueño (Uto–Aztecan) has only number agreement between demonstratives and nouns in the NP, but demonstratives can head NPs (Langdon 1970). In Burushaski (Isolate; Klimov and Edel’man 1989), demonstratives agree in gender/number, but adjectives do not. However, demonstratives can head NPs, and there is extensive verb agreement. Therefore, neither of these languages represents an exception to ATU.

Kryz (NE Caucasian) is claimed to have adnominal agreement (in gender) only on certain numerals (Authier 2009: 50ff.), but the author himself shows that there is also agreement in gender on possessive pronouns. Moreover, Kryz has extensive gender agreement on verbs.

The fact that we do not find demonstratives that are used only adnominally and represented only on the OP may be a consequence of an implicational universal formulated by Joseph Greenberg (1978) and re–stated as follows in the “Konstanz Database” of language universals (UnivArch 1727):

*IF demonstratives occur adnominally, THEN they also occur independently, forming an NP of their own, and vice versa.*

A corollary of this universal, which has not been noticed so far, is that, if adnominal demonstratives show agreement, when they also occur independently they do so as well, in full accordance with ATU.

The nearest thing to a violation of ATU is found in Dyrirbal. In that language, there is no verbal agreement whatsoever, and adnominal agreement is shown chiefly on “noun markers” that show gender of the noun they modify, and give information about the location of the referent (Dixon 1972: 44). They are normally used adnominally, as in (21), but “it is perfectly normal for NPs in Dyrirbal to contain only a [noun] marker”, as in (22) (Dixon 1972: 60):

- (21) *bayi yarra bulgan baninyu*  
 CL1.ABS man big come.NONPAST  
 “The big man is coming”

- (22) *bayi baninyu*  
 CL1.ABS come.NONPAST  
 “[man] is coming”

If sentences such as (22) are accounted for by “discourse ellipsis”, as Dixon suggests, then noun markers should be represented only in OP, and ATU is violated. If they are actually used as pronouns heading NPs, then Dyrirbal is not a counter–example to ATU.

Thus, the ATU can be upheld, but it can be formulated only in the RRG framework (or in the framework of another theory distinguishing between operator and constituent projections). It is similar to some implicational uni-

versals about agreement that have been proposed already (e.g. in Corbett 2006 and UnivArch on lexical items),<sup>7</sup> but more general than them.

## 6. Explanations?

There are two possible explanations of ATU: a) elements of the OP are more often than not bound morphemes, not free words that can carry agreement markers. Hence, languages with agreement markers only on elements of the OP must be rare; however, this cannot be the only explanation, since we have seen a lot of examples in which syntactic elements represented in the OP are targets of agreement; b) less trivially, ATU is a consequence of the very function of agreement. The function of agreement is to signal constituency, and operators show to which constituents they belong (i.e. which constituents they modify) by their scope. Hence, agreement on operators is inherently redundant. On the other hand, elements of the CP do not have scope, so agreement on them has a function it lacks on operators. Hence, languages with agreement on elements of the OP, but not on elements of the CP, are functionally disfavoured and therefore bound to be rare or even non-existent.

To sum up, we have been able to show how RRG allows us to formulate an implicational universal (ATU) in very precise terms and in a way that theories that do not posit the difference between OP and CP cannot formulate it. Our investigation has shown that ATU can be upheld and that exceptions to it, if they exist, are rather few in number, since no exception was found in our 300-languages sample. The ATU lends further support to the distinction between operator projection and constituent projection, which is one of the foundations of RRG's approach to syntax.

## References

- Authier, Gilles (2009). *Grammaire kryz*. Leuven & Paris: Peeters
- Belloro, Valeria (2012). Encoding information structure via object agreement in Spanish interactions. *Berkeley Linguistic Society* 34: 391–402 <http://doi.org/10.3765/bls.v34i1.3585>
- Bentley, Delia, Ciconte, Francesco Maria and Silvio Crus (2013). Micro-Variation in Subject Agreement: The Case of Existential Pivots with Split Focus in Italo-Romance. *Italian Journal of Linguistics* 25(1): 15–43
- Bond, Oliver et alii (2016). *Archi. Complexities of Agreement in Cross-Theoretical Perspective*. Oxford: Oxford University Press
- Chirikba, Vyacheslav (2003). *Abkhaz*. München: Lincom
- Corbett, Greville (2006). *Agreement*. Cambridge: Cambridge University Press
- Dixon, Robert M. W. (1972). *The Dyirbal Language of North Queensland*. Cambridge: Cambridge University Press

7 Corbett (2006) suggests (but does not state explicitly) that languages can have agreement on adverbs and particles only if they also have agreement on other targets; UnivArch (Universal 426/7) implies that, if languages have gender agreement on any target other than anaphoric pronoun, then they also have it on anaphoric pronoun (but there are counter-examples to this claim).

- Evans, Nicholas (2003). Typologies of agreement: some problems from Kayardild. *Transactions of the Philological Society* 101(2): 203–34 <http://doi.org/10.1111/1467-968X.00118>
- Greenberg, Joseph H. (1978). How does a language acquire gender markers?. Greenberg, Joseph H., (ed.) *Universals of Human Language, Vol. III*. Stanford: Stanford University Press, 47–82
- Haegeman, Liliane (1992). *Theory and Description in Generative Syntax: A Case Study in West Flemish*. Cambridge: Cambridge University Press
- Ibragimov, Garun X. (1990). *Caxurskij jazyk*. Moscow: Nauka
- Kailuweit, Rolf (2008). 'Floating plurals', prodrop and agreement – an optimality-based RRG approach. Van Valin, Robert D. (ed.) *Investigations of the Syntax–Semantics–Pragmatics Interface*. Amsterdam: John Benjamins, 179–202
- Klimov, Georgij A. and Dzhoy I. Edel'man (1989). *Jazyk burušaski*. Moscow: Nauka
- Koval', A. I. and G. B. Zubko (1986). *Jazyk fula*. Moscow: Nauka
- Langdon, Margaret (1970). *A Grammar of Diegueño*. Berkeley: The University of California Press
- Matasović, Ranko (2009). A new typology of control constructions within the framework of Role and Reference Grammar. Guerrero, Lilián et al. (eds.) *Studies in Role and Reference Grammar*. Mexico City: Universidad Nacional Autónoma de México, 305–318
- Matasović, Ranko (2014). Verbal and adnominal agreement: Areal distribution and typological correlations. *Linguistic Typology* 18(2): 171–214 <https://doi.org/10.1515/lingty-2014-0009>
- Matasović, Ranko (in press) *An Areal Typology of Agreement Systems*. Cambridge: Cambridge University Press
- Rounds, Carol (2001). *Hungarian. An Essential Grammar*. London: Routledge
- Sakel, Jeanette (2002). *A Grammar of Mosestén*. Berlin: Mouton De Gruyter
- Troiike, Rudolph (1981). Subject–object concord in Coahuilteco. *Language* 57: 658–673 <https://doi.org/10.2307/414344>
- UnivArch = The Universals Archive, <https://typo.uni-konstanz.de/archive/intro/index.php>. Accessed 09/03/2017
- Van Valin, Jr. Robert D. (2001). *An Introduction to Syntax*. Cambridge: Cambridge University Press
- Van Valin, Jr. Robert D. (2005). *Exploring the Syntax–Semantics Interface*. Cambridge: Cambridge University Press
- Van Valin, Jr. Robert D. (2008). RPs and the nature of lexical and syntactic categories in Role and Reference Grammar. Van Valin, Jr. Robert D. (ed.) *Investigations of the Syntax–Semantics–Pragmatics Interface*. Amsterdam/Philadelphia: John Benjamins, 161–178
- Van Valin, Jr. Robert D. and Randy LaPolla (1997). *Syntax. Structure, Meaning and Function*. Cambridge: Cambridge University Press
- Wechsler, Stephen (2015). The Syntactic Role of Agreement. Kiss, Tibor and Artemis Alexiadou (eds.) *Syntax – Theory and Analysis*. Berlin: De Gruyter, 309–342

## Glosses

Abs = absolutive, Acc = accusative, Aor = aorist, Art = article, Aux = auxiliary, Cl = Class (gender) marker, Cvb = converb, Dat = dative, Def = definite, Del = delative, Dyn = dynamic, Erg = ergative, F = feminine, Gen = genitive, Interr = interrogative, Inan = inanimate, IO = indirect object, IpF = imperfect, M = masculine, N = neuter, Nom = nominative, O = oblique, Obl = oblique, Part = participle, Pf = perfect, Pl = plural, Poss = possessive, Pres = present, Pst = past, Sg = singular, Subj = subject, VD.DT = verbal stem-marker/directional.

## Appendix:

Operators and their scope (Van Valin 2005; syntactic domains posited by RRG are printed in capital letters):

NUCLEUS: Aspect, Negation, Directionals

CORE: Directionals, Event quantifications, Modality, Negation

CLAUSE: Status, Tense, Evidentials, Illocutionary Force

NUCN: Nominal aspect (Classifiers)

COREN: Number, Quantifiers, Negation

NP: Definiteness, Deixis

### *Sročnost u okviru gramatike uloga i referenci: tipologija mogućih ciljeva sročnosti*

U ovom se radu iznosi skica teorije sročnosti u okviru gramatike uloga i referenci (GUR), a predlaže se i implikacijska univerzalija koja se može precizno formulirati putem koncepcije slojevite strukture surećenice koju zastupa GUR. Tvrdi se da su, u okviru GUR-a, upravljači sročnosti uvijek sintaktički elementi predstavljeni u konstituentnoj projekciji, dok ciljevi sročnosti mogu biti prikazani i u konstituentnoj i u operatorskoj projekciji. Na temelju uzorka od 300 jezika predlažemo implikacijsku univerzaliju prema kojoj jezici ne mogu imati sročnost na operatorima ako ujedno nemaju sročnost na sintaktičkim elementima prikazanim na konstituentnoj projekciji (obrat te tvrdnje ne vrijedi). Može se pokazati da ta univerzalija ima vrlo malo prividnih protuprimjera i da stoji i u domeni imenske skupine (NP ili RP) i u domeni surećenice. Ona pruža dodatnu potvrdu razlici između operatorske i konstituentne projekcije, što je jedna od temeljnih odlika pristupa sintaksi u GUR-u.

**Keywords:** agreement, Role and Reference Grammar, language typology, syntactic domains

**Ključne riječi:** sročnost, gramatika uloga i referenci, jezična tipologija, sintaktičke domene