NATIONAL RESEARCH UNIVERSITY

HIGHER SCHOOL OF ECONOMICS

Aigul Zakirova

NUMBER MARKING
ACROSS DIFFERENT WORD CLASSES
IN THE EAST CAUCASIAN LANGUAGES

Dissertation summary
for the purpose of obtaining
academic degree of Doctor of Philosophy in Philology and Linguistics

Academic Supervisor:

Timur Maisak, Candidate of Sciences

Moscow 2023

The dissertation was prepared at the National Research University Higher School of Economics.

Publications

Three publications have been selected for the defence. In all of them, I am the only author.

1. **Zakirova, A. N.** *Soglasovanie po chislu v andijskom yazyke: ekspansiya iz paradigmy sushchestvitel'nykh* [Number agreement in the Andi language: Expansion from the nominal paradigm] // Rodnoy Yazyk: linguistic journal. 2020, №2. C. 94–123 (journal recommended by HSE).

2. **Zakirova, A. N.** *Soglasovanie prilagatel'nykh po chislu v nakhsko-dagestanskih yazykah: genealogicheskie i areal'nye zakonomernosti* [Adjectives agreeing for number in the East Caucasian languages: genealogical and areal patterns]. // Rodnoy Yazyk: linguistic journal. 2022, №1. C. 5–49 (journal recommended by HSE).

3. **Zakirova, A. N.** *Markirovanie glagola po chislu v nakhsko-dagestanskikh yazykakh* [Number marking on the verb in the East Caucasian languages]. // The Bulletin of the Russian Academy of Sciences: Studies in Literature and Language. 2022, №6 (journal recommended by HSE).

Besides, two more papers have been published:

4. **Zakirova A. N.** *Soglasovanie po chislu v zilovskom dialekte andijskogo yazyka* [Number agreement in Zilo Andi] // Conference "Caucasian Languages: Typology and Diachrony" in honor of M. E. Alekseev. 23–24 October 2019. Institute of linguistics RAS, Moscow: Book of abstracts / I. G. Bagirokova, T. A. Maisak (eds.). Moscow, 2019.

5. **Zakirova A. N.** *Soglasovanie po chislu v andijskikh dialektakh: glagol* [Number agreement in Andi: verb forms] // T. A. Maisak, N. R. Sumbatova, Ja. G. Testelec (eds.). Durqasi xazna. Festschrift for Rasul Mutalov. Moscow, Buki Vedi, 2021. P. 94–114.

Conference presentations

The main results and conclusions of the present study have been presented in 2019–2022 in oral presentations at both domestic and international conferences, including:

(1) **52nd Annual Meeting of the Societas Linguistica Europaea** (21–24 August 2019, Leipzig University, Germany). *Clausal agreement in Zilo Andi: number.*

(2) **Kavkazskie yazyki: tipologiya i diakhroniya [Caucasian languages: Typology and diachrony]** (23-24 October 2019, IL RAS, Moscow). *A. Zakirova. Soglasovanie po chislu v zilovskom dialekte andijskogo yazyka [Number agreement in Zilo Andi].*

(3) **Zvegincevskie chteniya – 2020. K 60-letiyu kafedry i otdeleniya teoreticheskoj i prikladnoj lingvistiki** [Conference in honor of V. A. Zvegintsev] (30–31 October 2020, Moscow State University, online). *A. Zakirova. Soglasovanie po chislu v andijskom: ekspansiya suffiksa -l iz paradigmy sushchestvitel'nogo [Number agreement in the Andi language: expansion from the nominal paradigm].*

(4) **Sixth workshop in Caucasus studies** (9 July 2021, University of Jena, online). *Evolution of suffixal number agreement in dialects of Andi.*

(5) **54th Annual Meeting of the Societas Linguistica Europaea** (30 August–3 September 2021, National and Kapodistrian University of Athens, online). *From noun plural to plural agreement: evidence from Andi dialects.*

(6) **Emerging Topics in Typology** (25 October – 25 November 2021, University of Helsinki, online). *From noun plural to plural agreement: evidence from Andi.*

(7) **Second International Conference Anatolia-The Caucasus-Iran** (21-23 June 2022, Russian-Armenian University, Yerevan, Armenia). *Adjectival number agreementin the East Caucasian languages.*

(8) **First International Linguistic-Anthropological Congress of Caucasologists** (14–16 November 2022, Ivane Javakhishvili Tbilisi State University, Georgia). *A. Zakirova. Soglasovanie po chislu v nakhsko-dagestanskikh yazykakh [Number agreement in East Caucasian].*

(9) **The first international conference organized by the European network on linguistics and languages of the Anatolia-Caucasus-Iran-Mesopotamia area (LACIM)** (16–18 November 2022, Paris / online). *Adjectival number agreement in East Caucasian: an overview*

1 Introduction

This dissertation is dedicated to number marking across different word classes in the East Caucasian languages. Two types of number marking are subsumed under the term "number marking": *genuine number* and *number agreement.* Under genuine number I understand nominal number, pronominal number, number marked on modifiers in the head position, and verbal number. Number agreement is found in different domains, namely in the NP and in the clause. One phenomenon adjacent to clausal agreement is also discussed, namely allocutive number marking, by which the number of addressee is marked on the verb. These phenomena are considered in genealogical, areal and diachronic perspective.

The **goal** of this dissertation is to describe number marking patterns in the East Caucasian languages and, on the basis of this description, answer the following main question: how does number marking evolve diachronically?

This question can be divided into the following smaller questions:

- How is number marking distributed across word classes in East Caucasian and how are these different instances of number marking to be analyzed?
- What does the synchronic distribution of this marking tell us about its history?
  - Which directions of change (e.g. from genuine nominal number to adjectival number agreement, from genuine nominal number to allocutive number agreement, etc.) are found in the East Caucasian languages?
  - What is the mechanism behind these changes?
  - Does language contact play a role in these processes?

To attain this goal, the following steps must be undertaken:

- Data on number marking across different word classes should be collected from grammars of the East Caucasian languages and, if possible, by elicitation;
- These data must then be visualized on maps;
- Development of different instances of number marking should be traced.

As already mentioned, the **phenomenon** under investigation is number marking across different lexical classes in the East Caucasian languages. In particular, I am interested in the diachronic relationships between different types of number marking.

The structure of this dissertation is as follows.

Chapter 1 introduces the theoretical foundations of this study. I discuss different types of number marking: genuine number (nominal number, pronominal number and verbal number)

and number agreement (including allocutive number marking). Chapter 2 is dedicated to the diachrony of number-marking phenomena as reflected in the linguistic literature. Chapter 3 briefly introduces the East Caucasian languages from the perspectives of sociolinguistics and grammar. Chapter 4 summarizes the existing discussion on number in East Caucasian. Chapters 5–7 present my own research on number marking in East Caucasian. Chapter 5 deals with number marking patterns found on adjectives. In Chapter 6, number marking on verbs is discussed. Chapter 7 is dedicated specifically to number marking in the Upper and Lower dialects of Andi, which allows us to trace the rise of number agreement in Upper Andi. In the concluding section, the results of the study are summed up.

The **material** for this study comes from several sources.

For Chapter 5 and 6, the material comes from grammatical descriptions of the East Caucasian languages and some other adjacent languages. The sample consists of 59 lects. 53 of them belong to the East Caucasian family, while 6 belong to other families: Kumyk, Nogai, Azeri, Armenian, Tat, and Georgian. These lects are spoken in Dagestan and on adjacent territories and are of have previously been in contact with East Caucasian.

The **methodology** in Chapters 5–6 follows from the goal of this study to trace the evolution of number marking.. For adjectives and verbs, the approach to data collection was adopted from the Typological Atlas of the Languages of Dagestan (Daniel et al 2022). For each lect of the sample, the values of the following features have been determined, namely:

- Does the lect have number marking on adnominal adjectives?
- Does the lect have number marking on verbs?
- Which are the factors that condition this marking?

The values of these variables have been put into a database, mapped and analyzed for genealogical and areal patterns. Then the patterns identified were analyzed from the diachronic point of view. To do that, using grammatical descriptions of the lects in the sample, I identified number markers that occur on nouns and then compared these markers to the number markers found on words of other lexical classes

Chapter 7 is a case study, where I present a description of number marking and number agreement in dialects of Andi and attempt to reconstruct the emergence of number agreement in Upper Andi. In this study, both elicitation and text analysis were used. Data from the Zilo dialect (<Upper Andi) have been collected during field trips in 2017–2019. Data from Muni (<Lower Andi) come from a field trip taken in July 2021. For both varieties the research was complemented by online elicitation on WhatsApp. Besides, I used spontaneous texts recorded from speakers of the Zilo dialect (about 31, 000 words, roughly transcribed and translated by linguists and native speakers but not in a publishable condition).

Additionally, textual data from dialects spoken in the villages of Andi and Rikvani are provided where they diverge from Zilo. Data from the Andi dialect (hence Andi proper) come from the grammatical description (Dirr 1906), from the collection of fairy-tales (Magomedova & Alisultanova 2010, 8445 words), and from texts published in the grammar sketch (Dirr 1906, about 3400 words). The Rikvani data come from the grammatical description (Sulejmanov 1957) and from texts recorded in the village of Rikvani in 2015 by Michael Daniel and Timur Maisak (4229 words, roughly transcribed and translated by a native speaker but not in a publishable condition).

This study is **novel** and **relevant**, since possible diachronic developments of plural markers have not been studied systematically. Besides, a synchronic areal-genealogical study of different number marking patterns has not yet been carried out for the East Caucasian languages. For some other language families, however, similar studies have been undertaken, cf., for example, studies of various languages and language families in the handbook "Number in the worlds' languages" edited by Acquaviva & Daniel (2022). Adding to the existing knowledge the description of number marking in the East Caucasian languages broadens our understanding of number-related phenomena in typology and diachrony.

The research that resulted in this dissertation was a rather urgent task, since the number of speakers of the East Caucasian has recently begun to decline (Moseley 2010). Due to migration to larger cities, people switch to the languages of interethnic communication, mainly to Russian.

The proposed study contributes to linguistic theory and language description in several ways:

- It broadens our understanding of diachronic processes that can occur in the domain of number marking. For example, I discuss the grammaticalization of various types of number agreement. These mechanisms are not yet sufficiently covered in the literature.
- It allows us to trace instances of matter and pattern borrowing in the domain of number marking, which is currently hardly described in the literature on contact-induced grammatical change.
- Finally, this study presents data from little-described varieties of Andi, namely Zilo, Andi, Rikvani (<Upper Andi) and Muni (<Lower Andi). Thus, this study is a contribution to the documentation of these dialects.

The results obtained in this study can have several practical applications:

- The description of number marking patterns can be used to teach courses on synchronic or diachronic syntax, typology and East Caucasian linguistics.
- The database constructed as a result of this work can be used for the Typological Atlas of Languages of Dagestan (http://lingconlab.ru/dagatlas/).

- The data analyzed in this study can serve as material for further research on different types of number marking in the field.
- The first-hand data from dialects of Andi can be used in preparation of grammatical descriptions of Andi.

The following main findings are presented for defense:

1. Specialized number marking across lexical classes can be expressed by formally identical markers. Across different classes and contexts, number marking may instantiate different phenomena, i.e. genuine number (nominal and pronominal number, number expressed on modifiers in elliptic / lexicalized uses, verbal number), number agreement and allocutive marking.

2. In some East Caucasian languages there are no conditions on adjectival number agreement: in some languages, it is present, in others absent.

3. In some East Caucasian languages the following conditions on adjectival number agreement operate: 1) lexical (some adjectival lexemes agree, while others do not), 2) full / short form of the adjective, 3) animacy of the head (with less certainty).

4. Verbal number marking is conditioned either lexically, or grammatically. Lexical conditioning is present in all branches of East Caucasian and may be expressed in the root by means of ablaut, infixes, or consonant alternations. Grammatically-conditioned number marking is found in Lezgic, Dargwa, and Upper Andi and is usually expressed on the right periphery of the stem. The forms that condition number are typically imperatives and prohibitives, more rarely optatives, even more rarely indicative TAM-forms (Upper Andi).

5. The diachronic sources of specialized number marking are nominal plural markers (with adjectives and verbs alike), distributive marking (with adjectives) and full / contrastive morphology (with adjectives). For many patterns, diachronic sources have not been identified.

6. In several East Caucasian languages, agreement or agreement-like phenomena may have been borrowed: Godoberi, Botlikh, Lak, Archi. In all instances the assumed donor language is Avar.

7. In Upper Andi, many types of word forms agree in number, including adjectives, demonstrative pronouns, genitive dependents, universal quantifiers, numerals, several verb forms, and a part of adverbs.

8. Noun plural markers can be identical to other markers of plurality, namely adjectival plural agreement, verbal plural agreement, verbal number, allocutive plural agreement, adverb plural agreement.

2 Contents of this dissertation

This section briefly summarizes the contents of this dissertation. Subsection 2.1 is a summary of Chapters 1 and 2 of the dissertation, Subsection 2.2 is a summary of Chapters 3 and 4, and Subsection 2.3 sums up Chapters 5, 6 and 7.

2.1 The category of number in typology and diachrony

Most typological works do not discuss different instances of number expression across word classes as one phenomenon. Rather, the authors usually concentrate either on number agreement, or on verbal number, or on number expressed on other types of word forms. The opposite approach, which treats all of these phenomena as belonging to the same functional domain, is adopted in (Corbett 2000) and in a recent handbook (Acquaviva & Daniel 2022). I believe that considering different number-related phenomena together is a promising approach since these phenomena are not only functionally close, expressing the quantitative characteristics of an event or its arguments, but also may be connected diachronically (Corbett 2000).

Number marking on nouns is discussed extensively, but number marking on other types of word forms has also been discussed to some extent in the literature, cf. works (Forchheimer 1953; Benveniste 1966; Barulin 1980; Corbett 2000: 83-84, Daniel 2013) on number marking on pronouns and (Antrim 1994; Ledgeway 2011; Butt et al. 2016) about number marking on adverbs, which is typologically rare, but found in Romance and Indo-Aryan languages.

In this study, I distinguish the following types of number marking: *genuine number* (nominal number, pronominal number, or verbal number), and *number agreement* (in the NP, in the clausal domain, and allocutive number marking).

2.1.1 Genuine number

Number marking on nouns is discussed in a number of typological works, including for example (Jespersen 1924; Corbett 2000; Dryer 2013). The category of number in the languages of the world can have the following meanings: singular, dual, paucal (denoting several objects) and plural.

Genuine number marking (i.e., non-agreement) is also found on adjectives in the head position (under ellipsis or lexicalized) and on pronouns. In addition, genuine number can be marked on verbs.

Number marking on verbs can function differently and be analyzed in different ways. On the one hand, number marking on a verb form can be an instance of agreement, a morphosyntactic operation by which the number value of the agreement controller (in this case, a noun phrase) is

copied onto the agreement target (in this case, the verb). On the other hand, number marking on verb forms can be a manifestation of a separate category, namely that of verbal number (also known as *verbal plurality* or *pluractionality*). This category expresses in the verb the numerosity of argument or event denoted by the verb (Durie 1986; Corbett 2000; Mattiola 2019, 2020; Shluinsky 2006). The choice whether to analyze a particular phenomenon as verbal agreement or as verbal number depends primarily on how strict the correspondence is between the number value of the NP and the number marking on the verb. For example, in (1) from Mithun (1988), the participant's plural value is marked on the verb but not on the NP *haku* 'person', which is an argument in favor of the verbal number analysis.

(1)   INESEÑO (< CHUMASH) (Applegate 1972: 458)
     a. ***s.iy.axi***   *kum*
         3PL.ITER   dance
         'They are dancing'.

     b. *s.iy.axi*   *kum*   *ha-ku*
         3PL.ITER   dance   ART-man
         'People are dancing'.

It has been argued in typological works that instances of verbal number across languages have some common properties that distinguish verbal number from agreement. The presence of these properties does not necessarily indicate that a particular phenomenon should be analyzed as verbal number, but rather adds to the evidence in favor of this analysis.

First, it is more typical of verbal number than of agreement to be expressed in the verbal stem by means of alternations or suppletive variants of the stem, as well as by means of reduplication (Durie 1986).

Second, verbal number tends to mark the number of the S/P member, while verb agreement in most languages of the world is controlled by the S/A member (Frajzyngier 1985; Durie 1986; Mithun 1999: 84). In the case of the East Caucasian languages, however, the specific behavior of verbal number is in this respect indistinguishable from number agreement due to the ergative alignment: in almost all languages of the East Caucasian family, verb agreement is also controlled by the S/P-participant.

Third, verbal number is often expressed only within a lexically restricted set of verbs, while other verbs remain unmarked for this category (Corbett 2000: 257–258; Veselinova 2006).

Acquaviva & Daniel (2022: 882, 891) suggest that verbal agreement controlled by an NP marked for number and verbal number, which is a category in its own right, do not form a binary opposition: rather, they are points on a continuum, probably with multiple intermediate stages between them. In some languages, there are strong arguments in favor of postulating the

category of verbal number, while in others, the mismatches between number marking on the verb and on the NP can be attributed to semantic agreement. Such a situation would be intermediate between verbal agreement in number and verbal number.

2.1.2 Number agreement

Agreement, including number agreement, has been discussed in linguistic literature since the ancient grammarians. Important typological works on agreement include (Moravcsik 1978, Lehmann 1982, Corbett 2006). An areal-typological study by Matasović (2018) should also be mentioned.

Different definitions of agreement are provided in the literature, in which the nature of agreement is interpreted differently, cf. (Steele 1978: 610; Matasovic 2018: 14).

In this study, I have followed the "canonical" approach proposed by Corbett (2006). In this approach, in order to define a phenomenon, a set of certain criteria is identified. If a phenomenon X meets the criteria ideally, then it is a canonical representative of X. A canonical X may not exist in any language of the world. Thus, for Corbett, there are phenomena that are more or less close to canonical agreement. Different instances of canonical and non-canonical agreement are discussed in Corbett (2006) and cited in the dissertation.

My choice to follow Corbett's approach is due to the fact that I use data of grammatical descriptions, which does not always allow me to draw a sharp line between agreement and other phenomena. Secondly, the choice of Corbett's approach is explained by the diachronic focus of my study: cases of number marking, which have a borderline status between agreement and other phenomena, are most interesting for me, as they point to possible diachronic ways by which number marking may develop.

2.1.3 Diachrony of number

In most languages of the world, the origin of noun plural markers cannot be established (Corbett 2000). This is generally true for the East Caucasian languages. In this work, I do not deal with the origin of the noun plural markers themselves but rather try to trace their further development, comparing them to the number markers found on words of other lexical classes.

In the literature, a fair amount of attention has been paid to the origin of agreement. Some works on this topic include Fleischer et al. (2015), who examine the diachronic development of agreement on various targets, including verbs, adjectives, and pronouns, and Corbett (2006, 2012), who examines the synchronic behavior of agreement, and also discusses diachronic sources of agreement.

The origin of person agreement has been studied the most. As it turns out, it usually develops as a result of cliticization of personal pronouns (Givón 2001: 399–437; Lehmann 1982; Fuß 2005; Kuteva et al. 2019: 322), although other scenarios are also attested, cf. Creissels (2008).

The origin of number agreement is a less-studied topic, although there are studies exploring various scenarios by which number agreement can be grammaticalized. For example, Lehmann (1982) and Frajzyngier (1997) discuss a scenario, by which nominal case and number markers develop into agreement markers. Acquaviva & Daniel (2022) note that in some languages number markers found on verb forms are formally identical to number markers of number. The authors believe that such verb forms are derived from participles or nominalized forms. The opposite direction is described in an article by Mithun (1988). Mithun argues that markers of verbal number can develop into nominal number. Finally, number agreement observed with adverbs is usually explained by the fact that agreeing adverbs are derived from adjectives, which retained their ability to agree in secondary predications.

Case studies dealing with the emergence of number agreement in languages of other areas include Cruz (2015) on Nheengatu and Di Garbo (2020) on Cushitic languages.

In this work, the scenario described in Lehmann (1982) will be of particular importance. The situation when adjectival agreement markers coincide with noun markers, according to Lehmann, arises due to the spread of affixes from the NP head to its dependent ones: "first, number is expressed by free or clitic forms, and is a morphosyntactic feature of the NP as a whole. As the number marker undergoes grammaticalization and becomes an affix, it starts to sporadically occur on NP dependents and becomes fusional. Finally, number agreement becomes irregular and is reduced again, number becoming a morphosyntactic feature of the noun". To the best of my knowledge, this scenario has only been discussed in relation to the Chadic languages in Frajzyngier (1997).

In Chadic, plural markers originate from demonstrative pronouns that are attached to the right edge of the NP. Since modifiers in the NP in Chadic are located to the right of the head, a newly grammaticalized plural marker can end up in contact with words of different lexical classes: [N]-PL, [N Adj]-PL, etc. The next stage of this development is that the plural suffix occurs on the NP once but it does not have a fixed position in it: it can be attached either to the head noun (2a), or to a genitive dependent (2b):

(2)   MINA (< CENTRAL CHADIC, Frajzyngier 1997: 212)
       *a. gìdwír-**íi**   tà   táŋ*

              pot-**PL**   GEN   3PL

              'their pots'

*b. gìdwírì   tə̀   táŋ-**íi***

     pot   GEN   3PL-**PL**

    'their pots'

Consequently, children acquiring the language receive as input words of different syntactic classes with the plural marker attached. At some point, this plural marker is reanalyzed as a morphosyntactic property not of the whole NP but of its subconstituents, whether it be nouns or adnominal dependents. After that, a new generation of speakers starts to use the plural marker on multiple subconstituents of the NP, and NP-internal plural agreement arises.

2.1.4 Summary

Chapters 1 and 2 contain a typological and diachronic discussion of the category of number as a unified phenomenon. The directions of change discussed in the literature that were mentioned in this chapter are summarized in Figure 1.
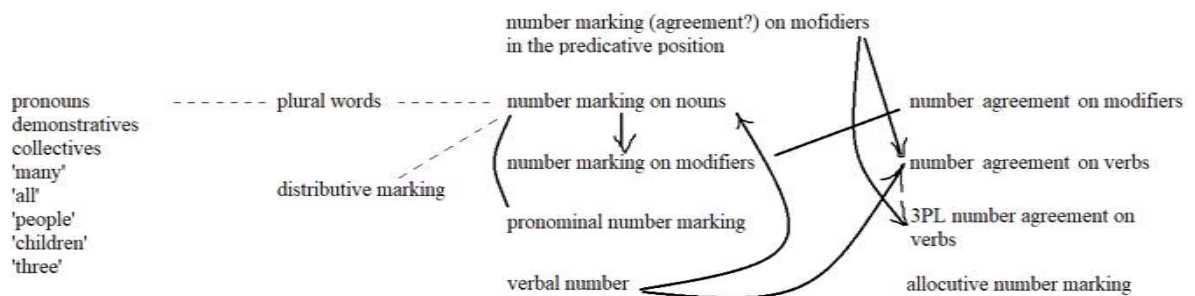

Figure 1. Number marking devices: directions of change attested in the literature

2.2   East Caucasian languages

The East Caucasian languages are mainly spoken on the territory of three federal subjects of the Russian Federation: the Republic of Dagestan, the Chechen Republic, and the Republic of Ingushetia. In addition, a small portion of the speakers of the East Caucasian languages live in the neighboring countries, namely Georgia and Azerbaijan. Smaller communities of speakers also exist in Turkey, Kazakhstan, and Kyrgyzstan and are scattered across the Russian Federation (Ganenkov, Maisak 2020).

The database Glottolog 4.0 (Hammarström et al. 2021) lists 34 languages of the East Caucasian family, although this number is an underestimate, as most of the East Caucasian languages consist of many dialects, some of which can be considered languages in their own right.

Figure 3. The East Caucasian languages on the map of the Caucasus (Britannica 1997)

In terms of its diachronic depth, the East Caucasian family is comparable to the Indo-European family (Nichols 2003). A "flat" structure consists of 6 upper-level branches:

1) **Nakh** branch: Chechen, Ingush, Tsova-Tush (also called Bats or Batsbi);

2) **Avar-Andic-Tsezic** branch**:**

   a) **Avar** subbranch: Avar;

   b) **Andic** subbranch: Akhvakh, Andi, Bagvalal, Tindi, Botlikh, Godoberi, Chamalal, Karata, Tukita;

   c) **Tsezic** subbranch: Bezhta, Hunzib, Tsez, Hinuq, Khwarshi;

3) **Dargwa** branch: a dialectal continuum, which is usually divided into several separate languages; for an overview of existing classifications, see Koryakov (2021);

4) **Lezgic** branch: Archi, Tabasaran, Aghul, Lezgian, Udi, Budukh, Kryz, Rutul, Tsakhur;

5) **Lak** branch: Lak;

6) **Khinalug** branch: Khinalug.

East Caucasian languages exhibit many typologically unusual features, such as unusual verbal categories, a rich inventory of demonstrative pronouns, and gender-number agreement on different, sometimes unexpected, types of targets (Comrie 2008, Daniel & Lander 2011, Polinsky 2020). Although the expression of number on nouns in the languages of the East

Caucasian family does not seem unusual at first glance, number marking on words of other classes, as well as number agreement, are much more diverse and require further study.

The East Caucasian languages have a grammaticalized category of number, i.e., nouns are always marked for number. All languages of the family distinguish between singular and plural. In addition, some languages have a dedicated form of the associative plural (X-PL = 'X and those who are with him / with her'). Although East Caucasian languages usually do not have rare meanings of the category of number (for example, trial and paucal), they often show unusual patterns of lexical distribution of different plural markers.

In addition, in many languages of the East Caucasian family, number markers are also observed with other lexical classes: adjectives, verb forms, adverbs, and numerals. Number marking outside the NP domain is generally regulated by more complex rules than number marking in the NP. This kind of marking can be due to different mechanisms: in some cases, they may be analyzed as number agreement, in others, such marking can be analyzed as a manifestation of distributivity or verbal number.

The category of number in East Caucasian has been studied mostly in the synchronic perspective and in relation to nouns. First, there are works on individual languages: Daniel (1999); Daniel & Merdanova (2001); Lander (2008), as well as a collective volume Mikailov (1985). Secondly, there are also several overviews, e.g. Kibrik (1985), Kibrik (2003), Kelauridze (2006). The diachrony of nominal number markers is considered in historical grammars (Alekseev 1988, 2003). These works mainly deal with diachronic processes, which shaped the current distribution of number markers across nominal stems.

In the current dissertation, I focus on number marking found with word forms that are not nouns. This kind of marking (including number agreement) is usually described in the grammars of individual languages. However, there are few overviews on this topic.

The expression of number across word classes in the languages of the Caucasus is discussed in Kelauridze's (2006) dissertation. Two more overviews of number marking are my works (Zakirova 2022a, b), which are dedicated to adjectival number agreement and verbal number marking, respectively. This dissertation is based, among others, on the results of the latter two studies.

2.3   Results of this study

As a result of this study, instances of number marking on adjectives and verbs in the languages of the East Caucasian family have been discussed. In addition, number agreement in Andi has been described separately and its reconstruction has been proposed.

Chapter 5 is dedicated to number agreement found with adjectives. This type of agreement turned out to be subject to different conditions in different languages of the East Caucasian family. In some languages, adjectival number agreement is obligatory, in others it is absent, in still others it is restricted by certain conditions. The conditions are as follows. Agreement may be restricted lexically (example 3 from Hunzib), or may be found only with full (contrastive) forms of adjectives (example 4 from Lak). Besides, animacy of the head noun may be a condition, though with less certainty (example 5 from Bagvalal).

(3) HUNZIB (van den Berg 1995: 58; Isakov, Khalilov 2012: 149–150)

　　 a. *j-iʔer.u*　 *kid*　　　　　　　 b. *b-iʔer-**ar***　 *kid-ba*

　　　　 F-little　　 girl　　　　　　　　　 HPL-little-**PL**　 girl-PL

　　　　 'little girl'　　　　　　　　　　　 'little girls'

　　 c. *q'uwatab*　 *suk'u*　　　　　　 d. *q'uwatab*　 *suk'u-wa*

　　　　 strong　　　 man　　　　　　　　　 strong　　　 man-PL

　　　　 'strong man'　　　　　　　　　　　 'strong people'

(4) LAK (Zhirkov 1955: 48)

　　 a. *buč-s:a*　　 *nic*　　　　　　　 b. *b-uč-s:a*　　　　 *nic-ru*

　　　　 N1-fat-ATTR　 bull　　　　　　　　　 N1.PL-fat-ATTR　　 bull-PL

　　　　 'fat bull'　　　　　　　　　　　　 'fat bulls'

　　 c. *buč-mur*　　　　　 *nic*　　　　 d. *buč-**mi***　　　　　 *nic-ru*

　　　　 N1-fat-ATTR.CONTR.NM　 bull　　　　　 N1.PL-fat-**ATTR.CONTR.PL**　 bull-PL

　　　　 'fat bull'　　　　　　　　　　　　 'fat bulls'

(5) BAGVALAL (Sosenskaya 2001: 152)

　　 a. *w-aharu-w*　 *ima*　　　　　　 b. *b-aharu-b-**a***　 *imari*

　　　　 M-old-M　　　 father　　　　　　　 HPL-old-HPL-**PL**　 parents

　　　　 'old father'　　　　　　　　　　　 'old parents'

　　 c. *b-eč'atu-b*　 *zin*　　　　　　 d. *r-eč'atu-r*　 *zin-a*

　　　　 N-black-N　　　 cow　　　　　　　　 NPL-black-NPL　 cow-PL

　　　　 'black cow'　　　　　　　　　　　 'black cows'

In general, the distribution of agreement patterns is of a genealogical nature: individual branches of the East Caucasian family are characterized by specific markers of number agreement. These markers are most probably common innovations, since these differences cannot be explained by the contact influence of neighboring languages from other families. However, several instances of convergence within the East Caucasian family have been found. First, the Avar plural marker *–l* found on adjectives seems to have been borrowed into Godoberi

and Botlikh. Second, adjectival number agreement in Avar, Lak and Archi, as well as in some Dargwa lects, demonstrates a family resemblance based on the following non-trivial common properties:

1) number agreement markers occupy the same morphological slot as markers of gender agreement in the singular;

2) the same adjective can have agreeing and non-agreeing forms;

3) number agreement is licensed by the category of contrastiveness.

Each property from this list is found in a subset of the four languages listed but is not found in other languages of the East Caucasian family. Exceptions are Godoberi and Botlikh, where the first property is also attested and is an Avar borrowing, since these languages are heavily influenced by Avar. Since there are independent arguments in favor of contact between Avar, Lak and Archi (Dobrushina 2011), the similarity between them can be regarded as a PAT-borrowing in terms of Sakel (2007).

Chapter 6 is dedicated to number marking on verbs. As it turned out, in the Nakh and Avar-Andic-Tsezic branches, number marking is most often localized in the verbal stem and is lexically restricted (cf. Hunzib example 6).

(6)   HUNZIB (< TSEZIC) (van den Berg 1995: 82)

	a. qoqo	*r-ek'e*		*b. qoqo-wa*	*r-e<ya>k'e*
	house	N2-burn.PRS		house-PL	N2-**PL**.burn.PRS
	'The house is burning'.			'The houses are burning'.	

Instances of number marker localized in the root of the verb on the first glance resemble verbal number rather than number agreement. However, only for Tsezic languages there are some arguments in favor of this analysis. For example, in Hunzib, number marking can express not only number but also aspectual oppositions . In Upper Andi, there is no reason to believe that ablaut and stem consonant alternations are verbal number markers. As for other cases of suppletion, irregular consonant alternations, and ablaut in Nakh and Andic, I mostly have no data that would allow to conclude whether these phenomena are number agreement or verbal number.

Another type of number expression in verbs is number marking on the right periphery of the verb form. If the number marker is identical to one of the noun plural markers, such cases are to be explained by the participial origin of the verb form.

Number marking observed with imperative and prohibitive forms in the Lezgic branch and in many Dargwa lects stands apart: at least in some of these languages, these forms mark the number of the addressee, and not of the absolutive argument (7). In addition, cases of allocutive number marking have been identified.

(7)   MEHWEB DARGWA (< DARGWA) (Dobrushina 2019: 122–123)

  a. *b-ak'-e-na!*
     HPL-come.PFV-IMP-**IMP.PL**
     'Come to me!' {addressing several people}

  b. *b-aʕbʔ-a   urš-be!*
     HPL-kill.PFV-IMP.TR   boy-PL
     'Kill those boys!' (addressing one person)

  c. *w-aʕbʔ-a-na   rasul!*
     M-kill.PFV-IMP.TR-**IMP.PL**   Rasul
     'Kill Rasul!' {addressing several people}

Number marking found on verbs often originates from plural markers found on nouns. If Alekseev's (1988) hypothesis that in Hunzib and Bezhta plural infixes and suffixes found with verbs originate from nominal plural markers is on the right track, then these languages are an interesting example of number agreement developing into the category of verbal number.

In Chapter 7, as a separate case study, the plural marker *-(V)l* in dialects of Andi has been investigated and its extension from the noun paradigm to words of other parts of speech considered in detail. According to my analysis, as a result of this development, Upper Andi dialects acquired a plural agreement mechanism separate from the gender-number agreement, which is also present in Andi.

I attempted to reconstruct the expansion of the marker *-(V)l* in Upper Andi by drawing an intragenetic comparison: in addition to the Upper Andi data, data from Lower Andi (in particular, Muni dialect) and other languages of the Andic branch have been considered.

In Upper Andi and Lower Andi, the marker *-(V)l* occurs on all nouns and on some classes of pronouns (personal, demonstrative and logophoric). However, further examination reveals differences between Upper Andi and Lower Andi dialects. So, in Upper Andi dialects *-(V)l* occurs as an agreement marker on adnominal adjectives (8), verbs (9) and adverbs (10):

(8)   UPPER ANDI (village of Zilo, own fieldwork)

  a. *hiri   džindži*   b. *hir-ol / *hiri   džindži-l*
     red   flower   red-PL / *red   flower-ABS.PL
     'red flower'   'red flowers'

(9)   ANDI (< AVAR-ANDIC), Zilo

  gurdibo-l   gelgedi-r-(il)   šipaneru-la
  shirt.PL-ABS.PL   hang-PROG-**PL**   wardrobe.OBL-IN.ESS
  'The shirts are hanging in the closet' (elic.).

(10) UPPER ANDI (ZILO)

he-ge-w-ul   *χ:eχ:i* /   *χ:eχ:-ol*   *helli-r*

DEM-LL-M-ABS.PL   quick /   quick-**PL**   run-PROG

'They run fast' (elicited).

In Lower Andi *-(V)l* does not have such uses:

(11) LOWER ANDI (village of Muni, own fieldwork)

a. *hiri*   *džindži*   b. *hiri* /   **hir-oli*   *džindžiʔo-li*

   red   flower   red /   *red-**PL**   flower.PL-ABS.PL

   'red flower'   'red flowers'

However, in Lower Andi *-(V)l* can attach to adnominal dependents in the head position, e.g. under ellipsis:

(12) LOWER ANDI (MUNI)

w-eč'uχa / *w-eč'uχ-oli* / *w-eč'uχa-χo-w-u-li*

M-big   M-big-**ABS.PL**   M-big-CONTR-ADNOM-OBL.PL.AN-**ABS.PL**

uškulu-ʔo   *w-oʔon-no*

school.OBL-SUP.LAT   M-PL.go-PRF

{Small children are at home} 'and the older children (lit. 'big children') went to school' (elic.).

The same is true for Upper Andi:

(13) UPPER ANDI (ZILO)

w-eč'uχ-ol /   **w-eč'uxa*   *uškulu-ʔo*   *w-oʔon*

M-big-**PL**   M-big   school.OBL-SUP.LAT   M-PL.go.AOR

{Small children are at home} 'the older children (lit. 'big children') went to school'

(elicited).

I draw from the Upper Andi and Lower Andi data the following conclusion. In both Upper and Lower Andi, the plural marker *-(V)l* has undergone the same evolution on nouns, spreading to all nouns and words of other lexical classes that often act as NP heads. In Upper Andi, this marker has also developed new uses. It is possible that the intermediate stage, through which the noun marker became an agreement marker, was precisely the head uses such as (12–13), in which in Lower Andi the noun marker is attached to adjectives and even (for some speakers) to genitive dependents.

After -*(V)l* became a marker of NP-internal plural agreement, it began to occur regularly on adjectives and participles in the predicate position. Participles in the predicate position gave rise to new TMA-forms of the verb, which, due to their participial origin, began to attach the marker -*(V)l*. Finally, other verb forms not derived from participles began to attach -*(V)l*. Most likely, the emergence of -*(V)l*-agreement on verb forms of non-participial origin can be explained by analogy.

Another path of development that became possible after -*(V)l* became a marker of NP-internal plural agreement was its extension to adverbs. Apparently, those adverbs that were formed from adjectives by conversion inherited their ability to agree in number. Other adverbs that do not originate from adjectives but also attach -*(V)l* present a difficulty for such an explanation. Their ability to agree again can again be explained by analogy.

At the end of the dissertation, the results of the study are summarized: possible origins for number markers found on adjectives and verbs are listed. Besides, I list possible functions that nominal markers in the plural can acquire. Finally, my data show that number agreement can arise as a result of language contact.

3 Abbreviations

3 — 3 person, ABS —absolutive case, AOR — aorist, ART — article, CONTR — contrastive marker, DEM — demonstrative, ESS —essive, F — feminine gender, FULL — full form, GEN — genitive, HPL — human plural gender marker, IMP — imperative, IN — inessive, ITER — iterative, LAT — lative, LL — lower level demonstrative, M — masculine gender, N — neuter gender, N1 — neuter gender 1, N2 — neuter gender 2, NM — non-masculine gender, NPL — neuter plural gender marker, OBL — oblique stem, PFV — perfective, PL — plural, PRF — perfect, PROG — progressive, PRS — present, SUP — localization "super" (on the surface of something), TR — transitivity.

References

Acquaviva, P., & Daniel, M. (Eds.). 2022. *Number in the World's Languages: A Comparative Handbook*. Walter de Gruyter GmbH: Berlin, Boston.

Alekseev, M. E. 1988. *Sravnitel'no-istoricheskaya morfologiya avaro-andijskih yazykov* [A comparative grammar of the Avar-Andic languages]. Moscow: Nauka. (In Russ.)

Alekseev, M. E. 2003. *Sravnitel'no-istoricheskaya morfologiya nakhsko-dagestanskikh yazykov. Kategorii imeni* [A comparative grammar of the East Caucasian languages. Nominal categories]. Moscow: Nauka. (In Russ.)

Antrim, N. M. 1994. Italian adverbial agreement. In M. L. Mazzola (Ed.), *Issues and Theory in Romance Linguistics: Selected Papers from the Linguistic Symposium on Romance Languages XXIII, April 1–4, 1993* (pp. 129–40). Washington D. C.: Georgetown University Press.

Applegate, R. B. 1972. *Ineseño Chumash Grammar* [Doctoral dissertation]. University of California, Berkeley, CA.

Barulin, A. N. 1980. Kategorija chisla v mestoimenijax [The category of number in pronouns]. In V. M. Andrjushenko (Ed.), *Issledovanija v oblasti grammatiki i tipologii jazykov*. Moscow State University. (In Russ.).

Benveniste, É. 1966. *Structure des relations de personne dans le verbe: Problèmes de linguistique générale*. Paris: Gallimard (In French).

Butt, M., Sulger, S., Rahman, M. U., & Ahmed, T. 2016. Adverb agreement in Urdu, Sindhi and Punjabi. In D. Arnold, M. Butt, B. Crysmann, T. H. King, & S. Müller (Eds.), *Proceedings of the Joint 2016 Conference on Head-driven Phrase Structure Grammar and Lexical Functional Grammar* (pp. 140–160). Stanford, CA: CSLI Publications.

Corbett, G. G. 2006. *Agreement*. Cambridge University Press, 2006

Corbett G. G. 2000. *Number*. Amsterdam: John Benjamins Publishing Company.

Creissels, D. 2008. Person variations in Akhvakh verb morphology: functional motivation and origin of an uncommon pattern. *Sprachtypologie und Universalienforschung*, 61(4), 309–325.

Cruz, A. D. 2015. The rise of number agreement in Nheengatu. *Boletim do Museu Paraense Emílio Goeldi. Ciências Humanas*, 10(2), 419–439.

Daniel M. A. 1999. Semanticheskie tipy associativnoj mnozhestvennosti (na materiale bagvalinskogo yazyka) [Semantic types of associative plurality (based on the Bagvalal data)]. In Ye. V. Rakhilina, & Ya. G. Testelec (Eds.), *Tipologiya i kul'tura. Ot opisaniya k ob"yasneniyu: K 60-letiyu A.E. Kibrika* (pp. 362-370). Moscow: Yazyki russkoj kul'tury.

Daniel, M. A., & Merdanova, S. R. 2001. Konceptualizaciya chisla v yazyke bez defektnykh paradigm (agul'skij yazyk — vzglyad izvne i iznutri). [Conceptualization of number in a language without defective paradigms (Agul: outsider's view vs. insider's view)]. *Proceedings of the International Workshop Dialogue'2001 in Computational and Applied Linguistics*. Moscow: Aksakovo,1. 169-173.

Daniel, M. 2013. Plurality in independent personal pronouns. In M. S. Dryer & M. Haspelmath (Eds.), *The World Atlas of Language Structures Online*. Leipzig: Max Planck Institute for Evolutionary Anthropology. Retrieved July 19, 2023, from http://wals.info/chapter/35.

Daniel, M., Filatov, K., Maisak, T., Moroz, G., Mukhin, T., Naccarato, C., & Verhees, S. 2022. *Typological Atlas of the Languages of Daghestan (TALD), v. 1.0.0*. Moscow: Linguistic Convergence Laboratory, NRU HSE. Doi: 10.5281/zenodo.6807070. Retrieved July 19, 2023, from http://lingconlab.ru/dagatlas.

Di Garbo, F. 2020. Plural marking on noun-associated forms. *STUF — Language Typology and Universals*, 73(3), 363–401.

Dirr, A. 1906. Kratkij grammaticheskij ocherk andijskogo yazyka [A brief grammatical sketch of Andi]. *Sbornik materialov dlya opisaniya mestnostej i plemen Kavkaza* [Collection of materials for the description of places and tribes of the Caucasus] (Vol. 36). Tbilisi: Upravlenie Kavkazskago Uchebnago Okruga.

Dobrushina, N. 2019. Moods in Mehweb. In M. Daniel, N. Dobrushina, D. Ganenkov (Eds.), *The Mehweb language: Essays on phonology, morphology and syntax* (pp. 117–165). Berlin: Language Science Press, 2019.

Dobrushina, N. R. 2011a. Mnogoyazychie v Dagestane konca XIX – nachala XXI veka: popytka kolichestvennoj ocenki [Multilingualism in Dagestan from the end of the 19th to the beginning of the 21st century: an attempt at a quantitative evaluation]. *Voprosy yazykoznaniya*. 4, 61–80. (In Russ.)

Durie, M. 1986. The Grammaticization of Number as a Verbal Category. *Proceedings of the Twelth Annual Meeting of the Berkeley Linguistics Society*. 1986, 355–368.

Fedorenko, A. 2021. Contact-induced changes in four Lezgic languages [MA thesis]. HSE University, Moscow.

Fleischer, J., Rieken, E., & Widmer, P. (Eds.). 2015. *Agreement from a diachronic perspective*. Berlin & Boston: De Gruyter Mouton.

Forchheimer, P. 1953. *Category of Person in Language*. Berlin: de Gruyter.

Forker, D. 2018. Gender agreement is different. *Linguistics*, 56(4), 865–894.

Frajzyngier, Z. 1997. Grammaticalization of number: From demonstratives to nominal and verbal plural. *Linguistic Typology*, 1, 193–242.

Fuß, E. 2005. *The rise of agreement: A formal approach to the syntax and grammaticalization of verbal inflection* (Vol. 81). John Benjamins Publishing.

Givón, T. 2001. *Syntax: an introduction* (Vol. 1). John Benjamins Publishing.

Gudava, T, & Gamkrelidze, T. V. 2022. Caucasian languages. Encyclopedia Britannica. Retrieved July 19, 2023, from: https://www.britannica.com/topic/Caucasian-languages

Hammarström, H., Forkel, R., Haspelmath, M., Bank, S. 2021. *Glottolog 4.4*. Leipzig: Max Planck Institute for Evolutionary Anthropology. https://doi.org/10.5281/ Zenodo.4761960.

Haspelmath, M. 1993. *A grammar of Lezgian*. New York, Berlin: Mouton de Gruyter.

Isakov, I. A., & Khalilov, M. Sh. *Gunzibskij yazyk* [Hunzib]. Makhachkala, 2012. (In Russ.)

Jespersen, O. 1924. *The Philosophy of Grammar*. London: Allen and Unwin.

Johanson, L. 2006. On the roles of Turkic in the Caucasus area. In Y. Matras, A. McMahon & N. Vincent (Eds.), *Linguistic areas: Convergence in Historical and Typological Perspective* (pp. 160-181). Palgrave Macmillan, London.

Kelauridze, L. A. 2006. Tipologiya kategorii chisla v kavkazskih yazykah [Typology of number in languages of the Caucasus. Doctoral dissertation]. Karachay-Circassian State University, Nalchik.

Khalilov, M. Sh. 2004. *Gruzinsko-dagestanskie yazykovye kontakty* [Georgian-Dagestanian language contacts]. Moscow, 2004.

Kibrik, A. Ye. 1985. Chislovye formy neschetnykh sushchestvitel'nykh v dagestanskikh yazykakh [Number forms of non-count nouns in Dagestanian languages]. In K. Sh. Mikailov (Ed.), Kategoriya chisla v dagestanskikh yazykakh [The category of number in Dagestanian] (pp. 14–19). Makhachkala.

Kibrik, A. E. 2003. Nominal inflection galore: Daghestanian, with side glances at Europe and the world (pp. 37-112).

Koryakov, Yu. B. 2021. Darginskie yazyki i ikh klassifikaciya [Dargwa languages and their classification]. In T. A. Majsak, N. R. Sumbatova, Ya. G. Testelec (Eds), *Durkh"asi khazna: Sbornik statej k 60-letiyu R. O. Mutalova* [A precious treasure. A festschrift in honor of Rasul O. Mutalov](pp. 139–154.). Moscow, Buki Vedi, 2021.

Kuteva, T., Heine, B., Hong, B., Long, H., Narrog, H., & Rhee, S. 2019. *World lexicon of grammaticalization*. Cambridge University Press.

Ledgeway, A. 2011. Adverb agreement and split intransitivity: Evidence from southern Italy. *Archivio glottologico italiano*, 96 (1), 31–66.

Lehmann, Ch. 1982. Universal and Typological Aspects of Agreement. In H. Seiler and F. J. Stachowiak. *Apprehension* (pp. 201-267), 2, Narr, Tübingen.

Magomedova, P. A., & Alisultanova, M. A. (Eds.). 2010. *Dunjalla baχunnirsːi χalɢiltɬol ɢwanabol ɢwanab micʼːillasːol muχal* [Fairy tales from around the world in the Andi language]. Makhachkala.

Matasović, R. 2018. *An areal typology of agreement systems*. Cambridge: Cambridge University Press.

Mattiola, S. 2019. *Typology of pluractional constructions in the languages of the world*. Amsterdam: John Benjamins Publishing Company.

Mattiola, S. 2020. Pluractionality: A cross-linguistic perspective. *Language and Linguistics Compass*. Vol. 14(3), doi:10.1111/lnc3.12366.

Mikailov, K. Sh. (Ed.). 1985. *Kategoriya chisla v dagestanskikh yazykakh* [The category of number in the languages of Dagestan]. Makhachkala: IYaLi DNC RAN.

Mithun, M. 1988. Lexical categories and the evolution of number marking. In M. Hammond, M. Noonan (Eds.), *Theoretical Morphology: Approaches in Modern Linguistics* (pp. 211–234). New York: Academic Press.

Mithun, M. 1999. *The languages of native North America*. Cambridge: Cambridge University Press.

Moravcsik, E. A. 1978. Agreement. In J. H. Greenberg (Ed.), *Universals of Human Language*, Volume 4, 331–374. Stanford, CA: Stanford University Press.

Moseley, Ch. (Ed.). 2010. Atlas of the World's Languages in Danger, 3rd ed. Paris, UNESCO Publishing. Online version. Retrieved July 19, 2023, from http://www.unesco.org/culture/en/endangeredlanguages/atlas.

Polinsky, M. 2016. Agreement in Archi from a Minimalist perspective. In O. Bond, G. G. Corbett, M. Chumakina, & D. Brown. *Archi: Complexities of agreement in cross-theoretical perspective* (pp. 184–232). Oxford: Oxford University Press.

Sakel J. 2007. Types of loan: Matter and pattern. In Y. Matras & J. Sakel (Eds.), *Grammatical borrowing in cross-linguistic perspective* (pp. 15–29). Berlin: Mouton de Gruyter.

Shluinskij, A. B. 2006. K tipologii predikatnoj mnozhestvennosti: organizaciya semanticheskoj zony [Towards a typology of predicate plurality: organization of the semantic zone]. *Voprosy yazykoznaniya*, 1, 46–75.

Sosenskaya, T. B. 2001. Prilagatel'noe [Adjective]. In A. Je. Kibrik, S. G. Tatevosov, Je. A. Lyutikova, & K. I. Kazenin (Eds.), *Bagvalinskij yazyk: Grammatika. Teksty. Slovari* [The Bagvalal language: Grammar. Texts. Dictionaries] (pp. 151–155). Moscow: Nasledie.

Steele, S. 1978. Word order variation: A typological study. In J. H. Greenberg (Ed.), *Universals of Human Language*, Vol. 4: Syntax (pp. 585-623). Stanford: Stanford University Press.

Sulejmanov, Ja. G. 1957. *Grammaticheskij ocherk andijskogo jazyka. Na materiale govora s. Rikvani* [A sketch of the grammar of Andi. Based on material from the dialect of the village Rikvani. Doctoral dissertation.]. Moscow: Institut jazykoznanija akademij nauk sojuza SSR.

van den Berg, H. 1995. *A Grammar of Hunzib (with Texts and Lexicon)*. München: Lincom Europa.

Veselinova, L. 2006. *Suppletion in Verb Paradigms: Bits and Pieces of the Puzzle*. Amsterdam: John Benjamins.

Zakirova, A. N. 2019. *Soglasovanie po chislu v zilovskom dialekte andijskogo yazyka* [Number agreement in Zilo Andi]. In I. G. Bagirokova, T. A. Maisak (Eds.), *Conference "Caucasian Languages: Typology and Diachrony" in honor of M. E. Alekseev. 23–24 October 2019. Institute of linguistics RAS, Moscow: Book of abstracts*. Moscow, Institute of Linguistics RAS.

Zakirova, A. N. 2020. Soglasovanie po chislu v andijskom yazyke: ekspansiya iz paradigmy sushchestvitel'nyh [Number agreement in the Andi language: Expansion from the nominal paradigm]. *Rodnoy Yazyk: linguistic journal*, (2), 94–123.

Zakirova, A. N. 2021. Soglasovanie po chislu v andijskih dialektah: glagol [Number agreement in dialects of Andi: the verb]. In T. A. Majsak, N. R. Sumbatova, Ja. G. Testelec. *Durq^hasi hazna. Sbornik statej k 60-letiyu R. O. Mutalova* [A precious treasure. A festschrift in honor of Rasul O. Mutalov] (pp. 94–113).

Zakirova, A. N. 2022. Markirovanie glagola po chislu v nakhsko-dagestanskikh yazykakh [Number marking on the verb in the East Caucasian languages]. *The Bulletin of the Russian Academy of Sciences: Studies in Literature and Language*, 6, 102–114.

Zakirova, A. N. 2022. Soglasovanie prilagatel'nykh po chislu v nakhsko-dagestanskih yazykah: genealogicheskie i areal'nye zakonomernosti [Adjectives agreeing for number in the East Caucasian languages: genealogical and areal patterns]. *Rodnoy Yazyk: linguistic journal*, 1, 5–49.

Zhirkov, L. I. 1955. *Lakskij yazyk: fonetika i morfologiya* [Lak: phonology and morphology]. Moscow, 1955.(In Russ.)