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NOMINAL PARADIGMS IN KINA RUTUL²

The paper provides a description of nominal inflection in Kina Rutul, a variety of the Rutul language (< Lezxic < Nakh-Daghestanian). The description is based on three concepts of paradigmatic classification: class of inflectional equivalence, inflectional type and paradigmatic effect. Class of inflectional equivalence describes main patterns of concatenation between root, case / number exponents and stem formatives. Inflectional type is responsible for the description of more subtle differences within classes of inflection equivalence (morphological irregularities and / or non-concatenative morphophonology). These differences are generalized over different inflectional types by means of paradigmatic effect.

JEL Classification: Z.

Keywords: nominal inflection; paradigm structure; oblique stem; Rutul; Lezxic; East Caucasian (Nakh-Daghestanian).

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1. Introduction

The aim of this paper is to provide a systematic synchronic account of Rutul nominal paradigm structure. Rutul (rut, rut1240) is an East Caucasian language of the Lezgian branch spoken in southwestern Dagestan, Russia and northern Azerbaijan. The data discussed in this paper were collected during three field trips to the village of Kina (Rutulsky District of Dagestan) in 2016–2019³. In (Ibragimov 1978) Kina variety is classified as a “mixed” subdialect. Our impression is that this subdialect lies between Ikhrek and Mukhad varieties, however, to our knowledge, no special dialectological survey was conducted.

Previous comprehensive studies of Rutul include (Dirr 1912), (Ibragimov 1978), (Alekseev 1994), (Maxmudova 2001). For their account for Rutul nominal inflection and some critical notes cf. Section 3.

This paper account only for the inflection of nominals and does not touch upon neither the inflection of attributives nor pronouns. My analysis is based on 83 Rutul nominal paradigms, mostly elicited. These are paradigms of the words from the Swadesh 100 wordlist (Kassian et al. 2010) with small supplements from LexCauc wordlist (Filatov, Daniel 2019). Some of the wordforms were additionally collected from the spoken corpus of Kina Rutul. The analysis below is preliminary because of the scarcity of the data.

The structure of the paper is as follows. In Section 2, I overview the inventories of case and number markers in the Rutul nominal paradigm. Section 3 is a literature review. Sections 4 to 8 focus on the structure of Rutul nominal paradigms and some issues in Rutul nominal morphophonology.

2. Inventories of case and number exponents

In this section, I give an overview of case and number markers. This paper treats cases and spatial forms, as two separate subparadigms.

The inventory of the core case exponents in the singular and the plural is shown in Table 1. In Rutul, the nominative form assumed to be equal to the root.⁴ The ergative exponent has two allomorphs distributed according to the human/non-human opposition in the nominals. The comitative *-kan* has a variant *-kʷan*, which distribution is still to be established.

The attributive is a cross-categorical affix that can attach to nouns in order to form an attributive form and to verbs to form a participle. Adjectives in the nominative singular always

³ These fieldtrips was supported by “Rediscovering Russia” program of the Fund of Educational Innovation at the National Research University Higher School of Economics (HSE) in 2016–2019.

⁴ A probable exception to this statement would be some toponyms like *mīχ-aʃ* (Rutul-IN) and *gin-a* (Kina-IN), where the attributive form functions as nominative: *mīχ-aʃ-d* (Rutul-OBL-ATTR), *gin-a-d* (Kina-OBL-ATTR). However, these forms can be treated as spatial adverbs: *mīχ-aʃ* ‘in Rutul’ and *gin-a* ‘in Kina’, which can be attributivized.

carry the attributive marker. Moreover Rutul allows to derive the attributive form from adverbs and from well-formed case forms. Basing on this evidence and following the tradition of (Kibrik 2003) I call this form the attributive and not the genitive.

In terms of nominal inflection, the attributive shares an important formal property with the other cases. Like other case-forms, the attributive form in most cases is derived by means of stem formatives⁵. The only substantial difference is that there are some instances of forming of the attributive without any stem formative (see Section 6, Table 13.)

In the plural case exponents are in general the same. Some distributional intricacies of the plural exponents will be discussed below in Section 7.

Table 1. Rutul case and number exponence

Case/Number	Singular	Plural
Nominative	∅	-er, -ar, -b̄ir, -mar, -be, -ab̄ir
Ergative	-a, -ra	-ra, ∅
Dative	-s	-s
Comitative	-k ^(w) an	-k ^(w) an
Attributive marker	-d, -d̄i	-d, -d̄i

The exponents of spatial forms are displayed in Table 2. They can be divided into two grammemes of directionality (essive/lative and elative) and 5 localizations: In, Apud, Super, Sub/Post, Inter/Cont. Essive/lative forms denote either static location of a trajector or its movement towards a landmark. Elative forms denote the movement of a trajector from a landmark. Localizations specify the static location of a trajector (for the essive function), the location of the goal of motion (for the lative function), or the source of motion (for the elative function). Thus, Kina Rutul spatial system is bipartite with respect to the number of the values of the category of directionality it distinguishes between (essive/lative vs. elative).

Table 2. The exponents of the locative subparadigm of the Rutul nominal paradigm.

	In	Apud	Super	Sub/Post	Inter/Cont
Essive/Lative	-a (-e)	-da	-∅	-χda	-k
Elative	-a:	-da:	-∅-la	-χ-la, -q-la	-k-la

⁵ I use the term *stem formative* (following Plank (1999)) to indicate that the exponence of no inflectional category can be ascribed to a certain segment. In this paper the “dot-notation” is used following (Haspelmath 1993). Thus, stem formatives are separated by a dot from the root and are not assigned any special label in the glossing line.

The members of the locative subparadigm have the properties of matrix formatives in terms of (Pike 1963), i.e. spatial forms are (mostly) produced by combining a marker of localization and a marker of orientation categories. As it can be seen from Table 2, in “In” and “Apud” columns the relative is expressed by the vowel lengthening, while in the other forms the exponent *-la* is added to the localization exponent to indicate that it is an relative form.

Only spatial forms and not cases (cf. Table 3) are produced by combinations of two exponents. These properties of the Nakh-Daghestanian spatial exponents are also discussed in (Kibrik 1992), (Kibrik 2003b), (Comrie & Polinsky 1998).

Nouns in Kina Rutul also inflect for number, so the total number of possible forms is 30 (see Table 3). A typical non-nominative nominal wordform in Rutul consists of three components: root, stem formative and case marker.

Table 3. Full paradigm of the word *xač* ‘blueberry’

	Case\Number	Sg	Pl
1	Nominative	<i>xač</i>	<i>xač-bir</i>
2	Attributive	<i>xač.al-di</i>	<i>xač.almi-d</i>
3	Ergative	<i>xač.ali-ra</i>	<i>xač.almi-ra</i>
4	Dative	<i>xač.ali-s</i>	<i>xač.almi-s</i>
5	Comitative	<i>xač.ali-k^(w)an</i>	<i>xač.almi-k^(w)an</i>
6	In-essive	<i>xač.al-a</i>	<i>xač.alm-a</i>
7	In-relative	<i>xač.al-a:</i>	<i>xač.alm-a:</i>
8	Apud-essive	<i>xač.al-da</i>	<i>xač.almi-da</i>
9	Apud-relative	<i>xač.al-da:</i>	<i>xač.almi-da:</i>
10	Super-essive	<i>xač.ali</i>	<i>xač.almi</i>
11	Super-relative	<i>xač.ali-la</i>	<i>xač.almi-la</i>
12	Sub-essive	<i>xač.ali-χda</i>	<i>xač.almi-χda</i>
13	Sub-relative	<i>xač.ali-χ-la</i>	<i>xač.almi-χ-la</i>
14	Cont-essive	<i>xač.ali-k</i>	<i>xač.almi-k</i>
15	Cont-relative	<i>xač.ali-k-la</i>	<i>xač.almi-k-la</i>

3. Overview of the previous research

This section overviews previous studies of Rutul nominal inflection. I provide a brief summary of existing approaches to the description of Rutul nominal inflection including

inflectional classification and accounts for allomorphy. The data by A. Dirr (1912) and M. Alekseev (1994) are omitted due to the fact that they barely address the formal issues of inflectional morphology. (Ibragimov 1978) is the first comprehensive multidialect grammar of Rutul. (Maxmudova 2001) provides an exhaustive description of Rutul morphology and covers a range of issues in grammatical semantics. Works by A. Kibrik (2003) and (Kibrik, Kodzasov 1990) develop a comparative theory of East Caucasian declension systems, with special attention to their diachronic development and its possible functional explanations, often appealing to Rutul data. Several papers by M. Ibragimova (Tairova 1998), (Ibragimova 2013, 2016, 2019) consider different segmental properties of Rutul nominal inflection. None of the works takes into account the data from Kina Rutul.

3.1. Ibragimov's description

(Ibragimov 1978) is a traditional, diachronically oriented grammar in the sense that all inflectional irregularities are not included into the model and are explained from the perspective of language change. Some of these explanations seem to be far-fetched: such as interpreting, in his second inflection type, all oblique forms as derived from the ergative by truncating the affix of the ergative (Ibragimov 1978: 59). The author divides the inflectional system of the Rutul language into 4 inflection types in the singular and 2 in the plural (animate and inanimate), “according to the principles of coding of a operating stem (рабочая основа)” (ibid: 59). One feature of this description is that the forms of the singular and the plural are always treated separately. In this approach, some important facts cannot be generalised. As one example, a consistent classification of non-root segments into two types (*determinants* and *affixes* in Ibragimov's terms) suggested by him is not only possible but also leads to the significant reduction of affix allomorphy that a morphological description requires. However, Ibragimov (1978) does not differentiate between determinants and affixes in a systematic way.

3.2. Kibrik's description

(Kibrik, Kodzasov 1990) and (Kibrik 2003) describe Rutul in terms of stem-formation schemata. The sample schemata in this section is redrawn by the present author due to typographic reasons and to obtain a better visibility.

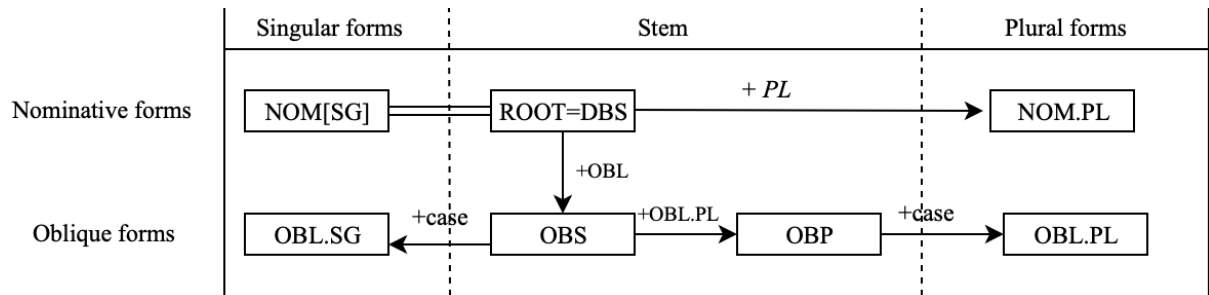
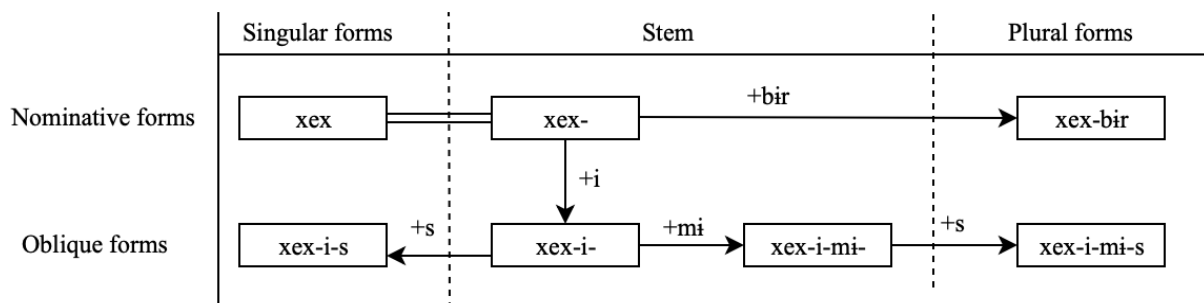


Figure 1. Stem formation scheme 4b. A model with bare oblique stem.⁶

Each schema is additionally illustrated by the process of derivation exemplified by a particular word. The abbreviations are as follows: DBS — direct base singular, OBS — oblique base singular, OBP — oblique base plural. Schemata are divided into three zones: zones of well-formed wordforms (Singular and Plural) and the zone of stem formation (Stem). Double line indicates formal identity of a form and a root. Arrows denote the stages of derivational process. Symbols above arrows designate formal increments used in stem- and wordform-formation, i.e. what is added to the base to proceed to the next stage. The elements of the zone “Stem” (between the dotted lines) are not autonomous words, i.e. do not occur without a case and/or number



marker.

Figure 2. Derivation of the wordforms of *xex* ‘nose’

The main idea behind these schemata (Figures 1, 2) is to explain why different stem shapes appear in different paradigm cells (oblique and nominative. For example, Figure 2 shows that the formation of the oblique singular forms of *xex* ‘nose’ involves the oblique singular stem marker *-i-*, while the formation of oblique plural forms of the same word involves the same oblique singular stem marker *-i-* and also oblique plural stem marker *-mi-*. This fact and the order of these markers can be explained within this framework as an incremental derivation from

⁶ The original scheme taken from (Kibrik 2003:218–219), §12.2.2.4. Hereinafter the indexes of schemata are given according to the notation in (Kibrik 2003).

xex-i- to *xex-i-mi-* and further to the corresponding forms of the dative singular and the dative plural, by adding of the dative marker *-s*.

As Kibrik focuses on medium-scale comparison within East Caucasian languages, he describes only the main patterns of stem formation and often disregards some morphophonological effects of the derivations he suggests. This includes, for example, some rules for juncture processing: the hiatus between a vowel-ending root and an oblique stem marker is eliminated by epenthesis of *-j-*, as opposed to the hiatus between oblique stem plural marker (*-mi-*) and in-essive marker (*-a-*), which is eliminated by the deletion of *-i-*.

Based on the Rutul data from the Luchek dialect (Kibrik, Kodzasov 1990) distinguish 4 stem-formation schemata: 2 core (8 and 4b) and 2 peripheral (9 and 2).

The issues with this approach can be divided into two groups, some technical and some notional. Technical problems arise as a result of forced linear segmentation where it can not be done unambiguously. For example, Kibrik assigns the following morpheme boundaries to the wordform *dadalmar* ‘cocks’: *dadal-ma-r* (cock-PL-NOM). I find this solution controversial, because, in the plural subparadigm of this word, there is no form like imaginary ***dadal-ma*, exposing category A, where we can observe that only *-ma-* is responsible for the exponence of A. In the plural only forms like *dadal-ma-ši-∅* (cock-PL-OBP-ERG), *dadal-ma-ši-s* (cock-PL-OBP-DAT) can be encountered. This means that the attribution of number and case to particular subsegments of *-mar* (PL and NOM) or *-maši-* (PL and ERG) is not uncontroversially justified, as in the inanimate nominal declension one finds the segment *-bir*, which cumulates these values (-NOM.PL). In other words, *-mar* and *-maši-* could be segmented diachronically, although the functional indetermination of their subsegments does not allow to postulate morpheme boundary between them.

Thus, this subparadigm represents “multiple exponence” or “extended exponence”, the situation when a description can not unambiguously attribute a morphosyntactic feature to a certain segment because it is “distributed” between different loci in a wordform (cf. Stump 2001 for further theoretical discussion).

Another technical problem arises when interpreting the paradigm of the word *ubul* ‘wolf’. The nominative plural cell is *ubl-e* (wolf-PL). Kibrik interprets this fact as a form with eliminated nominative *-r* (as, e.g. in *lix-e-r* (louse-PL-NOM)): “in case of deletion of root vowel the nominative marker *-r* is not added”. I find this interpretation unsatisfactory because we then should postulate the primacy of morphophonological rules over the morphosyntactic rules.

There are also several notional ambiguities and contradictions. Kibrik postulates ∅-morpheme four times in his 3-page description: for the nominative singular, for the nominative in plural subparadigm, for the ergative in the plural subparadigm in animate nouns and even for

the oblique singular stem of the word *šu* ‘brother’, as in *šu-∅-r* (brother-OBS-ERG). The last case is especially problematic, because we should provide a motivation for the existence of “∅-empty morpheme” which is uneconomic.

The profusion of ∅-morphemes in Kibrik’s description came right from the fact that the stem-formation schemata prefer to treat each ambiguous empirical fact (e.g. *-ma-r* earlier in this section) as a separatist exponence. Consequently, this kind of description needs some means to describe deviations from one-to-one meaning-form correspondence. These deviations seem from my point of view to be too heterogeneous (unmarked nominative in singular and plural, extended exponence of PL and ERG in animates and absence of the oblique stem in the inflection of *šu* ‘brother’) to describe them by means of ∅-morphemes. Some critical remarks on zero markers introduction in the descriptive tradition of Kibrik cf. also in (Mel’čuk 2008).

The derivative-processual nature of the stem-formation schemata leaves an impression (nowhere rejected) that the processes behind those schemata have a psychological reality; see also (Kibrik 2003: 258, §§ 12.4.5.1) for some discussion of the psychological reality of the schemata. From my point of view, any bio-cognitive facts should be confined to experimental studies and not be used for descriptive purposes.

To sum up, I argue that Kibrik’s description, though fed by typological comparative data, is an aprioristic one, in a sense that his prior knowledge of how inflection works in East Caucasian typological domain and a set of pre-established mixed descriptive-comparative categories (“schemata of stem formation”) influence the language-particular description in terms of (Haspelmath 2018).

3.3. Maxmudova’s description

The model proposed in (Maxmudova 2001) is diachronically-oriented. It is somewhat of a mixture of Ibragimov’s and Kibrik’s models and some shortcomings of their solutions. The situation is complicated by the inconsistent use of the dash sign that in some cases (in my reading) is used to designate different stages of grammaticalization for the purposes of diachronic explanation and in some cases for purely descriptive purposes. Thus, she segments the plural nominative marker as *-b-i-r* or as *-bir* (cf. Maxmudova 2001: 34 and 40). No consistent criteria for segmentation are overtly provided. (Maxmudova 2001) amply describes morphophonology and uses Kibrik-style schemata to refer to diachronic processes, which I find much more insightful than to use them as a pure synchronic descriptive technique.

The general idea behind her analysis is to prove that the notion of the oblique stem is redundant and should be replaced by the in-essive form that consists of a root and an oblique case marker in Kibrik’s terms. The problem is that some animate human nominals lack the in-essive but still have a formally similar ergative. Maxmudova assumes that the “original” in-

essive was reinterpreted as the ergative. But the semantic motivation of such a development seems obscure: “And the agentivity semantics coerces in-essive to express agentivity itself, as far as the semantics of a language does not suppose anything to be inside a voluntary agent except for the will to act” (Maxmudova 2001: 47)⁷.

4. Note on paradigm completeness and variation

It is impossible to elicit all the cells in the paradigm for all nouns due not only to time constraints but also to the semantic restrictions on form-production. For example, speakers find it difficult to produce the ergative for inanimate nouns in the singular and especially in the plural. I was only eliciting basic forms, i.e. forms the formation of which cannot be predicted (nominative, attributive form, dative, superessive, inessive in the singular; nominative, dative, superessive, inessive in the plural). All nine basic forms were routinely collected. Other forms were collected only if there were no semantic or pragmatic restrictions on their elicitation.

Another issue is inter-speaker variation. Two types of variability in the paradigm structure were attested (Tables 4, 5). Oblique stem variability means that several possible stem formatives can be found across the whole paradigm. Thus, a paradigm of the word *did* ‘fly’ can be built by means of either *.a*-stem formative or *.ir*-stem formative (see lower and upper rows in Table 4, respectively). For each paradigm variant the stem formative was chosen consistently by a particular speaker; and the mixture of stem formatives in a paradigm was not detected.

Table 4. Oblique stem variability in the paradigm of *did* ‘fly’.

Nominative	Attributive	Ergative	Dative	Super-essive	Comitative
<i>did</i> fly	<i>did.ir-di</i> fly-ATTR	<i>did.iri-ra</i> fly-ERG	<i>did.iri-s</i> fly-DAT	<i>did.iri</i> fly(SUP)	<i>did.iri-kan</i> fly-COM
<i>did</i> fly	<i>did.a-d</i> fly-ATTR	<i>did.a-ra</i> fly-ERG	<i>did.a-s</i> fly-DAT	<i>did.a</i> fly(SUP)	<i>did.a-kan</i> fly-COM

Animacy variability is restricted to the variation in animacy for certain lexemes (e.g. *yar* ‘snake’, *ma⁶q⁶a⁶q⁶a⁶l* ‘flea’, *vubav* ‘bee’). This type of variability affects the way certain categories (including the ergative and the plural) are expressed in the wordform. For example, in Table 5, the noun *vubav* ‘bee’, which varies in animacy, is inflected as animate nominal (the upper row), or as inanimate nominal (the lower row). It can be seen that the means of exponence for the ergative and the plural are different (*.maše* and *.mi-ra*). Unlike oblique stem variability,

⁷ The original: “И семантика агентивности подвигает ин-эссив передавать её, так как семантика языка не предполагает наличие внутри одушевленного деятеля, особенно человека, ничего, кроме воли к действию.” (Maxmudova 2001: 47)

animacy variability is only constrained to the plural subparadigm, which is connected with the animacy marking.

Table 5. Animacy variability in the paradigm of *кубаџ* ‘bee’.

Nominative	Ergative	Nominative plural	Ergative plural
<i>кубаџ</i> bee	<i>кубџ.и-ра</i> bee-ERG	<i>кубаџ-мар</i> bee-PL	<i>кубаџ.маше</i> bee(PL.ERG)
<i>кубаџ</i> bee	<i>кубџ.и-ра</i> bee-ERG	<i>кубаџ-мар</i> bee- PL	<i>кубџи.ми-ра</i> bee(PL)-ERG

I did not thoroughly examine patterns of paradigm variability. At present, it is hard to say how many nouns are involved in variability and also whether there are some other, unattested patterns. Collecting more data may affect certain elements of my analysis, in particular modeling classes of equivalence in Section 6.

Another issue that I do not discuss due to the lack of data are the position of stress in inflectional paradigms, as during data collection paradigms were not routinely accentuated. According my preliminary investigation Kina Rutul has mobile lexical stress, which means that its position can not be predicted, and it can change its position throughout the paradigm, e.g. *wis* (sunny_slope) ~ *wis-a* (sunny_slope-SUP) vs. *χin* (shady_slope) ~ *χin-á* (shady_slope-SUP).

5. Classes of inflectional equivalence and inflectional types

For further discussion I need to introduce the notion of paradigmatic domain. Paradigmatic domain is defined as a subset of paradigmatic cells sharing a certain formal property. For example, all non-nominative forms of a certain noun in the singular oblique domain contain the same stem formative, e.g. *č'ar* hair(NOM.SG), *č'ar.a-d* hair-ATTR, *č'ar.a-s* hair-DAT, *č'ar-a* hair-SUP... .

Below, three types of domains are relevant, including the non-nominative (oblique) forms in the singular, the nominative plural and the oblique forms in the plural. The domain of the attributive form will be dealt with below additionally with regard to the description of paradigmatic irregularities. In this section and below, I use shortened paradigms that consist of only 4 forms: the nominative singular and one form from each domain, see Table 6.

Further, I will use two terms: inflectional type and class of inflectional equivalence (or class of equivalence for short). I define inflectional type as a set of non-root segments and non-concatenative operations in a paradigm. An inflectional type uniquely represents a class of nouns, which is inflected in the same way, i.e. by means of this inflectional type. Non-root segments in the system of inflection are presented by the case/number exponents and the stem

formatives. The only non-concatenative operation is the syncope (e.g. *huɕal* rain (NOM.SG) vs. *huɕl.a-d* rain-ATTR). In Table 6, examples of five different inflectional types are shown:

Table 6. Inflectional types of the Rutul nominal inflection (a fragment).

Nom.	<i>xex</i>	<i>us</i>	<i>huɕal</i>	<i>zub-a</i>	<i>ebir</i>
Nom. Pl.	<i>xex-bir</i>	<i>us-bir</i>	<i>huɕal-bir</i>	<i>zuba-bir</i>	<i>ebir-bir</i>
Dat.	<i>xex.i-s</i>	<i>us.u-s</i>	<i>huɕl.a-s</i>	<i>zub.oji-s</i>	<i>ebir.di-s</i>
Dat. Pl.	<i>xex.imi-s</i>	<i>us.mi-s</i>	<i>huɕl.imi-s</i>	<i>zub.ojimi-s</i>	<i>ebir.dimi-s</i>
Lexeme	‘nose’	‘log’	‘rain’	‘hip’	‘blood’

Table 7. Inflectional types of the Rutul nominal inflection non-root segments only (a fragment)⁸.

Nom.	∅	∅	∅	∅	∅
Nom. Pl.	<i>-bir</i>	<i>-bir</i>	<i>-bir</i>	<i>-bir</i>	<i>-bir</i>
Dat.	<i>.i-s</i>	<i>.u-s</i>	<i>.a-s</i>	<i>.oji-s</i>	<i>.di-s</i>
Dat. Pl.	<i>.imi-s</i>	<i>.mi-s</i>	<i>.imi-s</i>	<i>.ojimi-s</i>	<i>.dimi-s</i>
Lexeme	‘nose’	‘log’	‘rain’	‘hip’	‘blood’

From Table 7 one can make two observations:

1. Case exponents are the same for all inflectional types (with a few exceptions to be considered below in this section)
2. At least some stem formatives demonstrate a certain ability to combine with one another. For example, in the dative plural of *xex* ‘nose’, and of *zuba* ‘hip’, the singular stem formative is combined with the segment *.mi*, which is present in all dative plural cells for all inflectional types. In contrast, in the dative plural cell of the lexeme ‘log’ *.mi* appears alone and is not combined with anything.

These observations has substantial consequences for the description. As the case exponents are consistently used for all inflectional types, they are recognised as being responsible for the expression of grammatical meanings. Their segmentation is supported by regularity of meaning-form correspondence.

Unlike exponents, stem formatives are “paradigmatic residuals”. Due to their emptiness they can not be reliably segmented, and thus can not be assumed to have the same morphological status as case exponents. However, according to the second observation they demonstrate a

⁸ In this table the dark grey painting depicts the roots that have undergone the vowel syncope (cf. Section 6).

concatenative property — the ability to combine with each other under some conditions. For this reason the present description recognises them as quasi-segmentable units.

The quasi-segmentability of stem formatives provides us a descriptive basis to distinguish between two types of paradigmatic behaviour. The words *xex* ‘nose’ and *zuba* ‘hip’ demonstrate combinative behaviour in the oblique plural paradigm. The word *xex* ‘nose’ has the oblique plural stem formative *.imi*, which can be analysed as combination of the quasi-segmentable *.i* and *.mi*. The word *zuba* ‘hip’ has the oblique plural stem formative *.ojimi*, which is combination of *.oji* and *.mi*. Despite having different stem formatives these words adhere the same pattern of having stem formative composition in the oblique plural domain.

The word *us* ‘log’ has the oblique plural stem formative *.mi*, which is simplex and further unanalysable. This word demonstrate non-combinative kind of paradigmatic behaviour.

Thus, it seems useful to have one more level of abstraction — the class of equivalence. I define this as a class of those inflectional types that demonstrate the same pattern of paradigmatic behaviour (combinative vs. non-combinative) in the plural domain.

Table 8 shows shortened paradigm examples for each attested regular class of equivalence, and Table 9 — examples for the irregular ones:

Table 8. Examples of regular classes of inflectional equivalence.

Cl.	Non-combinative	Combinative	Iotated	Expanded Plural
N. Sg.	juš	xex	gunši	ɸil
Dat. Sg.	juš.e-s	xex.i-s	gunši.je-s	ɸil.i-s
N. Pl.	juš-bir	xex-bir	gunši.j-mar	ɸil-abir
Dat. Pl	juš.mi-s	xex.imi-s	gunši.jmaše-s	ɸil-abir.mi-s
Lexeme	‘night’	‘nose’	‘neighbour’	‘foot’

Table 9. Examples of regular classes of inflectional equivalence.

Cl.	Irregular 1	Irregular 2	Irregular 3	Irregular 4
N. Sg.	dur	šu	t’ili	riš
Dat. Sg.	dur.u-s	šu-s	t’ili.je-s	riš.e-s
N. Pl.	dur.u-bir	šü-be	t’il-abir	riš-be
Dat. Pl	dur.umi-s	šü-be.še-s	t’il.aba-s	riš.biše-s
Lexeme	‘name’	‘brother’	‘finger’	‘daughter’

As it can be seen from the tables above, 8 classes of inflectional equivalence have been attested. Regular classes of equivalence are non-combinative, combinative, iotated and expanded

plural. The combinative class contains paradigms that use the combination of oblique singular and oblique plural stem formatives in the oblique domain, while combinative — paradigms that use only oblique plural stem formative. The iotated class of equivalence is characterized by the specific iotated oblique plural stem formative and iotated plural exponent (cf. Section 8 for the discussion of the ambiguous status of this iod). Expanded plural class of equivalence consists of paradigms, in which oblique plural domain contains the combination of plural exponent with oblique plural stem formative.

All irregular classes of equivalence are represented by one word each. In irregular 1 class the paradigm of the word *dur* 'name' undergoes occasional expansion of oblique singular stem formative to the nominative plural. The word *šu'* 'brother', representing irregular 2 class of equivalence, is characterized by no oblique singular stem formative: case exponents are attached to the bare root. In the oblique plural domain oblique plural stem formative is attached to the plural exponent *-be*. The nominative plural of *tʃʃli* 'finger' undergoes a root-vowel truncation: *tʃʃil-abir*. The same irregularity applies to the oblique plural domain, which uses the irregular oblique plural stem formative *.aba-*. The word *riš* 'daughter' (irregular 4 class of equivalence) use irregular oblique plural stem formative.

These data are summarized in Table 10 below. OBL.SG stands for oblique singular stem formative and OBL.PL for oblique plural stem formative. The number of paradigms that compose each class of equivalence is also displayed.

Table 10. Attested classes of equivalence of the Rutul nominals

Class of equivalence/ Domain	Oblique singular	Nominative Plural	Oblique Plural	Number of paradigms in class:
Non-combinative	OBL.SG	Only plural exponent	Only OBL.PL	36
Combinative	OBL.SG	Only plural exponent	OBL.SG + OBL.PL	32
Iotated	OBL.SG	j + plural exponent	j + OBL.PL	5
Expanded Plural	OBL.SG	Only plural exponent	Plural exponent + OBL.PL	4
Irregular 1	OBL.SG	OBL.SG + plural exponent	OBL.SG + OBL.PL	1
Irregular 2	No OBL.SG	Only plural exponent	Plural exponent + OBL.PL	1
Irregular 3	OBL.SG	Plural exponent + root vowel truncation	Irregular OBL.PL + root vowel truncation	1
Irregular 4	OBL.SG	Only plural exponent	Irregular OBL.PL	1

The information about the animacy of a noun is also encoded into an inflectional paradigm. Each class of inflectional equivalence can be further analysed considering animacy-specific morphology. Table 11 shows that in the regular classes of equivalence the combinative and non-combinative and non-combinative class can be divided into animate and inanimate declension. Either declension has animacy-specific morphology. Animate nouns have *-mar*, *-er*, *-ar* as plural exponents and *.maše*, *.eše*, *.aše* as oblique plural stem formatives. These allomorphs represent different inflectional types and their distribution is lexically conditioned. However, some data indicate that the use of *-er* and *.eše* versus *-ar* and *.aše* can be constrained by the palatalization of the root-final consonant (e.g. *lixⁱ-er* louse-PL and *sikⁱ-er* fox-PL, but *did-ar* fly-PL and *biⁱb-ar* frog-PL). Inanimate nouns have *-bir* as a plural exponent and *.mi* as oblique plural stem formative. The iotated class contains only animate nouns as it consists of kinship and social relation terms (e.g. *riši* 'sister', *gunši* 'neighbour', *gari* 'wife'). The mediated plural consists of body-part terms (e.g. *ul'* eye', *sis'* tooth', *kili'* toe') which are inanimate.

The distribution between *-ra* and null exponence in the ergative plural can also be explained in terms of animate and inanimate declensions. The ergative singular allomorphs (*-ra*

vs. *-a*) in direct animate class are additionally split by human / animate-non-human distinction (e.g. *sus-a* bride-ERG, *gag-a* uncle-ERG, but *zizix.a-ra* ant-ERG).

Table 11. Class of inflectional equivalence, animacy and variance of exposure.

Class	Animacy	Nominative plural exponents	Oblique plural stem formatives	Ergative singular exponents	Ergative plural exponents
Non-combinative	Inanimate	-bir	.mi	-ra	-ra
	Animate	-mar, -er, -ar	.maše, .eše, .aše	-ra, -a	∅
Combinative	Inanimate	-bir	.mi	-ra	-ra
	Animate	-mar, -er, -ar	.maše, .eše, .aše	-ra	∅
Iotated	Animate	-mar, -er	.maše, .eše	-ra	∅
Expanded Plural	Inanimate	-abir	.mi	-ra	-ra
Irregular 1	Inanimate	-bir	.mi	-ra	∅
Irregular 2	Animate	-be	.eše	-ra	∅
Irregular 3	Inanimate	-abir	.aba	-ra	-ra
Irregular 4	Animate	-be	.biše	-ra	∅

6. Paradigmatic effects

The notions of *paradigmatic effect* and *paradigmatic standard* was proposed in (Polivanova 2013) in order to describe paradigmatic deviations. A paradigmatic deviation can be defined as a descriptive generalization about certain class of paradigms, which demand an additional bit of descriptive information as compared to another paradigmatic class. For example, if several paradigmatic classes contain a subclass, having the same inflectional irregularity, a generalization over these subclasses can be made. In other words, it can be said that each paradigm of the subclasses has the same paradigmatic deviation.⁹

The notions of paradigmatic effect (Table 12, right column) and paradigmatic standard (Table 12, left column) can be illustrated considering two shortened paradigms below:

Table 12. Comparison of the shortened paradigms of the lexemes ‘nose’ and ‘bone’

Categ.	‘nose’	‘bone’

⁹ See also the similar notion of macroclass introduced in (Carstairs-McCarthy 1994, as cited in (Arkad’ev 2020))

N. Sg.	xex	q'irib
Dat. Sg.	xex.i-s	q'irb.i-s
N. Pl.	xex-bir	q'iri-bir
Dat. Pl	xex.imi-s	q'irb.imi-s

The paradigms look identical, but to describe the paradigm of ‘nose’ we need information about the class of equivalence (which is combinative) and the information about the phonological material of the singular stem formative (the latter can be derived from animacy and the class of equivalence). To describe the paradigm of ‘bone’ we need all the same information, but in addition, we note the syncope of the second root vowel. The paradigms of the former type are called *paradigmatic standard*; those of the latter type *deviant*, or showing a *paradigmatic effect*. An additional rule such as syncope is an example of a paradigmatic effect.

There are two types of evidence, based on which inflectional types can be distinguished, the set of the employed stem formatives and — on top of it — the paradigmatic effects to be applied.

In Table 13, the attested paradigmatic effects are listed. This table is organised in the following way. The first column contains the name of the paradigmatic effect. The second column contains some prerequisites that (apparently) constrain the application of this effect. The third column indicates the domain of the paradigm where the effect can be found.

As a certain paradigmatic effect is not connected with any classificatory basis discussed, it is distributed according to some independent restricting features (usually morphophonological or lexical). This means that paradigmatic effects can be applied to nouns from different classes: the effect “j-epentheticum” is applied to the word ‘eyelash’ which belongs to non-combinative class: *ɪi^hbri.je-d* (eyelash-ATTR), *ɪi^hbri.mi-d* (eyelash.PL-ATTR), and to the word ‘brain’ from combinative class: *bejni.je-d* (brain-ATTR), *bejni.jmi-d* (brain.PL-ATTR), because it is phonologically restricted. Some of the restricting features are yet to be established.

Table 13. Paradigmatic effects attested to date.

Paradigmatic effect	Possible features restricting availability	Domain
Syncope of the root second vowel	two-syllable root, ultimate stress	Singular and plural oblique forms
Absence of the syncope in oblique plural forms	?	Oblique plural forms
Syncope of the stem formative vowel before OBL.PL	CV or VCV structure of the stem-formative	Oblique plural forms
j-epentheticum	Vowel-ending root	Oblique forms; All forms except unmarked
Deduplication of bilabial stem auslaut	Bilabial stem auslaut	Nominative plural
Alternation of the stem formative	?	Oblique plural forms
Suppletivism in the oblique domains	?	Oblique forms
-ar, -er as a nominative plural exponent	Animate declension	Nominative and oblique plural forms
The attributive form does not involve stem formative	Consonantal auslaut, one-syllable root	Attributive form

Tables 14–15 illustrate paradigms of a paradigmatic standard and of the paradigmatic effects that may be associated with it. The scope of application of paradigmatic effects is indicated in bold.

Table 14. Examples of paradigmatic standard and paradigmatic effects.

Categ.	‘nose’	‘bone’	‘grain’	‘leaf’
N. Sg.	xex	q’ir ib	suk	t’ili
Attr. Sg	xex.i-d	q’ir b .i-d	suk.ur-di	t’ili. je -d
Dat. Sg.	xex.i-s	q’ir b .i-s	suk.uru-s	t’ili. je -s
N. Pl.	xex-bir	q’ir i -bir	suk-bir	t’ili-bir
Dat. Pl	xex.imi-s	q’ir b .imi-s	suk.ur mi -s	t’ili. jmi -s

	Paradigmatic standard in combinative class	Syncope of the root second vowel + Deduplication of the bilabial stem auslaut	Syncope of the stem formative vowel before OBL.PL	j-epentheticum
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Table 15. Examples of paradigmatic standard and paradigmatic effects (continuation).

Categ.	‘nose’	‘road’	‘fox’	‘house’
N. Sg.	č’ar	ra ^s q	siki’	χal
Attr. Sg.	č’ar.a-d	ri ^s gi ^s .i ^s -d	siki’ .i-d	χal- di
Dat. Sg.	č’ar.a-s	ri ^s gi ^s .i ^s -s	siki’ .i-s	χal.i-s
N. Pl.	č’ar-bir	ra ^s q-bir	siki’- er	χal-bir
Dat. Pl.	č’ar.imi-s	ri ^s gi ^s .mi-s	siki’ .eše-s	χal.mi-s
	Alternation of stem formative	Suppletive oblique stem	-ar, -er as a nominative plural exponent	Attributive form do not involve stem formative

All words that use a suppletive oblique stem (collected so far) are listed in Table 16. Most of the suppletive nouns can be grouped into 3 groups according to the alternations they undergo.

Table 16. Lexemes with “Suppletivism in the oblique domains” paradigmatic effect

Unmarked form	Attributive form	Group
rak (door)	rigi-d (door-ATTR)	
ra ^s q (road)	ri ^s gi ^s -d (road-ATTR)	Vowel closing and voicing of the root-final consonant
rat (threshing floor)	ridi-d (threshing_floor-ATTR)	
jak (meat)	jigi-d (meat-ATTR)	
q’i ^s d (winter)	q’i ^s ji-d (winter-ATTR)	
xed (water)	xiji-d (water-ATTR)	Loss of root-final d
xad (spring)	xaji-d (spring-ATTR)	
q’el (salt)	q’il-di (salt-ATTR)	Vowel closing
laq’ (liver)	leq’i-d (liver-ATTR)	
c’aj (fire)	c’i-d (fire-ATTR)	
sen (year)	sidi-d (year-ATTR)	
yal (mouth)	gili-d (mouth-ATTR)	

As far as the stem alternations (truncations) cannot be synchronically predicted, I do not use the “dot notation” even if the stem formative can be isolated.

7. Inventories of stem formatives

This section describes stem formatives and their distribution. The variety of singular stem formatives is depicted in Table 17:

Table 17. Inventory of the singular stem formatives

Exponent	Unmarked form	Attributive form
(j)i	ul eye	ul.i-d eye-ATTR
(j)e	bejni brain	bejni.je-d knot-ATTR
u	dur spoon	dur.u-d spoon-ATTR
i	p'iz lip	p'iz.i-d lip-ATTR
a	xum smoke	xum.a-d smoke-ATTR
ij	gum sand	gum.iji-d sand-ATTR
uj	naq' ^w soil	naq' ^w .uji-d soil-ATTR
ir	c'ic' grasshopper	c'ic'.ir-di grasshopper-ATTR
ir	lix ⁱ louse	lix ⁱ .ir-di louse-ATTR
il	xeb nail	xeb.il-di nail-ATTR
il	kač horn	kač.il-di horn-ATTR
al	maʔ adipose	maʔ.al-di adipose-ATTR
ar	duχ son	duχ.ar-di son-ATTR
ur	lec' river	lec'.ur-di river-ATTR
an	na ^s χ evening	na ^s χ.an-di evening-ATTR
di	ebir blood	ebir.di-d blood-ATTR

ini	gič fear	gič.ini-d fear-ATTR
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The formatives with the structure V_{ji} or VR_i are selected when a consonant follows. It seems that, in general, the choice of a singular stem formative is lexical. There are however tendencies that affect this choice:

1. The vowel-ending roots tend to choose a stem formative containing the front vowel with the j-epentheticum
2. The roots with palatalized consonants in auslaut choose a stem formative containing the front vowel
3. The roots with *č, š, ž, j* in auslaut choose a stem a stem formative containing the front vowel
4. The roots with labialized auslaut choose a stem formative containing the rounded vowel
5. The borrowed words tend to choose *.di* formant as default (e.g. *χabar.di-d* news-ATTR, *u^hmur.di-d* life-ATTR)

Table 18 shows the inventory of oblique plural stem formatives attested to date. The choice of the formatives is mainly governed by instrumentality of classes of equivalence and animate / inanimate declensions (as described in Section 6). The choice between *maše* and *aše*, *eše* is connected to the paradigmatic effect “-ar, er as a nominative plural exponent” respectively.

Table 18. Inventory of the oblique plural stem formatives

Exponent	Unmarked form	Attributive form
mi	χal house	χal.mi-s house.PL-DAT
maše	sus bride	sus.maše-s bride.PL-DAT
aše	did fly	did.aše-s fly.PL-DAT
eše	lix ⁱ louse	lix ⁱ .eše-s louse.PL-DAT
biše	riš daughter	riš.biše-s daughter.PL-DAT

8. The j-problem

As it can be seen from Tables 8–10, there is only one class of equivalence (iotated) which involves a specific iotated stem formatives in the nominative plural *gari-jmar* (wife-PL) and

oblique plural domains ,*gari.jmaše* (wife.PL.ERG). There are two ways to account for this, reducing the number of the classes of equivalence.

1. We can explain the emergence of *j* by expansion of the paradigmatic effect “Syncope of the stem formative vowel before OBL.PL” to the nominative plural domain, thus merging this class of equivalence with irregular 1 (*dur* ‘name’).
2. Alternatively, we can postulate the underlying *j* in root auslaut, which is always absent in the unmarked form, but is present in all other domains; thus, this class can be merged with Non-combinative.¹⁰

As the data that could possibly help to rule in favor of one or the other solution is still insufficient, I leave it open to further research.

9. Conclusion

In this paper, the description of the nominal inflectional morphology in Kina Rutul was presented. While I do not pretend it is exhaustive, it was meant to cover as many properties of the Rutul nominal paradigms as possible without using aprioristic assumptions, such as the “derivational” nature of inflectional paradigms in (Kibrik 2003) or “primacy of the inessive” in (Maxmudova 2001). The “three-layer” (class of equivalence, inflectional type and paradigmatic effect) structure of the description and the taxonomic nature of this description (including its not being based on the metaphor of a morphological process) can provide a basis for a full calculus of the nominal paradigms in Kina Rutul.

Abbreviations

ATTR – attributive form	OBP – oblique base plural
COM – comitative case	OBS – oblique stem
DAT – dative case	PL – plural number
DBS – direct base singular	SG – singular number
ERG – ergative case	SUP – localization ‘on’
NOM – nominative case	

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¹⁰ This solution was suggested by M. Daniel (p.c.)

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