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The Turkic plural in *-s

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Apart from the Common Turkic plural marker *-lAr, the Turkic languages, including Chuvash, show traces of an older plural marker that may be reconstructed as *-s, represented as (*)-z in Common Turkic and as (*)-r in Bulghar Turkic. This marker has been controversial, postulated by some and rejected by other Turkologists. Applying the method of internal reconstruction, the present paper shows that there is no reason to deny its existence in Pre-Proto-Turkic. In the modern Turkic languages it is preserved in several types of nominal lexemes, including pronouns, numerals, names of body parts, and occasional other nouns.

Keywords: Turkic, Proto-Turkic, Pre-Proto-Turkic, internal reconstruction, diachronic morphology, plural marking

1. Introduction

This paper forms a part in a series of studies dealing with selected issues of comparative Uralic and Altaic Studies. My general premises correspond to the anti-Altaicist line of argumentation, according to which the so-called Altaic languages are not mutually related, that is, they do not form a divergent language family with a common protolanguage. They do, however, share both material and structural properties, which are best explained as convergent developments due to a complex network of prolonged and recurrent areal contacts between the individual entities, which include not

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only those traditionally termed Altaic, but also the Uralic languages.

The traces of areal contacts between the so-called Altaic languages, especially between Turkic and Mongolic, reveal crucial information concerning prehistorical stages that would otherwise not be approachable. At the same time, it is for many purposes equally important to study the individual language families separately. It is often thought that only written sources can yield relevant diachronic information. However, the further back into prehistory we wish to delve, the more important the methods of comparative analysis and internal reconstruction become. In the present paper this will be shown on the example of the Turkic plural marker *-s. 1)

2. Examples of petrified number markers

The method of internal reconstruction is based on identifying traces of obscured processes and elements that are no longer productive in the language. At the lexical level, this means the dissection of words into elements that are no longer synchronically active. This is a standard method in historical linguistics and needs no justification in itself. The conclusions based on internal reconstruction are often confirmed by information from external reconstruction, based on comparisons with other languages, either related or unrelated.

Obscured morphological elements that can be identified with the help of internal reconstruction include all categories of nominal and verbal inflection. In this paper the focus is on number marking, an area that can be illustrated with examples from many languages. In English, for instance, archaic plurals like *brøthren* ‘brothers’ and *kine* ‘cows’ preserve a trace of an earlier much larger group of plurals ending in -n, to which also *children* has adhered by way of secondary morphological analogy. A related form is attested in Swedish as -on in the idiosyncratic plurals ögon ‘eyes’ (singular öga) and öron ‘ears’ (singular öra). Interestingly, this same plural marker -on is also attested in a large number of names for fruits and berries, in which it synchronically has been generalized to the singular as well, as in hallon ‘raspberry’, lingon ‘lingonberry’, ollon ‘acorn’, päron ‘pear’, plommon ‘plum’, and others (c. 20 examples altogether). Not all of these are original examples,

1) The author thanks two anonymous reviewers for a number of constructive comments and suggestions.
for many are analogical formations based on a small number of models such as *nypon* ‘roseberry’ and *smultron* ‘wild strawberry’ (cf. SEO s.vv.).

The fact that the names of paired body parts often preserve obscured number markers is also exemplified by Russian (and other Slavic) óči (ouu) ‘eyes’ and úši (yuu) ‘ears’, which are actually petrified dual forms from the singular forms óko (oko) and úxo (yxo), respectively (ESR s.vv.). Similar examples of etymological dual forms, as used for paired body parts such as ‘hands’ and ‘feet’, and including animal body parts such as ‘wings’ and ‘horns’, are well attested in Hebrew (Fontenoy 1969: 49–54). 2) In these languages, the former dual forms function synchronically as plurals. However, it is also common, especially in languages in which number marking is not obligatory, that number markers completely lose their reference and become obscured parts of the word stem. This happens frequently in, for instance, Mongolian, where original plurals such as *keūke-d* (> xuuxed) ‘children’ (singular *keūken*), *eko-ner* (> exner) ‘wives, women’ (singular *eko*), *oyuu-ta-n* (> oytuten) ‘students’ (singular *oyuu-tai* ‘one with intelligence’) synchronically function as singulars or unmarked generic basic forms.

An even more interesting example from the Altaic typological realm is offered by the Mongolic petrified collective nouns, which are of two types. One of these types contains the marker *(*)-d- and refers to countables such as *ni-d-ú/n* ‘eye’, *si-d-ú/n* ‘tooth’, *xo-d-u/n* ‘star’, *xö-d-ü/n* ‘quill’, and others, while the other type contains the marker *(*)-s- and refers to uncountables denoting liquids or “liquifiables” such as *u-s-u/n* ‘water’, *to-s-u/n* ‘oil’, *ci-s-u/n* ‘blood’, *ca-s-u/n* ‘snow’, and others. The two types have conspicuously similar counterparts in Tungusic, where they are marked by the suffixal complexes *(*)-g-tA- and *(*)-g-sA-, respectively (Janhunen 1996: 213–215). At the same time, it may be noted that both *(*)-d and *(*)-s are also used as regular non-obligatory plural markers in Mongolic.

3. Common Turkic *(*)-z in names of paired body parts

It has long been known that the Turkic languages also have a set of nouns in which form and function meet in a way that calls for an explanation in terms of internal reconstruction with regard to number marking. These

2) For consultation concerning the Scandinavian and Hebrew data the author is grateful to Johan Schalin.
nouns typically denote paired body parts, including animal body parts, and end in Common Turkic in (*)-z, as in *köö-‘eye’, *tii- ‘knee’, *yüü- ‘face’ (< ‘cheeks’), *agü- ‘mouth’ (< ‘lips’, as attested in Yakut), *omu- ‘shoulder’, *kökü- ‘(female) breast’, *bängi- ‘cheek’, *yamū- ‘groin, flank’, *büngü- ‘horn’ (we may here ignore minor interdialectal variation in the forms, which might in some cases require the postulation of additional variants for the protolanguage, as well).

In view of such systematic evidence, it has been concluded that (*)-z in these items originally functions as a number marker (Räsänen 1957: 55–56). However, since it is a question of paired body parts, it has commonly been assumed that (*)-z actually marks the dual (Gabain 1941: 64). This is in itself a reasonable assumption, since dual forms often survive as relics in exactly this semantic context, as was observed above for other languages (Slavic and Hebrew). At the same time, it has to be noted that the Turkic languages have no other relict forms that would suggest the former presence of a grammatically marked dual number, nor is the dual attested as a grammatical category in the other “Altaic” languages with which Turkic is most closely associated, notably Mongolic and Tungusic.

The dual is, however, present in a few branches of Uralic, including Samoyedic and “Ugric” (Khanty and Mansi-Hungarian). Interestingly, however, the dual in these languages tends to refer to groups of two individualizable actors, rather than just pairs of two objects or body parts. Paired body parts in these languages are treated either as inherent unmarked plurals, as implied by expressions such as Hungarian fel-szem ‘half-eye’ for ‘one eye’, or as inherent unmarked singulars, which are pluralized by using the regular plural markers. In modern Tundra Nenets, for instance, the plural of paired body parts is expressed by true plural forms such as saew°-q (< Proto-Samoyedic *səymə-t) ‘eyes’, nguda-q (< Proto-Samoyedic *uta-t) ‘hands’, although the language has a grammatical dual number and uses it actively for two individualizable actors.

It is, then, more likely, that the (*)-z in the Turkic names for paired body parts is a petrified plural marker. This assumption is further corroborated by the fact that the synchronically productive Turkic plural marker (*)-lAr is a secondary innovation, formed as the result of false segmentation of pronominal plurals such as *ol-ar > o-lar ‘they’ (Georg 1990). In fact, the plural in (*)-lAr could possibly also represent simply a direct trace of the pronominal plural * + olar, which could easily have developed into a clitic
(\(\ast = lar\)) and then to a suffix, probably first for + animate actors, but finally generalized for all nouns. The innovative plural marker (\(\ast\)-\(l\)ar\)) is present only in the Common Turkic (“Micro-Turkic”) branch of the Turkic (“Macro-Turkic”) family, while Chuvash, the sole living descendant of the Bulghar Turkic branch, uses another innovative plural, based on the independent word \(\ast + sayin\) ‘every’ < ‘counting’, which itself is a non-finite (nominal or converbial) form of the verb \(\ast sa(a)\)- ‘to count’ (Ramstedt 1952–1966.II: 58–59).

It may be concluded that Common Turkic once marked the plural with the suffix (\(\ast\)-\(z\)). We do not know how regular the use of this suffix was. It is well known that, in the Eurasian realm, number is a category whose marking tends to be obligatory in the west and north and facultative in the east and south. Most Uralic and Tungusic languages have an obligatory plural, while Mongolic, Koreanic and Japonic allow more freedom in this respect. Typically, languages that have a facultative plural, tend to have several alternative plural markers whose distribution is determined by lexical, semantic, morphophonological or accidental factors, while languages with an obligatory plural tend to limit the number of plural markers to a minimum. Considering its areal position and expansion history in Eurasia, Turkic may well have become increasingly strict in its use of plural marking in the course of time, and this may have been reflected by changes in the morphological substance.

4. Common Turkic (\(\ast\)-\(z\)) in other plural nominals

Another reason for the marginalization of the plural marker (\(\ast\)-\(z\)) in Turkic may have been the need to increase the segmentability of the string of morphemes. From this point of view the syllable -\(l\)ar\) is considerably more transparent than the single consonant (\(\ast\)-\(z\)), which, moreover, would require the use of a connective vowel with stems ending in a consonant. Such reasons must have reduced the number of surviving relics with (\(\ast\)-\(z\)) as a plural marker, and they also explain why in the actually attested Turkic languages, including those documented historically, the plurals with (\(\ast\)-\(z\)) are synchronically understood as singulars to which the productive plural marker -\(l\)ar\) can be added, as in modern Turkish göz-\(l\)er ‘eyes’.

While the names of paired body parts are a conspicuously coherent group that cannot have arisen accidentally, it is clear that not all Turkic nominals
ending in (*z) are petrified plurals. The voiced dental sibilant (*z) [z] is a regular member of the Turkic consonant paradigm, and it can also occur in word-final position as an integral part of the word stem. At the same time, however, this does not mean that the names of paired body parts would have to be the only surviving examples of the use of (*-z) as a plural marker. We have, indeed, several either certain or potentially relevant types of examples in which we also have this same element.

(1) First, there are occasional other appellative nouns ending in (*z) in which semantic reasons would support the assumption of the presence of plural marking. A case in point is *yultuz (*yilDuz, *yilDîz) 'star', which may structurally be compared with the Mongolic collective plural formation *xo-d-u/n 'star' (as mentioned above). Certainly, there have also been many other attempts to explain the structure and origin of this word (EST 4: 279–281), but they do not necessarily contradict the analysis of the final consonant as a plural marker. The same may be true of *yîltîz (*yîlDîz) 'root' (EST 1: 350, EDT 922–923), and, even more likely, of *kopuz 'string instrument' (< 'strings'?; for other explanations cf. EST 6: 69–71).

(2) Second, there are Turkic ethnonyms ending in (*z), two well-known examples being *oguz (Oghuz) and *kîrkîz (Qîrgiz, Kirghiz). Since ethnonyms all over Eurasia are often petrified plural forms, this is very possibly true of these Turkic items, as well. The ethnonym *oguz (oɣuz, oɣuz) is conventionally derived from (*ok (oq) 'arrow', a meaning that would fit the context of a tribal union with a military ambition. A formal problem with this derivation is that the alternation of final *k with medial *g would seem to be irregular after an original short vowel of the initial syllable, which is why the singular stem corresponding to plural *oguz should be *og (or possibly *ook), rather than *ok (for a comprehensive treatment of the issue, see Golden 2012). This problem is not serious, however, for the alternation of strong and weak medials (and, later, initials) often involves irregular developments. Moreover, if the form dates back to Pre-Proto-Turkic, as it seems, it might have a morphophonological background no longer obvious to us in the details. It happens that the ethnonym *kîrkîz (qîrqîz) is also attested with a weak medial, i.e., kîrgîz (qîrîz), but in this case the strong medial seems to be original (Tekin 1968: 344), making the traditional comparison with *kîrk (qîrqa) 'forty' all the more likely. Semantically this link
would appear well motivated in view of the frequent use of numerals and their plural forms in Central Asian ethnonymy. It may be concluded that the chances are good that both *oguz and *kirkiz are, indeed, obscured plurals.

(3) Third, there are some basic numerals that end in (*z) and that very possibly could be original plural forms. The relevant items are: *sekiz (*sekiz) ‘eight’, *tokkuz (*tokuz) ‘nine’, *otuz (*ottuz) ‘thirty’, *yüüz ‘hundred’. In many languages, numerals can take number markers, as exemplified by Hungarian kettő ‘two’ (an obscured dual form) and Finnish kolme (< *kolme-t, a plural form). Of course, for the individual numerals, other explanations may be historically valid, though we cannot verify the situation. For instance, *tokkuz may be based on the analogy of *sekkiz (Ramstedt 1952–1965.II: 64). A verified plural form is, in any case, present in *iki-z (*eki-z) ‘twins’, based on *iki (*eki, *ikki, *ekki) ‘two’ (EST 1: 252–254).

(4) Fourth, (*)-z functions as a plural marker in the first and second person pronouns *bii-z ‘we’ : *sii-z ‘you’. This situation (correctly noted already by Munkácsi 1884) becomes all the more obvious when we recognize that the corresponding singular personal pronouns were originally *bi (*mi) ‘I’ : *si ‘thou’, which, when pronounced in isolation, had the long-vowel allomorphs *bii and *sii (Janhunen 2013: 218–220). The original singular stems are today preserved only in Chuvash, which has the prefixally modified shapes e-pĕ and e-sĕ, while Common Turkic has generalized the nasal stems *min (*men) and *sin (*sen), respectively, thus obscuring the morphological correlation with the plural pronouns. The correlation is, however, synchronically still preserved in the suffixalized personal possessive and predicative markers, which are *m : *-mlz for the first person and *-ng : *-nglz for the second person (cf. e.g. Erdal 2004: 160–166). In these suffixes, as in the personal pronouns, there is no alternative to the analysis of *-z as a plural marker.

It is, consequently, obvious that the identification of the final (*z) in names for paired body parts as a plural marker is strongly corroborated by evidence from the above-listed four other categories of nominals. This conclusion is fully in accordance with the principles of internal reconstruction. The evidence from the pronominal plurals (4) is totally unambiguous, while the other groups (1–3) can, of course, be disputed, since in some of them the element (*)-z could, at least theoretically, also have some other function. The
status of (\*)-z as a separate morpheme is, in any case, undisputable in *iki-z ‘twins’ and very likely in the ethnonyms *oguz and *kirkiz.

There is also external evidence concerning the morphological status of (\*)-z. An example is offered by *bängiz ‘cheek’, which must be based on the singular stem *bäng, borrowed into Udmurt as bang ~ ban ‘cheek’ (Räsänen 1935: 103). Similarly, *köküz ‘(female) breast’ presupposes the singular stem *kökü < *kökő, which has an external counterpart in the Mongolic nomenverbum *kökö/n ‘(female) breast, nipple’: *kökö- ‘to suck the breast’ (Ramstedt 1952–1965.II: 225). The latter example, like so many other Turko-Mongolic parallels, involves probably a Pre-Proto-Turkic loanword in Pre-Proto-Mongolic, though in this particular case the direction of borrowing cannot be immediately verified.

5. Common Turkic (\*)-z vs. Bulghar Turkic (\*)-r

Indeed, the total evidence in favour of the plural marker (\*)-z in Turkic is so strong that we could disqualify it only if we at the same time disqualify the method of internal reconstruction as a whole. However, we can also work further with the regular comparative method and notice that many of the Common Turkic plurals in (\*)-z have cognates in Bulghar Turkic, where the suffix is represented as (\*)-r, as still preserved in modern Chuvash. Examples:

(by paired body parts:) *köö-z = Bulghar Turkic *kVr > Chuvash kor ~ kur, *tii-z = Bulghar Turkic *tir > Chuvash cér, *agī-z ‘mouth’ = Bulghar Turkic *agī > Chuvash š-ävar (EST 1: 81–83), *kökü-z = Bulghar Turkic *kökür > Chuvash kägär, (other appellative noun:) *yultu-z = Bulghar Turkic *yultur > Chuvash šäldär; (numerals:) *iki-z = Bulghar Turkic *ikir > Chuvash yēgër, *seikki-z = Bulghar Turkic *sekkir > Chuvash sakkăr, *tokku-z = Bulghar Turkic *tokkur > Chuvash tăxxăr, *otu-z = Bulghar Turkic *otur > Chuvash vădăr, *yüü-z = Bulghar Turkic *yūr > Chuvash šēr; (personal pronouns:) *bii-z = Bulghar Turkic *bir > Chuvash e-pir, *sii-z = Bulghar Turkic *sir > Chuvash e-sir.

In all of these cases we are dealing with the regular process of rhotacism, which is best explained as the combinatory change of the sibilant *s to the vibrant *r. The contextual condition of this change is well known and very simple, though still not generally recognized: it affected *s in the position after all bimoraic or longer sequences, that is, after a sequence of at least two syllables (*#(C)V(C)VVs), or also after a long vowel of the initial
syllable (*#(C)VV) (Shcherbak 1970: 84–88). The Common Turkic *z may be seen as a similar positional reflex of *s. Since *z was a new member in the consonant paradigm its opposition with regard to *s was initially allophonic, a situation that may have lasted for centuries until *z became phonemic due to neutralizing processes elsewhere in the system.

The fact that the plural marker (*)-z goes back to original *-s is also evident from the plural personal pronouns. Although the general Common Turkic shape of these pronouns contains a long vowel, i.e., *bi-i-z : *sii-i-z, the corresponding plural first person pronoun in Tofa is bihs (Rassadin 1978: 255–256), with “pharyngealization” (h) before the syllable-final obstruent, which in Sayan Turkic implies an original short vowel (Shcherbak 1970: 137–138). There was, consequently, variation in the plural personal pronouns, depending on whether the vowel was pronounced short or long, i.e., *bi-s ~ *bi-i-s > *biiz : *si-s ~ *sii-s > *siiiz. Apart from Tofa there may have been other Siberian Turkic languages with similar short-vowel stems, though this is impossible to verify due to the secondary neutralization between *z and *s in these languages, as in Yenisei Turkic. (Note also that the plural second person pronoun in Siberian Turkic is commonly of the type *si-ler, which contains the plural suffix *-lAr and lacks diagnostic relevance concerning the original form.)

Some of the rhotacist plurals, like many other items with rhotacism, were transmitted from early forms of Bulghar Turkic into neighbouring languages. Due to the former dominant position and gradual geographical movement of Bulghar Turkic over large parts of Central Asia, these items are present in languages as different as Mongolic, Samoyedic and Hungarian. Thus, the otherwise unattested Bulghar Turkic form *kopur, corresponding to Common Turkic *kopuz, was transmitted into Pre-Proto-Mongolic in the shape *kopur, yielding Proto-Mongolic *koxur ‘string instrument’. Bulghar Turkic *yür ‘hundred’ was transmitted into Proto-Samoyedic in the shape *yur, though in this case, of course, the analysis of the original item as a plural form could be disputed. The Bulghar Turkic item *ikir ‘twins’ survives in Hungarian as ikir > modern ikér id. (Róna-Tas & Berta 2011: 450–452). Finally, the ethnonym *oguz is historically attested in the rhotacist Bulghar Turkic shape *ogur (Oghur) and its derivatives (Golden 2012). There are also several other Central Asian ethnonyms with a final r, some of which may actually be obscured Bulghar Turkic plurals (Janhunen 2017).
6. The plural marker *-s in time and space

Although there should no longer be any doubt concerning the former existence of a productive plural marker *-s in Pre-Proto-Turkic, the substance of the marker itself poses a couple of unsolved problems. For one thing, we may note that the dental sibilant (*)s [s] is a trivial consonant which often occurs in suffixes and which, therefore, also frequently functions as a plural marker (Janhunen 2014: 321–322). The background of (*)-s as a plural marker varies from language to language, but the possibility of areal connections should always be considered. In the immediate neighbourhood of Turkic, (*)-s is used as a plural marker in at least two language families: Indo-European in the west and Mongolic in the east. In Mongolic, *-s marks the plural of vowel stems (Poppe 1955: 177–178).

Since there is no evidence of an original genetic relationship between Turkic and Mongolic, while there is a lot of evidence of areal contacts between the two families, it cannot be ruled out that the plural marker *-s was also transmitted from one family to the other. In fact, it has been proposed that occasional Mongolic plural forms in *-s have been transmitted into Turkic, as in Old Turkic ɨ̱bara-s ̲ ~ ɨ̱bara-š [a rank] (Tekin 1968: 122). At earlier chronological layers, however, the direction would more likely have been from Turkic to Mongolic. A problem here is that the earliest currently identifiable layer of Turkic borrowings in Mongolic derives from Bulghar Turkic, in which the plural *-s is represented as *-r, and which, indeed, contributed some items with this plural marker to Pre-Proto-Mongolic (as discussed above). The Mongolic plural in *-s cannot, therefore, reflect a trace of Turkic *-s unless we are dealing with an even earlier stage of interaction. Another possibility is that the similarity is accidental and connected with the triviliaty of the sound [s].

Another problematic issue concerns the original shape of the Turkic plural marker. On the basis of Turkic internal data alone, the marker would seem to have had the shape *-s, whose regular rhotacist reflex *-r is also observed in most of the relevant items transmitted to Mongolic. However, as a case of exception, the item *iki-s ‘twins’ is in Mongolic attested as *ikire (Written Mongol vigir e) > *ikere (Written Mongol vigar e), a form which contains an unexplained final vowel. 3) This vowel is a real segment and it is also present

3) For the transliteration of Written Mongol, the so-called Balk-Janhunen
in Manchu *ikiri, Ewenki *ikire and Yakut *igire, which are all borrowings from Mongolic (Doerfer 1985: 99 no. 290). Now, it is well known that Turkic originally had final vowels which were lost on the Turkic side but which are preserved in the early layer(s) of Turkic (Bulghar Turkic) borrowings in Mongolic. On this basis we might want to derive Turkic *iki-s from earlier *iki-se.

We might, then, conclude, that the Turkic plural marker originally had the shape *-sA, which developed to *-s > (*)-z in Common Turkic and to *-rA > (*)-r in Bulghar Turkic. Mongolic *ikire would represent an early layer of Bulghar Turkic borrowings from a period when the language still retained the final vowel, while the other items with a final (*)-r would represent a later period. Another possible example of the early layer of borrowings could be present in Mongolic *düri ‘form, shape, appearance’, which has been compared with Turkic *yüüz ‘face’ (Ramstedt 1952–1965. I: 113), presupposing a Pre-Proto-Turkic reconstruction of the type *düü-sV. In the latter case, however, the status of the final vowel is less obvious and its quality is not confirmed by Tungusic data (Doerfer 1985: 76 no. 193). Mongolic also has *diür-sü/n id., while Manchu durun looks like a borrowing from Mongolic *diür with the addition of the element -un, often added to monosyllables in Manchu.

Altogether, the evidence from the single item *iki-s = *ikire is rather scanty to make any definitive conclusion concerning the original shape of the Turkic plural marker *-s. The possibility that *-s derives from earlier *-sA is nevertheless interesting in the context of areal comparisons. It may be recalled that Mongolic has not only the plural suffix (*)-s, but also the collective suffix (*)-s for “liquifiables”, and the latter seems to correspond both in form and function to Tungusic *-sA-, which likewise functions as a collective suffix for homogeneous masses, but which also forms the base of the secondary plural marker *-sA-l (Benzing 1956: 69–71). Whether we are dealing with accidental similarities or traces of very early areal contacts is difficult to say. In any case, as long as there is no evidence of a lexical corpus (basic vocabulary) shared by the “Altaic” languages we should not be tempted to make false conclusions.

Romanisation (BJR) is used here (see, e.g., Janhunen 2016).
References

Benzing, Johannes. 1956. *Die tungusischen Sprachen: Versuch einer vergleichenden Grammatik* (Akademie der Wissenschaften und der Literatur, Abhandlungen der Geistes- und Sozialwissenschaftlichen Klasse. Jahrgang 1955. 11). Wiesbaden: Franz Steiner Verlag.

Doerfer, Gerhard. 1985. *Mongolo-Tungusica* (Tungusica 3). Wiesbaden: Otto Harrassowitz.

Erdal, Marcel. 2004. *A Grammar of Old Turkic*. Handbuch der Orientalistik VIII.3. Leiden: Brill.

Fontenoy, Charles. 1969. *Le duel dans les langues sémitiques* (Bibliothèque de la Faculté de Philosophie et Lettres de l’Université de Liège, fasc. CLVIV). Paris: Société d’Édition «Les Belles Lettres».

Gabain, Annemarie von. 1941. *Alttürkische Grammatik* (Porta Linguarum Orientalium, Neue Serie 15). Wiesbaden: Otto Harrassowitz.

Georg, Stefan. 1990. Some thoughts on the etymology of the Turkic plural suffix -lar/-ler. In Bernt Brendemoen (ed.), *Altaica Osloensia: Proceedings from the 32nd Meeting of the Permanent International Altaistic Conference*, 141–152. Oslo: Universitetsforlaget.

Golden, Peter. 2012. *Oq and Oğur ~ Oğuz. Turkic Languages* 16. 155–199. Wiesbaden: Otto Harrassowitz.

Janhunen, Juha. 1996. Prolegomena to a comparative analysis of Mongolic and Tungusic. In Giovanni Stary (ed.), *Proceedings of the 38th Permanent International Altaistic Conference*, 209–218. Wiesbaden: Harrassowitz Verlag.

Janhunen, Juha. 2013. Personal pronouns in Core Altaic. In Martine Robbeets & H. Kuyckens (eds.), *Shared Grammaticalization: With Special Focus on the Transeurasian Languages*, 216–226. Amsterdam: John Benjamins.

Janhunen, Juha. 2014. Ural-Altaic: The polygenetic origins of nominal morphology in the Transeurasian zone. In Martine Robbeets & Walter Bisang (eds), *Paradigm Change in the Transeurasian Languages and Beyond* (Studies in Language Compansion Series 161), 311–335. Amsterdam: John Benjamins.

Janhunen, Juha. 2016. Romanizing Written Mongol: Tradition and innovation. *Asia jeminju ui munja* (Gugyeol Hakhoe 20 junyeon gukje haksl daehoe), 91–100. Seoul: Gugyeol Hakhoe.

Janhunen, Juha. 2017. From Tatar to Magyar: Notes on Central Eurasian ethnonyms in -r. In Christopher P. Atwood et al. (eds.), *Festschrift for György Kara on the occasion of his 80th birthday*, Forthcoming.

Munkácsi, Bernát. 1884. A török nyelvág valodi számképzői. *Budenz-Album: Budenz József XXV éves nyelvészeti működése emlékére*. 304–306. Budapest: Akadémiai
könyvkereskedés.

Poppe, Nicholas. 1955. *Introduction to Mongolian Comparative Studies* (Mémoires de la Société Finno-Ugrienne 110). Helsinki: Finno-Ugrian Society.

Poppe, Nicholas. 1960. *Vergleichende Grammatik der altaischen Sprachen. Teil I: Vergleichende Lautlehre* (Porta Linguarum Orientalium, Neue Serie 4). Wiesbaden: Otto Harrassowitz.

Ramstedt, G. J. 1952–1966. *Einführung in die altaische Sprachwissenschaft*, vols. I: Lautlehre, II: Formenlehre, III: Register. Pentti Aalto (ed.). Mémoires de la Société Finno-Ugrienne 104: 1–3. Helsinki: Finno-Ugrian Society.

Räsänen, Martti. 1957. *Materialien zur Morphologie der türkischen Sprachen* (Studia Orientalia 21). Helsinki: Finnish Oriental Society.

Rassadin [Рассадин], В. И. 1978. *Морфология тофаларского языка в сравнительном освещении*. Москва: Издательство «Наука».

Róna-Tas, András & Árpád Berta. 2011. *West Old Turkic: Turkic Loanwords in Hungarian, Parts 1–2*. Turcologia, Wiesbaden: Harrassowitz Verlag.

Shcherbak [Щербак], А. М. 1970. *Сравнительная фонетика тюркских языков*. Ленинград: Издательство «Наука».

Tekin, Talat. 1968. *A Grammar of Orkhon Turkic* (Indiana University Publications Uralic and Altaic Series 69). The Hague: Mouton & Co.

EDT = Sir Gerard Clauson. *An Etymological Dictionary of Pre-Thirteenth-Century Turkish*, Oxford: Clarendon Press, 1972.

ESR = Макс Васмер [Max Vasmer]. *Этимологический словарь русского языка*. Перевод с немецкого и дополнения О. И. Трубачева. vols. 1–4, Москва: Издательство «Прогресс», 1964–1973.

EST = Этимологический словарь тюркских языков, vol. 1: Э. В. Севортян (ed.), Общетюркские и межтюркские основы на гласные, Москва: «Наука», 1974; vol. 4: Л. С. Левицкая (ed.), Общетюркские и межтюркские основы на буквы “Ж”, “Ж”, “Й”, Москва: «Наука», 1989; vol. 6: Г. Ф. Благова (ed.), Общетюркские и межтюркские лексические основы на букву “К”, Москва: «Индрик», 2000.

SEO = Elof Hellqvist. *Svensk etymologisk ordbok*, vols. 1–2. Ny omarbetad och utvidkad upplaga, Lund: C. W. K. Gleerups förlag, 1939.
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