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Slavic Language Shift Feature
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0. Introduction

An interesting feature shared by many eastern European languages is the compound formation for the numbers '11' through '19', based on the pattern '1 on 10', '2 on 10', etc. Examples of this number construction, henceforth designated the 'locative' (LOC) number pattern, following Reichenkron (1958), are in (1a-e):

(1) The locative number pattern

(a) OCS: (j)edin¹ na desete '11'...devet⁹ na desete '19'
 1 LOC 10 9 LOC 10

(b) Latvian: viēn-pa-dsmit '11'...deviņ-pa-dsmit '19'
 1-LOC-10 9-LOC-10

(c) Rumanian: un-spre-zece '11'...nouă-spre-zece '19'
 1-LOC-10 9-LOC-10

(d) Albanian: një-mbë-dhjetë '11'...nëntë-mbë-dhjetë '19'
 1-LOC-10 9-LOC-10

(e) Hungarian: tíz-en-egy '11'...tíz-en-kilenc '19'
 10-LOC-1 10-LOC-9

It is important to note that the locative pattern is common to all Slavic languages. Also, in Hungarian the deced precedes, rather than follows, the unit digit.

This paper makes two arguments. First, it is argued that the locative number pattern is an inherent feature of Slavic (or, possibly, Balto-Slavic). This is widely accepted by most scholars. Second, and more important, it is argued that the locative pattern later spread from Slavic to Rumanian, Albanian, Hungarian (and, possibly, Latvian) by means of Thomason and Kaufman's (1988) notion of language shift. In other words, different groups of early Slavic speakers shifted to these languages and, in the process, transferred their native Slavic morphological structure for the numbers '11' through '19', ultimately accounting for the distribution of the locative number pattern in the languages.

Before proceeding, it is necessary to introduce an assumption upon which the language shift analysis in this paper (as well as earlier language contact analyses) is based. Namely, in order to treat the data in some of the languages as a feature of language contact, it must be assumed that the locative number pattern is typologically uncommon, thus minimizing the possibility that its development among the languages in (1) is coincidental.

This assumption is in fact supported by Greenberg (1978) who, although citing no exact statistics, claims that the locative number pattern is uncommon cross-linguistically; the only examples he cites, in addition to those in (1), are Logbara, a Central Sudanic language, and Welsh, as in (2) and (3), respectively.

(2) Locative pattern in Logbara

moodri dri-ni alo '11'

10 LOC-it one

(3) Locative pattern in Welsh

un ar ddeg '11'

1 LOC ten

1. The Slavic origin of the locative pattern

This section argues that the locative number pattern originated in some early form of Slavic; note that this is not a new proposal, as this is the position of a number of earlier researchers like Rosetti (1964), Schaller (1975), and Sala (1988). The main line of reasoning behind the Slavic theory of origin is the fact that the locative pattern occurs in all of the Slavic languages, whereas in the Romance, Baltic, and Finno-Ugric languages it is restricted to Rumanian, Latvian, and Hungarian, respectively.

The same cannot be said about Albanian, however. Because there are no early attested records for Albanian, together with the fact that the language has no sister languages to which it can be compared, it is conceivable that the locative pattern originated in Albanian and then spread to the other languages. In fact, a few earlier works, namely Simonyi (1907), the Rumanian Academy's account of the history of the Rumanian language, and Hamp (1992), claim that the locative number pattern originated in the Balkan substrate language Thraco-Phrygian or Illyrian, from which Albanian purportedly developed, and that later the pattern was incorporated by Rumanian and Hungarian either via contact with the original Balkan substrate language or with Albanian; note that these scholars do not discuss the origins of the pattern in Slavic or Latvian.

However, this theory for Balkan origin is problematic for three reasons. First, and most important, there is no attested evidence for the locative pattern in the earlier Balkan languages. In fact, concerning Thraco-Phrygian, Polomé (1992) notes that evidence for the numbers is limited to five base numbers: '2', '4', '8', '9', and '100'. Consequently, as with other appeals to a prehistoric substrate, the Balkan theory of origin suffers from the fact that the substrate language which supposedly provided the feature is itself represented by very little attested evidence. Second, since the aforementioned scholars only discuss the origins of the locative pattern in Albanian, Rumanian, and Hungarian, they are suggesting that the identical pattern in the Slavic languages and Latvian is a mere coincidence, which goes against the typologically-based assumption stated earlier. Finally, in the case of Hungarian, the Balkan theory of origin is problematic both geographically and

(6) Germanic '11' and '12'

Gothic: ain-libim '11' > E. eleven; G. elf; Frisian alf; etc.
1-left over
twa-libim '12' > E. twelve; G. zwölf; F tweelf; etc.
2-left over

The second possibility is that the Latvian facts, similar to the Albanian, Rumanian, and Hungarian data, may be treated as a result of contact with Slavic. According to Spekke (1951), speakers of early East Slavic came into contact with Latvian from the tenth or eleventh century AD onward. Unfortunately, however, there is no early attested evidence, i.e., from Old Prussian, which can ultimately resolve this mystery, and the remainder of this paper is consequently limited to those non-Slavic languages other than Latvian.

The question arises as to why early Slavic speakers developed the locative teen pattern in the first place. Here too there is no attested evidence which accounts for this development. However, it is possible that, although the structure itself is typologically uncommon, the development of the locative pattern and its restriction to the teens represents a tendency of language where compound teens are formed with structures that are distinct from the higher compound decads. Some examples of these distinct structures from Indo-European and Finno-Ugric are shown in (7a-d); an example of a language where the structures are similar is Japanese, as in (8).

(7) Distinct patterns for the compound teens in Indo-European and Finno-Ugric

(a) Latin:

ūn-decim '11'...duo-dē-uīginti '18'...uīginti '20'
1-10 2-from-20 20
uīginti unus/unus et uīginti '21', uīginti duo '22', etc.
20 1 1 and 20 20 2

(b) Bulgarian:

edi-ná-deset '11', dva-ná-deset '12'...dvá-deset '20'
1-LOC-10 2-LOC-10 2-10
dvá-deset i edina '21', dvá-deset i dva '22', etc.
2-10 and 1 2-10 and 2

(c) English: eleven, twelve, thirteen, fourteen...twenty
twenty-one, twenty-two, etc.

(d) Finnish:

yksi-toista '11', kaksi-toista '12'...kaksikymmentä '20'
1-of the 2nd (10) 2-of the 2nd (10) 2 10
kaksi-kymmentä yksi '21', kaksi-kymmentä kaksi '22', etc.
2 10 1 2 10 2

(8) Similarities between Japanese compound teens and decads

jū-ichi '11',	jū-ni '12',	jū-san '13'...	ni-jū '20'
10-1	10-2	10-3	2-10
ni-jū-ichi '21',	ni-jū-ni '22',	ni-jū-san '23', etc.	
2-10-1	2-10-2	2-10-3	

Interestingly, this type of distinctive teen structure, as shown in (7a-d), plays a role in the language shift analysis to follow.

2. Treating the locative pattern in Rumanian, Albanian, and Hungarian as a Slavic language shift feature

To this point, this paper has proposed that the locative pattern in (1a-e) is an inherent feature of the Slavic languages which later spread via language contact to the other languages. The precise language contact process by which the locative number pattern was incorporated into the non-Slavic languages is now discussed.

The paper assumes the theoretical framework of Thomason and Kaufman (1988), who note that there are two ways in which a language can incorporate one or more foreign features from a neighboring language. The first type of contact is borrowing, defined as:

"the incorporation of foreign features into a group's native language by speakers of that language...[resulting in a situation where] the native language is maintained but changed by the addition of the incorporated features." (37)

In ideal terms, borrowing refers to those situations where one language has incorporated a number of loanwords from another, like the case of English loanwords in Japanese.

The second type of contact is language shift, defined as:

"[a situation where] a group of speakers shifting to a target language (TL) fails to learn the TL perfectly. The errors made by members of the shifting group in speaking the TL then spread to the TL as a whole when they are imitated by original speakers of that language." (39)

Language shift generally refers to those situations where a language has foreign structural features, with few representative lexical items, like the often cited case of Gaelic structural influence on Irish English.

Assuming that the locative number pattern in Rumanian, Albanian, and Hungarian, is a result of contact with Slavic speakers, the question arises as to whether the structure was incorporated into these languages via borrowing or via language shift. Significantly, each of these languages, in addition to the Slavic locative pattern, has a considerable number of Slavic loanwords. Therefore, unlike the ideal language contact situations just mentioned, it is more difficult to determine whether the pattern is a borrowing or language shift feature.

However, upon closer examination, it is most likely that the locative pattern in each of the non-Slavic languages is indeed a result of Slavic-induced language shift. The best way to see this is by first asking what it would mean to attribute the Slavic locative pattern to borrowing. Any claim that the non-Slavic languages borrowed the locative pattern from Slavic is based on one of two implausible assumptions: First, a borrowing treatment implies that the speakers of these languages felt a need to borrow the pattern, because their native number systems were insufficient, that is, limited to say ten base digits prior to contact with Slavic. This insufficiency is highly unlikely as internal evidence reveals that each language had a number system which went beyond ten. For Rumanian this naturally follows from the fact that Latin has an extensive attested number system; similarly, although lacking early attested evidence, Hungarian and Albanian can also be assumed to have had an extensive number system because of the presence of one or more native numbers above ten: specifically, Hungarian has the native form húsz which signifies the number '20', and Albanian has the native vigesimal base form -zet as well as qind, meaning '100'. Second, the borrowing claim implies that the three languages borrowed the pattern because Slavic was considered a prestige language. If this were indeed true, however, we would expect the languages to have borrowed the Slavic teens outright, that is, to have borrowed both the pattern and the lexical units from, say, the Old Church Slavic forms in (1a); furthermore, if the feature were a result of prestige borrowing, we would expect the languages to have borrowed more Slavic numbers than just '11' through '19'.

By contrast, the locative pattern in Rumanian, Albanian, and Hungarian can be efficiently treated as a Slavic language shift feature. Recall that a considerable number of Slavic speakers were in historical contact with the languages. Moreover, it is also maintained that many Slavs ultimately assimilated to the language groups. For example, Rosetti (1964) notes that by the twelfth century AD the Rumanian speaking population included a large group of ethnic Slavs. Similarly, Benkő (1972) claims that Slavic groups assimilated to Hungarian, first in Ukraine, and later in the Carpathian Basin. If this is correct, then we have a very plausible language shift situation. That is, Slavic speakers learning Rumanian, Albanian, or Hungarian as a target language found the target language compound teen structures difficult and consequently replaced the structures with their native Slavic morphological locative structure, albeit with target language morphemes; then, native speakers of the target languages adopted the feature.

The compound teen structures were difficult for two interrelated reasons. First, as discussed earlier, compound teen structures are often morphologically distinct. In fact, as partially demonstrated by the modern Lower Engadinisch Romansch, French, and Portuguese reflexes of the Latin teens in (9), it is common for the individual morphemes of the teen compound to lose their transparency.

This order actually reflects a universal proposed by Greenberg (1978). That is,

"if a link for addition [in the case at hand, the locative adposition] occurs medially, it always goes with the following numeral in a prepositional language and with the preceding numeral in a postpositional language."

So, it appears that Slavic speakers shifting to Hungarian and introducing the locative number pattern switched the order of the target Hungarian digit and decad in order to replicate the Slavic pattern where the decad forms a constituent with the medial locative preposition.

Finally, it should be noted that in two of the languages, namely Hungarian and the Arumanian dialect of Rumanian, the locative pattern has been extended to '29', as shown in (12a-b); note that the locative postposition in Hungarian is subject to vowel harmony.

(12) Extension of the locative pattern to '21' through '29' in Hungarian and Arumanian

(a) Hungarian:

tíz-en-kilenc '19', húsz '20', húsz-on-egy '21'...

10-LOC-9

20-LOC-1

húsz-on-kilenc '29'

20-LOC-9

(b) Arumanian:

noúǎ-sprǎ-dzaț '19', yingiț '20', un-sprǎ-yingiț '21'...

9-LOC-10

1-LOC-20

noúǎ-sprǎ-yingiț '29'

9-LOC-20

It would appear that, since it is distinct from the Slavic pattern, this extension of the locative was a later analogical development initiated by perhaps both native and non-native speakers of the target language.

3. Conclusion

To summarize, this paper has argued that the locative pattern is an inherent feature of the Slavic languages which was transferred to Rumanian, Albanian, and Hungarian via Slavic-induced language shift. If accurate, this analysis reveals two interesting characteristics of language shift. First, it suggests that the same language shift feature can appear in a number of distantly related or non-related languages. And, second, assuming the aforementioned dates of contact between Slavic and the other languages, the analysis implies that the same language shift feature can appear in different languages at different times. These characteristics are a result of the fact that shifting speakers had difficulties acquiring similar structures in a number of different target languages.

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