

The Phonology of Romanian: A Constraint-Based Approach



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Editors

Harry van der Hulst
Henk van Riemsdijk
Jan Koster

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by

Ioana Chitoran

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For my parents

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Abbreviations and symbols

μ	mora	Rt	root node
σ	syllable	sg. or sing.	singular
< >	extrametricality	T	coronal consonant
Ø	zero	V	vowel
]	boundary (morphological or prosodic)		
#	word boundary		
//	underlying representation; phonemic		
[]	surface representation		
Acc	Accusative case		
C	consonant		
C ₀	zero or more consonants		
conj.	Conjugation		
Dat	Dative case		
def.	definite		
f. or F	feminine gender		
G	glide		
Gen	Genitive case		
imp.	imperative		
K	velar consonant		
L	liquid		
m. or M	masculine gender		
n. or N	neuter gender		
Nom	Nominative case		
O	obstruent		
OCP	Obligatory Contour Principle		
Ons	syllable onset		
P	labial consonant		
pl.	plural		
PW	prosodic word		

Chapter 1

Introduction

The complexities of any individual linguistic system are a testing ground for the descriptive and explanatory power of theories. The sound system of Romanian is no exception, and certainly presents a challenge in this respect. The main goal of a satisfactory analysis is to predict the regular phonological patterns of a language and situate them typologically. At the same time the analysis should identify exceptions and at least describe more restricted regular patterns.

This is primarily what I have set out to do in this study. The goal is twofold: to lay down the phonological and morphological structure of modern standard Romanian, and to propose a systematic analysis of its major phonological processes, including their interaction with morphology. Both regular patterns and non-productive subregularities will be considered. The latter raise a particularly interesting issue concerning their learnability. They are exceptions in that they deviate from a regular pattern, but they are regular in that they exhibit a pattern of their own, which extends to a fairly large portion of the lexicon.

For readers interested primarily in the data, I present it in a systematically organized manner that helps formulate the basic generalizations on which I base my analysis. I do not claim that the analysis presented here is the only one possible. By making the data readily available, I hope in fact to invite further discussion, to encourage further study of the language and promote its inclusion in cross-linguistic typological analyses.

For readers interested in the theoretical framework, the analysis I propose tests a number of predictions made by current theories of phonology. I adopt the framework of Optimality Theory as developed by Prince and Smolensky (1993), McCarthy and Prince (1993a), and Correspondence Theory (McCarthy and Prince 1995, 1999). I will apply the tools of Optimality Theory to the Romanian data, in an

2 *Introduction*

attempt to achieve the most insightful and systematic mapping of the sound system of the language. As we shall see, some of the facts which posed problems in earlier derivational approaches can be more easily explained from the perspective of Optimality Theory, while others still do not find perfectly straightforward accounts. I hope that some of the questions which remain unanswered will inspire further rethinking of different aspects of the theory.

I will describe only briefly the theoretical framework, as I assume the reader has some familiarity with basic concepts of Optimality Theory. McCarthy and Prince (1993a) and Prince and Smolensky (1993) propose that a number of possible surface forms for the same input form are evaluated by a set of relatively ranked faithfulness and markedness constraints. Faithfulness constraints require the output to be ideally an identical copy of the input. These constraints conflict with markedness constraints, which impose specific structural configurations. The constraints are violable. The evaluation procedure compares the candidate forms and selects as the preferred output form the more harmonic (or the optimal) candidate in terms of constraint violation. The constraints themselves are universal, and language specific differences are explained by the difference in constraint ranking.

Correspondence Theory proposes that, in addition to submitting one single candidate form to the evaluation procedure, pairs of related forms can be submitted as well. The pairs consist of a candidate and the input form, or of the candidate and another output form to which it is morphologically related. The notion of correspondence was developed based on a cross-linguistic study of reduplication by McCarthy and Prince (1995, 1999), who show that faithfulness relations between input and output are paralleled by those holding between the morphological constituents of base and reduplicant. Just as the optimal surface form is an identical copy of the input, the optimal type of reduplication is total reduplication, the perfect copy of the base. The same kind of faithfulness constraints can then account for the typological distinctions found in reduplication patterns, for the cross-linguistic variation between partial and total reduplication.

The notion developed within the theory is that of correspondence between related elements. Among the constraints which control such correspondence relations are the *Identity* constraints, forming the IDENT constraint family. Correspondence Theory was extended to include correspondence relations between output forms, thus accounting for the classic notion of paradigm leveling. Two proposals have been advanced to handle such issues. These are Benua's (1995, 1997) notion of *output-output identity*, and Kenstowicz's (1996) notion of *uniform exponence*.

To return to the data, what then, are the main topics in Romanian phonology? What are the most salient phonological facts that can be considered "signatures" of the sound system of the language, both impressionistically and theoretically? As a first observation, all of these facts gravitate around the concept of the syllable. The existence of the syllable as a unit of structure has been questioned recently (e.g. Steriade 1999), but we shall see that practically all the issues dealt with in this study ultimately come down to the understanding of principles underlying the combination of consonantal and vocalic segments. The processes described and analyzed here can be classified by the locality of their application with respect to the syllable. Some are best defined as taking place within the domain of the syllable (consonant-consonant and consonant-glide co-occurrence restrictions, word-final palatalization), others across adjacent syllables (hiatus resolution and epenthetic glides, high vowel-glide alternations), and across non-adjacent syllables (metaphony, diphthongization, and other stress-related vocalic alternations).

Of all the topics listed above, the question of high vowel and glide alternations has received most attention in recent years, in Steriade (1984) and in my dissertation (Chitoran 1997), which is the starting point of the present study. It is true that the most salient phonological and morphological processes of the language involve glide-vowel alternations, a fact that has earned Romanian the nickname of "glide-happy language". Part of the analysis in the following chapters will therefore account for the glide-happiness, paving the way to future studies, aiming to situate Romanian on a typological continuum of glide-happiness. Equally interesting from a theoretical perspective

are the complex types of vowel alternations encountered in the language. These are particularly interesting due to their interaction with morphology and with the organization of the lexicon into native and non-native patterns.

The data discussed here are drawn from my native knowledge of the language and from a number of dictionaries compiled by the Romanian Academy of Science, from the frequency dictionary by Juilland, Edwards, and Juilland (1965), the morphological dictionary by Lombard and Gâdei (1981) and two very detailed descriptive studies of the Romanian verb (Lombard 1954; Juilland and Edwards 1971). All of the data are from modern standard Romanian.

Romanian is the only surviving descendant of the Balkan branch of the Romance language family. It developed from the Latin spoken by the Roman conquerors of the province of Dacia, north of the Danube. The historical development of Romanian is therefore of great interest, particularly to comparative Romance linguists. Since much more has been written on the history of the language than on its synchronic linguistic system, I will only mention historical facts and analyses when relevant, as very brief background information.

The book is organized as follows. I begin by setting the general context for the analyses proposed later on. Chapter 2 is therefore an overview of the phonology and morphology of Romanian, its phonemic inventory, phonotactics and syllable structure, and the organization of the lexicon. In chapter 3 I propose an analysis of the stress system of Romanian. Chapter 4 covers the resolution of hiatus in sequences containing high vowels. Whether hiatus is resolved or tolerated depends on the quality of the adjacent vowels. The specific way in which hiatus is resolved is contingent upon the location of stress. Chapter 5 moves on to an analysis of alternations between unstressed high vowels and glides in different positions in the word. In chapter 6 I turn to consonant-vowel interactions, presenting data that suggest the existence of co-occurrence restrictions between consonants and glides in a syllable, depending on the consonants' place of articulation. An analysis of word-final palatalization is also proposed in this context. Chapter 7 provides a phonological and morphological analysis of the diphthongs *ea* and *oa*, and of

metaphonic mid-low vowel alternations. Chapter 8 ends the study with general conclusions and issues for further research.

Chapter 2

Overview of Romanian phonology and morphology

Before delving into the specific topics, it is important to lay down the relevant information that will help place them in the context of the phonology and morphology of Romanian. This chapter therefore contains general background information on the language, including: the phonemic inventory, phonotactics, syllable structure, and the structure of the Romanian lexicon, which will be relevant in distinguishing the phonological behavior of native forms versus loanwords. The second part of the chapter contains an overview of the inflectional and derivational morphology of the language.

2.1. The phoneme inventory

The vowel inventory of Romanian is more controversial than the consonantal one. The commonly held view of the vowel inventory presents it as the seven-vowel system in (1). The language also has two glides and two diphthongs, whose phonemic status is in fact one of the main subjects debated in this book.

(1)	vowels:	i	ɨ	u
		e	ə	o
			a	
	glides:	j	w	
	diphthongs:	ɛa	ɔa	

There are two interesting aspects of the vowel inventory. One is the presence of three central vowels, high (/ɨ/), mid (/ə/), and low (/a/). Of these, /ɨ/ is the least common cross-linguistically. In the UCLA

UPSID database (cf. Maddieson 1984) 70 languages contain /ə/, as opposed to 32 containing /i/. A total of 12 languages contain both, which amounts to 17% of the /ə/ languages.

The schwa symbol typically used to represent the mid central vowel can be misleading in that it may suggest a reduced vowel. While a phonetic study still needs to test this possibility, other phonological evidence suggests that this is not the case. Schwa (as well as /i/) surfaces under stress and participates in metaphonic alternations along with the other mid vowels, /e/ and /o/.

The second interesting aspect concerns the diphthongs. They are unusual in that their non-syllabic element is treated as a mid glide. The presence of an initial mid glide as part of the diphthongs has triggered long debates among Romanian linguists concerning the status of glides in the language. The main arguments, in the context of early generative phonology, are based on the trade-off between a simple phonemic inventory and a simple rule mechanism. One view thus favors a minimal inventory, the other a minimal derivation mechanism. There are several instantiations of each view.

Vasiliu (1965) argues, for example, that the glides do not need to be considered part of the phonemic inventory because they can be predicted from the presence or absence of a syllable boundary. This view reduces the phonemic inventory, but does so at the cost of increasing the amount of lexically listed information by assuming underlying syllable structure. In a different version, Belchiță (1968) and Augerot (1974) propose identical feature specifications [-cons, +voc] for both vowels and glides. Several rules are then responsible for introducing the feature [-voc] in the contexts where glides surface. The proposed rules unfortunately over-generate. They also wrongly predict the glide [w] where it does not actually occur (**wite* instead of *uȝte* 'look' imperative) and fail to explain the coexistence of CjV and Ci.jV patterns in the language, as in: *pjătrə* 'stone' - *pijăstru* 'monetary unit', and *bjéte* 'poor' (f. pl.) - *bijélə* 'rod'.

Other linguists have argued instead in favor of a simplified rule mechanism (Avram 1958, 1991; Vasiliu 1985, 1990; Ruhlen 1973). The latter suggests that not only the high glides, but also the mid ones /e/ and /o/, should be included in the phonemic inventory. As a

variation of this view, Agard (1984) does not include the mid back rounded glide /ɔ/ in the inventory, perhaps suggesting that it is not distinct from /w/. He specifies, however, that these segments should be considered “autonomous phonemes”, meaning actual surface realizations, for which he lists the following inventory:

- (2)
- | | | |
|---------|---|-------|
| glides: | j | w |
| | ɤ | |
| vowels: | i | ɪ / u |
| | e | ə / o |
| | | a |

Different variants of the phonemic system have in fact been proposed, which also list the diphthongs themselves as underlying (Havránek 1933; Malecki 1933; Graur and Rosetti 1938; Tamás 1956; Merlingen 1960; Evdoshenco 1961). The diphthongs are treated as monophonematic and are included in a square 9-vowel inventory, with three degrees of height.

- (3)
- | | | |
|----|---|----|
| i | ɪ | u |
| e | ə | o |
| ɛa | a | ɔa |

Trubetzkoy ([1939] 1969) considers the diphthongs to be realizations of the open mid vowels /ɛ/ and /ɔ/, and consequently proposes a triangular 9-vowel system with four degrees of height.

- (4)
- | | | |
|----|----|---|
| i | ɪ | u |
| e | ə | o |
| ɛa | ɔa | |
| | a | |

There is therefore considerable disagreement on what the status of both glides and diphthongs is, whether they are themselves underlying or derived from underlying vowels with glide-vowel alternations predictable from syllable structure. In the following

chapters I propose a solution to this debate through a careful analysis of the phonological patterning of vocalic segments in the language.

Turning to the relatively more straightforward consonants, the inventory consists of the following segments:

(5)

	labial	dental	palatal	velar	glottal
stops	p, b	t, d ts	tʃ, dʒ	k, g	
fricatives	f, v	s, z	ʃ, ʒ		h
nasals	m	n			
approximants		l r			

The approximant /r/ is generally realized as a flap [ɾ] and occasionally as a trill in word initial position.

The inventory presented above is the one commonly assumed for Romanian. On the surface, however, palatalized consonants also occur, derived from underlying sequences of a consonant and the high vowel /i/: C+/i/ → C^j. I am familiar with only one proposal, by Petrovici (1956a,b) for treating the palatalized consonants as underlying. He proposed a very complicated consonantal inventory for Romanian, consisting of four distinct classes of phonemes: plain, palatalized, labialized and labio-palatalized:

(6)

“neutral” (plain)	/p, b, m, f, v, t, d, n, s, z, ts, ʃ, ʒ, l, r, k, g, x/
palatalized	/p ^j , b ^j , m ^j , f ^j , v ^j , t ^j , d ^j , n ^j , s ^j , z ^j , ts ^j , ʃ ^j , ʒ ^j , l ^j , r ^j , k ^j , g ^j , h ^j , tʃ ^j , dʒ ^j , j/
labialized	/p ^w , b ^w , m ^w , f ^w , v ^w , t ^w , d ^w , n ^w , s ^w , z ^w , ts ^w , ʃ ^w , ʒ ^w , l ^w , r ^w , k ^w , g ^w , h ^w , w/
labio-palatalized	/p ^{jw} , b ^{jw} , m ^{jw} , f ^{jw} , v ^{jw} , t ^{jw} , n ^{jw} , l ^{jw} , r ^{jw} , k ^{jw} , g ^{jw} , tʃ ^{jw} , dʒ ^{jw} , j ^{jw} /

By positing the palatalized and labialized series, the author is able to eliminate the diphthongs [ɕa] and [ɕa]. He considers them realiz-

ations of the vowel /a/ after a palatalized and a labialized consonant, respectively. This of course wrongly predicts that there should be no contrast between *p̣ea* and *pja*, for example. There are several other problems raised by this view, and they have been pointed out by a number of Romanian linguists (Avram 1991, among others). Most importantly, it posits an enormous phonemic inventory, and it contains a number of inconsistencies. In general, no explanation is given as to why certain segments are missing from some series.

The simplest argument against such a complicated phonemic inventory is the fact that in Romanian palatalization is predictable. Historically it occurs before front vowels. Synchronically, word-final consonants are palatalized in the presence of a front vowel morphological marker, for example the desyllabified inflectional marker /-i/. In nouns and adjectives, /-i/ is a plural marker:

- (7) /-i/ plural marker
- | | | | |
|--------|---------------|----------------------------|----------|
| 'army' | <i>oaste</i> | - <i>oft^j</i> | 'armies' |
| 'wasp' | <i>vjespe</i> | - <i>vjesp^j</i> | 'wasps' |

In verbs, the second person singular marker has the same phonetic realization:

- (8) /-i/ 2nd person singular marker
- | | | | |
|----------|-------------|-------------------------|------------|
| 'I yawn' | <i>kask</i> | <i>kaft^j</i> | 'you yawn' |
| 'I see' | <i>vəd</i> | <i>vez^j</i> | 'you see' |

Notice, however, that the palatalized segments [*s^j*, *t^j*, *d^j*] never occur (as in the last example above). Underlying /s/, /t/ and /d/ become [*ʃ^j*], [*ts^j*] and [*z^j*], respectively, when palatalized:

- (9)
- | | | | | |
|---------|------------|-------------------------|-----------|------------------------|
| 'I sew' | <i>kos</i> | <i>koʃ^j</i> | 'you sew' | * <i>s^j</i> |
| 'I can' | <i>pot</i> | <i>pots^j</i> | 'you can' | * <i>t^j</i> |

If palatalized /*s^j*/, /*t^j*/ and /*d^j*/ were underlying in the phonology of the language, as Petrovici proposes, then they would also be expected to surface as derived segments in the verb forms in (8) and (9). Given

these considerations, the consonant inventory shown in (5) remains unchallenged.

2.2. Phonotactics

Each one of the consonant phonemes listed in (12) can constitute a syllable onset by itself. The glide [j] can also occur in the onset, epenthetic or non-epenthetic.

- (10)
- | | | |
|-----------------|--|--------------------|
| <i>jé.se</i> | | <i>'he leaves'</i> |
| <i>jár.nə</i> | | <i>'winter'</i> |
| <i>po.já.nə</i> | | <i>'grove'</i> |
| <i>ha.jí.nə</i> | | <i>'mean' f.</i> |

The distribution of [w] is more restricted. Onset [w] is only epenthetic, resolving a word-internal hiatus, as in the following forms:

- (11)
- | | | | |
|-----------|-------------|--------------------|-----------------|
| onset [w] | | | |
| /aur-u/ | [á.wur] | <i>'gold'</i> | |
| /zmeur-ə/ | [zmé.wu.rə] | <i>'raspberry'</i> | <i>*zméw.rə</i> |
| /duel-u/ | [du.wél] | <i>'duel'</i> | <i>*dwél</i> |
| /aud-u/ | [a.wúd] | <i>'I hear'</i> | |

Two-consonant clusters are also common onsets in Romanian. Sibilant-consonant and obstruent-liquid clusters are the most common. Sibilant-obstruent clusters (12a) are subject to voicing restrictions. The two members of the cluster always agree in voicing.

(12) Two-consonant clusters (CC)

a. sibilant-obstruent

s-obstruent	<u>sp</u>	<i>spate</i>	<i>'back'</i>
-------------	-----------	--------------	---------------

z-obstruent	<u>sk</u>	skarə	'ladder'	
	<u>st</u>	stat	'state'	
	<u>sf</u>	sfoarə	'rope'	
	<u>zb</u>	zbor	'flight'	
	<u>zg</u>	zgirije	's/he scratches'	
ʃ-obstruent	<u>zd</u>	zdup	'thud'	
	<u>zv</u>	zvelt	'slender'	
	<u>ʃk</u>	ʃkɔalə	'school'	
	<u>ʃp</u>	ʃpagə	'bribe'	
	<u>ʃt</u>	ʃtije	's/he knows'	
ʒ-obstruent	<u>ʃf</u>	ʃfikjuji	'to wip'	
	<u>ʃv</u>	ʃvab	'Swabian' (the only word)	
	<u>ʒg</u>	ʒgjab	'trough'	
	<u>ʒd</u>	ʒder	'marten'	
b. sibilant-sonorant				
s-sonorant	<u>sm</u>	smintinə	'cream'	
	<u>sn</u>	snop	'sheaf'	
	<u>sl</u>	slab	'weak'	
ʃ-sonorant	<u>ʃm</u>	ʃmeker	'cunning'	
	<u>ʃn</u>	ʃnur	'tassel' (in German loans only)	
	<u>ʃl</u>	ʃlefuji	'to polish'	
z-sonorant	<u>zm</u>	zmew	'dragon'	
	<u>zl</u>	zloatə	'sleet'	
ʒ-sonorant	<u>ʒn</u>	ʒnepen	'juniper'	
c. obstruent-liquid				
	<u>tr</u>	tren	'train'	*tl
	<u>kl</u>	klar	'clear'	
	<u>kr</u>	krud	'raw'	
	<u>pl</u>	pling	'I cry'	
	<u>pr</u>	praf	'dust'	
	<u>dr</u>	drag	'dear'	*dl
	<u>gl</u>	glas	'voice'	
	<u>gr</u>	grew	'heavy'	
	<u>br</u>	brɪw	'belt'	

<u>bl</u>	<i>blind</i>	'tender'
<u>fl</u>	<i>fl̥oare</i>	'flower'
<u>fr</u>	<i>frunte</i>	'forehead'
<u>vl</u>	<i>vlagə</i>	'vigor'
<u>vr</u>	<i>vreme</i>	'weather'
<u>hr</u>	<i>hranə</i>	'food'
<u>hl</u>	<i>hlamidə</i>	'gown'

A few nasal-liquid clusters are also allowed, but they occur only in a few words, all of Slavic origin, shown in (13).

(13) nasal-liquid

<u>ml</u>	<i>mlədijos</i>	'slender'	*nr, *nl
<u>mr</u>	<i>mreṇanə</i>	kind of fish	

Similarly, obstruent-nasal clusters are limited to one Slavic borrowing, *kneaz* 'prince', and to *pn* in one Latin root (*pneumonîje* 'pneumonia', *pneumátik* 'pneumatic').

Consonant-glide onset clusters are fairly common, although not all consonants are found in this combination.

(14) consonant-glide [j]

<u>bj</u>	<i>bjet</i>	'poor' (masc.)
<u>pj</u>	<i>pjatrə</i>	'stone'
<u>gj</u>	<i>gjozdan</i>	'schoolbag'
<u>kj</u>	<i>kjar</i>	'indeed'
<u>dj</u>	<i>djavol</i>	'devil' (the only word)
<u>vj</u>	<i>vjatsə</i>	'life'
<u>fj</u>	<i>fjer</i>	'iron'
<u>zj</u>	<i>zjar</i>	'newspaper' (the only word)
<u>mj</u>	<i>mjere</i>	'honey'

Only one obstruent-obstruent cluster is found, and it occurs in the Slavic word *ktitor* 'founder, builder' and in derived forms.

Onsets consisting of three consonants, sibilant - obstruent - liquid, are allowed. The voicing restrictions noted for sibilant-obstruent clusters in (12a) above can be seen here, as well.

(15) Three-consonant clusters (CCC)

<u>spl</u>	<i>splinə</i>	'spleen'
<u>spr</u>	<i>sprinten</i>	'agile'
<u>ʃpl</u>	<i>ʃplint</i>	name of tool (German loans only)
<u>ʃpr</u>	<i>ʃprits</i>	wine and soda (German loans only)
<u>str</u>	<i>stradə</i>	'street'
<u>ʃtr</u>	<i>ʃtrɛang</i>	'rope'
<u>zdr</u>	<i>zdrɛantsə</i>	'rag'
<u>skl</u>	<i>sklav</i>	'slave'
<u>skr</u>	<i>skrije</i>	'writes'
<u>zgl</u>	<i>zglɔbiw</i>	'lively'
<u>zgr</u>	<i>zgriptsə</i>	'witch'
<u>sfr</u>	<i>sfredeli</i>	'to drill'

To summarize, we see that all consonants and glides can constitute single onsets without restrictions, with the exception of [w]. Two-consonant onsets consist of: sibilant+C, obstruent+liquid, nasal+liquid, C+[j]. Three-consonant onsets are restricted to the sibilant-obstruent-liquid combination.

Every consonant, as well as the glides [j] and [w] may occur in a coda by themselves. The glide [j] again is less restricted than [w]. Word-finally it can even be part of a complex coda, as shown in the last example below:

(16)	<i>kúj</i>	'nail'
	<i>hájnə</i>	'coat'
	<i>pújkə</i>	'hen'
	<i>kójf</i>	'helmet'

Coda [w] is found exclusively in word-final position. The contrast between word-internal onset [w] and coda [w] is illustrated below. Recall that the onset [w] is epenthetic.

(17) word-internal onset [w]

word-final coda [w]

<i>lá.wu.də</i>	'he praises'	<i>bów</i>	'ox'
* <i>láv.də</i>			
<i>gá.wu.rə</i>	'hole'	<i>skatíw</i>	kind of bird
* <i>gáv.rə</i>			
<i>pá.wu.zə</i>	'pause'	<i>léw</i>	'lion'
* <i>páv.zə</i>			

There are only two instances of word-internal coda [w] in the language: *áwgust* 'August' and *awgúr* 'omen'.

Also restricted to word-final codas are palatalized consonants, the result of the desyllabified inflectional marker *-i*.

(18) palatalized and non-palatalized codas

singular		plural	
<i>rob</i>	'slave'	<i>rob^j</i>	
<i>lup</i>	'wolf'	<i>lup^j</i>	
<i>brad</i>	'fir tree'	<i>braz^j</i>	* <i>d^j</i>
<i>beat</i>	'drunk'	<i>bets^j</i>	* <i>t^j</i>
<i>papuk</i>	'slipper'	<i>paput^j</i>	
<i>drag</i>	'dear'	<i>dradz^j</i>	
<i>pantof</i>	'shoe'	<i>pantof^j</i>	
<i>firav</i>	'weak'	<i>firav^j</i>	
<i>pas</i>	'step'	<i>paş^j</i>	* <i>s^j</i>
<i>laş</i>	'coward'	<i>laş^j</i>	
<i>treaz</i>	'awake'	<i>trez^j</i>	
<i>paş</i>	'servant'	<i>paş^j</i>	
<i>kolts</i>	'fang'	<i>kolts^j</i>	
<i>pom</i>	'tree'	<i>pom^j</i>	
<i>an</i>	'year'	<i>an^j</i>	
<i>fetfor</i>	'young man'	<i>fetfor^j</i>	
<i>pol</i>	'pole'	<i>pol^j</i>	
<i>ţfeh</i>	'Czech'	<i>ţfeh^j</i>	