

**Chickens and Eggs:
The Undying Issue of the Primacy of *r/l* or *z/š* in Altaic Historical Linguistics**

Tania L. Therien
University of Calgary

Abstract

For the better part of this century, the Turkic language family has posed some difficulties for both typological and historical linguistics. The pivotal issue lies with four modern Turkic phonemes /*r*, *l*, *z*, *š*/ and their reflexes in the peripheral Turkic language Chuvash, spoken south of Moscow along the Volga River. Historically, the question that arises is, which set of phonemes, greater-Turkic or Chuvash, is the older one? And, in turn, what does the potential answer have to say about the classification of Turkic? The Chuvash reflexes /*r*, *l*/ (but not *z* and *š*) correspond perfectly with cognates in Mongolian and Manchu-Tungus languages, leading one to believe that not only are the Chuvash phonemes older, but also that Turkic is most certainly an Altaic language. The aim of this paper is to explore each side of the Altaic argument with the issue of the phonemes serving as the focal point.

1.0 Introduction

The study of historical Turkish and Altaic has been dominated for the greater part of this century by the phonological issue of rhotacism/lambdacism vs. zetacism/sigmatism. This issue is important for several reasons. First of all, the question of whether *r* or *z*, and likewise *l* or *š*, is primary is pivotal to classification, both of the modern languages and their ancestors. Secondly, deciding on one or the other, of course, will allow linguists to continue reconstructing with confidence, whereas now their reconstructions are seriously hampered by not knowing which sound is more appropriate to posit where. Making the decision as to which sounds came first, however, has proven, thus far, to be an insurmountable task.

Within turkological historical linguistics there are basically two camps: those who believe in the Altaic linguistic family, and those who believe that Turkic is a family unconnected to Mongolian or Manchu-Tungus. Part of the problem is that written records in Turkic can, with certainty, only be dated back to 720^{AD} (Handbuch der Orientalistik:5). This recent date is severely dwarfed by the earliest written records of Indo-European (IE), which extend back at the very least 1000 years before Christ. But if we believe that Turkic is an Altaic language, then we can add Old Korean¹ written records, which date

¹Presuming of course, that we also believe that Korean and Japanese are Altaic languages, a classification which is controversial.

back to ca. 57bc. This would certainly help matters, but is almost equally problematic because the OKor. records were written with Chinese phonograms (Miller 1996: 160). The aim of this paper is to outline the issue of which came first, *r* and *l*, or *z* and *ʃ*, presenting the issue from both sides, and taking into account the problems that exist for each argument, as well as the ramifications for the idea of Altaic unity.

2.0 Classification

2.1 If one is a supporter of the Altaic language family, then one usually includes the following families of languages in their classification:

Turkic, which includes Turkish proper, Azerbaijani, Kazakh, Uzbek, Turkmen, Kirghiz, Tatar, Uighur, Saxa (Yakut), Chuvash, and Volga Bulgar

Mongol, which includes Buryat, Kalmuck, Mongolian

Manchu-Tungus, which includes Manchu, Evenki, Lamut, and Tungus

Japanese (controversial)

Korean (controversial)

The greater Altaic language family extends like a belt under the belly of Russia, from the Asiatic to the Pacific, but all of the languages are believed to have originated from the area about the Altai mountains (hence Altaic), located in present-day Mongolia. From there, the ancestors of the modern Turks spread out, moving West during several different migrations, including, possibly, the Turkish soldiers in the employment of Jengis Khan of the Mongol Empire.

Most important for our purposes, is the linguistic evidence which points to the close relationship of the families. All of the languages of the families in question are agglutinative, in contrast to some of the language families which surround them, IE², and Chinese for example. There are also many similarities between the languages, not only lexically, but also morphologically and syntactically. While a similar lexicon can easily be brushed off as the result of borrowing between languages, it is much more difficult to argue that integral aspects of a language's grammar, such as morphology and syntax, are the result of borrowings. An example of the strikingly similar morphology within Altaic is evidenced in the following table:

² Although early IE may well have been agglutinative (Dr. M. Dobrovolsky, personal communication: Dec. 1997)

	<u>Turkic</u>	<u>Mongolian</u>	<u>Manchu-Tungus</u>
1 pers. sg.	<i>bi / män</i> ³	<i>bi / min-</i>	<i>bi / min-</i>
2 pers. sg.	<i>si / sän-</i>	<i>ti / tin-</i>	<i>si / sin-</i>
3 pers. sg.	<i>i / in-</i>	<i>i / in-</i>	<i>i / in-</i>
1 pers. pl.	<i>biz</i>	<i>ba / man-</i> (excl.)	<i>büa</i> (excl.)
		<i>bida</i> (incl.)	
2 pers. pl.	<i>siz</i>	<i>ta / tan-</i>	<i>süa</i>
3 pers. pl.	<i>anlar</i>	<i>a / an-</i>	<i>ti</i>

table 1. (Adapted from Róna-Tas, 1986) Reconstructed Pronouns of the Altaic Proto-Languages

While it is certainly possible for pronouns and demonstratives to be borrowed from another language, it is most unlikely that an entire pronoun system would be borrowed, especially across three different language families. The similarity of the reconstructed pronoun systems above could be more efficiently explained by supposing a parent language from which the three families developed; an explanation which the Altaic hypothesis supports.

2.2 The Turkic languages are further divided, whether one believes in Altaic unity or not, according to various characteristics, such as geography, or as follows, phonology. The first language to diverge from the rest of the Turkic languages is Chuvash (and Volga-Bulgar, which is either Old-Chuvash, or at some point merged with it), based on it exhibiting *r* and *l* where the others have *z* and *š*, respectively. For instance, the Bulgar word for 'nine' is *taxar*, while its cognate in Oguz is *toquz*.

The rest of the Turkic languages are divided based on whether *d* or *y* appears intervocally. Medieval Kyrgyz and medieval Uigur have *adak*, for example, where medieval Kypchak and Oguz have *ayak*.

The latter group, that is, the *y*-division, is further sub-divided based on whether pre-vocalic *g-* appears or there is a zero initially. For example, where Oguz shows *kal-an*, Kazan Tatar and Kazakh show *kalgan* both meaning 'remaining'. For the purposes of this paper, the *r/l* ~ *z/š* division is the most important, so that with the exception of Chuvash and Volga Bulgar, the Turkic languages will be treated as a whole unit.

Whether Chuvash is indeed a Turkic language is itself controversial. Poppe, an Altaicist (1975) states, "In [my] opinion..., Chuvash has preserved some pre-Turkic elements and should be regarded as a language very closely related to the Turkic languages but not as a Turkic language...There must have existed two ancient dialects.

³ This example and all others like it in this table are meant to be interpreted as NOMINATIVE / OBLIQUE cases

One of them became the ancestor of Volga Bulgar and Chuvash, and the other dialect became the ancestor of the Turkic languages". Poppe makes this claim based on the assumption that an innovation occurred where Chuvash and the rest of the Turkic languages now differ, that is *r/l* ~ *z/š*. Any other differences between the two developed presumably after this important first change took place.

3.0 R's, L's, Z's, and Š's

3.1 As mentioned above, we find that Chuvash and Volga Bulgar have *r* and *l* in positions where the other Turkic languages have *z* and *š* respectively:

- (1) Turkic *z* = Chuvash *r*:
 - a) Tk. *böz* = Chu. *pir* 'cloth, linen'
 - b) Tk. *yüz* = Chu. *šér* '100'
 - c) Tk. *qaz-* = Chu. *xr-* 'dig'

- (2) Turkic *š* = Chuvash *l*:
 - a) Tk. *taš* = Chu. *čul* 'stone'
 - b) Tk. *-mš, -mš* (as in *almš* '60', *yetmš* '70') = Chu. *-mäl, -mél* '10' (as in *utmäl* '60', *šimél* '70')

This same *r* and *l* in Chuvash and Volga Bulgar, in some other instances also correspond to a Turkic *r* and *l*:

- (3) Turkic *r* = Chuvash *r*:
 - a) Tk. *kara* = Chu. *xura* 'black'
 - b) Tk. *urt* = Chu. *pürt* 'hut, tent'
 - c) Tk. *gör-* = Chu. *kur-* 'see'

- (4) Turkic *l* = Chuvash *l*:
 - a) Tk. *balık* = Chu. *pulš* 'fish'
 - b) Tk. *elma* = Chu. *ulma* 'apple'
 - c) Tk. *oğul* = Chu. *ıväl* 'son'

It was these phonemic correspondences between Chuvash and Turkic cognates which sparked the debate of the primacy of *r/l* or *z/š*. One pair of phonemes in Chuvash, */r, l/*, correspond to four distinct phonemes, */r, l, z, š/*, in the rest of Turkic; in trying to reconstruct a proto language, how does one account for this? Were there four or two phonemes originally? What were the feature contents of these phonemes? Were they the

same as the modern Turkic phonemes, or were they something else? To account for the modern four : two ratio, historical linguists usually assume that at one point the ratio was equal, that is four : four. The two missing sounds in Chuvash are assumed to also be liquids and the set is represented as: r^1, r^2, l^1, l^2 . Whether or not each of the sounds in question were phonemes in their own right or whether all four were allophones of a pair of phonemes is the subject of debate, which I will return to in section 4.2.

If the Turkic phonemes /r, l, z, š/ are primary, as the anti-Altaicists believe, then the missing Chuvash phonemes which corresponded to the modern Turkic z and š, must have undergone, at some point in the language's history, rhotacism, i.e. $z > r$, and lambdacism, i.e. $š > l$. On the other hand, if the Chuvash phonemes (and/or allophones) are primary, as the Altaicists believe, then modern Turkic z and š, are the results of zetacism, i.e. $r^2 > z$, and sigmatism, i.e. $l^2 > š$, respectively.

3.2 Both zetacism and rhotacism are common phonological events, and therefore are equally likely to have occurred in Turkic. Their commonness is evidenced in several languages outside of the Altaic family. Zetacism apparently has occurred in the development of Czech ř, and of Polish rz (Poppe 1975), as well as in sixteenth-century French (Sčerbak 1992/93:324). There we find Lat. *cathedra* > Fr. *chaire* > *chaise*, and in the language of the courtesans, no longer preserved, are examples like *père* > *pèze* 'father' and *Paris* > *Pazis*.

Likewise examples of rhotacism can be found within fourth-century BC Latin intervocally:

- (5) *pecus* ~ *pecoris*, (< *pecosis*)
honus ~ *honoris* (< *honosis* > (*honor*) (Róna-Tas 1986)

As well as historically in Germanic:

- (6) Goth. *maiza* > OHGer. *mêra* > Ger. *mehr* = Eng. *more* (Sčerbak 1992/93:324)

Rhotacism has also been seen in Uralic languages, in Samojedic, for example, as well as in Dravidian (Menges 1968).

Sigmatism and lambdacism on the other hand, appear to be quite uncommon. In fact, nowhere in the literature available to me, did anyone cite any examples of either phenomena occurring in any other language. Indeed, one of the greatest complaints of those who criticize the methodology used to investigate zetacism/sigmatism, rhotacism/lambdacism in Turkic so far (Nauta 1972:3), is that the alternation of $r \sim z$, and

l ~ *š*, are usually lumped together as one and the same thing. It is assumed, presumably based on the fact that the alternations occur in the same environment, that whatever motivated either zetacism or rhotacism, must also necessarily have motivated sigmatism or lambdacism. The fact that neither sigmatism nor its alternative, lambdacism, are known in the world's languages so far, in contrast to both zetacism and rhotacism which are well-documented, should be the first indication that there are two quite distinct phonological events to be dealt with. Such distinct events should probably be researched independently of each other until better evidence can be given that points to a common relationship.

3.3 The universal regularity of both zetacism and rhotacism, together with the irregularity of both sigmatism and lambdacism, will clearly not help solve the question of which sounds came first. But an attempt to date when the change took place might at least make a step in the right direction. This can be done by examining loan-words between languages. When faced with written evidence of borrowings either from Turkic or into Turkic, however, it is not always so easy to judge when words were borrowed or in what state they were borrowed in. For example (Menges 1968), in the North-Samojedic language of Jurak, (Samojedic being a part of the Uralic family, considered presently to be separate from Altaic) which apparently has not had contact with Turkic for a long time, if ever, we find *ju* '10', *jur* '100', which are equivalent to Turkic *jüz* < **jüz* '100'. This same cognate is found in Nanasan (Tavgy) *jir* and Eñče (Jenisej) *jü*, languages which are equally far removed from Turkic. If these languages had contact with the pre-Turkic language, and borrowed this word, which exhibits *r*, from it, then we have evidence of *r* preceding *z*. But the interpretation is not necessarily so simple. While these languages may not have had discernible contact with Turkic speakers ever, the possibility of a short-lived, unrecorded contact between merchants or traders should not be overlooked. There is also the possibility of a North-Samojedic contact with Chuvash, or Mongolian, or Manchu-Tungus, which also have *r*, along the silk-road, depending on when the borrowing took place. Thus, on the other hand, the example may have nothing to say about the primacy of *r*. It is interesting to find, however, the same Turkic word in a few South-Samojedic languages, for example Kamaš *ʔ üs* from Abaqan-Tk. *ʔ üs* < *jüz*. While this could be assessed, in contrast to the North-Samojedic examples, as a later borrowing, one that occurred after the sound change, there are still problems. The *r* in the North-Samojedic forms could also be due to an inner-Samojedic development and/or the absence of *z* in the same languages. Can it be proven beyond a doubt that the words in the South-Samojedic languages, exhibiting *s*, were borrowed in recent times, or is it also a possibility that they were more ancient borrowings? This same word '100' also has parallels in Dravidian:

(7) Tamil *nūru*, Malajālam, Konda *nūru* '100', Tulu *nūdu*, Gondi *nūr*, Telugu *nūru*

Menges notes, "this relationship might presuppose a pre-Turkic, possibly Proto- Altaic **nūrū*/**nūr*, ie. it would indicate an ancient **r*..." Likewise, however, the assessment could easily be that the Dravidian cognates are also late borrowings. Clearly, examining evidence of loan-words can be as problematic as relying on the universal frequency of sound change.

Another interesting example of an ancient borrowing in Menges, where the *l* ~ *š* alternation can be seen, is in the Altaic word for 'donkey', likely borrowed from Armenian *ēš*, which, apparently like all IE cognates, can be traced back to an ancient Anatolian form and finally to Sumerian *ašū*. The following are the cognates in Altaic, where as expected, Mongolian and Manchu-Tungus *l* alternates with Turkic *š*:

(8) Mo. *äldžigän* < * *äldžikän* = Ma. *ejxen* < **e'l'ken* < **eldžiken*

(Poppe's reconstruction)

=Tk. *Kāš. äšäk, äškäk* ("and *äšjäk*

which might well be from an older * *äšdäk*, closer to Mo.")

The ancient origin of the loan-word, which itself has *š*, might demonstrate a similar antiquity for *š* in Altaic. But again the same difficulty of interpretation arises. The word could well have been borrowed after the sound change, where the *š* might have been substituted for the more appropriate *l* in the other Altaic languages, because as Menges points out, in Mongolian and Tungus " *š* exists...only as an alternate of *s* in palatal position," but not as a phoneme.

4.0 Altaicists

4.1 The Altaicist position on the sounds in question, that is that the Chuvash reflexes are primary, arises naturally from their approach. In comparing the modern phonemes of cognates between Chuvash and the rest of Turkic, as well as with Mongolian and Manchu-Tungus, it appears that Turkic is the odd man out.

TURKIC	CHUVASH	MONGOLIAN	MANCHU-TUNGUS
<i>r</i>	<i>r</i>	<i>r</i>	<i>r</i>
<i>z</i>	<i>r</i>	<i>r</i>	<i>r</i>
<i>l</i>	<i>l</i>	<i>l</i>	<i>l</i>
<i>š</i>	<i>l</i>	<i>l</i>	<i>l</i>

table 2. The Phonemes Compared Across Altaic

From the above table, it is not difficult to understand how the Altaicists came to see Turkic as the language in which the innovation occurred, and the other language families as preserving the ancient forms. The following are examples of cognates across the Altaic languages which exhibit the $r \sim z$, $l \sim \dot{s}$ alternations (Menges 1968):

$r \sim z$:

- (9) Mo. *araya* 'canine, tooth, tusk' = Tk. Käs., etc. *azlyr* 'id.'
=Ma. *aryan* 'tooth'
- (10) Mo. *araj* 'hardly', MMo. *aran* 'id.' = Tg. Ew. *ara-kū-kān* 'a little bit'
=Tk. * *āz* 'little, few'
- (11) Mo. *iraya* 'traces (also on water), furrow' = Chuv. *jěran* 'furrow', **Iran*, *jěr*
'traces, strip'
=Ma. *irun* 'furrow, bed of flowers'
=Kor. *iray* 'furrow; borderline', also
=Tk. **y:z*, **z* 'traces, vestiges'

$l \sim \dot{s}$:

- (12) Mo. *dakda* 'clandestinely' = Ma. *dali-* 'to cover the view, hide, conceal',
Ev. *dal-* 'to cover'
=AT *jašur-* 'to conceal', Ca. *jaš-un-* 'to hide out (intr.)'
- (13) MMo., Mo. *nitbusun* < **ñatbusun* 'tear' = Chuv. *śul* 'id.'
=AT *jaš*, Tkm. *jāš*
- (14) Mo. *gāige* 'whelp' = Old-Bulgarian **kōlāk* < Hung. *kōlōk* 'id.'
= Tk. Osm. *kōšāk* 'young animal, young of a camel'

In addition to these cross-Altaic correspondences, Tekin (1986:142), a firm supporter of the Altaic hypothesis, gives several good reasons for why he believes r and l must have been the phonemes of pre-Turkic:

1. Trk. z = Mo. r , Chu. r

Because to assume the opposite, that is that rhotacism was the phonological change that took place, and that z is primary, means that rhotacism had to occur in the same environments, within a certain time period, in languages as diverse, and as geographically separated as Chuvash and Mongolian.

2. Trk. *š* = Mo. *l*, Chu. *l*

Likewise, to assume that lambdacism took place, and that *š* came first, means that lambdacism also had to occur over a vast territory, between quickly diverging languages. Tekin is here, like so many others, lumping the *r*~*z* alternation with the *l*~*š* alternation.

3. Old Bulgarian words borrowed into Hungarian, presumably before the phonological change, have *r/l*, not *z/š*, as in example 15, pointing to the former pair as primary.

(15) Hungarian *ňār* < Hunno-Bulgarian **ňār* = common Tk. **jāz* 'spring, summer'

4. As well, Samoyed, a Uralic language, has pre-Turkic loan-words which also have *r/l*, and not *z/š*, again pointing to *r* and *l* as primary [see section 2.3].

5. Proto-Bulgarian inscriptions, which contain particularly steadfast names and titles, and Byzantine sources, also have *r*, and not *z*, as in the following example:

(16) Proto-Bulg. Inscriptions probably < **qolobor*, **qolobur* = Tk. *Kāš*.
qolabuz, **qolavuz* 'leader'⁴

6. Most interestingly, there are morphologically related doublets in Turkic, as in the following examples, where one word in the pair has *z* in final position, but the other word in the pair has *r* medially, preceded or followed by another consonant. This latter environment, Tekin says, protected the *r* in its medial position from the zeticism which he assumes to have taken place, as evidenced by the *z* in final position:

eg. *kōkūz* ~ *kōkrāk*
omuz ~ *omraw*
qapīz ~ *qapīrčaḡ*
tīz ~ *tīrsgāk*
yawīz ~ *yawrī-*

Interestingly, the type of protector-consonant seems to have no bearing, that is, *r* appears with voiceless stops, nasals, affricates, sonorants, and glides (semi-vowels). Tekin's observation leads him to believe that zeticism was isolated to final position, but there are some difficulties in that conclusion which I will return to in section 4.3.

⁴Examples (15) and (16) are taken from Menges 1968.

4.2 Within the Altaic camp itself there is a division in opinion. They are agreed that *r* and *l* were the pre-Turkic sounds, but they are not agreed on how those sounds should be structurally represented. One side, which includes Ramstedt and Poppe, believe that there were only two phonemes, just as there are only two phonemes in Chuvash, Mongolian, and Manchu-Tungus today. Each of these two phonemes /*r*, /*l*/ had two allophones each, [r¹], [r²], [l¹], [l²], where one allophone appeared in one environment, and the other in a different environment. Because linguists are dealing with unrecorded language at this point, no one as yet has determined what the feature content of these allophones was, nor what environment they occurred in.

Thus far, one theory of conditioning environments was presented by Pritsak in 1964. He explained that *r* and *l* must have collided with a mystery morpheme, *X*, and the collided sounds eventually produced *z* and *š*, respectively. He suggests that the mystery morpheme may have been something palatal like *-ti*. Structurally, the collision looks like this:

$$\begin{array}{cc} /r/ & /l/ \\ \wedge & \wedge \\ [r^1][r^2 + X] >/z/ & [l^1][l^2 + X] >/š/ \end{array}$$

figure 1. Conditioning Environment for *r*² and *l*²

This accounts for the four phonemes of modern Turkic, with the exception of Chuvash, which like its Altaic sisters avoided the morpheme collision, somehow, and presumably the allophonic variation [r¹, r², l¹, l²] merged with the respective phonemes /*r* /*l*/. Cases of allophones becoming phonemes via loss of conditioning environment, or in this instance, collision with conditioning environment, are amply attested for. The representation of the zetacismic and sigmatismic change in this manner accounts structurally for the change, but the nature of the phonemes, as well as the mystery morpheme with which they "collided" are still vague.

Poppe defends Pritsak's theory and supports the idea of palatal *r*² and *l*² and with evidence from Old Volga Bulgar loan-words in Hungarian (Poppe 1975). The loan-words have sometimes a *y* or *j* after *r* and *l*, or *cs* (=č) after the *l*:

- (17) Hung. *borjú* 'calf' = Turk. *buzay*
 = Mo. *birayū*, Kh. *biarū*, Kalm. *bürü*-, Bur. *burū*

- (18) Hung. *kölyök* 'young dog, young animal in general'
 =Turk. *kösäk* 'young camel, young animal in general'
 =Mo. *gölige* 'young dog'
- (19) Hung. *bölcső* 'cradle' = Turk. *bēşik*, Yak. *bisik* < **bel-čik* 'cradle',
 Yak. *biliä-* < **belä-* 'to cradle'
- (20) Hung. *gyümölcs* 'fruit' = Turk. *yemiş* < **yemilč*

Poppe writes, "these examples demonstrate that Trk. **z* sometimes goes back to **rj*, and Trk. *š* goes back to **ly* and **lč*. Therefore, it is unnecessary to reconstruct **rli* > *z* and **liti* > *š* as Pritsak does." Ramstedt's opinion falls in close with Poppe's conclusion, because he proposed that the *r* and *l* in question were palatalized, ie. Ramstedt's **r'* is similar to Poppe's **rj*, as Ramstedt's **l* is similar to Poppe's **ly*. This evidence certainly makes a good case for Pritsak's mystery morpheme

Menges, however, in positing a distinct polarity in Turkic between palatalized words and velarized words, argues that there was "no reason for the rise or development of any palatalization" on these sounds, because they (presumably *r*² and *l*³) also occurred in velar words. But he also admits that this is a weak argument, because Ancient Turkic (AT) *n'* (palatal n), albeit infrequently, also occurred in velar words, as in the following cognates for 'sheep':

- (21) Orx. *qoñ* 'sheep' = Mo. *xoni* < **qonyn*
 = Common-Tk. *qoj*, Osm., Qrm. *qojun*, AT *anıy* 'bad'

Menges also mentions that in West-Slavic there is much evidence of palatal *r*, ie. *r'* developing into a alveo-palatal fricative *r*, ie. *r'* and even eventually to *ž*. Neither *r'* nor *ž* became simply *z* in Slavic, though.

Hamp (1971) attempted to examine this sound change via feature specification. He writes, "...we may...strengthen the argument for genetic relation by showing a continuity in the nature of specific features." He first reiterates that Ramstedt's *r*² and *l*³ were palatalized, while Poppe's were fricatives⁵, ie. *r*² = [r̥], and *l*³ = [λ].⁶ This statement

⁵Unfortunately the work of Poppe's which gives these fricativized allophones, as opposed to the palatal ones I attribute to him above, is not cited by Hamp.

⁶Hamp initially labels this sound as a "voiceless spirant", which must, hopefully, be a typo, as he later describes the devoicing and strengthening of this same sound, not to mention that the symbol is defined as a

is later important because Hamp decides that the true nature of these sounds was a combination of Ramstedt's and Poppe's conclusions. He draws the conclusion "that the Altaic laterals were more blade- or palatal-articulated and that the *r*-sounds were rather apical," from this formulation: $l^2 > \check{s}$ [-anterior]; $r^2 > z$ [+anterior].

He claims that Altaic r^2 and l^2 must have shared a feature, an assertion of nothing new since both Ramstedt and Poppe assume that the sounds share features like palatalization and fricativization respectively, but he believes that this feature was [+high]. Hamp derives this feature from the observance that r^2 and l^2 appear to raise the vowel *i*, when it directly precedes them and is itself preceded by a [+coronal]. For example,

(22) Mo. *čilagun* = Chuv. *čul*
 = Saxa *tās*⁷

(23) Mo. *širugai* = Chuv. *šur*
 = Chag. *saz*⁸

With that in mind, he then figures that "the most reasonable phonetic values for * l^2 and * r^2 " be [λ] and [ř]."

This interesting hypothesis is ultimately undermined by the inability to tie the features into the phonological changes that occurred. Hamp estimates that [ř] "plausibly" would become [ž], which would "subsequently los[e] its palatality as [z]". He goes on to speculate that "if [λ] developed a more fortis articulation, both devoicing and a marked palatal spirancy could naturally ensue; with loss of laterality this fortis [λ] easily becomes non-apical [š]". This proposed sound change appears no easier than deciding whether *r* or *z* came first. And consequently puts us no further ahead.

A sound change which is much easier to envision comes from Räsänen (in Poppe 1975). He asserts that the l^2 was "an unvoiced spirantic lateral † like that of Ugro-Ostjak which goes back, according to Toivonen, to a Proto-Uralic **l* (= l^2 , or *l* in palatal position)." This unvoiced lateral sound is much like š. It is easy to imagine that children in the process of language acquisition, would make the change from voiceless lateral, a

"voiced alveolar laterally released affricate" in the Phonetic Symbol Guide, G. K. Pullum and W. A. Ladusaw, University of Chicago Press, 1986, pg. 94.

⁷No glosses are provided.

⁸While he claims an assimilation in height for the other Altaic languages, he claims a dissimilation in height for Turkic, i.e. *ı* > *a*.

more complex sound on the basis of its rarity in world languages, to *š*, a simpler sound based on its commonality in world languages. Such a change would be utterly independent of zetacism or rhotacism.

4.3 At the beginning of section 4.2, I stated that there was a division amongst the Altaicists as to the structural representation of *r*² and *l*², where one side views them as allophones. The other side, which I will return to now, believes that *r*² and *l*² were phonemes in their own right. This point of view, held by Miller and Tekin, appears to be somewhat confused. Tekin (1979:123) writes, "I believe that *r*² and *l*² became *z* and *š* respectively in Proto-Turkic in final position, but in other positions they converged with *r*¹ and *l*¹..." While Tekin is isolating zetacism and sigmatism to a particular environment, which one expects of an allophonic change, he claims that *r*² and *l*² were not restricted to this environment. Tekin argued at first that the change occurred only in final position, but his reasons for claiming that *r*² and *l*² were phonemes in their own right, rather than allophones, remained unsaid. Above, at the end of section 3.1, examples of Tekin's morphological doublets, such as *köküz* : *kökräk* were given. These examples initially appear to well support a change isolated to final position, but it has been pointed out (Doerfer:1984) that there are also many examples of *z/š* in medial position as well. For example,

(24) Tk. *qozī* = Mo. *qurağan* 'lamb'

(25) Tk. *qašūq* = Mo. *qalbağā* 'spoon'.

Tekin has attempted to explain these by breaking them down into monosyllabic words, where the sounds in question are again final as with:

(26) *īši* / *eši* 'lady' could be > **eš* 'partner, companion, consort' + 3rd pers. poss. suffix or it could be a loan-word of unknown origin (because it is an ancient title)

(27) *ešū-* / *āsū-* 'to cover, envelop' could be > **aš* + *-ū-* the Turkic form of the Altaic causative-passive suffix **-bu-* / *-bü-*

He has not been able to do this with all di- and trisyllabic words, however.

Miller (1971), another believer in the four liquid phoneme hypothesis, claims, as I alluded to above, that Tekin's attempts to isolate the change to final position creates a "serious methodological problem," because it "obscures...the single most important element of fact that has been established about the proto-Altaic sound system...i.e., that

the proto-Altaic linguistic unity was distinguished by a four-way contrast in both the lateral and the non-lateral liquids, with two different contrasting varieties of each, *r¹, *r², *l¹, *l²." In other words, by isolating the change to a single environment, Tekin is postulating a single phoneme for r, as well as one for l, which throws the four-way contrast out. Miller goes on to argue that strict definitions are needed of what "medial" and "final" positions are in Altaic. Such definitions may help save Tekin's theory. But by his 1986 article, without much ado, Tekin had changed his mind anyway, and began positing the change both finally and medially. He writes that "since *r² and *l² were phonemes in proto-Altaic and pre-Turkic" then they probably occurred both word-finally, and word-medially, which is an adjustment exactly along the lines of what Miller said. Tekin has codified his new position as:

1. PA *r², *l² > PT *z, *š intervocally and word-finally; otherwise, i.e. before and after a consonant, *r², *l² escaped zeticism/sigmaticism and merged with *r¹, *l¹ respectively.
2. PA *r² and *l² simply merged with *r¹ and *l¹ in each proto-Chuvash, proto-Mongolian, and proto-Tungus.

In the end, it is of less consequence to establish a structural notation, than it is to discover the possible phonetic nature, feature content, and conditioning environments of these sounds. The former should naturally reveal itself from the latter.

5.0 Anti-Altaicists

5.1 That the anti-Altaicists believe the modern Turkic phonemes were primary follows from the fact that they do not consider the other "Altaic" languages when looking at the contrast between Chuvash and the rest of Turkic. For them the debate is schemed as this:

All the Turkic languages: Azerbaijani, Kazakh, Turkish proper, Uzbek, etc.	Chuvash:
r	r
z	
l	l
š	

table 3. Phonemes of Turkic Compared

When looked at from this perspective, it appears as though Chuvash is the language with the innovation. Any Mongolian or Manchu-Tungus cognates which appear to be similar are inconsequential, because they must be loan-words of Chuvash. The next logical step for the historical linguist is to try and formulate how this change in Chuvash came about,

but it does not appear as though anyone has even made an attempt. Unfortunately for this point of view, their label is indicative of their direction of argumentation. All the energy of the anti-Altaicist is poured into trying to prove why the Altaic hypothesis cannot be true, rather than building a solid foundation of arguments which support their own view of the primacy of Turkic x and ξ . Miller (1989) correctly psychoanalyzes their approach as a fear that their side is mistaken, and thus their only defense is in attack.

5.2 Fortunately for the Altaicists, a devil's advocate is an excellent tool for flushing a theory out, and arguments used by the anti-Altaicists have in many ways helped the Altaicists pad their own arguments, as well as direct their research. One argument used by anti-Altaicists is that the lexical similarity between the proposed genetic relations is restricted to only a negligible percentage, or at least a percentage unacceptable for related languages. Sir Gerard Clauson relates (1962 in Miller 1989),

As a young man I had always accepted the theory that the Turkish and Mongolian languages were genetically related...so when a Romanized text of the Secret History of the Mongols ...became available, I tried to read it. I did not begin to understand it...And so I came to the conclusion that the theory that the Turkish and Mongolian languages were genetically related --the Altaic theory--was almost certainly wrong..."

What immediately springs to mind is an analogy with IE. Clauson's hubristic statement insinuates that if languages are related they ought to be mutually intelligible, and thus a native speaker of English ought to be able to read Greek, or Russian, or Celtic, and vice versa, because they are genetically related. In fact, the number of surviving IE lexical items common to the modern IE languages is quite minimal. But unlike Altaic, IE has a rich, long, and impressive number of ancient sources upon which to build its case.

Another argument used by the anti-Altaicists, which goes hand in hand with lexical correspondence, is the great variation amongst the supposedly related languages with the "stable word stock." The stock includes numerals, fishing and hunting terms, wild animal names, natural phenomena, basic social concepts, and parts of the body (Róna-Tas 1986). The argument is that if these languages were related, they would have much common everyday terminology, used often and therefore most likely to preserve the oldest forms, in common, but they do not. Interestingly, IE seems to have the same problem. If we compare the word for 'moon' in both Altaic and IE, we end up with similar results:

Altaic:

Mo. *sara*

Tu. *ḡy*

Ma. Tung. **biyaḡa*

Indo-European:

Rus. *luna*

New Gr. *φεγγαρι*

Ir. *gealach*

Ger. *Mond*

Sanskrit *candra*

table 4. Cognates of "Stable Word Stock" in Altaic and IE Compared

Although 'moon' in IE has some correspondences (Romance and Russian), there is apparently "no single original IE lexeme" reconstructable for 'hand' in IE. (C. D. Buck identifies at least six traces of it, in Miller 1989) A fact which is likely true of several other stable word stock items, to be contrasted with the few words which *can* be reconstructed within the same stock. The unpredictability of surviving forms is as true for Altaic as it is for IE. The word for 'hand' in Altaic is easily reconstructed below, but the anti-Altaicists are quick to point out that many other names for body-parts are not relatable.

- (30) Mo. *gar* 'hand, arm, side, flank, wing of an army',
 =Ma. *gala* 'id'
 =Go, Olc., Oro., *ḡala*, Sol. *nāla*, Negd., *ḡāla*, Ev. *ḡāle*, Lam. *ḡāl* 'id'
 =Mtrk, Chag, Alt, Kum. *qarī* 'upperarm', Osm, Tat, Alt, *qarīs*
 'span', NTrk. *karīs*
 -NJ *kara* < **gara* 'handle', NKor. *-kalak* 'a spindle, long slender
 stick; a digit', MKor. *kalak* 'a finger'

Poppe (1972) provides several other examples of correspondences of body part terminology, included in the stable word stock, across the Altaic languages, of which I will only include three here:

- (31) Mo. *örö* < **öre* 'interior, heart, abdomen, coronary artery, pit of the
 stomach precordia
 =Ev., Lam. *ur* 'stomach', Lam. *uremde* 'middle, center, abdomen, interior'
 =Turkm. *öz* < **ö:r²* 'self', Yak. *üös* < **ö:r²* 'marrow, middle';
- (32) Mo. *erekei*, MMo. *herekei*, PMo. **perekei* 'thumb'
 =Ma. *ferxe*, Goldi *puru*, Lam. *heregen*⁹ 'id'
 =AT *erḡäk* 'finger';

⁹ Please note: *g* = schwa here and elsewhere in the paper.

- (33) Mo. *qoŋco* 'fleshy part of the thigh', *qoŋdolai* < *qoŋdalai* 'thigh', SH *qonŋ*
iyasum < **qoŋdŋgāsun* 'anal region', Buriat *xonzōhoŋ* 'posterior'
 =Ma. *qonsun* 'anus', Ev. *kundukŋsakrum*
 =Ko. *kuŋduŋi* 'posterior'
 =AT *qoŋ* 'muscles, fleshy parts';

Hetzenberg (in Poppe 1972), whose paper pointed out ways in which IE studies could aid Altaic studies, makes an interesting remark about the lack of common numeral terms. He says "that [this] only proves that the typological structure of the Altaic proto-ethnic stage was different from that of the IE, and that the system of numerals did not exist as it does not exist in some languages spoken at the present time." This reminds us that each language is different, not only in how it expresses ideas, but also in the ideas it expresses. We must be careful not to criticize what we expect to see because of our own frames of reference.

Another useful suggestion comes from Cincius (in Poppe 1972) who insists "that investigation of a given word should include a thorough study of the whole word family. Only such a method will enable the investigator to trace the root in question back to a protoform in the common language." Following this idea (which makes the utmost sense, given the innovativeness of language), Poppe provides this etymology for Turkic 'leaf':

- (34) Is Mo. *nabči* < **nap-tī* related to Turk. *yap-raq* 'leaf'?

Mo. *nabtayi-* < **nap-ta-gī-* 'to become low, to bend down', *nab-ta-r* 'low',
nab-qa-yi- 'to lower, to become low', *nab-či-gar* 'flattened, flat', *nab-ta-r-da-*
 'to become low', *namaŋa* 'foliage', Kh. *nam^a* < **nap-a-gā* 'foliage', *nam* <
 **nap* 'low'
 =Ev. *napta* < *nap-ta* 'lowland', *nap-ta-* 'to spread out', *nap-ta-gā* 'lowland',
nap-ta-kān 'flat, smooth, even, low' (of land), *nap-ta-ksa* 'lowland', *nap-ta-lā-*
 'to lie widely spread out', *nap-ta-ma* 'flat, low', Lam. *namtihak* <
 **nap-ti-sa-k* 'low'
 =Turk. AT *yap-ī-r-ŋaq/yap-u-r-ŋaq* 'leaf, bud' from *yap-u-r-* 'to make
 smooth, to make even', New Uighur(NU) *yap-ī-l-aq* 'flat', cf. Alt(ai),
 Tel(engit), Le(bed), Küar(ik) *yabīs* 'short (of stature), low', etc.

Clearly the root **nap* had the general meaning of something flat (>low) and hence 'leaf' (<something flat). Even within Turkic, the meanings vary:

- (34) a. AT *yalpīryaq* 'leaf'
 = Chag. *yalpaq* 'flat, even'
 = Alt., Tel., Leb., Kiiar. *yalbaq* 'flat, wide'
 -compare with Mo. *dalbayi-* 'to be wide, to be flat'.

Also the etymology for the colour yellow (in Poppe 1972) lends strong support to the need for a broader search when looking for correspondences:

- (35) Mo. *sira* < **siāra* 'yellow'
 =Chuv. *šura* < **siāra* 'white'
 =Turk. *sarī* < **siārīy*, AT *sarī* 'yellow'
 =Ev. *siygama* < **sirgama* 'yellow, brown', Lam. *higgan'ā* 'yellow'
 a. could possibly be connected etymologically with:
 Mo. *siruya*, MMo. *siru'ai* < **sirugāi* < **siār-u-gāi* 'earth, dust'
 =Ev. *sirugī* < **sirugai* 'sand, sandbank in river'
 b. also to be compared with:
 Chuv. *šur* < **siār* 'swamp'
 =Turk. *sāz* < *saz* < **siār*²

The study of word families shows similar results for IE. Syromiatnikov (in Poppe 1972) names the 'word family' *language units* but the concept is identical. For example, Russ. *glaz* and Ukrainian *oko* both 'eye' are not related, but Russ. *ok-no* 'window', *oč-ki* 'spectacles', on the other hand do share their root with *oko*.

Of course, the main argument that the anti-Altaicists use to disprove the genetic affinity of similar word correspondences, is that the words are borrowed. Servortian (in Poppe 1972) has concluded "that 10% of all Manchu-Tungus stems have correspondences in Turkic." In a similar vein (Róna-Tas 1986), modern Hungarian has an estimated 300 pre-conquest Turkic loan-words (Bulgaro-Turkic in other words) of which it seems, that more than 100, or "1 in every 3, have a perfect Mongolian parallel." Many of those parallels have what Róna-Tas calls the 'Chuvash criterion', that is where Chuvash has *r* and *l*, common Turkic has *z* and *š*, a point which of interest to us, but which Róna-Tas does not dwell on. The anti-Altaicists have a strong argument for borrowing, in that contact between Turkic languages, Mongolian, and Manchu-Tungus was extensive for reasons of trade. Ligeti (1958 in Róna-Tas 1986) states the argument for the anti-Altaicists well:

...the Turkic and Mongolian languages have been -as testified by historical sources, mainly Chinese- in permanent contact with each other for nearly 2000 years...It cannot be doubted that as a result of these contacts we have to reckon with intercrossings and borrowings from various ages and of varying intensity...it may often be the case that a correspondence, thought to derive from the Altaic parent language is in fact nothing but the trace of a contact that took place after the separation of the two languages. The danger of misunderstanding is especially great if the correspondence due to this interaction comes from an age prior to the oldest extant textual documents of the Turkic or Mongolian language.

One might, with sufficient historical and archaeological evidence, make a case for a *lingua franca* which in turn could have influenced the native tongues of its speakers. Such a common business language, depending on how well developed it became, could help explain similarities between Turkic, Mongolian and Manchu-Tungus which extend beyond the lexicon. But this would be a difficult case to make. On the other hand, it seems to be a more plausible explanation than the sweeping borrowings that are supposed to have taken place across the vast geography of languages. The type of contact that the languages had is measurable in the corresponding semantic groups. Terminology for stockbreeding, military organization, literacy, and metallurgy, for example, form parallels between Mongolian and Turkic. Words like 'copper', 'bronze', 'iron', 'tin', 'lead', 'to found', and 'mine', depending on when the common-Altaic language is dated to, point to later borrowings, rather than survivors of Altaic, simply because the words imply a more advanced metallurgy than existed in pre-historic times. And as Róna-Tas writes, "all that is shown by a thorough analysis of the material is that the linguistic relationship between the Turkic and Mongolian peoples is relatively very remote, and the majority of the agreements are relatively late loans, a process possible between related languages."

Interestingly, according to Miller (1989), morphological and syntactic evidence, which point to the common relationship of Altaic remains untouched by the anti-Altaicists. Their main bone of contention is the $*l^2$, $*r^2$, and otherwise, Miller (1989) contends, they have also largely left Ramstedt and Poppe's reconstruction of the proto-Altaic sound-system alone. But other than $*l^2$ and $*r^2$, the phonological system of a non-existent language as far as they are concerned would not be worth debating. That they ignore morphology and syntax is noteworthy, however. Miller explains that,

Long before the details of Altaic comparative phonology...were understood, the existence of the earlier linguistic unity had been securely postulated by G. Ramstedt...on the basis of vestiges of its original system of secondary deverbal stem formation that Ramstedt was able to demonstrate as having survived in the morphology of the later corpus languages...its essential point was and remains sound: only an earlier proto-language could explain the latter attested morphology.

Nominalization of verbs, or deverbal nouns, is one of the most characteristic attributes of the Altaic languages, found not only in Mongolian and Manchu-Tungus, but also irrefutably in Turkic¹⁰. Not only is the common existence of deverbal nouns significant, but also the fact that they are syntactically employed in strikingly similar ways, and that their morphological components are easily paralleled. Miller claims that there are numerous examples of other such "highly specific structures...crossing back-and-forth between the morphological and syntactic levels." If this is true, the anti-Altaicists would have a difficult time proving that these integral linguistic units, rarely borrowed because of their context dependent functions, were borrowed systematically across such a wide selection of languages.

5.3 What does all of this have to do with rhotacism and lambdacism? Nothing really, but it has a lot to do with zetacism and sigmatism, in that all of the above are methods which the anti-Altaicists use to prove that the latter sound changes are inconsequential to the reconstruction of proto-Turkic. Within the anti-Altaicist camp, there are also divisions. Róna-Tas, for example, is not an anti-Altaicist in the strict definition of the word. Although he is certain that Turkic *z* and *ʃ* are primary, he does not deny that an Altaic unity could have existed at a distant, irretrievable point in the past. If it is assumed that the sound change was also the initial break into Turkic dialects, which later became separate languages, then the sound change occurred before there were any written documents. Consequently, to assume that an Altaic language existed beyond that point is unprovable to Róna-Tas. Presumably he has similar difficulties with other proto-languages, which are usually created in the absence of written documents.

Most agree that the common-Altaic period existed well before the first millennium AD, as is true of IE. The approximate dating of the sound change, which Róna-Tas assumes initiated the greater divergence of common-Altaic dialects into developing languages, is best evidenced by the word for 'stirrup'. This word is diagnostic because the Turks (and/or the Mongols) are accredited with the invention and quick development of this important technological change. Rhotacism, or zetacism, can be seen in the cognate for the Turkic languages:

- (36) proto-Chuv. *yārana* > **irāṇā*
= Stan. Trk. **ūzeṅgü* (for Oghuz, Kipchak, Turkestan)
and **izeṅge* (for Baraba, Khakas, Turanian, Yakut, Yellow Uighur)

¹⁰ See Menges 1996.

While the appearance of the stirrup has been dated anywhere from the sixth to the third century BC, Róna-Tas claims that at the very least the phonological change must have taken place in the last few centuries before Christ.

Not all anti-Altaicists are even agreed that *z* and *š* were the primary sounds of proto-Turkic. Doerfer, who for many years supported their primacy, began to support instead the primacy of *r*¹¹, and accordingly has adjusted his reconstructions. But he adamantly argues that the primacy of one sound over another has nothing to do with the Altaic hypothesis. He asserts that his change of opinion, that is the primacy of *r*, was prompted by "internal reasons of the *Turkish* phoneme structure," (Doerfer, 1984:37). What those internal reasons were, Doerfer does not specify, though he does direct the reader's attention to another article, where presumably those internal reasons can be found.¹² Specifically, he reconstructs the *r* as **ri*, which is closely related to a palatal *r*, or *ř*. Like Tekin and Miller, he believes that **ř* is a phoneme in and of itself, to be kept separate from **r*^l. Also like Tekin, his reasons for postulating two phonemes eludes the reader.

6.0 Conclusion

While Miller (1989) diplomatically asserts that the anti-Altaicists are winning the debate over whether Turkic belongs in the Altaic family, he is being ironically modest. It appears to me that the arguments for Altaic unity, such as the lexical, morphological, and syntactic correspondences common to Turkic, Mongolian, and Manchu-Tungus languages, as well as the arguments for the primacy of *r*, if not *l*, which are based on those very correspondences, are much stronger, better compiled, and more well thought-out. The weakness of the Altaic argument lies in the lack of a specific environment that could have governed the sound change in question, and a lack of agreement on the phonetic nature of those phonemes.

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¹¹It is not clear whether the primacy of *l* is also supported, as it is not mentioned in this context.

¹²This article, cited in Doerfer, was unavailable to me: TDAY-Belleten 1975/6. 33-37

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Tania L. Therien
 Department of Linguistics
 University of Calgary
 2500 University Dr. NW
 Calgary, Alberta
 CANADA T2N 1N4
 tltherie@acs.uccalgary.ca