

Relative Chronology and the Split of Slavic Liquid Diphthong Evolution into Northern and Southern Zones

I. Introduction.

The basic premise of my paper for today is that the modern reflexes of the liquid diphthongs can all be accounted for by a series of Common Slavic rules, rather than a situation in which each zone has its own particular set of disconnected rules which apply to such diphthongs. However, the assertion that the rules are essentially Common Slavic raises the question as to why there is such a great number of differences between reflexes of the various Slavic zones. I believe that the answer lies in the fact that three or four other isoglosses--outside the realm of liquid diphthongs--moved across the Slavic territory during the period in which the various liquid diphthongs were changing. Therefore, it was not so much that the liquid diphthongs in an of themselves were evolving differently. Furthermore, I do not feel that the individual zones necessarily had specific structural reasons to change the liquid diphthongs in a particular direction. The most obvious cause of the differentiation was the relative chronology of other phonological changes, which frequently brought about situations in which the North and South of Slavic had different phonological systems, so that the environment of the liquid diphthongs differed, as did their evolution. To my knowledge, some of the most important of these intervening changes were first pointed out by Henning Andersen, and then further elucidated by Alan Timberlake. I would like to expand on some of their previously expressed ideas and suggest yet another such intervening isogloss which I have not yet seen presented in the literature. I will also make reference to the view of some other scholars, whose views I do not share, pointing out the specific reasons for my criticism. I will separately introduce the three structures which are usually considered under the heading of "Slavic liquid diphthongs," as follows:

1. anlaut diphthongs (to be symbolized as *art*)
2. low vowel inlaut diphthongs (symbolized as *tart*)
3. high vowel inlaut diphthongs (represented as *turt*)

II. The Anlaut Diphthongs (*art*)

Northern and Southern zones of Slavic differ sharply on the basis of their reflexes of *art*. While both zones metathesize the *ar* group, the northern zone (including such areas as East and West Slavic, except for Central Slovak) conservatively maintains the distinction between long and short, as reflected in the modern *rat/rot* reflexes (e.g. CSR *ralo/rovnyj*). However, the South Slavic (plus Central Slovak) zone normally displays only the long reflex here (*rat*, as in SC *ralo/ravan*).

Since the North Slavic quantitative difference between *rat* and *rot* is unique within the entire set of diphthongs, it is clear that it is an archaism and one of the very first Slavic reactions to the new principle of rising sonority. Since the metathesis had to occur when the long vowel (in *rat*) was equivalent to a two-mora group, but the short vowel (in *rot*) was only equal to a single mora, the liquid which metathesized could not ever have been

equivalent to a mora in North Slavic, if we are to exclude the assumption of three-mora group, which would be necessitated if the liquid were moraic here. Additional evidence for the non-moraic status of the liquid in Northern *art* can be seen in the fact that a non-moraic liquid would be a greater violation of the principle of rising sonority than would a moraic one, a fact that would hasten the metathesis in the North, making it occur at a moment when diphthongal quantity still existed.

South Slavic, on the other hand, has the same type of anlaut reflex as seen in all of the inlaut liquid diphthong reflexes of Slavic: levelling of quantity with a consistently long reflex in the vowel. This leads to the conclusion that southern *art*, like all of the other diphthongal types in both North and South, were subject to quantitative levelling. Quantitative levelling of diphthongs was one of the early Slavic responses to the rising sonority tendency, and had the function of making all second diphthongal components into moraic units. Since the syllabic maximum was a length of two moras, the change of the second diphthongal component from non-moraic to moraic limited the first diphthongal component to a single mora. This is usually referred to as the “shortening of long diphthongs,” to use Andersen’s phrase, although I would insist that it is not really the shortening of diphthongs, but merely the inclusion of the second component into sequence of two moraic units. It was the shortening of long first diphthongal components. The significance of a moraic, as contrasted to a non-moraic unit, lay in the fact that a moraic unit could bear the pitch. Thus, I assume that quantitative levelling was really part of the phonemicization of Slavic pitch. Previously, long ictus syllables were redundantly rising, and shorts redundantly falling (at least in initial position), but the levelling of both rising and falling diphthongs to two mora sequences now made the pitch independent of quantity.

This change can be depicted as follows: (See Handout A.)

one-mora vowel + non-moraic sonant (in closed position); AND
two-mora vowel + non-moraic sonant (in closed position)

> one-mora vowel + one-mora sonant (i/u/m/n/r/l)

As noted above, I am treating all of the major Slavic dialect divisions in the realm of liquid diphthongs on the basis of whether they occur before or after an intervening, somewhat unrelated change. In the case of anlaut *art*, the intervening change is the one depicted above, which could be called neutralization of diphthongal quantity and spread of moras to sonants. In North Slavic, I conclude that only the anlaut liquid diphthongs escaped this diphthongal rule, while in South Slavic no diphthong escaped the rule. This is why in the very earliest period of liquid diphthong evolution, North Slavic experiences metathesis due to non-moraic liquids in *art*, but no change occurs in the South, which had moraic liquids in *art* (and all other diphthongs as well). Thus, South Slavic anlaut *art* joins in with the evolution of the low vowel inlaut *tart* types, and belongs to the next period.

In discussing the *art* reflexes of North Slavic, traditional treatments sometimes state that the

old acute, or rising pitch is reflected as long *a*, while the old circumflex, or falling pitch is reflected as short *o*. This refers to the Slavic redundant pitch found under stress before pitch became phonemic. In fact, I would submit that at the time of the North Slavic evolution of *art*, quantity was the only prosodic feature that we can be certain of in these sequences. When the *ar* diphthong was pretonic, in a case such as the original shape of Polish *robota*/CSR *rabota*, it is more likely that the diphthong was phonetically rising than falling, although it is referred to as circumflex since it derives from an originally short Indo-European vowel. Therefore, I believe that Bethin is in error when she attempts to explain the North vs. South Slavic reflexation of *rat/rot* by assuming acute rising for northern *rat* and circumflex falling for *rot*. This is anachronistic, something like referring to OCS nouns as *a*-stems and *o*-stems, even though the *a* and *o* in question were long gone at the time.

III. Low vowel inlaut *tart*.

As shown in the Handout, section B., the main differentiating factor between North and South is the relative chronology of the Common Slavic change of short low vowels to the familiar non-low mid vowels *e, o*, first pointed out by Andersen. But, while the East Slavic *torot* and South Slavic *trat* reflexes have been relatively easy to interpret, the Lekhitic/Sorbian *trot* reflexes has posed some serious difficulties. The East and South Slavic types each can clearly be said to represent two moras: southern *trat*, since originally long *a* comes from a long vowel, and pleophonic *torot* of East Slavic, since two shorts are reflected in an obvious way.

In view of the clear evidence of either a long vowel or two shorts in the *tart* reflexes of South and East, it has been assumed that the Lekhitic/Sorbian *trot* reflexes also must have once contained two moras. The problem has been that there have been two competing candidates for the proto-form which contains the two original two moras of modern *trot*. On the one hand, the vowel *o* clearly displays the reflex of length, since it consistently manifests long reflexes (such as Polish *ó* with *pochylenie*) in the expected phonological environments (such as original pretonic position, e.g. *króla*, *plótno*, *kłóczę się*, etc., which cannot be attributed to compensatory lengthening of shorts). On the other hand, there is evidence for the strengthening of jers in prepositions which precede Lekhitic/Sorbian *trot*, even though such cases are not an ironclad rule in Modern Polish (e.g. *we głósie*). Such instances have led many linguists to derive modern *trot* from the sequence *tɔrot*, disyllabic like that of East Slavic. However, those who posit this sequence lack an explanation of the Polish/Sorbian long vowel reflex in precisely those prosodic environments which preserve length. Timberlake has suggested a gradual, rather than abrupt process of metathesis may explain both phenomena, which may have caused a jer-like vowel remnant in the first syllable to co-exist with a long second syllable for a time.

In my opinion, the *o* of *trot* must have been long, since is no other explanation of length in the entire paradigm of *król* and other such words. Stieber's history of Polish phonology even refers to this length as unusual and difficult to explain, since he did not assume the

length of the *o*, deferring to the disyllabic theory of Rozwadowski. As to the forms such as *we głósie*, I would suggest that the Lekhitic metathesis of *tort*>*trot* must have coincided with the change of short high vowels to strong and weak jers. Thus, within the change of the 1-2>2-1 sequence *o-r*>*r-o*, the slot 1 moraic vowel changes to non-moraic *r*, causing the prepositional jer to lower, as in the case of a pre-final jer, which lowers as the final jer goes to zero. The question may arise as to why this does not happen in the apparently similar *trat* sequences of Czecho-Slovak and South Slavic, and the answer (as will be seen in the case of *turt* sequences) is that the change of short high vowel to mid coincided with the changes of liquid diphthongs in the North, but followed such changes in the South.

In any case, we can no longer be satisfied with the older, traditional explanation that Polish *trot* represents the generalization of shortness, while southern *trat* supposedly is the diametric opposite and represents the generalization of length.

IV. High Vowel *turt*

As shown in the handout, part C., the ultimate *turt* reflexes depended on the relative chronology of jer development. Jer development was simply the high vowel equivalent of the short \tilde{a} > \tilde{o} change, which pushed all shorts out of the high and low vowel categories and into the mid vowels, which temporarily became a redundant feature of their shortness. And, just as the relative chronology of \tilde{a} > \tilde{o} change was the critical element in the evolution of *turt*, I would like to suggest that the parallel change of short high > mid was the major factor in the different *turt* reflexes.

Diphthongs could present two different types of sequences, in terms of sonority difference. When the sequence consisted of non-high vowel plus high vowel (e.g. *au*), the difference was of a lesser type and the result was the assimilation of the first component to the second. However, in cases such as *tart*, the sonority difference was greater (non-high plus moraic liquid), and the result was the moraic assimilation of the second component to the first. Within the class of high vowel liquid diphthongs (*turt*), the critical point in northern and southern zones was whether the vowel was non-high (e.g. Θ) or high (*i*, *u*). If it was non-high, the diphthong would be resolved like *tart*: vowel plus non-moraic liquid, with further parallels seen in East Slavic second *polnoglasie*. However, if the vowel had not yet become mid at the moment of diphthongal evolution, as in the South, then the sonority difference would be small and the high vowel would assimilate to the moraic liquid by the regular Slavic diphthongal rule, which gives us the southern reflex, as seen in South Slavic and Czecho-Slovak.

The modern Polish reflexes of *turt* are rather complicated and cannot easily be derived simply from mid vowel jer reflexes. As I have stated in a previous paper, some of the Polish environments, especially high tonality *tirt*, have high front vowels, yet the low tonality environments often suggest non-high jer reflexes or schwa. High vowel without the possibility of a syllabic liquid (e.g. *wilk*) may be a transitional zone between areas with real syllabic liquids (such as Czecho-Slovak) and those which lack high vowel reflexes for *turt*

(such as East Slavic).

V. Conclusion.

This paper has attempted to demonstrate that in the case of each of the major types of Slavic liquid diphthongs (*art/tart/turt*), a more northern zone differs from a southern one, by virtue of an intervening rule which changes the environment of the diphthong in question, rather than the essential Common Slavic treatment of liquid diphthongs themselves. Many details could not be presented, in view of time constraints, such as the special developments in the Slavic Northwest, which avoided metathesis in many instances. Also, while Sorbian and Lekhitic agree with East Slavic in their absence of contemporary syllabic liquids, they are posited by many for the early periods, although I am inclined to derive the modern vowels from a lengthened schwa vowel, which interacted very variably with a series of preceding and following consonants. In any case, it is hoped that this summary can bring us closer to understanding the larger picture of the Common Slavic phonological evolution of liquid diphthongs.

Handout

Relative Chronology and the Split of Slavic Liquid Diphthong Evolution into Northern and Southern Zones R. Feldstein, Indiana University (feldstei@indiana.edu)

Summary Table of Slavic Liquid Diphthongs

	Early Intervening North Slavic Change	Common Slavic Change
I.		
*art	$\bar{a}r/\bar{a}rt > r\bar{a}t/r\bar{a}t$	$\bar{a}r/\bar{a}r > \bar{a}\check{r}$
“North” =	East and West Slavic, excluding Central Slovak.	
Result:	North Slavic anlaut *art unaffected by $\bar{a}r/\bar{a}r > \bar{a}\check{r}$. South Slavic anlaut *art behaves like inlaut *tart.	
II.		
*tart	$\bar{a}\check{r}/\bar{a}\check{r} > \check{o}/\check{e}$	$t\check{x}\check{r}\check{t} > t\check{x}\check{x}\check{r}\check{t} > tr\check{x}\check{x}\check{t}/tr\check{x}\check{-}\check{x}\check{t}$
		South: $(t)\bar{a}\check{r}\check{t} > (t)\bar{a}\check{a}\check{r}\check{t} > (t)r\bar{a}\check{a}\check{t}$ Lekh./Sorb.: $t\check{o}\check{r}\check{t} > t\check{o}\check{o}\check{r}\check{t} > tr\check{o}\check{o}\check{t}$ East: $t\check{o}\check{r}\check{t} > t\check{o}\check{-}\check{o}\check{r}\check{t} > t\check{o}\check{-}r\check{o}\check{t}$
“North” =	East Slavic and most of Lekhitic/Sorbian, excluding Czech and Slovak.	
Result:	North Slavic has the change of short low > short mid before loss of $\bar{a}\check{r}$ diphthongs. South Slavic has it afterwards.	
III.		
*turt	$\bar{u}\check{r}/\bar{i}\check{r} > *o\check{r}$	High Vowel + $\check{r} > r\check{r}$ (cf. $\bar{a}\check{u}\check{r}, \bar{a}\check{i}\check{r} > \bar{u}\check{u}\check{r}, \bar{i}\check{i}\check{r}$) (Small sonority difference in South.)
		Non-high vowel + \check{r} : (Larger sonority difference in North.) $t\check{x}\check{r}\check{t} > t\check{x}\check{x}\check{r}\check{t} > tr\check{x}\check{x}\check{t}/tr\check{x}\check{-}\check{x}\check{t}$
“North” =	Same as *tart.	
Result:	North Slavic changes certain short high (“strong jers”) > short mid before loss of $\bar{u}\check{r}$ diphthongs. South Slavic has the change afterwards.	

Main Thesis: In the case of each of the liquid diphthong types: anlaut (*art*), low anlaut (*tart*), and high anlaut (*turt*), there is another isogloss which chronologically applies before the liquid resolution in the northern zone, but after it in the southern zone. This suggests that the change of liquid diphthongs may have emanated from the South, which gave the North the chance to undergo other changes before the liquid diphthong rules could be applied. Thus, although Slavic liquid diphthong rules are essentially the same, the intervening events which first apply in the North make the diphthongal reflexes look quite different from their southern counterparts. The definition of “North” and “South” is slightly different in each of the three periods.

A. Anlaut *art*

Early North Slavic Rule:

(1) Metathesis of Non-Moraic Liquids Following an Anlaut Vowel:

When a vowel (long or short) is followed by a liquid in closed position, the syllabic boundary is drawn after the liquid, followed by the metathesis of the liquid consonant to the prevocalic position.

Common Slavic Rule:

(2) Diphthongal Neutralization of Quantity.

In closed position, a non-moraic sonorant (glide/nasal/liquid) acquires moraic status and the preceding vowel neutralizes quantity in favor of shortness (a single mora).

Northern Zone (East and West Slavic, not including Central Slovak):

1. Rule 1 applies to anlaut liquid groups before the diphthongal neutralization of quantity.
2. Diphthongal neutralization applies, but cannot affect **art* groups, since they have already metathesized to **rāt*/**rōt*.

Southern Zone (South Slavic, plus Central Slovak):

1. The rule which specifies diphthongal neutralization of quantity (2) applies to all diphthongal groups, including anlaut liquid diphthongs.
2. Rule 1 (metathesis of non-moraic liquids) now has no immediate applicability in this zone and will only be applied in a later period, when the moraic liquids lose their moraic status.

Consequence for modern Slavic: North Slavic has *rat* and *rot* reflexes, but South Slavic has only *rat* reflexes.

B. Inlaut *trāt*

Early Northern Slavic Rule:

- (1) Qualitative differentiation of long and short low vowels: $\check{a} > \check{o}$ and $\check{a}\check{e} > \check{e}$.

Common Slavic Non-High Diphthong Rule:

- (2) Loss of of moraic liquids after non-high vowels:

A sequence of one-mora non-high vowel + moraic liquid is changed to the sequence two-mora non-high vowel + non-moraic liquid.

- (3) This sequence is then subject to the still active metathesis rule (cf. A. 1. above) of the liquid and immediately preceding vowel.

Northern Zone (East Slavic and most of Lekhitic):

1. The qualitative differentiation rule applies first, changing $t\check{a}\check{r}\check{t} > t\check{o}\check{r}\check{t}$ and $t\check{a}\check{e}\check{r}\check{t} > t\check{e}\check{r}\check{t}$.
2. The non-high diphthong rule then applies. Moraic liquids become non-moraic and the new one-mora mid vowels become sequences of $\check{o}\check{o}$ and $\check{e}\check{e}$. The sequences form two syllables in East Slavic, but one in Lekhitic. Ensuing metathesis of closed non-moraic liquids again applies. East Slavic $\check{o}r\check{o}$, Lekhitic $r\check{o}$.

Southern Zone (South Slavic, Czech and Slovak)

1. The opposite ordering of the North: first comes the combined change of one-mora \check{a}/\check{e} plus moraic liquid to $\check{a}\check{a}/\check{e}\check{e}$ plus non-moraic liquid, followed by metathesis.
2. Next comes the intervening rule, changing one-mora non-high vowels, which cannot be applied to the new $\check{a}\check{a}$ groups.

C. Inlaut *turt***Early North Slavic Rule:**

(1) Continuation of qualitative differentiation of shorts, whereby +low/+short > -low (e.g. *e*, *o*) and +high/+short > -high (e.g. $\text{\textcircled{e}}$). I.e. short vowels all move into the mid vowel range. In the case of short high vowels, this rule is more often known as the development of weak and strong *jers*. When the next mora after a short high vowel is a low sonority mora (a high vowel or moraic liquid as in the case at hand), the short high increases its sonority by becoming non-high, i.e. mid. The specific mid vowel differs by dialect, but is assumed to be unified $\text{\textcircled{e}}$ in the case of Polish, but *e/o* in East Slavic.

Common Slavic Diphthongal Rule:

(2) Sequences of one-mora vowel + moraic liquid are resolved on the basis of sonority. When the sonority difference is minimal (high vowel + moraic liquid), the first component assimilates to the second (cf. $\text{\textcircled{a}}\text{\textcircled{u}} > \text{\textcircled{y}}\text{\textcircled{u}}$; $\text{\textcircled{e}}\text{\textcircled{i}} > \text{\textcircled{y}} = \text{\textcircled{t}}\text{\textcircled{y}}\text{\textcircled{r}}\text{\textcircled{t}} > \text{\textcircled{t}}\text{\textcircled{r}}\text{\textcircled{r}}\text{\textcircled{t}}$). But, when the sonority difference is significant (non-high + moraic liquid), then the liquid loses mora status and the preceding vowel is lengthened to a two-mora sequence (cf. $\text{\textcircled{t}}\text{\textcircled{a}}\text{\textcircled{r}}\text{\textcircled{t}} > \text{\textcircled{t}}\text{\textcircled{a}}\text{\textcircled{a}}\text{\textcircled{r}}\text{\textcircled{t}} = \text{\textcircled{t}}\text{\textcircled{e}}\text{\textcircled{r}}\text{\textcircled{t}} > \text{\textcircled{t}}\text{\textcircled{e}}\text{\textcircled{e}}\text{\textcircled{r}}\text{\textcircled{t}}$).

Northern Zone (East Slavic and parts of Lekhitic)

1. High vowel inlaut *turt* is subject to a lowering of the vowel to non-high (mid), equivalent to the development of any strong *jer*, due to its presence immediately preceding a moraic liquid (low sonority mora).
2. The greater sonority distance of non-high vowel + moraic liquid causes this sequence to behave like the earlier *tart*. The liquid loses mora status and the vowel lengthens if possible (Lekhitic but not East Slavic). Liquid metathesis occurs only in some zones, where it is still active (e.g. second *polnoglasie* zones of Russian). In the North, this similarity of *tart* and *turt* treatments has led to mid vowel or lengthened mid vowel reflexes in each, plus an absence of syllabic liquids.

Southern Zone (South Slavic, Czech and Slovak)

1. As in previous cases cited above, the first rule (*jer* development/short high > mid) occurs only after the monophthongization of high liquid diphthongs. Therefore, the monophthongization occurs when the sonority difference is small, and the regular, expected evolution occurs: assimilation of the first diphthongal component to the second, producing a long moraic liquid as the result.
2. *Jers* develop after the change of $\text{\textcircled{t}}\text{\textcircled{y}}\text{\textcircled{r}}\text{\textcircled{t}} > \text{\textcircled{t}}\text{\textcircled{r}}\text{\textcircled{r}}\text{\textcircled{t}}$, which is why the latter are unaffected, in contrast to North Slavic.