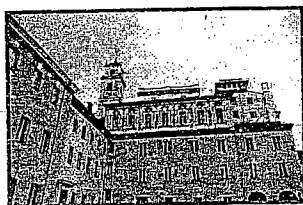


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A FEW COMMENTS ON THE PHONOLOGY
OF THE JATVINGIAN GLOSSARY

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Zinkevičius (1984; 1985) relates the discovery by a certain Vjačeslav Zinov of the manuscript of a glossary with the inscription *Pogańske gwary z Narewu* 'Pagan dialects from the Narew'. The head words are in Polish, followed by their Baltic translations. In an evaluation of the phonology of this glossary one assumes that the Baltic language (and its admixture of 'Germanisms' which Schmid [1986] considers to be northeastern Yiddish elements) was interpreted by Polish ears, so one has to try to work through several layers of uncertainty. (I omit the theoretically possible, but highly improbable event that the glossary's author was a native speaker of both languages he was transcribing). In addition to the problem of comprehension of a foreign phonemic system, there is also the problem of scribal mistakes both by the author of the glossary and by Zinov himself who copied it out and to whom we owe the existence of this curious document.

Another aspect, frequently unmentioned in the analysis of the Old Prussian glossaries, is the possibility that in the case of substantives the author of the glossary may not be supplying the nominative singular case. Mikkola (1903: 3) compares the Elbing Vocabulary with the Polabian vocabulary of Parum Schultze where we encounter accusative singular forms such as *korwung* 'cow' or genitive singular forms such as *medäü* 'honey.' Faulty case usage is certainly common enough among non-native speakers of inflected languages. In our document here the lack of endings on many

words attests also to the scribe's faulty command of the case system of the Baltic language.

Rather tentatively I would propose that we have to do with a typical five-vowel system with short and long contrast in which we can observe vowel changes *in progress*. Thus our document would have some words giving evidence of the original phoneme(s) and other words giving evidence of the innovating phoneme(s). According to Labov (1994: 116) 'Principle I: In chain shifts, long vowels rise'. See also Zinkevičius (1985: 184).

Evidence for the passage of original /ē/ to /ī/ is found in the following words: *dainid* 'spiewać, to sing' if it is connected with Latv. *dainēt*; if the connection of Russian *dreg-* with Lith. *drėgnas* 'damp' is correct, then the Baltic root *drīg-* < *drėg-* may be contained in the word *drygi* 'mojkali, inhabitants of the Moscow principality' (Zinkevičius 1985: 71); *fid* 'siedzieć, to sit,' cf. Lith. *sėdėti* (a syllable seems to be missing in *fid*, so perhaps we have to do with the haplology of an original **fidid*); *fini* 'grzyby, mushrooms,' Latv. *sēnes* 'mushrooms,' although this latter is of Finnic origin; *stībd* 'chować, to save, to hide,' cf. Lith. *slėpti*, Latv. *slēpt*; *tarmi* 'gorące, hot' with an initial *t-* rather than *g-*, cf. Elbing Vocabulary 41 *gorme* 'heat'; *wajrid* 'płakać, to cry,' cf. Latv. *vairēt* 'to want more'; *wiif* 'burza, storm,' cf. Lith. *vėjas* 'wind,' Latv. *vējš*, Elbing Vocabulary 53 *wetro*; *zil* 'trawa, grass' if it is connected with Lith. *žėlė*, 3rd pret. of *žėlti* 'to grow' (Zinkevičius 1992: 122).

Evidence for the retention of original **ē* is encountered in the following words: *tewf* 'ojciec, father,' cf. Lith. *tėvas*; *pufe* 'sosna, pine,' cf. Lith. *pušis*, dial. *pušė*; *ate* 'matka, mother' perhaps without initial *m*, cf. Lith. *mótė*, Latv. *māte*; *ezd* 'eść, to eat,' cf. Lith. *ėsti*; the second vowel of *gerwe* 'bośniań, stork,' (with an apparent confusion of the meanings of 'crane' and 'stork'), cf. Lith. *gėrvė* 'crane,' Latv. *dzērve*, Elbing Vocabulary 715 *gerwe*; *hirdet* 'słuchać, to hear,' cf. Old Prussian *kirdit*, Lith. *girdėti*; *raude* 'czerwony, red,' if it is connected

with Lith. *raūdė* 'red paint, etc.'; *ugne* 'ognisko, fire,' cf. Lith. *ugnis*, dial. *ùgnė*; *ejo* 'szedł, walked,' if it is cognate with Lith. *ėjo*.

In the glossary the evidence of a monophthongization of **ei* (and **ai*?) to **ē* is perhaps encountered in several words spelled with *-e-* such as *letf* 'deszcz, rain' (cf. Lith. *lietus*, Latv. *lietus*); *deuf* 'bóg, god,' (cf. Lith. *diėvas*, Latv. *dīvs*); and *mera* 'pókój, peace,' (cf. Latv. *miērs*, in old writings Lith. *mieras*). However, the etymological diphthong **ei* may also be attested in words spelled with *-i-* such as *brid* 'jelen, deer,' (cf. Lith. *brėdis*, Latv. *briedis*, Elbing Vocabulary 650 *braydis* 'elk'); *dinf* 'dzień, day,' (cf. Lith. *dienà*, Latv. *diena*, Old Prussian acc. sg. *deinan*); *kit* 'twardy, hard,' (cf. Lith. *kietas*, Latv. *ciēts*). The orthographic evidence suggests a merger of **ei* with original **ē* and then a possible passage to innovating **ī*. See also Zinkevičius (1992: 126).

A different interpretation is offered, however, by Karulis (1987: 139), who suggests that in the glossary a single phoneme /ie/ might be rendered by two orthographic variants, viz. either *-i-* (*dinf*) or *-e-* (*letf*). He compares Jānis Reiters (in his view, a speaker of the Southern Curland Latvian dialect) who sometimes wrote *ie* as *e* and sometimes as *i*, e.g., *bārnem* '(on the) children'¹ and *bārnim* (= *bērnim*). A possible, but in my view rather unlikely, scenario for the chain shift would be then: **ei/ > */ē/₂ > /ie/*, with the creation of the new long vowel **/ē/₂* through monophthongization and its subsequent diphthongization to /ie/ taking place at a time before the raising of the old etymological long vowel /ē/₁ to /ī/ (see Levin 1975: 147-148, 152).

Evidence for the raising (and rounding) of original /ā/ to /ō/ may be encountered in the word-final vowel of certain nouns which may reflect either the original **-ā* stem nominative singular ending or the old **-o* stem genitive singular ending, which would also derive from **-ā*, thus: *karo* 'walka, fight,' cf. Lith. *kāras* 'war,' gen. sg.

¹ See, e.g., Jēgers 1975: 13, 42.

kāro, Latv. *kaŗš*, Old Prussian acc. sg. *kariausnan* 'struggle'; *mejdo* 'drzewo, tree, (some?) wood' (gen. sg.?, misprint for **medjo*?), cf. Lith. *mēdis*, (gen. sg.) *mēdžio*; *mejdo* 'dziewczyna, girl,' cf. Lith. *mergà*, Elbing Vocabulary 192 *mergo* (probably, like Latv. *meŗta*, a Germanism, cf. German dial. *Maid*); *puro* 'bagno, swamp,' cf. Lith. *puŗvas* 'mud,' gen. sg. *puŗvo*, Latv. *pūŗvs* 'bog, marsh'; *seno* 'sen, sleep, dream' (most likely a Polonism, cf. Pol. *sen*); *zirgo* 'koń, horse' (gen. sg.?), cf. Lith. *žirgas*, (gen. sg.) *žirgo*, Latv. *ziŗgs*, Elbing Vocabulary 430 *sirgis* 'stallion'; *ziro* 'ezero, lake' (gen. sg.?), cf. Lith. *ēŗeras*, (gen. sg.) *ēŗero*, Latv. *ezers*, Elbing Vocabulary 60 *assarān*; *žuwo* 'ryby, (some?) fish' (gen. sg.?, note that the Polish *ryby* could also be interpreted as gen. sg.), cf. Lith. *žuvis*, Latv. *zivs*, Elbing Vocabulary 560 *suckis*. Still another possibility is that word-final *-o* may also represent an old accusative case (either **-ā* or **-o* stem) in which the final **-an* was denasalized to **-ā* and then passed to **-ō*. Since frequently endings are omitted in the glossary, e.g., *zem* 'ziemie, land,' beside Lith. *žėmė*, Latv. *zeme*, Old Prussian *semmē*, perhaps the author of the glossary decided to add the *-o* in imitation of his native Polish, thus, e.g., *ziro* 'lake' by analogy with Pol. *ezero* (see Zinkevičius 1985:184; 1992: 123).

Adjectival and pronominal formations with final *-o* include: *dumo* 'ciemno, dark,' cf. Lith. *dūmas* 'smoky' (Zinkevičius 1992: 110), Elbing Vocabulary 39 *dumis*; *melno* 'czarny, black,' cf. Latv. *meŗns*; *mano* 'moje, my,' cf. Lith. *mānas*, *māno*, Latv. *mans* (rarely *mana*).

If *ejo* 'szedł, walked' is cognate with Lith. *ėjo* we have another example of the passage of **-ā* to **-ō*. If *dodi* 'dawać, to give' is connected with Old Prussian *dāt(wei)*, this is then an example of the passage of **-ā*- to **-ō*- in word medial position. The possible connection with Lith. *dúoti*, Latv. *duōt* is discussed below.

Perhaps *spot* 'potom, then, afterwards' is a Germanism, cf. German *spāt* 'late,' *später* 'later' (influenced by Pol. *potem*?). Schmid (1986: 279) writes that *spot* could reflect directly the Middle High

German *spāt*. Cf. also *nom...f* 'imię, name,' see Schmid (1986: 279, fn. 18). Thus the same phonological change may be encountered here as in the Baltic words.

In word final position proto-Baltic **-ā* may also sometimes be represented by the letter *-a*, thereby reflecting the original form of the phoneme. Note the following apparently **-ā* stem nouns: *waŗda* 'język, language,' *kaŗfa* 'głowa, head,' *kuma* 'ŗviņa, pig,' *ŗauma* 'szczęście, luck, happiness,' *ŗaufa* 'wola, will,' *mera* 'pokój, peace,' *mifzta* 'las, forest,' (with replacement of *k* by *t*?, cf. Lith. *miŗkas*), *monda* 'kŗszyc, moon,' *pikra* 'piersi, breast,' *rada* 'praca, work,' *ŗata* 'słóncie, sun,' *ŗmakra* 'broda, beard,' *ŗpita* 'piorko, small feather,' *ŗuta* 'dziura, hole,' *waŗtida* 'zdrowie, health,' *weda* 'szlach, trail,' *winta* 'wiotr, wind' (a Germanism or from Yiddish, see Schmid 1986: 280), *wirba* 'kobieta, woman,' *wirza* 'ŗwierz, animal' (perhaps a Polonism from *(z)wierz(a)?), *wifa* 'wrzystko, everything' (cf. Lith. *ŗisa*, Latv. *ŗisai*, Old Prussian *wissa*), *wiza* 'ŗaka, meadow' (most likely a Germanism, cf. German *Wiese*, or perhaps a Yiddish word, see Schmid [1986: 283]). Although I suggest that these are **-ā* stem nouns, we may of course in some cases be dealing with an **-o* stem genitive singular, e.g., in such words as *mifzta* 'las, forest,' cf. Lith. *miŗkas*, gen. sg. *miŗko*; *ŗmakra* 'broda, beard,' cf. Lith. *ŗmakras* 'chin,' gen. sg. *ŗmakro* and perhaps some others.

An alternative scenario for the chain shift might, however, be: /*ā*/ > /*ō*/ > /*uo*/ or /*ua*/, with the creation of the diphthong under the pressure of the raising of the long vowels (see Levin 1975: 148, 152). We might then be authorized to assume a diphthongal pronunciation of *-o*- in *dodi* 'dawać, to give' (as in Lith. *dúoti*, Latv. *duōt*). This chain shift would have to be correlated with the chain shift of */*ē*/ > /*ie*/ discussed above. Thus if we accept, e.g., the diphthongal pronunciation /*ie*/ of the vowel in *letf* 'deszcz, rain,' we might also accept a diphthongal pronunciation /*uo*/ or /*ua*/ of the vowel in *dodi* 'dawać, to give.' I am inclined, however, to doubt the existence of diphthongs in the glossary.

The letter sequence *uo* appears in four words: *kuo* 'pious, dog,' *duo* 'dwa, two,' *tuotif* 'diabał, devil' and *wikruoti* 'zwycięziwać, to defeat' (Zinkevičius 1992: 121). Pokorny (1959: 632) reconstructs the Indo-European nominative singular of the word for 'dog' as **kúuō(n)*. The apparent *centum* reflex of **k* in a *satem* language is difficult to explain, although a parallel for this might be found in Latv. *kuņa* 'bitch, female dog.' The Indo-European reconstruction of the nom. sg. of the word for 'two' would be **duō(u)* according to Pokorny (1959: 228). The *-u-* as the second letter in *kuo* and *duo* could then reflect the Indo-European semivowel, and not be the *uo* resulting from the diphthongization of an original **ō* as in East Baltic. Another phenomenon might also play a role here. In languages with phonemic palatalization there is frequently a corresponding labialization of the plain consonants, which, although non-phonemic, may well be perceived by non-natives. Thus André Martinet (1955: 356) wrote of Russian: '... un français qui entend les mots *byl* et *most* pourrait être tenté de transcrire *bwil* et *mwost*.' Examples of vacillation in spelling demonstrating this may be observed in the spellings of the Old Prussian catechisms, e.g., *pagauts* 'conceived' and *pogauts*, *cixtianiskan* 'Christian' and *krixtianisquan*, see Schmalstieg (1974: 9-10). An attempt to render this non-phonemic labialization of a preceding consonant may also be encountered in some of our examples in the glossary.

The word *tuotif* 'diabał, devil' is to be connected with the name of the god of the underground kingdom, known variously in the sources as *Patollus*, *Potollos*, now commonly known in Lithuanian as *Patulas*. In the latter words *Pa-* is a prefix and the second element denotes the earth, cf. Elbing Vocabulary *talus* 'floor' (Zinkevičius 1985: 81). Mažiulis (1996: 233) proposes, however, that Old Prussian *Patols* and the like reflect **Patō·ls* = **Patāls* < **Patālas*. But if the *-u-* in *tuotif* merely denotes the labialization of the preceding consonant the word might be phonemicized as /tālis/ or /tōlis/. The structure of the word *wikruoti* seems unclear, but it might be connected with

Lith. *vikrūs*, *vikruolis* 'sharp-witted, smart,' *vikrėti* 'to become sharp-witted, smart' (Zinkevičius 1985: 81; 1992:121). This is the only verb in the entire glossary with the infinitive in *-uoti* and the sequence *-uo-* is probably the result of some kind of orthographic error. The writing *-uo-* might, however, just reflect the effort of the non-native scribe to record the existence of non-phonemic labialization of a plain consonant before the either the vowel /ā/ or /ō/.

According to Labov (1994: 116) 'Principle II: In chain shifts, short vowels fall.' It seems to me that in the glossary we can see evidence of the following chain shift: (1) /i/ > (2) /e/ > (3) /a/.

For (1) /i/ > (2) /e/ there is possible evidence for an open pronunciation of *i*: in the words *ef* 'on, he,' cf. Lith. *jis*; *emt* 'brać, to take,' cf. Lith. *iṃti*; *gemd* 'rodzić, to give birth,' Lith. *gimdýti*. There are, however, many examples of the retention of original *i*, e.g., *tik* 'tylko, only,' cf. Lith. *tik*, Latv. *tik* 'so,' etc.

The letter *e* apparently represents the phoneme /e/ in the following words: *degt* 'pałić, to burn,' cf. Lith. *dėgti*, Latv. *degt*; *egle* 'jodłowića, fir-tree(?),' cf. Lith. *ėglė*, Latv. *egle*, Elbing Vocabulary 596 *addle*; *ejd* 'chodzić, to go,' cf. Lith. *eiti*; *geptif* 'sedem, seven,' cf. Lith. *septyni*, Latv. *septiņi*, Old Prussian *septmas* 'seventh' (perhaps an initial *g* was understood because the top of the letter *f* was faded, see Zinkevičius [1985: 72; 1992: 111]); the first vowel of *gerwe* 'bošiań, stork,' for cognates see above; *pesi* 'bydłó, cattle,' to be connected with Lith. *pėkus*, Old Prussian *pecku*, cf. Old Indic *páśu*, etc.; *rekti* 'prosto, directly,' perhaps a Germanism, cf. German *recht* or perhaps Yiddish (see Schmid 1986: 282); *senf* 'stary, old,' cf. Lith. *sėnas*; *serpine* 'zmiya, snake,' perhaps to be connected with Lith. *šėrpėti* 'to become frayed,' *šėrpė* 'torn off piece of skin' or with Lat. *serpēns* 'a creeping thing,' etc.; *terd* 'pić, to drink,' with an initial *t-* rather than *g-*, cf. Lith. *gėrti*, Latv. *dzeřt*; *teter* 'cztery, four,' cf. Lith. *keturi*, Old Prussian *kettwirts* 'fourth'; *zełd* 'žułty, yellow,' to be connected with Lith. *žėltas* 'yellowish, gold-colored,' Latv. *zėlts*

'gold,' Elbing Vocabulary 748 *sealtmeno* 'oriole'; *zem* 'ziemie, land,' cf. Lith. *žėmė*, Latv *zeme*, Old Prussian *semmē*.

Illustrating the shift (2) /e/ > (3) /a/ are the following words: *adlif* 'orzeł, eagle,' perhaps from **ardlis* with West Baltic *dl* as opposed to East Baltic *gl*, cf. Latv. *ērglis* (Zinkevičius 1992:105); *bat* 'aie, but,' cf. Latv. *bet*, Lith. *bėt*, Old Lith. *bat*; *pank* 'pieć, five,' cf. Lith. *penki*, Latv. *pieci*, Old Prussian *penckts* 'fifth'; *par* 'przez, through,' cf. Lith. *peř*, dial. *pař*, Latv. *pāri*, *pār*, Old Prussian *per*; *Pjarkuf* 'pogańske, pagan,'² to be connected with Lith. *perkūnas*, Latv. *pērkuāns*, *pērkuōns*, *pērkauns*, Elbing Vocabulary 50 *percunis*, cf. Thracian *Perkos*; *praf* 'przeciw, against,' cf. Lith. *priėš*, Latv. *pret*, Old Prussian *preiken*; *sziasz* 'sześć, six' (cf. Lith. *šeši*, Latv. *seši*) the second -š (sz) of which might be from Baltic **sĭ* and the initial š-may have been assimilated to the second (Zinkevičius 1992:119-120); *af* 'ja, I,' cf. Lith. *aš*, Latv. *es*. If *dag...f* 'prawy, right' is to be compared with Lith. *dešinys* (Zinkevičius 1992: 109), this could be considered another example. Further evidence that orthographic *e* represents a very open pronunciation is furnished by *sterkasf* 'bośniań, stork,' cf. Lith. dial. *stařkas*, Latv. *stārķis* and German *Storch*. Note also *geļi* 'można, (it is) possible,' cf. Lith. *gali(ma)*.

Orel and Xelimskij propose (1986: 271; Orel and Xelimskij 1987: 127) that short Indo-European **e* became Jatvingian /ä/ which is represented both by the letters *e* and *a* in the text. I think that this phonetic evaluation is probably correct, but I would comment that if, indeed, front vowels palatalized preceding consonants, as in contemporary Lithuanian, the contrast between /e/ and /a/ may have been neutralized in post-consonantal position, viz. /e/ after palatalized consonants and /a/ after plain consonants. The

² It is difficult to believe that *pogańske* would be the translation of these words, so Zinkevičius (1985: 77; 1992: 117) assumes that the word *bogi* 'gods' was omitted and that two pagan deities were meant.

distinction could have been just barely maintained in word initial position (see Girdenis 1995: 62).

Words retaining the original etymological medial *-a-* include: *pař* 'obok, beside,' cf. Lith. *pàs*; *man* 'dla mni, for me,' cf. Lith. *mán*, Latv. *man*, Old Prussian *mennei*; *pařf*, *pati* 'sam, sami, self,' cf. Lith. *pàts*, *patì*, Latv. *pats*, *paša*; *mano* 'moje, my,' cf. Lith. *mānas*, *màno*, Latv. *mans*; *maz* 'małyj, small,' cf. Latv. *mazs*, Lith. *māžas*; *bařtas* 'biely, white'; *tař* 'ten, that'; *sterkasf* 'bośniań, stork'; *mazugasf* 'polak, Pole'.

In *dontif* 'zėb, tooth' (beside Lith. *dantis*, Elbing Vocabulary 92 *dantis*) the backing and rounding of an original */a/ may have been induced by the following nasal consonant. The *o* vocalism of *mort* 'umrzeć, to die' (beside Lith. *miřti*, Latv. *miřt*) is problematic. Perhaps it has the same vocalism as in Lith. *marinti* 'to attend a dying person; to cause to die,' Pol. *morzyć* 'to starve,' etc., but these verbs are causatives and at least according to the Polish gloss 'umrzeć, to die' *mort* is an intransitive verb. The *-or-* in Lat. *morior* 'I die,' etc. cannot be used as a support, since most probably this is a specifically Latin reflex of zero grade *-r-. The *-o-* in *řworřtif* 'nóz, knife' is also problematical. A connection with Lith. *řvařstas* 'weight' seems hardly possible because of the meaning. Perhaps it is a contamination of some Baltic word with German *Schwert* 'sword' (Zinkevičius 1985: 79; 1992: 119). In the words *mort* and *řworřtif* the *-o-* as the first element of the 'impure diphthong' in a closed syllable seems to reflect proto-Baltic */a/. We also encounter the letter *-o-* for expected etymological short *-a-* in the words *wirořf* 'pan, mister' and *a...of* 'skóra, skin,' perhaps *ados* (?), cf. Lith. *óda*, Latv. *áda* (Zinkevičius 1985: 68; 1992: 105). The writing of *-o-* for expected *-a- in the examples in this paragraph may perhaps be explained as the result of the acoustic affect produced by the preceding plain or labial consonant, see above for examples from Old Prussian. In open syllable we encounter *-o-* in *wendoris* 'brzuch, stomach,' cf. Lith. *vėđaras* 'stomach, insides; kind of sausage,' Latv. *vėđers*, Elbing

Vocabulary 122 *weders*. Zinkevičius (1992: 110) writes: 'The nasalization of the root vowel must be a result of the influence of the Pol. *wątroba*?' If this is not just another case of the rendering of /a/ by a rounded vowel to show the labialization of the preceding consonant, I would suggest that the -o- in place of the expected -a- might also be under the influence of the same Polish word.

Zinkevičius (1985: 80; 1992: 120) has suggested that in the word *teter* 'cztery, four' (beside Lith. *keturi* 'four,' Old Prussian *kettwirts* 'fourth') we encounter the result of assimilation *k...t > t...t*.³

I would rather follow Karulis' (1987: 138) suggestion that the palatal *k* was perceived as *t'*. Zinkevičius himself (1966: 140) reports that in southeastern Lithuanian dialects sometimes *t'* and *d'* are confused with *k* and *g* respectively. He gives the example *ižd'ė' rk st'ikl'ė' l'i* 'išgerk stiklelį, drink down a little glass' which, I believe, can be compared to the glossary word *terd* 'pić, to drink' and which has an initial *t*- rather than the expected *g*- (beside Lith. *gėrti*, Latv. *dzeft*). Although one would not perhaps expect devoicing of the initial consonant, Laučiūtė (1982: 113) reports on the Russian dialectism *kerit'* 'to drink,' which, in her view, is to be derived from Lith. *gėrti*, so it is imaginable that the non-native scribe failed to hear the voicing of the initial stop consonant.

A dental is written where one might otherwise expect a velar in the glossary word *kandi* 'czemu, why' which may be compared with Lith. *kámgi*. The glossary word *tirtif* 'jiekera, axe' word may have the root *kirt*- (cf. Lith. *kiřtis* 'a blow'), but could also be compared with Lith. *kiřvis* 'axe,' Latv. *cirvis*. The initial *t*- might be considered the result of an assimilation, see Zinkevičius (1992: 120), but I think

³ Orel proposes (1986: 271) that Old Indo-European labiovelars before *e* changed to Jatvingian *t*-, a phonological change which, of course, would have its parallel in the history of Greek, e.g., τέσσερες, τέτταρες 'four,' although I still consider my proposal more likely, since in general in the satem languages the retention of a difference between the Indo-European labiovelar and pure velar is difficult to support.

it more likely that we are dealing merely with the misperception by a non-native speaker of a highly palatalized velar. In fact Zinkevičius himself (1966: 140) reports the Lithuanian dialect word *t'ir̄.vis* for *k'ir̄.vis* 'axe.' In the glossary word *cit* 'inny, other' (cf. Latv. *cits*, Lith. *kitas*, OP acc. pl. *kittans*) the letter *c* may denote a softened *k* (see Karulis 1987: 136).

The articulatory and phonological proximity of /t'/ and /d'/ to /k'/ and /g'/ respectively is encountered elsewhere, e.g., in Macedonian where Common Slavic */tj/ and */dj/ are rendered by κ' and γ' respectively, thus *свєќа* 'candle' and *меѓа* 'boundary' (de Bray 1980: 160), reflecting **světja* and **medja* respectively. In his study of the phonetics of Canadian French Gendron (1966: 119) notes the difficulty in determining whether one hears a palatal *ḑ*, *ṭ* on the one hand or *ḡ*, *ḱ* on the other hand, but in the case of *tiens* 'hold' and *Dieu* 'God' he would write in ordinary (French) orthography *quiens* and *Guieu* respectively (cf. the cognate Lith. dialect *g'iėvas* for standard *d'iėvas* 'god' [Zinkevičius 1966: 140]). Gendron quotes abbé Rousselot (1924: 613), who wrote '...dans cette marche convergente [de *ṭ* et *ḑ* vers *ḱ* et *ḡ* et inversement], il doit arriver un moment où l'oreille, déroutée, ne sait plus distinguer, au milieu de la mouillure, l'élément guttural ou dental.'

Klemensiewicz et al. (1965:132) note the early devoicing of Polish final -*d*, so we can assume that the person transcribing the document probably could not distinguish between voiced and voiceless dentals in word-final position. Note the following infinitives where, on the basis of the other Baltic languages, one might expect *-*t* or *-*ti*: *ajgd* 'kończyć, to finish,' perhaps without initial *b*, cf. Lith. *baĩgti*; *augd* 'wzrastać, to grow'; *dainid* 'śpiewać, to sing'; *dodi* 'dawać, to give'; *ejd* 'chodzić, to go'; *ezd* 'eść, to eat'; *gemd* 'rodzić, to give birth to'; *gindi* 'wedzieć, to know'; *guld* 'leżać, to lie'; *łaud* 'czekać, to wait,' cf. Lith. *láukti*; *narsjad* 'rzucać, to throw'; *piaud* 'čiać, to cut'; *radid* 'robić, to work'; *fibd* 'szukać, to search for'; *fid* 'śiedzieć, to sit,' see above; *skraid* 'begać, to run about'; *flaubd* 'spać, to sleep';

fibd 'chować, to save, to hide'; *terd* 'pić, to drink,' see above; *turd* 'mieć, to have'; *wajrid* 'płakać, to cry'; *wuđ* 'chcieć, to want.' There also exist forms with an apparently correct final infinitive ending *-t*: *degt* 'pałić, to burn'; *emt* 'brać, to take'; *giwatti* 'żyć, to live'; *hirdet* 'słuchać, to hear'; *łaudt* 'pływać, to swim' with a missing initial *p*-; *miłdat* 'kochać, miłować, to love'; *mort* 'umrzeć, to die'; *pratat* 'myśleć, to think'; *taurit* 'mówić, to say'; *tibt* 'ufać, to believe in, to rely on'; *wikruoti* 'zwyciężiwać, to defeat'; *zurdit* 'widzieć, to see.'

Final orthographic *-d* also surely renders a voiceless dental stop in the following words: *zeld* 'żuły, yellow,' to be connected with Lith. *želtas* 'yellowish, gold-colored,' Latv. *zēlts* 'gold,' Elbing Vocabulary 748 *sealtmeno* 'oriole'; *chad* 'dom, house,' probably a Polishism, cf. Pol. *chata* 'hut'; *mard* 'człowiek, man,' perhaps to be connected with Lith. *marūs* 'mortal, easily dying,' Old Indic *mártya* 'mortal,' or perhaps a borrowing from an Iranian dialect, cf. Avestan **marata-* (Schmid 1986: 283-284, fn. 46), Lat. *mortuus* 'dead,' etc. although a connection with Pol. *smard*, Old Russ. *smьrdь* 'peasant' seems more likely, so I would hereby withdraw my proposal of a connection with Arm. *mard* 'man' in (Schmalstieg 1986); *paud* 'ptak, bird,' perhaps to be connected with Lith. *paūtas* 'egg,' Latv. *pauts*, Old Prussian *paute* 'eggs'; *taud* 'lud, people,' cf. Lith. *tautà*, Latv. *tauta*. Orel and Xelimskij (1987:129) suggest a voicing after diphthongs ending in *-u*, whereas I would propose merely the inability of the scribe to distinguish voiced and voiceless consonants in a language with which he was not too familiar.

Other words in which the letter denoting a voiced consonant seems to represent a voiceless consonant include: *iauda* 'zdrowie, wycucie, health, feeling' to be compared with Lith. *pa-jáuta* 'feeling,' dialect *jáuta*; *kaldi* 'zimno, cold,' cf. Lith. *šálta*, Old Prussian *salta* 'cold,' but perhaps the word is a Germanism or of Yiddish

origin (see Schmid 1986: 282)⁴; *andar* 'drugi, other, second,' cf. Lith. *añt(a)ras*, Latv. *ùot(a)rs*, although this word also may be under German influence, cf. German *ander*; *taugi* 'włosy, hair' with missing word initial *p*-, cf. Lith. *plaukaĩ* and word medial *g* instead of *k*. *pagif* 'dobry, good' if it is to be connected with Russ. *bogatyj* 'rich' has initial *p*- for expected *b*-.

In word medial and initial position we have the substitution of a voiceless for a voiced consonant in *kałfa* 'głowa, head,' with initial *g* heard as *k* and *v* heard as *f*, cf. Elbing Vocabulary 68 *glawo* (for *galwo*), Lith. *galvà*, Latv. *galva*. In the devoicing of the initial velar Schmid (1986: 277) sees Yiddish influence. The delay in the voicing of voiced stop consonants is a well known feature of the Germanic languages. Even a casual observer will perceive the delayed voicing of the initial *b*- of English *boy* compared to the full voicing of the initial *b*- of French *beau*. In other than word final position typically Slavs will distinguish voiced and voiceless consonants in borrowings from the Baltic languages, although here and there we do find examples of confusion, e.g., Pol. *karvas* 'lock of hair' < Lith. *gaūras* 'hair' (Laučiūtė 1982: 78). In word medial position we encounter the devoicing of Baltic *ž* in Russ. *roz-kereša* 'guttersnipe; slow person' < Lith. *kerėža* 'low bush with many branches' (Laučiūtė 1982: 59).

One curious feature is the apparent rendering of the phonemic sequence **/kt/* by orthographic *-bt* in *tibt* 'ufać, to believe in, to rely on' (connected with Lith. *tikti* 'to be fit for,' Latv. *tikt* 'to arrive at, to get to,' Old Prussian *tickint* 'to make') and by orthographic *-bd*

⁴ Zinkevičius (1992: 127) writes: 'Schmid (1986, 273-286) thinks that the informant must have been a Jew. That is an interesting idea. However, the vocabulary does not contain any Hebrewisms. On the other hand, it is not easy to imagine such an informant in company with a Catholic priest. It is very unlikely that the vocabulary presents a merely distorted version of Lithuanian spoken by a Jew — the vocabulary contains explicitly West Baltic elements.' It is curious that Schmid's view is quite plausible from a phonological point of view, but the cultural situation is difficult to imagine.

in *fibd* 'szukać, to search for' perhaps to be connected with Lith. *siekti* when used with the meaning 'to search for.' Orel and Xelimskij (1987: 129) suggest that the change was conditioned by the preceding vowel *i*. For a somewhat similar passage of */kt/ > /pt/ one notes that in Balkan Romance (Rumanian) medial *-ct-* becomes *-pt-*, e.g., *nocte* 'night' becomes *noapte* (Mendeloff 1969: 28). Cf. also *fapt* 'fact' < *fact-um*. Still the sequence of velar plus dental seems to be maintained in other words, e.g., *nakt* 'noc, night,' *augd* 'wzrastać, to grow,' *rekti* 'prosto, directly,' *aktif* 'osiem, eight,' *ajgd* 'kończyć, to finish,' *degt* 'palić, to burn,' so the passage of */kt/ to */pt/ seems unlikely.

As with all the documentation of Old Prussian one must constantly take into consideration the patterned integrated nature of vocalic systems (i.e., the shift of one vowel is not an isolated phenomenon, but must be correlated with the shift of all the vowels in the system), the possibility of linguistic change in progress and the scribe's possibly faulty perception of a foreign phonemic system.

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A few comments on the phonology of the Jatvingian Glossary

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The phonology of the *Pogańskie gwary z Narewu* or Jatvingian Glossary is analyzed according to William Labov's structural principles of language change in progress, e.g., that in a vocalic system long vowels rise and short vowels fall. Since the change is in progress, some words may have been recorded with the innovative phoneme(s) and some with the original etymological phoneme(s). Evidence for Labov's observation that long vowels rise is the passage of /ē/ to /ī/ as evidenced by *dainid* 'spiewać, to sing,' etc. Evidence for the retention of original /ē/ is encountered in *tewf* 'ojciec, father,' etc. One also must keep in mind the question of how the non-native speaker perceives the phonemic system of the Baltic dialect he is recording. In the case of substantives the author of the glossary may not be supplying the nominative singular case of the Baltic language. There is also the problem of scribal mistakes both by the author of the glossary and by Zinov himself who copied it out. Heavy palatalization is evidenced by *teter* 'cztery, four' (beside Lith. *keturi* 'four'). In languages with phonemic palatalization of consonants there is frequent non-phonemic labialization of the plain consonants. Non-native speakers might be tempted to render this graphemically somehow, so this might explain the *o* vocalism of such forms as *mort* 'umrzeć, to die.'