MIKOŁAJ RYCHŁO
Faculty of Languages, University of Gdańsk
angmr@ug.edu.pl

POLISH *REŻ* AND ENGLISH *RYE* CONCEALED IN POLISH *RŻYSKO*: A CASE STUDY OF A PAIR OF COGNATES AND A ROOT ARCHAISM

The aim of this paper is to conduct a diachronic analysis of the Polish word *rżysko* 'stubble', whose root retains the primary designation of rye, namely *reż* 'rye, obs.'. Although this noun was ousted by *żyto* 'rye', a derivative of the verb *żyć* 'to live', its cognates are still used in many Slavic and Germanic languages, e.g. Russian *rožь* (*рожь*) 'rye', and English *rye*. The paper presents other cognates with a view to contrasting the English word *rye* with its obsolete Polish cognate *reż* and understanding the evolution of both words. For this purpose, the study seeks to identify the sound changes responsible for the discrepancy between the Polish-English cognates which developed from **rugʰi-*. The derivative *rżysko* 'stubble' has been analysed in the context of other nomina loci as well as the semantic change which affected the word. It is suggested that the phenomenon exemplified by *rżysko* can be referred to as a *root archaism*.

Keywords: *Polish-English cognates*, *Slavic-Germanic cognates*, *sound change*, *semantic change*, *root archaism*

1. Introduction

Although the Polish word *reż* 'rye, obs.' is no longer found in dictionaries of Modern Polish (cf. Dubisz 2008, Szymczak 1995), it is listed in older dictionaries and labelled as obsolete (cf. Linde 1807-1814,[1] Doroszewski 1958-1969[2]). As the word is no longer in current use in the standard language,

---

[1] Marked with an asterisk (Linde 1812 – part III, volumen V – page 34).

[2] Doroszewski quotes an example from 1777 (found in *Zabawy przyjemne i pożyteczne z różnych autorów zebrane*, vol. XV/2, p. 241. Warszawa: M. Gröll): "Nie będzie z tej rży mąka, lecz otręby" (There will be no rye out of this flour, but bran). The translation is mine MR.

one might jump to the conclusion that Polish has lost one of the old and basic cereal designations and a cognate of Russian *rožь* (*рожь*) 'rye', Lithuanian *rugỹs* 'rye corn', English *rye*, and German *Roggen* 'rye'. Yet, even if the word *reż* 'rye, obs.' had not survived in dialects and had never been written down, there would still be a chance of making sure that the word once existed. This chance arises if the word served as the base for a derivative which survived. In the case of Polish *reż* 'rye, obs.', there is a trace of it, fossilized so to say, inside the word *rżysko* 'stubble', which can be considered to contain a *root archaism*.

This notion can be defined as a relict of a word that existed independently (usually as a free morpheme) in the earlier stages of a language, but which became obsolete and is no longer in current use except for a derivative in which it became fossilized and, synchronically, functions as a bound root. The present paper exemplifies one such case.

Having investigated various classifications of archaisms (cf. Pisarek 1978: 23, Saloni 1999: 54-55, Piela 2016: 26-27), it should be noted that the postulated category of a *root archaism* is neither recognized in these classifications (by this or a different name), nor can it be subsumed under the established notions (such as phonetic, inflectional, derivational, syntactic, phrasal, semantic and lexical). An example of a lexical archaism is *białogłowa* 'lady, obs., matron', in which the whole word is obsolete, but neither of the constituent roots, i.e. neither *biał·a* 'white' nor *głow·a* 'head' can qualify as archaisms. In the case of *rżysko* 'stubble', it is not the whole word which became obsolete, or its phonetic shape, or the meaning, or the suffix, but only the root, which is why the term *root archaism* is proposed. It is believed that the recognition of the *root archaism* as a separate category can enrich various classifications of archaisms and contribute to the appreciation of inherited elements which are sometimes preserved only in the form of bound and orphaned roots. From the modern perspective, words containing root archaisms have become opaque, and have lost the transparent morpheme boundaries, but it is possible to discern the roots by comparing with cognates in other languages, e.g. English *needle* vs German *nähen*, English *glove* vs Polish *łapa* (cf. Rychło 2017: 115-117), English *wind* vs Polish *wiać*, to name but a few.

The following section concentrates on the historical structure of *rżysko* 'stubble' and demonstrates that it is one of many *nomina loci* derivatives in which we can identify a root and a suffix. Furthermore, an attempt is made at a diachronic analysis which takes into account not only the morphology but also the semantics. Section 3 presents Polish *reż* 'rye, obs.' and English *rye* in the context of other cognates and juxtaposes various reconstructions of a common ancestor. Section 4 focuses on the sound changes responsible for the differentiation of the Polish and English cognates.

2. The *-isk·o/-ysk·o* derivatives

A purely synchronic morphological analysis of the word *rżysko* 'stubble' in modern Polish might even assume the word to be monomorphemic – cf. Jadecka (2001), where *ściernisko* 'stubble' is included (ibid. p. 1274), but *rżysko* is not found alphabetically (ibid. p. 1131 and 1159). At best, a concept of a bound root can be applied, because there is no doubt that *-ysk·o* is a suffix in Polish (cf. Grzegorczykowa and Puzynina 1999: 414, 447-448, Szymanek 2010: 60-61). In an analysis which takes into account the diachronic dimension, not only can the morphological boundaries be established and the word analysed as *rż-ysk·o*, but it is also clearer what the root referred to and what the structural meaning must have been. The root *rż-* can be interpreted as an allomorph of *reż*, the final *·o* is an inflectional suffix, which changes depending on the number and case (*o* is in the nominative singular), and *-ysk·o*, which alternates with *-isk·o*, is a derivational suffix whose function[3] is to form *nomina loci*. To be more precise, the derivatives designate areas which are characterized either by some actions which occur on these areas or by the presence of some entities (among others plants and animals). In the overwhelming majority of cases, the areas are open – examples are gathered in (1) and (2). The derivational bases can be either verbal, as in (1), or nominal, as in (2).

(1)
składowisko 'stockpile' (from *składować* 'to store')
urwisko 'precipice' (from *urwać* 'to tear off')
schronisko 'shelter' (from *schronić* 'to shelter')
wysypisko 'dump' (from *wysypać* 'to dump, to empty out, to pour out')
rozlewisko 'overflow area' (from *rozlewać* 'to spill, to flood')

(2)
a.
ognisko 'bonfire' (from *ogień* 'fire')
mrowisko 'anthill' (from *mrówka* 'ant')
kretowisko 'molehill' (from *kret* 'mole')
boisko 'court, pitch, field' (from *bój* 'battle')
złomowisko 'scrapyard' (from *złom* 'scrap metal')

---

[3] There are also other functions of this suffix such as deriving augmentatives, e.g. *dziewuszysko* 'girl, aug.', *gmaszysko* 'building, aug.'. They are accompanied by expressive overtones, usually pejorative, as in *deszczysko* 'rain, aug.', *spódniczysko* 'skirt, aug.', but sometimes also positive, e.g. *stare wierne psisko* 'a faithful old dog', *biedaczysko* 'poor thing'. This function is quite productive in Polish and some of the nomina loci may evoke the associations with augmentatives, e.g. *kartoflisko* 'potato field' or 'potato, aug.'. There are also other functions, the discussion of which goes beyond the scope of this paper (cf. Grzegorczykowa and Puzynina 1999: 406 and 409).

b.
wrzosowisko 'moor, heath' (from *wrzos* 'heather')
kartoflisko 'potato field' (from *kartofel* 'potato')
buraczysko 'beetroot field' (from *burak* 'beetroot')
pszeniczysko 'wheat stubble'[4] (from *pszenica* 'wheat')
jęczmienisko 'barley stubble'[5] (from *jęczmień* 'barley')
prośnisko 'millet stubble'[6] (from *proso* 'millet')

The last examples, in (2b), demonstrate that the suffix is sometimes attached to roots which designate plants. As a result, the derivatives are denominal nouns referring to the areas or fields where the plants grow or grew. What follows is the conclusion that in terms of the historical word-formation process, the structural meaning of *rżysko* must have been 'the field where rye is/was grown'.[7] Apparently, in the course of time, as the word *reż* 'rye' became obsolete and its constituency in the word *rżysko* less recognizable, semantic change occurred so that nowadays *rżysko* is defined as "nie zaorane pole po zebranym zbożu; ściernisko" (an unploughed field after a crop has been gathered, stubble)[8] or "pole po skoszeniu rosnących na nim zbóż; ściernisko" (a field after crops have been harvested, stubble).[9]

It should be noted that the more detailed dictionary definitions of *kartoflisko* 'potato field' and *buraczysko* 'beetroot field' include the information that these plants either are or were grown. This latter option is consistent with the current meaning of *rżysko* 'stubble'. In the case of *pszeniczysko* 'wheat stubble', *jęczmienisko* 'barley stubble', and *prośnisko* 'millet stubble', 'stubble' is present in the dictionary definitions themselves. An important difference between the structural meaning of *kartoflisko*, *buraczysko*, *pszeniczysko*, *jęczmienisko*, *prośnisko* on the one hand, and the structural meaning of *rżysko* on the other hand, is that it is no longer clear what precisely was grown on *rżysko*. The reason for that may lie in the fact that *reż* 'rye' became obsolete and its meaning (both in isolation as well as in the derivative) less and less recognizable. As a result, *rżysko* became a synonym of *ściernisko* 'stubble'.

Finally, it is worth mentioning that apart from the suffix *-isk·o/-ysk·o*, which is found in Polish *rżysko* 'stubble', Czech dial. *řísko* 'rye stubble', Belarusian *ržýsko / ržýska / iržýska* 'rye field, rye stubble, stubble', and Upper Sorbian

---

[4] Cf. Doroszewski (1958-1969, s.v. *pszeniczysko*): "rżysko po pszenicy, ściernisko pszeniczne".
[5] Cf. Doroszewski (1958-1969, s.v. *jęczmienisko*): "ściernisko jęczmienne".
[6] Cf. Doroszewski (1958-1969, s.v. *prośnisko*): "pole, na którym rosło proso, ściernisko po prosie".
[7] *The Dictionary of Old Polish* (Nitsch et al. 1953-2002, s.v. *rżysko*) records two senses of the word *rżysko*: (1) 'pole ze ściernią po zżętym życie, ściernisko, ager, ubi Secale cereale L. demessum es' (field of stubble after the rye has been harvested) and (2) 'części źdźbeł pozostałe po zżętym zbożu, ścierń, może też zboże rosnące, stipulae, fortasse etiam frumentum crescens' (parts of stalks left over after a crop has been harvested, stubble, possibly a growing crop).
[8] Cf. Doroszewski (1958-1969, s.v. *rżysko*), the translation is mine (MR).
[9] Cf. Dubisz (2008, s.v. *rżysko*), the translation is mine (MR).

ržišćo 'stubble', there seems to be an older suffix *-išče*, which is attested in older languages and often retained in modern Slavic languages in the same function as Polish *-isk·o*/*-ysk·o*: Russian *ržišče* (*ржи́ще*) 'rye stubble', Slovenian *ržíšče* 'rye stubble, rye field' (Boryś 2005: 537), cf. also other formations: Old Church Slavonic *blǫdilišče* (*блѫдилище*) 'brothel', *ǫzilišče* (*ѫзилище*) 'prison', OCS and Russian *žilišče* (*жилище*) 'dwelling', Russian *pastvišče* (*пастбище*) 'pasure', *ogniščе* (*огнище*) 'hearth'. The Kashubian word for 'stubble' is *ržëšče* 'rżysko, ściernisko' (Sychta 1970: 372). The Dictionary of Old Polish (Nitsch et al. 1953-2002) also lists a number of *nomina loci* in *-iszcze*, which are already obsolete in modern Polish, among others:

(3)

pastwiszcze 'pastwisko, żerowisko, pascua' (pasture, feeding ground)

stawiszcze 'staw albo miejsce, gdzie był staw, piscina vel locus, ubi piscine fuit'
(a pond or a place where a pond used to be)

siedliszcze, *sieliszcze* 'gospodarstwo z zabudowaniami mieszkalnymi i gospodarskimi, też wieś, praedium cum domibus et aedificiis rusticis, etiam vicus' (farmstead, also a village).

3. Reconstructions

The following sections concentrate on the derivational base of *rżysko*, i.e. Polish *reż* in historical and comparative perspective. First (in Section 3.1), Polish *reż* will be compared with cognates in Germanic, Slavic and Baltic; subsequently (in Section 3.2), various reconstructions of proto-forms will be juxtaposed, reviewed and some cognates from outside Germanic and Balto-Slavic will be adduced, most of which are, however, controversial.

3.1. Evidence coming from Germanic and Balto-Slavic languages

On the basis of Old Norse *rugr* 'rye', Faroese *rugur* 'rye', and Old English *ryge* 'rye', the Proto-Germanic **rugi-* does not seem surprising. There is also a secondary n-stem formation, i.e. Proto-Germanic **rukk/gan-* 'rye' based on Old Frisian *rogga* 'rye', Old Saxon *roggo, rokko* 'rye', Dutch *rogge* 'rye', Old High German *rocko* 'rye', and German *Roggen* 'rye' (cf. Kroonen 2013: 416-417). The *kk* is quite regular if we accept Kluge's law. On the basis of Kroonen's (2013: 417) reconstructions of PGmc **rugō*, gen. **rukkaz* < **rúgʰ-ōn, *rugʰ-n-ós*, we can see that the **kk* must have arisen in the genitive, where there was the conditioning environment for Kluge's law (the *n* responsible for the gemination of the preceding consonant was adjacent to it and followed by a stressed vowel).

Further evidence supporting the PGmc **rugi* and earlier **rugʰi-* 'rye' comes from Balto-Slavic. Baltic: Lithuanian *rugỹs* 'rye corn', pl. *rugiaĩ* 'rye', Latvian pl. *rudzi* 'rye grain' and Old Prussian *rugis*, *ruggis* 'rye', as well as Slavic

cognates meaning 'rye': Old Russian *rъžь* (*ръжь*) and Russian *rožь* (*рожь*), Ukrainian *rož* (*рож*), Bulgarian *ръж*, Serbo-Croatian *râž* (gen. *ràži*), Slovenian *rež, rž* (gen. *rží*), Polish *reż*, Czech *rež* (gen. *rži*), Slovakian *raž*, Upper Sorbian *rož*, Lower Sorbian *rež*, and Polabian *raz* (cf. Witczak 2003: 110, Smoczyński 2017: 1185-1186, Vasmer 1955: 229-230).

As we can see, the i-stem forms are found in Baltic, Slavic, North Germanic and Old English (a member of West-Germanic), whereas n-stem forms are attested only in one subgroup of Germanic (West-Germanic), and not in all members (without Old English). This distribution supports the conclusion that the n-stem forms are secondary.

3.2. A survey of proto-forms and the problem of initial *r

The explanation why Baltic, Slavic and Germanic words can easily be related (phonologically, semantically and, to a considerable degree, morphologically) lies in the fact that these languages have inherited the word for 'rye' from a common ancestor language. It is less certain how old the common ancestor is. Apart from Baltic, Slavic and Germanic, there are also the Iranian Pamir languages (e.g. Shughni *roγž* 'ear of rye'[10]) and a controversial Thracian cognate *bríza* (*βρίζα*) 'emmer-wheat, rye'. On the basis of the latter the bilabial semivowel (represented as *u̯ or *w) is reconstructed by some Indo-Europeanists – see the forms quoted below in (4). The reconstructions of the (Proto-Indo-European?) form and meaning, available in Pokorny (2002[1959]: 1183), Mann (1984/87: 1098-1099), Witczak (2003: 110), Mallory and Adams (2006: 164, 165), Boryś (2005: 536-537), Watkins (2011:105), Kroonen (2013: 416), and Smoczyński (2017: 1185-1186) have the following shapes:

(4)

Pokorny, Boryś:	PIE *u̯rughi̯o- 'Roggen'
Mann:	PIE *r̂ughis, i̯os, ō(n) 'rye' (a word of Northern Europe)
Witczak:	IE *rughis / *rughyos 'rye, Secale cereal L.' (*rugh-)
Mallory and Adams:	PIE (North-West) *rughis ~ *rughyo- 'rye'
Watkins:	PIE *wrughyo- 'rye'
Kroonen:	North-European *rugʰi- 'rye'
Smoczyński	PIE *u̯rugh-i̯o- (Proto-Baltic *rug-i̯a-)

Although most of the differences are mainly due to the variety of conventions and the different theoretical proclivities of the authors (e.g. *gʰ or *gh; *u̯ or *w; *i̯ or *y), there is one difference which merits further discussion, namely: the presence or absence of the initial labiovelar glide. Apart from the controversial Thracian cognate *bríza* (*βρίζα*) 'emmer-wheat, rye', there is one stronger

---

[10] The word is quoted by Mallory and Adams (2006: 165) and by Witczak (2003: 110), who also adds other Iranian cognates and rejects the Thracian cognate *bríza* (βρίζα).

argument for recognizing the initial *$\underset{\circ}{u}$*: the structure of the PIE root and the distribution of PIE phonemes. "PIE probably did not have **r* in anlaut. Apparent cases had **Hr-*" (Beekes 2011: 171). The first to observe this distributional characteristic of PIE **r* was Jerzy Kuryłowicz (1927: 209).[11] A more detailed study of the phenomenon was carried out by Winfred P. Lehmann (1951: 13-17), who mentions **rughio* as one of the examples which should be reconstructed with the initial **w*. An important argument for such reconstruction comes from the fact that the initial /r/ is absent from Greek, Armenian and most of the Anatolian languages: "it is not attested in Hittite, Luwian, or Lydian, and only rarely in Lycian; nor is it found in Hurrian or Hattic" (Lehmann 1951: 14).

It should be emphasized that the cognates under analysis are found only in a limited number of Indo-European branches and some authors do not use the term PIE before their reconstructions. On the other hand, Witczak (2003: 110-111) also adduces the material from outside Indo-European, which might suggest remarkable Proto-Nostratic relatedness. The most convincing seem to be Afro-Asiatic comparisons such as Egyptian *rḏrḏ* 'cereals' and Hausa *rōgo* 'cassava flour'. One should, however, be cautious, since there are no cognates in the oldest Indo-European languages belonging to the following groups: Anatolian,[12] Tocharian, Greek,[13] Italic,[14] Celtic,[15] and Armenian. What seems to be relatively certain is a common ancestor of Baltic, Slavic and Germanic, reconstructed as **rug^hi* using Indo-European notation and it will be adopted for the purpose of the contrastive analysis presented below, with the assumption that even if initial **r* was impossible in PIE sensu stricto, it became possible at a later time which may still be the time of a common ancestor for Baltic, Slavic and Germanic.

4. Phonological change

The aim of this section is to conduct a diachronic phonological analysis in order to explain which changes contributed to the differentiation of the common ancestral word **rug^hi-* leading to Polish (obsolete) *reż* and English *rye*.

---

[11] According to Lehmann (1951: 14), "this view has been repeated by other scholars, without reference to Kuryłowicz. Benveniste, for example, concludes that "L'accord du grec, de l'armenien et du hittite dans l'exclusion de r- initial prolonge en réalité un trait du plus ancien phonétisme indo-européen." (Benveniste 1939: 27-35).

[12] According to Witczak (2003: 109), the oldest evidence of the cultivation of rye comes from Anatolia, but the word which is attested in Hittite *kant-* is definitely not related.

[13] Kroonen (2013: 416) rejects the connection with Gr. ὄρυζα 'rice', which "seems to be an unconnected loanword from Eastern Iranian, cf. Pash. *vrižē* f.pl. 'rice'."

[14] According to Buck (1988: 517), rye was unknown both in ancient Greece, and in ancient Italy. According to Witczak (2003: 109), rye was brought to Italy by the Romans, and had not been known before.

[15] Welsh *rhyg* is usually considered a borrowing from Old English *ryġe* (cf. Buck 1988: 517 and Witczak 2003: 110).

The first segment seems to be the easiest and the most difficult at the same time. It is still spelled the same in the cognate languages. The pronunciation may of course differ, especially if we take into consideration dialectal differences, but still, despite the wealth of various articulations, we perceive them not only as related but also as belonging to one notion of /r/. In the present study, we will concentrate on the standard variety of Polish and the Received Pronunciation of English. Consequently, the modern English pronunciation of /r/ can be described as the postalveolar approximant [ɹ], whereas the standard Polish is the alveolar trill [r].

4.1. The story of *gʰ

The present section focuses on the evolution of the segment *gʰ in the common ancestral *rugʰi-. This development will be investigated in two descending lines: one (Germanic) leading to modern English, in which the segment has merged with the vocalic segment and constitutes the final part of the diphthong /aɪ/ in *rye* /raɪ/, and the other (Slavic) leading to modern Polish, in which the segment is represented by the alveolar fricative /ʒ/, as in *rżysko* and devoiced to /ʃ/ in *reż* because of the word-final position.
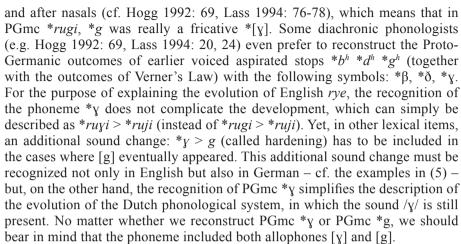
Both Germanic and Slavic reveal the effect of loss of aspiration: *gʰ > *g. Both languages also reveal traces of palatalizations (under the influence of the following front vowel), having, of course, different effects: PGmc *g > Old English /j/ versus Balto-Slavic *g > Proto-Slavic *ž.

Starting with the Germanic line, the palatalization occurred in Early Old English and, although it affected other velar consonants as well,[16] the discussion below concentrates only on one of them; namely the one which appeared in the evolution of Old English *ryġe* (> *rye*). To illustrate the operation of the Early Old English palatalization, we can contrast some German-English cognates. German retains the unpalatalized consonant, whereas English shows the effect of palatalization:

(5)
German *Gelb* vs. English *yellow*
German *Regen* vs. English *rain*
German *Tag* vs. English *day*
German *Weg* vs. English *way*
German *Fliege* vs. English *fly*

A slightly oversimplified description of the development would be: (PIE *gʰ >) PGmc. *g > OE /j/ in the vicinity of front vowels. To be more precise, it is quite likely that PGmc *g was realized as a plosive *[g] only in gemination

---

[16] For a comprehensive discussion of Early Old English palatalization, see Hogg (1979, 1992: 257-270) and Lass (1994: 53-59).

and after nasals (cf. Hogg 1992: 69, Lass 1994: 76-78), which means that in PGmc *rugi*, *g* was really a fricative *[ɣ]. Some diachronic phonologists (e.g. Hogg 1992: 69, Lass 1994: 20, 24) even prefer to reconstruct the Proto-Germanic outcomes of earlier voiced aspirated stops *b^h *d^h *g^h (together with the outcomes of Verner's Law) with the following symbols: *β, *ð, *ɣ. For the purpose of explaining the evolution of English *rye*, the recognition of the phoneme *ɣ does not complicate the development, which can simply be described as *ruɣi* > *ruji* (instead of *rugi* > *ruji*). Yet, in other lexical items, an additional sound change: *ɣ > *g* (called hardening) has to be included in the cases where [g] eventually appeared. This additional sound change must be recognized not only in English but also in German – cf. the examples in (5) – but, on the other hand, the recognition of PGmc *ɣ simplifies the description of the evolution of the Dutch phonological system, in which the sound /ɣ/ is still present. No matter whether we reconstruct PGmc *ɣ or PGmc *g, we should bear in mind that the phoneme included both allophones [ɣ] and [g].

As far as the corresponding segment in Polish is concerned (i.e. the final consonant in *reż*), its fricative manner of articulation (originally voiced as in *rżysko*) is due to the First Slavic Palatalization of Velars – for details, see Shevelov (1964: 249-263) and Carlton (1991: 115-116). By this sound change, velar consonants, in our case *g*, developed into Proto-Slavic *ž (Polish *ż* /ʒ/) before front vowels. When we compare Old Prussian *rugis* with Old Russian *rъžь* (*ръжь*), we can see the effect of the First Slavic Palatalization of Velars in Old Russian, whereas Old Prussian preserves the unpalatalized *g* because the sound change did not affect the Baltic languages. Both languages indicate the presence of a front, palatalizing vowel, which follows the affected consonant (the front *jer* ь developed from earlier *i*).

There are more Polish-English cognates which exhibit the effects of palatalizations of the reflexes of *g^h, for example: Polish *leżeć* : English *lie*, Polish *łżeć* : English *lie* and similarly Polish *reż*, *rż*(*-ysko*) : English *rye.*

Finally, we should not ignore the fact that Polish *reż* is actually pronounced /rɛʃ/ with a voiceless fricative, which necessitates a change of ʒ > ʃ word-finally. Naturally, other obstruents became devoiced, too. In order to establish the time of the devoicing, we should bear in mind that the consonant at issue used to be followed by a front *jer*, the loss of which is dated to the mid 10th-11th centuries (cf. Shevelov 1964: 459). Before this time, the prehistoric spirant resulting from the First Slavic Palatalization of Velars was not in word-final position and must have been voiced. There is orthographic evidence for devoicing word-finally already in the Old Polish period. In the Dictionary of Old Polish (Nitsch et al. 1953-2002), we can find spellings such as *bok* (instead of *bóg* 'god'). According to Rospond (1979: 120-121), the process of devoicing was quite advanced in the 15th century.

4.2. The vowels

As for the second segment, on the basis of Lith. *rugỹs*, Old Prussian *rugis*, Old Russian *ръжь*, and Old Norse *rugr*, we have no doubts as to reconstructing **u*, which regularly developed into **ъ* in Proto-Slavic in the early ninth century (cf. Shevelov 1964: 432-439, 634). The final vowel of **rugʰi-*, regularly became **ь* in Proto-Slavic (compare Old Prussian *rugis* with Old Russian *ръжь*, for details see Shevelov, ibid.). If we include the First Slavic Palatalization of Velars, discussed in the previous section, and begin with the stage after loss of aspiration, we can sum up the Slavic developments in the following way: **rugi-* > **rъžь*.

The following processes which transformed the shape of **rъžь* are vocalization and loss of *jers*. To cut the long story short, all final *jers* were lost, unless they were stressed (cf. Shevelov 1964: 445), whereas the second *jer*, counting from the end of the word, underwent vocalization to *e* in Polish. As a result of these two changes, we can already obtain the form of the word represented by the Polish spelling *reż*. According to Shevelov (1964: 459), in Polish "the loss of *jers* occurred not later than, and probably during the eleventh century […]. On the other hand, it is to be assumed that the *jers* were lost after the Christianization of Poland, i.e. after the late tenth century".

In Early Old English **i* triggered the i-mutation (or i-umlaut) of the preceding vowel and caused the change of PGmc **u* to OE *y*. In order to illustrate the effect of the sound change using a further example, we can notice its effect in the English word *fill* (OE *fyllan*) contrasted with Gothic cognate *fulljan* and English adjective *full*, which preserve the original **u* without the operation of i-umlaut.

The next problem to explain is the occurrence of word final *e* in OE *ryġe*. The examples below show that there must have been a change of pre- (or early-) OE unaccented *i* to *e*.

(6)
PGmc **stadiz* 'place' (Goth. *staþs*, ON *staðr*) > PWGmc **stadi* (OF *stede*, OS *stedi*, OHG *stat* 'place, town') > **stædi* > OE *stedi* > *stede*;

PGmc **matiz* 'food' (Goth. *mats*, ON *matr*) > PWGmc **mati* (OF *mete*, OS *meti*, OHG *maʒ*) > **mæti* > **meti* > OE *mete*;

PGmc **hugiz* 'thought, understanding' (Goth. **hugs*, ON *hugr*) > PWGmc **hugi* (OS *hugi*, OF *hei*; OHG *hugu* with shift into the u-stems) > **hyġi* > OE *hyġe*;

PGmc **slagiz* 'blow, stroke' (Goth. acc. slah (with analogical *-h-*), ON *slagr*) > PWGmc **slagi* (OS *slegi*, OHG *slag*) > **slæġi* (OF *slei*) > **sleġi* > OE *sleġe*;

PGmc **stikiz* 'puncture, point' (Goth. *stiks melis* 'moment of time') > PWGmc **stiki* (OF *stek*, OS *stiki*, OHG *stih*) > **stiċi* > OE *stiċe*;

PGmc *mari-* 'sea' (Goth. *mari-saiws* 'lake') → PNWGmc *mariz* (ON *marr*)
  > PWGmc *mari* (OS, OHG *meri*) > *mǣri* > OE *meri* > *mere* 'pond, pool',
  poetic 'sea';
PWGmc *baki* 'brook' (OS *beki*, OHG *bah*) > *bæċi* > OE *beċi* > *beċe*;

The examples quoted above come from Ringe and Taylor (2014: 288-289)
and they illustrate the conditioning environment in which apocope did *not*
operate. In the remaining contexts, i.e. word-finally after a heavy syllable and
after an unstressed syllable preceded by a stressed light syllable, short *i* and *u*
were lost (cf. Ringe and Taylor 2014: 284-285). Although the pre-Old-English
apocope is not germane to the present study, the examples quoted above can also
be used to explain why the OE *ryġe*, instead of final *i*, exhibits *e*. We must be
dealing with a sound change, affecting unaccented *i*, which remains unchanged
in Old Saxon, but develops into *e* in Old English.

Further evidence comes from the Épinal-Erfurt glossary, written around the
last quarter of the 7th century, in which we find the form *rygi* (Pheifer 1974:
48). In the Corpus Glossary, which is the 8th century descendant of the Leiden
Glossary and the Épinal-Erfurt glossary, we already find the form *ryge* (ibid).
According to Hogg (1992: 244) the lowering of /i/ is "a strictly eighth-century
change".

The next sound change affected the sequence /y(:)j/, which developed into
/i:/ in the North and East (cf. Wełna 1978: 95). The process may be described as
unrounding and coalescence. Further examples include:

(7)
Late Old English *drȳge* > Early Middle English *drige*, *drīe*, *drȳ* (Modern Eng-
  lish *dry*)
Late Old English *flȳge* > Early Middle English *flȳe* (Modern English *fly*)
And likewise: Late Old English *ryge* > Early Middle English *rȳ*, *rīe*, *rȳe* (Mod-
  ern English *rye*)

Finally, as a result of the Great Vowel Shift, long /i:/ began to diphthongize in
the 15th century. According to Roger Lass (1999: 72, 102), it developed into /ei/
around 1500, then into /ɛi/ around 1550, subsequently into /əɪ/ around 1650,
reaching /ʌɪ/ around 1700. The modern /aɪ/ appears around 1750, in one of the
patterns (depending on the dialect, for details see Lass 1999: 100-102). Wełna
(1978: 244) dates the lowering of the first element of the diphthong (from /ʌɪ/
to /aɪ/) to the beginning of the 19th century. As far as the first occurrence of the
present-day English diphthong is concerned, according to Wełna (1978: 238),
"the present pronunciation /aɪ/ was first used probably in the North of England
as early as the beginning of the 17th century".

5. Conclusion

In order to see how the Polish-English pair of cognates became differentiated, let us sum up in the form of a chart all the sound changes in both lines of development starting with a common ancestor.

Table 1. The sound changes responsible for the differentiation of the Polish-English pair of cognates: *rye* vs. *reż*

The Germanic line (leading to Modern English)		The Slavic line (leading to Modern Polish)	
*rugʰi-		*rugʰi-	
*rugi- (*ruɣi)	Loss of aspiration (Grimm's Law)	*rugi-	Loss of aspiration
*ruɟi	Early Old English Palatalization	*ruži	The First Slavic Palatalization of Velars
ryji	I-Umlaut	*rьžь	Rise of *Jers*
ryje	Lowering of unstressed /i/	rež	Vocalization and Loss of *Jers*
ri:	Unrounding and coalescence	rɛʃ	Devoicing in word-final position
rei rɛi rəɪ rʌɪ raɪ	The Great Vowel Shift and the post-GVS development		

It is interesting to note that words which have withdrawn from a language sometimes leave traces inside other words, and often survive as roots. For example, Polish *reż* has left a vestige inside the word *rżysko*. This phenomenon as well as particular examples of such hidden residuals can be called *root archaisms*. In a case like the one described in the present paper, the word *reż* has been well recorded for many centuries, but there are other words that had disappeared before they could be written down. In such cases *root archaisms* sometimes constitute the only evidence for the existence of a given word in language. For example, the Polish word *pątnik* 'pilgrim (literary)', is derived from the obsolete *pąć* 'wander, journey', which in turn is a deverbal noun whose base no longer survives in Polish, but is cognate with the English verb *to find* (for details and other examples, see Rychło 2017: 117-119).

Looking broadly at the phenomenon of cognates, especially in modern languages, apart from cases in which two (or more) words in two (or more) languages have been inherited from a single ancestral word, like Polish *pięść*

'fist' and English *fist*,[17] or Polish *wabić* 'lure' and English *weep*,[18] one can observe various inherited lexical elements which are not words, for example affixes or bound roots. Even if they become functionless in the course of time, they can still be considered relics. Consequently, we should not consider English *rye* and Polish *rżysko* 'stubble' as cognates, because only the root of *rżysko* 'stubble' is cognate with English *rye*. Nevertheless, we would not like to miss many interesting traces of common origin or cases of Proto-Indo-European heritage. With this end in view, the notion of a *root archaism* may be found useful.

References

Beekes, R.S.P. 2011. *Comparative Indo-European linguistics: An introduction.* Second edition, revised and corrected by Michiel de Vaan. Amsterdam/Philadelphia: Benjamins.

Benveniste, E. 1939. Répartition des consonnes et phonologie du mot. *Travaux du Cercle Linguistique de Prague* 8: 27-35.

Boryś, W. 2005. *Słownik etymologiczny języka polskiego.* Kraków: Wydawnictwo Literackie.

Buck, C.D. 1988. *A dictionary of selected synonyms in the principal Indo-European languages: A contribution to the history of ideas*. Chicago and London: University of Chicago Press.

Carlton, T.R. 1991. *Introduction to the phonological history of the Slavic languages*. Slavica Publishers.

Doroszewski, W. (ed.) 1958-1969. *Słownik języka polskiego.* Warszawa: Wydawnictwo Naukowe PWN: http://doroszewski.pwn.pl.

Dubisz, S. (ed.) 2008. *Uniwersalny słownik języka polskiego PWN.* Warszawa: Wydawnictwo Naukowe PWN.

Grzegorczykowa, R., and J. Puzynina 1999. Rzeczownik. In R. Grzegorczykowa, R. Laskowski and H. Wróbel (eds.), *Gramatyka współczesnego języka polskiego: Morfologia*, 389-468. Warszawa: Wydawnictwo Naukowe PWN.

Hogg, R. 1979. Old English palatalization. *Transactions of the Philological Society* 77: 89-113.

Hogg, R. 1992. *A grammar of Old English*, volume 1: *Phonology*. Oxford: Blackwell.

Jadecka, H. (ed.) 2001. *Słownik gniazd słowotwórczych współczesnego języka ogólnopolskiego*, tom 2: *Gniazda odrzeczownikowe*. Kraków: Universitas.

Kroonen, G. 2013. *Etymological dictionary of Proto-Germanic*. Leiden, Boston: Brill.

---

[17] For an analysis of how the cognates developed from a common ancestor, see Rychło (2012).

[18] A possible account of the changes responsible for the differences between Polish *wabić* and English *weep* is offered by Rychło (2016), who argues that the words are cognates.

Kuryłowicz, J. 1927. Origine indoeuropéenne du redoublement attique. *Eos* 30: 206-10.

Lass, R. 1994. *Old English: A historical linguistic companion*. Cambridge: Cambridge University Press.

Lass, R. 1999. Phonology and morphology. In R. Lass (ed.), *The Cambridge history of the English language*. Volume III: *1476-1776*, 56-186. Cambridge: Cambridge University Press.

Lehmann, W.P. 1951. The distribution of Proto-Indo-European /r/. *Language* 27 (1): 13-17.

Linde, S. 1807-1814. *Słownik języka polskiego*, 6 volumes, Warszawa, http://kpbc. umk.pl/publication/8173.

Mallory, J.P., and D.Q. Adams 2006. *The Oxford introduction to Proto-Indo-European and the Proto-Indo-European world*. Oxford: Oxford University Press.

Mann, Stuart E. 1984/87. *An Indo-European comparative dictionary*. Hamburg: Helmut Buske.

Nitsch, K., Z. Klemensiewicz, S. Urbańczyk et al. (eds) 1953-2002. *Słownik staropolski*. Warszawa: Polska Akademia Nauk.

Pheifer, J.D. 1974. *Old English glosses in the Épinal-Erfurt glossary*. Oxford: Clarendon Press.

Piela, A. 2016. *Pozorna tożsamość*. Katowice: Uniwersytet Śląski.

Pisarek, W. 1978. Archaizm. In S. Urbańczyk (ed.), *Encyklopedia wiedzy o języku polskim*, 23. Wrocław, etc.: Ossolineum.

Pokorny, J. 2002 [1959]. *Indogermanisches etymologisches Wörterbuch.* Bern and Munich: Francke.

Ringe, D., and A. Taylor 2014. *The development of Old English* (A linguistic history of English, volume 2). Oxford: Oxford University Press.

Rospond, S. 1979. *Gramatyka historyczna języka polskiego*. Warszawa: Wydawnictwo Naukowe PWN.

Rychło, M. 2012. An etymological comparison of English *fist* and Polish *pięść*: How they both descended from the PIE root for 'five'. *Linguistica Silesiana* 33: 19-38.

Rychło, M. 2016. Can weep lure? An analysis of a controversial Slavico-Germanic pair of cognates. *Beyond Philology* 13: 103-124.

Rychło, M. 2017. Kontrowersyjne ślady zmiany pie. *p > pgerm. *f utrwalone w polsko-angielskich wyrazach pokrewnych: zestawienia sporne i wczesne zapożyczenia. *Język Polski* XCVII 3: 114-128.

Saloni, Z. 1999. Archaizm. In K. Polański (ed.), *Encyklopedia językoznawstwa ogólnego*, 54-55. Wrocław: Zakład Narodowy im. Ossolińskich – Wydawnictwo.

Shevelov, G.Y. 1964. *A prehistory of Slavic: The historical phonology of Common Slavic.* Carl Winter.

Smoczyński, W. 2017. *Słownik etymologiczny języka litewskiego*, wydanie drugie, poprawione i znacznie rozszerzone, na prawach rękopisu. Digital version modified 24th Nov. 2017, www.rromanes.org/pub/alii/Smoczyński W. Słownik etymologiczny języka litewskiego.pdf. Date of Access: December 2017.

Sychta, B. 1970. *Słownik gwar kaszubskich*, 4: *P-R*. Wrocław, Warszawa, Kraków: Zakład Narodowy imienia Ossolińskich, Wydawnictwo Polskiej Akademii Nauk.

Szymanek, B. 2010. *A panorama of Polish word-formation.* Lublin: Wydawnictwo KUL.

Szymczak, M. 1995. *Słownik języka polskiego PWN.* Warszawa: Wydawnictwo Naukowe PWN.

Vasmer, M. 1955. *Russisches Etymologisches Wörterbuch.* Heidelberg: Carl Winter. Available also online (in Russian) at https://vasmer.lexicography.online/p/рожь. Accessed 11th Dec. 2017.

Watkins, C. (ed.) 2011. *The American heritage dictionary of Indo-European roots.* Boston, New York: Houghton Mifflin Company.

Wełna, J. 1978. *A diachronic grammar of English*, Part one: *Phonology.* Warszawa: Wydawnictwo Naukowe PWN.

Witczak, K.T. 2003. *Indoeuropejskie nazwy zbóż.* Łódź: Wydawnictwo Uniwersytetu Łódzkiego.