URALIC VS INDO-EUROPEAN CONTACTS: BORROWING VS LOCAL EMERGENCE VS CHANCE RESEMBLANCES

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Abstract. In this article I shall review the field of studies: "Uralic vs Indo-European contacts". I shall report the thesis of what can be called the "old" and the "new" school, respectively, dealing with this topic. According to the old school, the contacts took place, essentially, among the historical languages, whereby the criteria for identifying loanwords are often unclear. According to the new school, instead, the (intensive) Uralic vs Indo-European contacts took place, essentially, at the level of proto-languages, and the loanwords are easily identifiable, thanks to the regularity of the relevant sound changes and substitutions. I shall claim that the thesis of new school is unlikely to be correct, on methodological and factual grounds: borrowing among proto-languages is impossible *a priori*; sound changes and substitutions are not always regular and systematic; the "binary" analysis "borrowing vs inherited" is out-of-date; the Uralic and Indo-European languages belong to different, distant "areal contexts".

Keywords: Uralic, Indo-European, convergence, divergence, chance resemblances, cognates, loan words, linguistic areas

1. Introduction

The field of studies that can be labelled "the Uralic (U)[1] vs Indo-European (IE) language contacts" has a rather long history, forming a discipline in its own right. Many loan words (LW) of IE origin have thus far been identified as occurring in the various U languages (but not the other way round[2]), several of which possibly go back to the respective pre-historic phases of the U and IE language families

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[1] For an account of the Uralic languages, see Abondolo (1998). For wider information about the U languages and peoples, including information of a historical and socio-economic character, see Taagepera (1999).

[2] But see Blažek (2005), who argues that there are also some instances of borrowing from U into IE.

(according to some interpretations; see below). In particular, numerous Baltic, Germanic and Slavic LWs have been identified as occurring in Finnish and the other Finnic languages, as reported, among others, by Joki (1973), Rédei (1986 and 1988) and Hakulinen (2000: 351–380). The following are well-known examples of LWs in Finnish:

> • Baltic: *keli* 'road condition', *sisar* 'sister'; Germanic: *äiti* 'mother', *aura* 'plough', *joulu* 'Christmas'; Slavic: *pakana* 'pagan', *ikkuna* 'window', etc.

Looking at the distribution of the identified LWs – assuming for the moment that they are all real LWs, and not cognates or artefacts of the method of analysis (see discussion below) – it appears that the great majority of the (assumed) contacts have taken place between the individual branches/languages of IE (Germanic, Baltic, Slavic and (Indo)-Iranian) and the individual branches/languages of western FU (Finnic, Mordvin, Mari and the Permian languages). This is the picture that emerges from previous, one could now say "traditional", research (see Joki 1973, Rédei 1986, Korenchy 1972 and Burrow 1973). As to the eastern Ugric languages, the contacts (if genuine) are believed to have been mainly, again, with Iranian languages, and to be relatively recent, as argued by Korenchy (1972 and 1988). With regard to the Samoyedic languages, it is widely claimed that they contain very few, if any, IE LWs, possibly deriving from the proto-Indo-Iranian languages, although it has been suggested that contacts between Tocharian and Samoyedic peoples might have occurred too, in the area of the southern Siberian steppe (see Janhunen 1983 and Fortson[3] 2004: 352). Thus, among these early scholars the consensus appears to be as follows: a) there is hardly any evidence of borrowing at the level of the respective pre-historical phases of U and IE, b) numerous contacts definitely took place among the actual, historical languages, c) with the exception of those "obvious", easily identifiable and classifiable LWs among adjacent languages, such as Baltic and Finnish/Finnic, the identification and classification of the IE LWs in the U languages are often difficult, because the criteria on the basis of

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[3] Fortson (*ibidem*) observes that: "Some structural features, such as the large number of cases in the noun [...] and the limited stop inventory (only voiceless stops), are not typical of IE languages but are found in Uralic, Turkic, and Mongolian languages of western and central Asia. [...] It has been suggested that the Tocharians picked these features up from contact with those languages after they migrated eastward."

which such a classification is made may be unclear, especially among non-contiguous areas, d) as a consequence, also determining the timing of the borrowing may be troublesome. For example, K. Häkkinen, (2001: 178) states that it is practically impossible to demonstrate "chronological stratification in U material on the basis either of distribution or phonological evolution within U," as illustrated by the Finnish word *vaski* 'copper', which displays wide distribution but also a wide range of meanings across the U languages: 'copper', 'bronze', 'metal' etc. Despite these methodological and factual difficulties, this has been, until recently, the (more or less) accepted paradigm within this field of studies. This is understandable since, after all, sounds, words, morphemes etc. do not develop regularly – according to the neo-grammarian model, the model widely adopted in this context – nor are there necessarily "regular and systematic sound substitutions" when a linguistic element is borrowed by the target language, as is often claimed within the field (see below). In addition, many of the identified IE LWs in the U area involve languages that are close in space, time and cultural environment, which certainly argues in favour of the validity of the "borrowing interpretation".

According to more recent studies, this rather coherent and, at least in principle, "plausible" picture has changed as follows: a) a massive influx of IE LWs is supposed to have spread all over the FU/U area, from the eastern areas of U up to (northern) Lapland (some of these LWs are claimed to occur only in the Saami languages), b) the LWs are believed to go back to the (pre)proto-stages of both IE and U, being therefore testimony of contacts in pre-historical times, c) the contacts are assumed to have been so intense and uninterrupted as to also affect basic lexicon, and d) contrary to what is argued by the "old school", the "new school" emphasizes the (supposed) regularity of the relevant sound changes and, in particular, sound substitutions. This approach will be illustrated in the next section with examples drawn from the work of those scholars who can be considered to be the most representative of this new school, basically "the Finnish school": Koivulehto, Kallio, Sammallahti, J. Häkkinen et al.

2. Loan words into proto-Uralic from proto-Indo-European

Let us consider some examples of LWs that are argued by the "Finnish school" to go back to the proto-IE phase, and to have entered the U languages, therefore, at the proto-U phase. As mentioned, the

Finnish school emphasizes that there are basically regular and sys-
tematic sound changes/sound substitutions and/or substratum inter-
ference in the process of borrowing from IE into U. In turn, these
(assumed) regular sound substitutions have allowed scholars to postu-
late, roughly, the timing, the precise origin and the direction of the
borrowing (this list is quoted from Marcantonio 2014b: 14):

1. *Arya*/*Ārya*, the self denomination of the Indo-Iranians / Old Iranians is
   claimed to appear as a LW in Finnish and Saami, according to various
   authors (see Joki 1973: 297, Carpelan and Parpola 2001: 112, et al.), in
   the reconstructed form *orya*; cmp. Fin. *orja* 'slave'. The Finnish and
   Saami meaning (see for example Saa.L. *år'jē* 'slave, farm labourer'
   (UEW: 721)), can be derived from the concept: 'Aryan taken as a war-
   captive, prisoner'. This is a semantic shift that would mirror that of Eng.
   slave, deriving from 'captive Slav';

2. North Saa. *čearda* 'tribe' < IE *k'erdho-* ~ *k'erdhā-* 'herd, group, flock'.
   Cmp. OI *śárdha-* 'herd', OPer. *ϑard-* 'kind, genre, sort' (Sammallahti
   2001: 399). This is an example of LW present only in Saami[4] (although
   also Fin. *kerta* 'time, occasion, turn' – *monta kerta-a* 'many times' – is
   claimed to derive from the Baltic reflex of the IE root). Sammallahti
   (*ibidem*) remarks that: "The Saami word shows the awkward vowel
   sequence *ea-a,* which is typical of recent loans, but it is sometimes found
   in connection with palatal consonants in old loans." Still, according to the
   author (2001: 413), "the old IE loanwords confined to Saami reflect
   linguistic and cultural contacts in the periphery [...] the Gulf of Bothnia";

3. Saa. *guovssu* (alternating with the strong grade *gukso-*) 'dawn' < proto-
   Saa. *kawso-j* ~ *kanso-j* < PIE *$h_2$aws-ōs-*, in turn from an original Ablaut
   paradigm *$h_2$áws-ōs-* ~ *$h_2$us-s-* (Koivulehto 2001: 245, item 27). Cmp.
   Lat. *aurōra* and OI *uṣ-ā́s* 'dawn'. This is one of the six etymologies listed
   by the author (2001) that are considered to be present only in Saami;

4. Fin. *synty-ä* 'to be born', *synty* 'birth, origin'; Zyr. *sod-* ~ *sud-* 'to
   increase', from PFU *sen-tü-*. According to Koivulehto (2001: 254–255,
   item 49), this term derives from the early proto-Iranian *dzen(h_1)-*, MPer.
   zādag 'born, child', OI *ján-ati* 'she gives birth, generate' and *jā́ya-te*
   'he/she is born', from proto-Indo-Iranian *j'en(h_1)-* [*d'ẑen-*], in turn from
   PIE *g'enh_1-* 'to beget, generate'. Cmp. also Zyr. *zon* 'son', probably from
   Av. *zana-*, equivalent to OI *jána-* 'creature, man'. The Zyrian vocalism

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[4] Other IE LWs claimed to occur only in Saami are listed in Koivulehto (2003: 295–
   300). They include the terms for 'goose', ''(layer of) soot', 'rosy dawn' (see example
   (3), etc. The author (2003: 295) states that: "In diesem Fall müssen also unmittelbare
   Kontakte der Vorlappen mit den Indogermanen angenommen werden."

would point to an original *e*, which means that in Finnish a sound change *e > ü* must have taken place, probably "due to the influence of the medial suffix *-tü-*". The author further argues that Fin. *ihminen*, more ancient *inhi-mi-nen* 'man, human being', deriving from PFU **inše/i-* (see also Hakulinen 2000: 55) is an early PIE LW from the same word family: cmp. PIE **g'n̥h₁(-e/o-)* ~ **g'n̥h₁-ye/o-* and OI *jā́-* 'born, offspring' (see Koivulehto 1991: 79 for more detail on this etymology). Actually, according to the author, perhaps all old Finno-Permian verbs denoting 'bearing, generating, increasing, growing' could be LWs from PIE, such as Fin. *suku* 'generation, family, lineage', a nominal derivative from **suke-* (*suke-utu-a* 'to be born, develop, grow'), in turn from PIE **suH-* 'to beget, bear';

5. Fin. *kah-deksan* 'eight' (< **kak-teksa-*) and *yh-deksän* 'nine' (< **ük-teksä-*), literally meaning 'two-ten' and 'one-ten' respectively (see Koivulehto[5] 2001: 255, item 50 and Hakulinen 2000: 343). The original component **-teksa-* ~ **-teksä-* 'ten' would derive from proto-Iranian **detsa* 'ten'; cmp. Av. *dasa* and OI *daśa*;

6. Fin. *kesä*, Mor.E. *k'ize* 'summer' < Finnic **kesä*. According to Koivulehto (1991: 36–40), this derives from an IE root in *e*-grade: **h₁es-* ~ **h₁os-* 'summer, harvest time' (traditionally, that is without laryngeal: **es-* ~ **os-*); cmp. OI *ásu-* 'life, existence' and *as-* 'to be'; cmp. also Goth. *asans*, with the *o*-grade;

7. Fin. *nainen*, Mor.E. *ńi* (< Finnic **nā-*), Vog. *nī*, Hun. *nő* 'woman, female' < U **näxi*, whereby the symbol *x* stands for a non-better specified segment /x/ introduced by Janhunen (1981) to encompass unclear/ unknown sounds and sound changes (see also below). According to Koivulehto (1991: 52–54), the U etymology derives from the PIE root **gʷneh₂-* > *gʷnah₂-* 'woman'; cmp. OI *gnā́-* (gen. *gnās-*) 'goddess', Av. *γnā* ~ *gᵊnā* and Gr. *γυνή* 'woman'. Compare also OHG *quena* and OI *jáni-* 'woman, wife', from the variant root PIE **gʷenh₂-*;

8. Fin. *tuo-* (inf. *tuo-da*) 'to bring, get', Mor.E. *tuje-*, Sam.Y. *tā* 'to bring, give', from PU **toxi-*, again with the unknown segment /x/. This U root, according to Koivulehto (1991: 63), derives from PIE **doh₃-* < **deh₃-*, traditionally (without laryngeal annotation) **dō-*; cmp. OI *dá-dāti* 'he/she gives', with reduplication; cmp. also Gr. *δί-δωμι* 'I give';

9. Fin. *onni* (gen. *onne-n*) 'happiness, luck', Est. *õnn*, Liv. *v(u)oń* 'luck', etc., from proto-Finnic **vonne*. According to Koivulehto (2003: 306–307, item 38), this etymology derives from PGmc. **wn̥(H)yā*, from which then

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5 Koivulehto (2001: 257), on the basis of his 56 listed etymologies concludes that the U homeland should be located not very far (south-)east of the ancient regions of Finnic and Saami, and that the Asian homeland thesis should be rejected.

Gmc. *wunjō derives; cmp. also West Germanic *wunnjō > OHG wunna ~ vunnia, as well as OEng. wynn, etc. This derivation is motivated by the fact that Fin. onni ~ onne- is the only Finnish stem in -e displaying gemination of n. Thus, the following sequence of sound changes would have taken place: 1) first the laryngeal would have caused the gemination of n before disappearing (*wn̥(H)yā > *wn̥n̥yā), as shown by the Finnic outcome, 2) then, in a phase between pre- and proto-Germanic, -j- would have caused de-gemination (Gmc. *wunjō), and 3) finally, in Western Germanic this same -j- would have again caused gemination (OHG wunna ~ vunnia, OEng. wynn, etc.), the latter being the only documented sound change within this chain (see Falcione 2013): a highly improbable, certainly unverifiable scenario;

10. Fin. teke- (inf. tehdä) 'to do', Mor.E. t'eje-, Hun. tëv- (~ të- ~ të-sz-) 'to do, make', from PFU *teke-, in turn from PIE d^heh_1- (according to Koivulehto 2003: 284, item 10; see also Koivulehto 1991: 71, item 17), traditionally *dhē. Cmp. OI dá-dhā-ti (with reduplication) 'he/she puts', Lat. faciō 'I do, make', Gr. τí-ϑημι, etc., but also Mon. tege- 'to do so, this or that way', according to UEW (519);

11. Suomi, the self-denomination of (nowadays all) the Finnish peoples (cmp. suoma-lainen 'a Finnish person, a Finn'), from Finnic *sōme < *ćoma-. According to Koivulehto (2003: 293, item 24), even this self-denomination derives from PIE, precisely from $*g^{wh}$-m̥ōn > Gmc. *gumōn- ~ *guman- >Goth. guma, OEng. guma, OHG gomo 'man, male'; cmp. also OLat. hemō > homō 'man'. Koivulehto observes that the self-denomination of other FU peoples is also based on names meaning 'man, male', and whose ultimate origin is PIE, such as the self-denomination of the Mordvins, Mor.E. and Mor.M. miŕd'e 'man, husband', and the self-denomination of the Mari (/Cheremis) peoples[6], Mari (alternating with Märe in the mountain region dialect) 'man, human being'. The author also argues that the "sound substitution" PIE -m̥- > pre-proto-Finnic -om- is replicated elsewhere, precisely in the etymology of Fin. kone(h) 'machine', originally 'magic trick, means, etc.' (2003: 305, item 37), and that of Fin. onni 'luck, happiness', reported above (example (9)). This is, therefore, a plausible sound change. The same applies to vocalism, as shown for example in the sound change *-o- > *-ō- > -uo- (for which see Suomi above), replicated in: PFU *śola > Proto-Finnic *sōle > Fin. suoli

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[6]   The self-denomination of the FU peoples of the Oka-Volga-Kama (Rivers) region, the Mordvin (/Mordva) and the Mari (/Cheremis) peoples, is widely claimed to derive from PIE. For example, Mor. miŕd'e would derive from pre-proto-Aryan *m̥rtá- ~ *mérta-; cmp. OI mártaḥ 'man, mortal' (see Rédei 1986: 53, item 34 and Carpelan and Parpola 2001: 111–112). The same applies to Mari (synonymous of Mordvin, but differently formed), from proto-Aryan *márya-.

'intestine', in turn from PIE *$k'olo$- ~ *$k'olā$; notice also the – repli-cated – substitution: PIE (initial) palatals > PFU (> affricates) > sibilants (see discussion below).

As is evident from these examples, the IE vs U correlations and related IE reconstructions rely upon the adoption of the laryngeal segments. Actually, it has even been argued that PU provides data and arguments in support of the Laryngeal Theory, as claimed in particular by Koivulehto (1991: 19 ff., 101 ff. etc.), whose monograph title is, indeed: "Uralic evidence for the Laryngeal theory". Basically, the author argues that the various laryngeals now widely used in IE reconstructions (mainly the four-laryngeals series: h_1, h_2, h_3 and H; see also below) correspond to the (already mentioned) unknown segment x, introduced by Janhunen (1981) and adopted by Sammallahti (1988) in order to overcome reconstructional difficulties, as shown in ex-amples (7) and (8) above)[7].

Koivulehto (2003: 310), based on his own corpus and the overall corpus of LWs collected by the above-mentioned scholars, draws the following conclusion:

> ... da die ältesten Lehnwörter über das ganze heutige uralische Sprachgebiet verbreitet sind und da ihre Lautformen in den respek-tiven Sprachen *etymologisch regelmäßig* sind [...] Auf Urverwandt-schaft deutet dagegen nichts, die "gemeinsamen" Wörter lassen sich lautlich einwandfrei als frühe Entlehnungen mit angemessenen *laut-lich Substitutionen* erklären. Bei Urverwandtschaft wäre größere lautliche Entfernung zu erwarten ... [Italics added.]

As to "substratum interference", the following, well-known sound changes within IE are claimed to have been triggered by the U sub-stratum:

- *Satemization*, that is: affrication and assibilation of palatal stops in Balto-Slavic and Indo-Iranian: PIE *K' > PU *$ć$, *$ś$, *j;
- Delabialization of labio-velars in the *satem* languages: PIE *K^w > PU *k;
- Loss of sonorization and aspiration: PIE *T, *D and *D^h > PU *T[8].

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[7] More precisely, the PIE laryngeals are held to have been substituted in PU with the segment /x/ (and occasionally with *k) in internal position, and with *k in initial position.

[8] Because of the diverse consonantal system of the two language families (see below), it has to be assumed that each IE series of manner of articulation was replaced by a U series of a single manner of articulation.

In other words, there would have been processes of "phonetic Uralisms" within IE (an instance of which we have seen in example (11)), since the great majority of the U languages only have voiceless stops, but do have plenty of palatal(ized) sounds.

To conclude, the analyses and interpretations of the data reported above are certainly "plausible", but they are just analyses and interpretations, and not at all "proven linguistic facts"; other analyses and interpretations may, therefore, be possible, as discussed in the following paragraphs.

3. The shortcomings of the Indo-European and Uralic theory

Alternative analyses and interpretations of the data reported in the previous section should be actively explored, because, as mentioned, the conventional analysis, and its underpinning model, is not free of problems.

To start with, just because languages that have been "classified" as IE and U exist, it does not necessarily follow that there must have existed, in pre-historical times, corresponding IE and U speech communities. In other words, there is no guarantee that the "realist" interpretations of the IE and U theories are the correct ones, even if these theories were both absolutely well founded. Second, as it happens, these two long standing theories are not, actually, well founded. As a matter of fact, there are several, critical shortcomings within both that have been addressed by many scholars but, seemingly, without satisfactory resolution (see e.g. Marcantonio 2002 for problems within U and Marcantonio 2009 for a debate on the status of IE). For example, regarding IE, one may consider the major issue of the laryngeal theory – now an integral part of the IE theory – an issue that is particularly relevant for the present topic because, as we have seen, the U vs IE reconstructions proposed by the Finnish school, particularly by Koivulehto, rely heavily on the adoption of these reconstructed segments (for more details, and related bibliography, see Marcantonio 2012/2013: 129 ff. and 2014b).

As is known within specialist literature, the origin of the laryngeal theory can be traced back to Saussure (1879), specifically to the famous *coefficients sonantiques* *A and *O (at least originally), the new IE proto-segments whose existence he "postulated" in his (vain) attempt to reconstruct the vowel system and syllable structure of IE. The function of these additional segments would have been that of affecting the

syllable nuclei in various ways, according to their various positions within the IE root, in this way producing the desired outcome, i.e. matches in vowels, vowel alternations and syllable structure among the IE languages, before "conveniently" disappearing without leaving any trace. With the discovery and deciphering of Hittite, the thesis of the existence of these non-attested, *ad-hoc* segments took an interesting turn and became a "theory", as a follow up to a famous article by Kuryłowicz. As observed in Marcantonio (2014b: 20):

> Kuryłowicz (1927: 101–102) identified 23 sets of IE cognates, that is, 23 IE etymologies[9] containing, in his opinion, the coefficient *A, and provided for each of them the Hittite correspondence. Having lined up (what he believed to be) IE vs Hittite cognates, the author simply 'observes' that in 9 out of the 23 sets of IE vs Hittite etymologies the coefficient *A of IE appears to correspond, regularly, to Hittite /h/, whilst in the remaining 14 sets of cognates IE *A *does not* correspond to Hittite /h/ (recall that we are dealing with a symbol of uncertain phonetic value, despite the name 'laryngeal', that in the cuneiform script is written as *h*, and often, in the specialist literature, as *ḫ*). This is, of course, nothing more than a plain, *a posteriori description* that IE *A and Hittite *h* match in some cases and do not match in others – the majority of the cases, in fact. Nevertheless, the claimed correspondence between (just) one of the Saussure IE coefficients and Hittite *h* has been hailed as the 'fulfilment of a major prediction', a 'scientific' discovery within comparative studies of all times, a prediction that, among other things, would confirm the validity of the regularity principle of sound change. And this despite the fact that: a) Saussure himself did not make any prediction (he was just trying to match the unmatchable); b) the sample of supporting data is a very small and dubious one, clearly an inadequate context for a scientific discovery.

Although nowadays the laryngeals are widely adopted in dictionaries and specialist literature[10], the fact remains that they represent nothing but a *passe-partout*, whose adoption certainly contributes to increasing the possibility of establishing false matches, even more so if these laryngeals are then made to match the no better specified

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[9] It is important to observe at this point that the 23 IE etymologies in question – already a small number – are rather dubious, since their establishment is based on very scarce lexical material, often even without due reference. The same applies to the IE vs Hittite "correspondences".

[10] See the four-laryngeal version adopted by Rix et al. (1998); see also the use of laryngeals in Koivulehto (1991, 2003 etc.), as it appears in several examples reported in the text.

segment /x/, as we have seen. It has been argued by some scholars that the U vs IE correlations, particularly those proposed by Koivulehto, are "impeccable", in addition to being "replicated", and therefore they must be sound. However, "the probative force of phonetic evidence alone is insufficient" to guarantee the validity and veracity of an etymology (see citation below by Kallio 2001: 222). As a matter of fact (in the absence of documents and the related "burden of proof"), it is quite easy to sit down at a desk and build up theoretical, abstract, impeccable etymologies, through a chain of sound developments that, however plausible in principle, are not verifiable and might have never actually taken place. These etymologies, therefore, may have nothing to do with the actual linguistic elements and the extra-linguistic reality they are purported to refer to. In other words, etymologies should be "real", backed up by data, if available, rather than "impeccable"; also, the underpinning "regularity principle" (of sound change and substitution), as mentioned, does not really hold water, as has been actually "proved" long since by linguists working in the field of dialectal geography, sociolinguistics, languages in contact etc., even though "tendencies" certainly exist.

As to the issue of the "phonetic Uralisms" in IE, it suffices here to quote the following statements by Kallio (2001: 222 and 227 respectively):

> ... when a phoneme substitution in Indo-European loanwords in Uralic languages matches a roughly simultaneous Indo-European sound change, the latter can be suspected to be a *phonetic Uralism* in Indo-European. The phoneme substitution and the sound change do not necessarily need to match one another completely, as long as they are similar, because there may have been different pronunciation errors in different places and at different times. [...] How can we prove it? Strictly speaking, *we can never finally prove it*, because at least in theory all sound changes can occur internally [...] Therefore, we must accept the fact that *the probative force of phonetic evidence alone is insufficient*. [Italics added.]
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> ... affrication and assibilation of palatal(ized velar) stops, as in satemization, are typologically so trivial that they can easily occur without external factors. For this reason, once again, we cannot do more than offer a mere conjecture.

With regard to the problems embedded in the U theory (of which there are plenty; see Marcantonio 2002), here it suffices to say that a proper reconstruction of the intermediate, key Ugric node and, there-

fore, of the top U node, have not been achieved thus far, as is sometimes also admitted by Uralists (see e.g. Csúcs 2008). This is due to several factors, including a "meagre" lexical comparative corpus and an equally meagre grammatical, functional, derivational comparative corpus (see Janhunen 1981, K. Häkkinen 2001, Marcantonio 2002, et al.). In addition, the few shared U suffixes are simple morphemes, each consisting of a basic, unmarked vowel and/or consonant (of the type (C)V, C(V)), so that it is difficult, if not impossible, to compare them with one another and establish cognates, not to mention that these simple morphemes are also shared with the "Altaic" languages (see Marcantonio 2002 (chapter 8) and Janhunen 2014). However, the major, and thus far seemingly insurmountable obstacle to the "traditional" reconstruction of U is Hungarian. It has long been recognized that this language is an "isolate" within the family, having no close relatives, despite usually being inserted under the Ugric node of the family tree. As a matter of fact, Hungarian shares most of its basic lexicon (including kinship and body part terms, basic verbs and adjectives), phonological structure, derivational morphology[11] and typological/morpho-syntactic features with Turkic, as is amply illustrated in the recent, detailed compendium by Róna-Tas and Berta (2011). These correlations have long been known, certainly since the time of the "Ugric-Turkic battle" (for which see Marcantonio et al. 2001 and Marácz 2012), but they have always been considered to be simply the result of borrowing on behalf of Hungarian, due to the "assumed", long standing and close contacts among early Magyar and Turkic peoples. However, Marcantonio (2014a) argues that, in reality, the borrowing interpretation, although certainly plausible, has not actually been "proven" thus far, in the sense that, in the absence of old, relevant records, it is not possible to "verify" whether the numerous linguistic elements of Turkic origin present in Hungarian are the result of borrowing, inheritance or, most likely, of both processes. This is be-

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[11] Hungarian and Turkic do not share, however, functional or grammatical, "complex" morphology. It has often been claimed that Hungarian and Turkic cannot be genetically related, despite the numerous similarities, because sharing these morphological features is generally considered to be vital for establishing this type of connection. However, these scholars fail to acknowledge the relevant fact that Hungarian does not share functional and grammatical (complex) morphemes with Finnish or the other Uralic languages either, so that this argument does not prove anything either way. Actually, in my opinion, the role of both functional and derivational morphology for the purpose of assessing genetic (or other types of) correlations within Eurasia needs revisiting; it is particularly important to abandon the strait-jacket of the Indo-European morphological model.

cause, as one would expect to happen within a long and intense process of borrowing (a process that, "presumably", took place between the 4th–5th and the 9th–10th centuries A.D.), these "borrowed elements" have, in fact, now become totally indistinguishable from the (assumed) inherited ones in all aspects and levels of language[12]. This being the case, it is more appropriate, and adherent to the linguistic evidence, to classify Hungarian as a type of "mixed" language, mainly mixed with Turkic, whatever the cause and origin of this mixing might have been (see Marcantonio 2014a for a detailed discussion of this issue).

4. The shortcomings of "the Uralic vs Indo-European language contacts" conventional approach

Finally, there are shortcomings within the conventional approach (as outlined above) to the "U vs IE contacts" field of study, shortcomings that, as far as I know, have not been pointed out in the relevant literature thus far: the issue of the "modalities" of borrowing and that of the "likelihood" of contacts. As a matter of fact, in those circumstances where it is difficult to distinguish between "borrowed vs inherited", such as in the field we are (mainly) dealing with – pre-historical "divergence vs convergence" – the absence of the required "burden of proof" (see Di Giovine 1984) should at least be alleviated by paying particular attention to these issues. This is what we are going to explore in the next two sections.

As is well known among specialists of "language(s) in contact" studies, what is normally and simply defined as "borrowing" is, instead, the end result of a long and intricate process of "interference" between two (or more) languages. In turn, as illustrated in Marcantonio (2014b: 17):

> This process of interference and subsequent borrowing takes place within the concrete 'speech act' of real speakers, that is, at the level of 'parole' (to use Saussurian terminology), with all its social and geographical variants, and not between and/or at the level of, abstract

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[12] That this is indeed the case is testified in many case studies. Cmp. at this regard Fortson (2004: 12), who, after stating that reconstructions are more and more difficult to achieve the further back in time one goes, states the following: "Borrowing becomes indistinguishable from native words, semantic changes make it difficult to reconstruct word meanings, and morphological analogies and levelling processes erase evidence of earlier inflectional patterns."

linguistic systems, as the like of 'reconstructed' languages / language families (see Gusmani 1986: 137–138).

Furthermore, in order to safely identify the borrowed nature of an element, also the context, the mechanism and the motivation for the borrowing should be identified and, possibly, documented, since borrowing does not just happen casually, by default, so to say. For ex., typically a new term is borrowed into language B from its source A if it refers to an object, or concept previously unknown in system B, or, alternatively, because the term in question in system A is perceived as 'prestigious', more 'high status' than the equivalent term in system B, or because of other reasoning and motivations connected to the socio-political, historical, as well as psychological situation of the speaker / speech community that implements the borrowing.

As to the issue of the motivation, mechanisms and context of borrowing, one could ask, for example: a) why should the ancestors of the Finnish peoples have borrowed a term from IE in order to name themselves, a term, by the way, that "trivially" means 'man/male'? (see example 11); b) if borrowing did indeed take place, what might have been its "concrete" context and mechanism of implementation? The same question applies, of course, to the self-denominations of other U peoples, also assumed to have been borrowed from IE (see footnote 6). We shall never know. This being the case, it can be argued that borrowing among proto-languages is not only unlikely, but is actually impossible *a priori*.

At this point, it could be objected that, among the conventionally identified IE LWs in U, there are several sets that, in addition to forming a rather coherent, compact semantic field, could certainly be classified also as "cultural terms" (at least some of them), a factor that would support the borrowing interpretation. These sets include: the terms for 'honey' and 'bee', several numerals ('7', '10', '100', '1000'; see example 5), the field of the self-denominations of several U peoples (example 11), the field of "domesticated animals", as seen in the terms for 'calf' and 'pork', etc. This is certainly true. However, this re-presents the minority of cases, not to mention that, for example, the IE origin of several self-denominations is rather suspicious, as discussed above. In any case, what about the rest of the LWs, given that the overall U vs IE comparative corpus is rather wide? This being the case, one can certainly understand why some scholars (such as the supporters of the "macro-families"; see Greenberg 1991 and 2000) interpret the identified U vs IE correlations as resulting from genetic inheritance, rather than from borrowing, as also shown by the fact that

U and IE share several basic verbs (as seen in examples 8 and 10) and various numerals (as mentioned above), elements that are considered by some scholars to be low on the scale of borrowability.

The other factor that makes the IE vs U correlations unlikely is the fundamental typological difference between the two proto-languages and among the actual languages, a factor that could in fact increase the possibility that these correlations are, mostly, chance resemblances, as already pointed out by Janhunen (1999: 212–215 and 2001: 208–211). For example, unlike IE, U can be reconstructed as a phonologically and phonotactically simple, agglutinative language. More specifically, unlike U, PIE is reconstructed with few distinct vowel qualities and many consonants, including a rather intricate system of stops, distinguished according to five places of articulation (dental, labial, velar, palatal and labio-velar), as well as based on the parameters of voice and aspiration (see Szemerényi 1990: 54–70), not to mention the controversial laryngeal segments (as already discussed above). In contrast, the U languages typically display many distinct vowel qualities and rather restricted consonant systems, typically lacking voiced consonants and, therefore, voice opposition (with a few exceptions[13]), as well as aspiration. In morphology, for example, the IE languages typically have fusional, multi-functional endings, a system of grammatical gender (considered to be indeed a "diagnostic feature" of PIE) and grammatical plural, whilst the U languages are typically agglutinative, as mentioned above: they adopt simple, mechanical processes of "uni-functional" suffixation for the task of expressing functional and grammatical notions, as well as implementing the process of (verbal, nominal and adjectival) derivation. In particular, there are no *dhātus* of the type found in Sanskrit (see Hill and Harrison 1991: 1–5; see also Kazanas 2012/2013). In fact, as observed in Marcantonio (2014b: 21), the "stand alone" stem of the U nouns or verbs is typically identical with its root; in turn, the stem remains "invariant" all the way through its respective process of declination, conjugation and derivation, although (natural) processes of *sandhi* at the stem boundary (i.e. between the last sound(s) of the stem and the first sound(s) of the following suffix) can be activated if required (but see footnote 14 for exceptions[14]). This

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[13] For example, there are voiced obstruents in the Permian branch (Zyrian/Komi and Udmurt/Votyak), believed to have arisen in the proto-Permian period (Riese 1998: 255). There is a rich system of voiced consonants in Hungarian, where voice opposition as well as consonant length (in certain contexts) are distinctive. There is extensive voice opposition also in the Saami languages (see Sammallahti 1998).

[14] There are exceptions to this. For example, Finnish, Estonian and Saami have a complex system of consonant alternations ("consonant gradation"), as well as vowel

being the case, it must be assumed that the borrowed (or inherited, according to some interpretations) PIE elements have undergone a massive process of considerable phonological and morpho-phonological simplification, for which, of course, there is no evidence. In addition, as observed by Janhunen (1999 and 2001), this condition, coupled with a more restricted availability of lexical material on the U side compared to the IE side, can make it too easy to find new, "technically" plausible IE-U comparisons. This analysis, in turn, is in agreement with the fact that the U languages belong to what Janhunen (2001: 213; see also 2007) defines as the "Ural-Altaic complex", the "Ural-Altaic areal context" or, even better, the "single original area of Ural-Altaic typology", an area located originally in "central Asia". This area is certainly far away from the areal complex to which IE belongs, whatever its precise homeland is supposed to be. This fact, in my opinion, makes it equally unlikely that U and IE are genetically related[15]. Janhunen concludes his account of the situation (2001: 216) by stating that "the method used to extract these [PU vs PIE] 'parallels' is simply too strong", a conclusion that accords with the arguments put forward above, according to which many of the identified "cognates" within U and IE are, most likely, just chance resemblances.

To conclude this section, it is worth emphasizing that (in the absence of the relevant records) it is not always possible to be sure of the origins of the identified correlations in general, much less in this specific area, even among adjacent languages. This is not only because, as mentioned, inherited and borrowed elements may become indistinguishable from one another, but also because shared correlations may well be due to "multiple causation", quite a frequent process indeed in language "convergence", if not the most frequent one, as is

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alternations, which lead to numerous instances of fusional morphology. The typical "variable" nature of the stem in Finnic (e.g. with two or even three alternating stems in Finnish) distances itself from the typical "invariant" stem of the other U languages, and might appear to represent a phenomenon similar to that of the root and related derivations in Sanskrit and other IE languages, at least superficially (also because the Finnish/Finnic stem is not always "stand-alone", particularly the verbal stems). However, the governing principles and the mechanisms of implementation of the alternations in Finnic are totally different from those of IE.

[15] It is worth noting at this point that, on the basis of the data and arguments outlined above, it appears evident that claims such as "there is conclusive evidence of contact between early Indo-Iranian and Finno-Ugrian" (Burrow 1973: 25–26), or "Uralic evidence for the Indo-European homeland" (J. Häkkinen 2012) are much too strong: the reality is that there is "no evidence" in this direction, but only "possible interpretations" of a set of more or less reliable data. As a consequence, scholars should be cautious in stating that U (if it ever existed) bears testimony to the "European homeland" of the PIE speech community (supposing, again, that it existed too).

now recognized by several linguists. For example, Janhunen (2013) illustrates a process of convergence within morphology, a process he defines as "shared drift", through many examples, such as the "vocalization" of plural *-r in Helsinki-Swedish:

- Swe. *flicka ~ flicko-r*, but H-Swe. pl. *flikko-o* /flikko:/ 'girl-s'
- Swe. *pojke ~ pojka-r*, but H-Swe. pl. *poikka-a* /poikka:/ 'boy-s'

The author argues that similar formal-functional elements in bound-morphology may converge in a way that, at first, makes them look borrowed or inherited. However, after deeper analysis, these elements turn out to be "non-borrowed, non-cognate parallels", being instead instances of an intricate process of shared drift. In addition, shared similarities could have been caused by what Marcantonio (2010) has defined as "local emergence", as is the case for the terms indicating 'rye', Fin. *ruis* (~ *rukii-*), present in Finnic on the U side, and in Russian, Germanic and Baltic languages on the IE side (see footnote 16 for details). The evidence consists of numerous, more or less "regular and systematic" variants, whether Finnic, Germanic or Baltic, referring to this crop, variants that are, traditionally, all derived from the reconstructed Germanic form *rugiz,* although a Baltic origin has not been excluded. Thus, the term is considered to be certainly of IE origin, because it is present in several IE language groups and is first attested in Germanic, and is classified, as a consequence, as a "borrowing" into U: to be precise, as a Germanic/Baltic borrowing "into FU at an early date" (according to the Oxford English Dictionary, latest edition, on-line)[16]. This is, of course, a plausible interpretation

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[16] The following is the lexical entry for Eng. *rye* in the OED-on-line: "... cognate with Old Icelandic *rugr*, Norwegian *rug*, Old Swedish and Old Danish *rugh*, Dutch *rogge*, Old Saxon *roggo*, *rokko*, Old High German *roggo*, *rocco*, German *Roggen*, †*Rocken*, etc. It is the same Indo-European base as Old Prussian: *ru(g)gis* 'grain of rye'. Compare also Lithuanian *rugiai* (plural, denoting the 'grain of rye' collectively), Latvian *rudzi* (plural), Old Russian *r"ž'* and Russian *rož'*. Further etymology uncertain: perhaps a loan from an unidentified non-Indo-European language. A Thracian word recorded in Hellenistic Greek as βρίζα 'rye' (2nd cent. A.D., in Galen) has sometimes been taken as cognate, but this view is not generally accepted and presents both phonological and semantic difficulties. The English and Scandinavian nouns are *i*-stems; the continental West Germanic nouns are *n*-stems with regular gemination of *g* before *n*. The long vowel of modern Icelandic *rúgur* and Norwegian are regional. The word is attested in early place names, such as *Rygedun*, now *Roydon* (Norfolk, a. 1038), *Rihella*, West Riding, now *Ryhill* (Yorkshire, a. 1086), etc. The Germanic word was probably borrowed into Finno-Ugric languages at an early date; compare Estonian *rukis*, Finnish *ruis* (inflectional stem *rukii-*, as in *rukii-t* (plural/collective), *rukii-nen maku* 'tasting of rye (flour)', etc.), and Vepsian *rugiž*."

but, again, an interpretation nevertheless, because no proof has been found (at least thus far). In fact, there is also no evidence for the direction and the timing of borrowing, or for the process of borrowing *tout court,* not to mention the fact that the FU node and the assumed FU speech-community could have hardly existed (recall that the FU node has not been reconstructed, as discussed above). Alternative inter-pretations are equally plausible, such as: the various, similar (U and IE) variants for 'rye' (a crop that grows in cold temperatures) "emerged" from the local speech-community that cultivated and (possibly) traded it, a community that lived around the shores of the Baltic Sea, as is clear from their distribution. Thus, these variants, whatever their linguistic origin might have been, "diffused", naturally bypassing the border of the conventional U and IE linguistic area.

5. Summary and conclusions

In the light of the data and arguments put forward in this article, one could at this point rightly raise the following question: should one give up dealing with the U vs IE correlations, whether believed to be the result of borrowing or inheritance? Here I can only express my personal point of view. I have argued in various publications (such as Marcantonio 2002 and 2009) that the majority of the identified correlations both within U and within IE are most likely the result of chance resemblance. In addition, I have argued here, in line with the views of Janhunen, that many conventional FU/U vs IE correlations are also most likely the result of chance resemblance, particularly the correlations and reconstructions assumed to go back to the level of the respective proto-languages. This being the case, I personally would not put too much effort into researching "pre-historical convergence". However, there is no reason to abandon this field of studies altogether if one concentrates not on (more or less) distant, unrealistic proto-speech communities, but on real languages and real language contacts or, at least, language contacts that are plausible geographically, tem-porally and "contextually", in the sense of Janhunen's concept of "areal context" mentioned above. This is exactly what has been proposed and pursued in the contributions to this conference/volume, through the following: verifying the "likelihood test" for language contacts, con-centrating on real data/actual "evidence", and complementing the rigid and unrealistic "family tree" model and "regular and systematic sound substitution" model with more articulate, realistic and statistically sig-

nificant models of language contact, being aware that "plain borrowing" is not the only possible source of convergence, multiple causation being a common process in language development and language contact.

Acknowledgements

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Abbreviations

Av. – Avesta, Eng. – English, Est. – Estonian, Fin. – Finnish, FU – Finno-Ugric, gen. – genitive, Gmc. – Germanic, Goth. – Gothic, Gr. – Greek, H-Swe. – Helsinki-Swedish, Hun. – Hungarian, IE – Indo-European, inf. – infinitive, Lat. – Latin, Liv. – Livonian, LW – loan word, Mon. – Mongolian, Mor. – Mordvin (Mordva), Mor.E. – Mordvin (Mordva) Erzya, Mor.M. – Mordvin (Mordva) Moksha, MPer. – Middle Persian, OEng. – Old English, OHG – Old High German, OI – Old Indian, OLat. – Old Latin, OPer. – Old Persian, PFU – proto-Finno-Ugric, PGmc. – proto-Germanic, PIE – proto-Indo-European, pl. – plural, PU – proto-Uralic, Saa. – Saami (Lapp), Saa.L. – Saami (Lapp) Lule, Sam.Y. – Samoyed Yurak (Nenets), Swe. – Swedish, U – Uralic, Zyr. – Zyrian (Komi)

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Kokkuvõte. Angela Marcantonio: Uurali ja indoeuroopa keelte kontaktid: laenamine, kohalik kujunemine, juhuslik sarnasus. Artiklis annan ülevaate uurimisteemast "Uurali ja indoeuroopa keelte kontaktid". Käsitlen küsimust, mida võib selle teemaga seoses nimetada "uueks" ja "vanaks" koolkonnaks. Vana koolkonna järgi toimusid kontaktid ajalooliste keelte vahel, kusjuures laensõnade kindlakstegemise kriteeriumid on sageli ebaselged. Uue koolkonna järgi aga toimusid (intensiivsed) uurali ja indoeuroopa kontaktid algkeelte tasandil ja laensõnu on lihtne kindlaks teha tänu oluliste häälikumuutuste ja häälikuasenduste reeglipärasusele. Väidan, et uue koolkonna tees ei näi metodoloogiliselt ja faktiliselt alusel korrektne: algkeelte vaheline laenamine on *a priori* võimatu, häälikumuutused ja -asendused ei ole alati reeglipärased ja süsteemsed, "binaarne" jaotus "laenatud või genuiinne" on aegunud, uurali ja indoeuroopa keeled kuuluvad erinevasse, teineteisest kaugesse "areaalsesse konteksti".

Märksõnad: uurali keeled, indoeuroopa keeled, konvergents, divergents, juhuslik sarnasus, sugulassõnad, laensõnad, keeleareaalid