Etymology and the European Lexicon

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Edited by
Bjarne Simmelkjær Sandgaard Hansen,
Benedicte Nielsen Whitehead,
Thomas Olander and Birgit Anette Olsen

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High-transitivity nasal presents between lexical etymology and morphology

Davide Bertocci
University of Padova

The main topic of this paper is a small group of verbs indicating high-transitivity processes like to hit, to cut, to break, to bind, to touch, which, at least in some Indo-European languages, frequently exhibit nasal presents even when the association of their roots with nasal morphology is not inherited from PIE. The aim is to show that the selection of nasal morphology for such predicates was not by chance, but it was the consequence of morphosyntactic properties of the nasal morphemes, and of the evolution they underwent; thus, the morphological analysis may offer a way to explain the distinctive properties of a relevant sub-part of the IE lexicon.

This research started noticing what, at the beginning, appeared as a simple coincidence, namely, the fact that a little group of verbs attested in various Indo-European (henceforth IE) languages sharing the semantics of breaking, cutting, hitting, binding and touching, have nasal presents. Nevertheless, it seemed quite striking to find that in many cases there were no genetic links between them, and, furthermore, some of them were the only instances of nasal present derived from their roots (e.g. Gk. *ἄγνυμι*, 'I break', Lat. *frangō* 'I break').

The choice of these kinds of verbs is not arbitrary, because the subgroups of breaking, hitting and cutting has already been identified as an autonomous class by, for instance, Mallory and Adams in 2006, who employ the term "reductive activities" to describe their semantics: they all denote violent actions which modify the internal structure of their objects. Similarly, the subgroup of touching and binding form a class because they share some form of contact (Mallory-Adams 2006: 371–382).

The hypothesis I want to put forward is that the selection of nasal morphology within these two lexical classes is due to the semantic properties of nasal morphology itself, as it can be reconstructed for PIE, and to a certain regular semantic change which I will try to define. As a consequence, a careful morphological analysis may explain why some subsets of the IE lexicon share the formal property of having nasal presents even if their roots are unrelated.

It is important to stress that this study is not intended at identifying unitary forms, or common PIE nasal presents; on the contrary, my hypothesis will be that nasal morphology, although largely inherited from the IE grammar, became to some extent an autonomous mechanism, as both its formal and its functional evolution may show.

1. The semantics of nasal presents

As is well known, nasal morphology offers conspicuous difficulties both at the morphological level, and from the semantic point of view. I will not deal with crucial formal problems like the possibility of identifying unitary IE transponata for nasal presents, or, on the other hand, of accounting for several allomorphs across historical IE languages. Recent studies like those of Rasmussen (1990), Rix (1995), Milizia (2004) and Scheungraber (2012) have shown that the outputs of IE nasal morphs in single languages were ruled by very specific morphophonologi-

cal relations; that is, a full account of the question in a reconstructive framework is nowadays extremely complex.

Thus, I prefer to concentrate on the semantics of this category, trying to understand which reasons may have triggered the selection of nasal morphology for some sets of verbs within the lexicon of the daughter languages.

Specifically, I start from the pivotal proposals by G. Meiser (1993) who argued for a primitive meaning of factitive and/or causative actionality: as I will recall below, it is well attested in pairs like *pū́ryate*/*pr̥ṇā́ti* ('is fulfilled'/'fulfils'), mainly within Vedic and Greek. Most nasal presents with causative meaning look inherited, because their roots are comparatively widespread and produce nasal presents in many daughter languages. This indicates that the relation between them and nasal morphology has been strongly established since a common stage.

In fact, there are several nasal presents with other kinds of meaning, thus, we have to deal with different forms of transitivity, or with intransitive verbs, like Lat. *cernō* 'I sift, I choose', Skt. *bhunákti* 'enjoys' (sth., usually with instr.), Gk. *ἱκάνω* 'I arrive', Goth. *ga-waknan* 'to wake up', Skt. *skabhnóti* 'supports sth.' etc. That is, also from a morphosyntactic point of view nasal presents show much more variation than one would expect.

The verbs I will focus on differ in some respects from those analyzed by Meiser: in some cases, they are the only nasal formations attested from the respective roots in the entire IE family: such is the case of e.g. Skt. *anákti* 'anoints' from the root **h₂engʷ*-, Gk. *ζώννυμι* 'I belt, I girdle' from **i̯eh₃s*-, or Lat. *tangō* 'I touch', from **teh₂ĝ*-. Beside this, the main morphosyntactic parameter I consider is that, while verbs like *pr̥ṇā́ti* clearly define a causative alternation with respect to *pū́ryate* in the sense of Dixon (2000), Levin (1993) etc., neither the verbs of "reductive activities" nor those of contact exhibit inchoative counterparts, either within the same language or in others.[1]

These differences are quite surprising, and it is worth considering them as the consequence of more general properties of the IE lexicon and of IE morphology; in the following chapter I present the data I have gathered in more detail.

2. Data analysis

The corpus consists of verbs derived from roots which give outcomes in at least two IE languages, and can consequently be considered of IE antiquity; that is, data would show properties which are not completely idiosyncratic, but have to do with older stages.

I have gathered data from various sources, such as the LIV, the collection of Mallory-Adams (2006), the major etymological dictionaries and the major historical grammars. I have chosen to limit my analysis to Latin, Greek, Old Irish and Sanskrit, because these offer a

1 The whole question is much more complex, and any attempt to define exactly the causativity of nasal presents has to deal with language-specific factors as well as with typological ones. For instance, Lazzeroni (2004) considers them as bearers of high causativity, starting from the situation of Vedic, where: (i) verbs like *bhanákti* or *sinā́ti* do not have intransitive alternants; (ii) a closer link exists between typically inchoative *-ya*-presents and the other causative formation *-aya*-. In fact, transitive presents form *-aya*-causatives in Middle-Vedic, and nasal presents are not usually able to increase the valency of the underlying process, so that they seem to be true 'low-causativity' morphemes (Dixon 2000: 45). Finally, well-known typological processes may give rise to overlapping between causative and anti-passive or even anti-causative meanings (see Kulikov 2011), as it seems to happen e.g. in Greek: *μάρναμαι* ('fight') and *μαραίνω* ('extinguish') lack overt objects; the former patterns as an anti-passive verb, while the latter is reflexive, except in some formulaic expressions with the noun 'fire'.

highly representative example of variation within the IE family.[2] Furthermore, there are good reasons to keep apart, at least for the moment, data from Germanic and the Balto-Slavic languages. Villanueva-Svensson (2011) has shown that most nasal presents in those IE branches have intransitive meaning, and that this stems from specific morphosyntactic properties which isolated Germanic and Balto-Slavic from the other IE languages.

The verbs I considered are given below. Even if the sets gathered here are by no means exhaustive, they suffice for a summary of the main tendencies, which I will highlight while paying attention to basically three parameters: (i) the nature of the root and the morphophonological features of the nasal presents, as they may indicate innovative layers in the development of IE nasal presents; (ii) the presence or absence of other nasal presents from the same roots within IE languages, which may indicate whether nasal morphology was inherited in a root or not; (iii) the semantic properties, which distinguish the verbs in different classes.

2.1. To break, to cut, to hit: "reductive activities"

2.1.1. Sanskrit

- *bhanákti* 'breaks' < **b^{h}eg-*, cf. OI *boingid* 'breaks' (see below)
- *bhinátti* 'breaks, bites' < **b^{h}ei̯d-*, cf. Lat. *findō* 'I split'
- *bhrīṇánti* 'injure' (3pl.) < **b^{h}rei̯h-*
- *dr̥ṇáti* 'tears, bursts' < **der-* (perhaps analogical from *mr̥ṇáti*, LIV: 120)
- *druṇáti* 'separates' < **dreu̯h$_2$-*
- *gr̥bhṇáti* 'seizes, grabs' < **g^{h}rebh$_2$-*
- *śr̥ṇáti* 'crushes' < **k̂erh$_2$-*
- *kr̥ntáti* 'cuts' < **(s)kert-*
- *lunáti* 'cuts' < **leu̯h$_2$-*
- *mr̥ṇáti* 'crushes' < **merh$_2$-*, cf. Gk. *μάρναμαι* ('I fight', intransitive), *μαραίνω* ('I extinguish', intransitive, see below)
- *mathnáti* 'stirs, hurts' < **meth$_2$-,* cf. Lat. *mandō* ('I crush by biting', LIV: 443)
- *pináṣṭi* 'beats' < **pei̯s-*, cf. Lat. *pinsō*, OCS *pъchnǫti*
- *lumpáti* 'breaks sth.' < **reu̯p-*, cf. Lat. *rumpō* (LIV: 510–511)[3]
- *chinátti* 'breaks, splits'< **ŝk^{h}ei̯d-,* cf. Lat. *scindō*, Lit. *skindù* (with intransitive meaning)
- *tr̥ṇédhu* 'hit, destroy' (ipv.) < **(s)terĝ^{h}-*, cf. Hit. *istarnink-* 'to hurt (also psychologically)'
- *tundate* 'beats, hits' < **(s)teu̯d-*, cf. Lat. *tundō*
- *tuñjánti* 'hit, press' (3pl.) < **(s)teu̯g-*, cf. M.Welsh *estwng* 'bend sth.' (LIV: 602); OI *as-toing* 'swears away, removes'
- *luñcati* 'grabs' < **h$_3$reu̯k-*, cf. Lat. *runcō*, *-āre* with transfer to the *-āre* class
- *bhr̥ṇáti* 'hurts, injures' < **b^{h}erh-*, cf. Lat. *friāre*, EWA: 533)

2.1.2. Greek

- *ἄγνυμι* '(I) break, cause to break' (often with intransitive meaning and middle declension) < **u̯eh$_2$ĝ-*
- *μαραίνω* '(I) destroy, crush' < *μάρναμαι*, **merh$_2$-*, cf. Skt. *mr̥ṇáti* (see below)

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2 High-transitivity nasal presents are also well attested in Hittite, for instance *hamanki* 'binds'< **h$_2$emg-*, *iskunant-* 'smeared'< **skeu̯h$_2$-* 'to push'.

3 Skt. *rúpyati* takes its iterative meaning 'suffers' from the suffix *-ya-*; an original inchoative meaning is claimed in LIV on the basis of Av. *urūpaiientī*, although this form is suffixed as well.

- *ῥήγνυμι* '(I) break' (mostly intransitive and with passive morphology or middle declension) < **u̯reh₁ĝ-*
- *τέμνω* '(I) cut (off), wound' < **temh₁-*, cp. Lat. *temnō*, OI *tamnaid* (LIV: 625)

2.1.3. Latin

- *findō* '(I) split'< **bʰeid̯-*, cp. Skt. *bhinátti*
- *cellō* '(I) hit, push' < **kelh₂-*
- *spernō* '(I) push away, separate' < **spʰerh-*, cf. OE *spornan*[4]
- *plangō* '(I) beat', **pleh₂g-*, Gk. *πλάγχθη* (aor. pass.) 'turn aside from'
- *tundō* '(I) hit' < **(s)teu̯d-*, cf. Skt. *túndate*
- *runcō* '(I) grab' < **h₃reu̯k-*, cf. Skt. *luñc*
- *pungō* '(I) sting' < **peu̯ĝ-*[5]
- *pinsō* '(I) beat' < **pei̯s-*, cf. Skt. *pináṣṭi*
- *temnō* '(I) cut off' < **temh₁-*, cf. Gk. *τέμνω*, OI *tamnaid*
- *frangō* '(I) break' < **bʰreĝ-*[6]
- *scindō* '(I) break, separate' < **sk̂ʰei̯d-*, cf. Skt. *chinátti*
- *rumpō* '(I) break' < **reu̯p-*, cf. Skt. *lumpáti*
- *mandō* '(I) crush' < **meth₂-*, cf. Skt. *mathnā́ti*

2.1.4. Old Irish

- *benat* 'beats, kills' < **bʰei̯h-*, cf. perhaps Latin *perfines* = *perfringas* according to Festus (LIV: 72)
- *toing* 'swears < by hitting sth.?' < **(s)teu̯g-*, cf. Skt. *tuñjánti* (3pl.) 'hit, press' (see below)
- *tamnaid* 'cuts down, cuts off' < **temh₁-*, cf. Gk. *τέμνω*, Lat. *temnō*
- *boingid* 'breaks' < **bʰeu̯ĝ-*, cf. Skt. *bhanákti* (see below)
- *dloing* 'cleaves' < **delgʰ-*
- *teind* 'cuts, breaks' < **tend-*

2.1.5. Remarks

Most of these verbs derive from roots with C(R)V(R)C- or C(R)V(R)H- structure, where the last stop is mostly voiced;[7] the root grade is always zero, and the nasal elements are originally infixed, although they may surface as suffixes.[8] These verbs are compatible with the most successful model for the formation of nasal presents, which looks quite productive in many languages also with respect to the whole nasal category: for instance, almost all nasal presents in Old Irish share a CV(R)G- root structure (see Schumacher 2004); in Latin as well it is the preferred environment for innovative nasal formations (e.g. *pungō* < **peu̯ĝ-*, *lingō* < **lei̯ĝʰ-*). From a paradigmatic point of view, many of these verbs do not show the canonical relation

4 "Convey verb" according to Mallory-Adams (2006: 405).

5 With semantic specialization in nominal derivatives (LIV: 480); perhaps *pungō* itself was linked to the noun **pug-no-* 'fist' (de Vaan 2008: 999).

6 With secondary zero grade **bʰr̥ĝ-* (cf. Leumann 1977: 142–143); for alternative explanations, see LIV (91–92) and de Vaan (2008: 239), both claiming for a lost IE root aorist.

7 The relevance of a morphophonological template of this kind for the rise of infixation has recently been highlighted by Milizia (2004).

8 Here I basically follow the Saussurean idea that, in a late IE phase, the three major classes of nasal presents come from CV-*ne*-X- structures, where most frequently X stands for a stop or for a laryngeal.

with root aorist, which is usually identified as a structural property of nasal presents (Strunk 1967). Such is, for instance, the case with the Sanskrit root *bhañj-* 'to break', which is attested alongside *bhaj-*, but no root or acrostatic aorists are attested.[9]

Some words have to be dedicated to the comparative status of these verbs; almost half of them – especially in Sanskrit – do not show nasal present cognates in other IE languages; thus for instance Skt. *gr̥bhṇā́ti* 'seizes, grabs' from **gʰrebh₂-*, *śr̥ṇā́ti* 'crushes' (< **k̂erh₂-*), *kr̥ntáti* 'cuts' (< **(s)kert-*), Gk. *ἄγνυμι* (< **u̯eh₂ĝ-*), Lat. *cellō* 'I hit, I push' (< **kelh₂-*), OIr. *dloing* 'cleaves' (< **delgʰ-*). In some cases, a direct relationship between cognate nasal presents might be debated. For instance, Sanskrit *bhanákti* 'breaks' comes from the root **bʰeg-*, to which OIr. *boingid* is also ascribed (LIV: 66); nevertheless, some scholars (McCone 1991) prefer to derive *boingid* from the root **bʰeu̯g-* 'to use', as *-oi-* is the usual outcome of an IE **-eu̯-* in OIr.: the hypothesis entails a semantic gap between the basic meaning of 'to use', 'to take part' and 'to break' < 'to divide' (Matasović 2009), but could increase the number of isolated nasal presents within this class. Similarly, the comparison between Sanskrit *śr̥ṇā́ti* 'crushes' (< **k̂erh₂-*) and OIr. *-chrin* 'decays' has been doubted both by McCone (1991) due to phonological difficulties, and by Matasović (2009) who supposed some possible interferences with Middle Welsh *crynu* 'shake' from **k̂reh₁i̯-*. As for Lat. *mandō*, de Vaan (2008: 362) rejects its derivation from the root **meth₂-*, as historical data do not support the semantic shift from 'to stir' to 'to bite, to chew', and postulates an origin from **menth₂-* > **mend-*.

Moreover, some pairs show such deep semantic or morphological differences that one might call into question whether they truly stem from a common IE form: for instance, Sanskrit *mr̥ṇā́ti* 'crushes' from the root **merh₂-* is related to Gk. *μάρναμαι* and *μαραίνω* whose meanings are mostly intransitive or anti-passive. In particular the latter means 'extinguish', and the only object it can take is the noun for 'fire', in formulaic expressions. Furthermore, the middle voice has to do with intransitive meaning, and the morphological structure of *μαραίνω* is clearly innovative: **mer-n-h₂-* gave rise to an unexpected outcome **mr̥-n̥-h₂-*, with further suffixation of **-i̯e/o-* (LIV, Rix 1992: 210).

Similar difficulties arise for the root **(s)teu̯g-*. According to LIV (602), it gives rise to Sanskrit *tuñjánti* 'hit, press', and may be compared with M.Welsh *estwng* 'to bend sth.', and with OIr. *as-toing* 'swears away (by hitting the floor with something?), removes'; in Greek the "essive" cognate *στυγέω* has a psychological meaning and indicates a violent form of hate against something. The original meaning of the root, then, seems highly specialized outside the Indian world, whether it be in a psychological or a ritual sense. Gk. *τέμνω* 'I cut (off), I wound', from **temh₁-* (cf. Lat. *temnō*, OIr. *tamnaid* [LIV: 625]) is also problematic, as it is seemingly one of the few **-ne/o-*suffix presents of Greek (Rix 1992: 209), but even in Latin the nasal present from this root is controversial, having "secondary" *-e-*grade of the root (Leumann 1977: 142–143).

As for Skt. *lumpáti* and Lat. *runcāre*, the nasal presents both in Sanskrit and in Latin switch to weak conjugations, which may indicate (cf. LIV 307) that we are dealing with idiosyncratic innovations and not with common inheritance.

9 Similarly also Lat. *tundō* (LIV: 601), OIr. *-benat* (LIV: 72), Gk. *τέμνω* (LIV: 625).

2.2. To bind, to touch: "contact verbs"

2.2.1. Sanskrit

- *grathnā́ti* 'ties' < **gʷrenth₂-*[10]
- *limpáti* 'smears' < **leip̯-*, cf. Lith. *limpù* (intransitive meaning)
- *unáp* (2sg. impf.)'weaved' < **u̯eb^h-*, cf. Gk. *ὑφαίνω*
- *minóti* 'fastens' < **mei̯-*, cf. OIr. *dodi-men* (denomin. from **minu-* according to McCone 1991: 14)
- *dhinóti* 'sucks (milk)' < **dʰeh₁i̯-*, cf. OIr. *denaid*, perhaps with analogical *dina-* (LIV: 131)
- *sinā́ti* 'binds' < **sh₂ei̯-*, cf. Latv. *sìenu* (LIV: 544 perhaps analogical to *syáti* and *sinóti*, same meaning, see EWA: 549)
- *anákti* 'anoints' < **h₂/₃engʷ-*, cf. Lat. *unguō*[11]
- *linā́ti* (mentioned in Dhatup. xxxi,31) 'smears' < **lei̯h₍₂₎-*, cf. Lat. *linō* (WH: 808)[12], Gk. *ἀλίνω* (Hesych.) 'anoint', both entailing a contact meaning

2.2.2. Greek

- *δάμνημι* 'I tie, subdue' < **demh₂-*, cf. OIr. *damnaid* (see below)
- *ζώννυμι* 'I belt, girdle' < **i̯eh₃s-*, from aorist stem *ζωσ-* (LIV)
- *θιγγάνω* 'I touch, hold' (often with genitive case) < **dʰei̯ĝʰ-*, cf. Lat. *fingō*[13]
- *ὑφαίνω* 'I weave' < **u̯ebʰ-*, cf. Skt. *unáp* (2sg. impf.)
- *πήγνυμι* 'I fix, plant' < **peh₂g-*, cf. Latin *pangō*[14]

2.2.3. Latin

- *fingō* ' I knead' < **dʰei̯ĝʰ-*, cf. OIr. *dinged*
- *tangō* 'I touch' < **teh₂ĝ-*
- *unguō* 'I anoint, smear' < **h₂/₃engʷ-*, cf. Skt. *anákti*
- *stringō* 'I tighten' < **streiǵ-*[15]
- *vinciō* 'I tie, bind' < **u̯i̯ek̑ʷ-* (innovative formation with *-ye/o-*; WH: 791; LIV: 606; de Vaan 2008: 679)
- *vincō* 'I conquer' < **u̯ei̯k-*, cf. OIr. *fích* 'fury', Goth. *weihan* 'fight', Lat. *vix*[16]

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10 This root is probably isolated in the Indo-Aryan sub-family (EWA: 352); the nasal present could be denominal from *granthaḥ* 'knot'.

11 Deep morphophonological difficulties relate to these forms: it is uncertain whether the laryngeal was *-h₂-* or rather *-h₃-*, which could be a prerequisite for the /u/ outcome in Latin. Moreover, neither the Sanskrit nor the Latin form are predictable starting from a nasal present **h₃n-n(e)-gʷ-*, so that some scholars have hypothesized a thematic present from a root **h₂engʷ-* (de Vaan 2008: 642).

12 The relationship with the Latin and the Greek forms is debated, cf. LIV, EWA.

13 "Bare activity verb" according to Mallory-Adams (2006: 369).

14 Perhaps true causative, if the form *compāgēs* 'framework, joint' (Pacuv., see WH II: 245) represents an ancient intransitive meaning of the root; see also de Vaan (2008: 442).

15 On the basis of words like *strigilis* 'oil-scraper', *stria* and *striga* 'strip', de Vaan (2008: 592) hypothesizes that a root **streiǵ-* 'to strip' merged with a root **strengʰ-* meaning 'to tie': nevertheless, nasal formations from **streiǵ-* are comparatively well attested (IEW: 1028).

16 Perhaps denominal factitive "start a fight". As a binding verb in de Vaan (2008: 679).

2.2.4. Old Irish

- *dinged* 'crushes, kneades' < *$d^heig̑^h$-, cf. Lat. *fingō*
- *denaid* 'sucks' < *$d^heh_1i̯$-, cf. Skt. *dhinoti*
- *damnaid* 'ties, fastens' < *$demh_2$-, cf. Gk. *δάμνημι*
- *glenaid* 'glues, sticks' < *$gleih$-
- *dodi-men* 'ties, binds' < *$mei̯$-, cf. Skt. *minóti*

2.2.5. Remarks

The morphological structures of the nasal presents presented above are mostly coherent with the template C(R)V(R)H/G-, as in the preceding class (§ 2.1.5), some exceptions probably being Sanskrit *minóti* and OIr. *-men* from a root *$mei̯$- ending in a sonorant. Gk. *ζώννυμι* seems like another exception as it comes from a root ending in *-s-*, but it is probably a Greek innovation, being back-formed from an acrostatic aorist (LIV: 311). As regards OI *denaid*, its genetic relation to Sanskrit *dhinoti* is debated for phonological reasons, so that some scholars hypothesize a denominal derivation from the noun *dina-* (Thurneysen 1946: 356). A close relation between Vedic *unap* and Gk. *ὑφαίνω* is debatable as the latter represents a morphological innovation (Rix 1976: 210).

From a semantic perspective, some problems affect the root *$d^heig̑^h$-, which gives rise to at least three nasal presents (Gk. *θιγγάνω*, Lat. *fingō* and OIr. *dinged*) with partially different meanings: Latin *fingō* became a generic activity verb, even if it maintains the ancient semantics of contact which is widespread both in Gk. *θιγγάνω* and in OIr. *dinged*.

Finally, I have assigned the nasal presents from the root *$demh_2$- to this sub-class because OIr. *damnaid* may have also a concrete meaning of binding (eDIL, s.v.).

2.3. First conclusions

Before trying to account for the diffusion of these kinds of nasal presents within IE languages, I would like to make some preliminary conclusive points.

From a comparative perspective, it is to be noted that non-inherited high-transitivity[17] nasal presents mostly seem attested in Sanskrit and in Latin, while Greek and Old Irish seem to be more conservative. Specifically, even if every nasal present considered above comes from common IE roots, many of them are the only traces of nasal morphology in historical languages. This means that the diffusion of nasal morphology for reduction or contact verbs was to some extent a possibility at an ancient common stage, but it did not affect the entire IE lexicon in the same way, which ensures us that it was relatively late.

As remarked above (§ 2.1.5, 2.2.5), the number of 'isolated' nasal presents increases if one considers that in some cases comparative data are doubtful, and in others formal innovations make it very difficult to reconstruct a unitary nasal present form (see Skt. *anákti* and Lat. *unguō*). In a number of other cases, the semantics of cognate nasal presents are not fully comparable (e.g. Gk. *θιγγάνω* and Lat. *fingō*).

As for their semantics and syntax, verbs of breaking, cutting, hitting on the one hand, and contact verbs (touching and binding) on the other seem to share at least some main properties, which allow us to treat both classes as unitary. The first obvious property regards the fact that each member of these classes is transitive, or, at least has basically transitive use.

17 According to Hopper-Thompson (1980), transitivity is not a discrete property, but can be thought as a continuum: at the higher pole there are verbs which typically entail an Agent and an affected Patient (the object, which gives telicity to the event). Cf. § 3.

This means that some of them may appear as intransitive verbs, but I would like to regard such cases as anti-causative constructions, i.e. as syntactic structures where the object, though structurally present, is not realized (cf. Gk. *μάρναμαι*).

Secondly, these classes usually entail an agentive subject. Consequently, in all tokens there is a high thematic distance between subject and object, which is one of the typical parameters of high transitivity according to Hopper-Thompson (1980); having an object, these verbs are inherently limited, so that they may acquire telic reading. Finally, neither contact verbs nor breaking verbs have intransitive counterparts and/or intransitive deverbal nouns: on the contrary, their roots are basically transitive, irrespective of the selection of the nasal morphology.

3. The grammaticalization of nasal morphology

Taking the two macro-classes to be unitary, at least as regards their comparative and morphosyntactic properties, it is now worth asking ourselves whether the application of nasal morphology was due to chance. In order to do so, it is necessary to consider the whole history of nasal presents as a functional category, paying attention to the semantic values they can have through the stages of Indo-European and to the kind of roots they can combine with.

Following Meiser (1993) and Villanueva Svensson (2011), it can be said that the first domain where nasal morphology applied were inchoative roots: nasal presents represented the transitive counterparts of other present formations, suffixed or unsuffixed, which had intransitive meaning, e.g. Skt. *ṛṇóti* 'incites'/Gk. *ὦρτο* (aor.) 'moves' (intr.).[18]

Meiser's claim accounts for a core set of verbs which show nasal presents in many IE languages and whose roots are well attested, so that it is possible to say that both the roots and their nasal formation are surely inherited. Thus, the structural configuration of a transitive nasal present associated with intransitive root formations is probably the most ancient distribution for nasal morphology or, in other words, the domain where nasal affixes became part of present stem derivation.

However, Meiser's proposal has some controversial points: beside many causative nasal presents, others are merely intransitive (not only within Balto-Slavic and Germanic, of course,[19] see e.g. Latin *-cumbō* 'lie down'), but some of them do have an inherent abstract object, which represents for instance a goal; that is, their argument structure entails an object position, which perhaps allowed them to receive telic interpretation and to take nasal morphology (e.g. Gk. *ἱκάνω* 'I reach' < **seḭk-*, *τυγχάνω* 'I achieve a goal, hit upon' < **dʰeu̯gʰ-*).

Some nasal presents, moreover, have low-transitive meaning, i.e. their objects are not affected by the verbal process, their subjects are not highly agentive, and an underlying intransitive process is not entailed. Thus, verbs like Gr. *ἁμαρτάνω* 'I make errors', *πίνω* 'I take a sip', Lat. *fungor* 'I enjoy', OIr. *crenaid* and Skt. *krīṇā́ti* 'pays, buys' mean 'make X' etc; that is, nasal morphology seems to act like a weak factitive operator, rather than like a true causative.

Finally, nasal presents for reductive verbs and contact verbs show another unexpected pattern, whereby nasal morphology, as shown above, may apply also to roots with original transitive meaning in a quite productive way.[20] The main morphological difficulty is that, from a systemic point of view, one should explain why in such cases nasal morphology seems

18 This model also holds where no overt intransitive verb stems are attested, but nominal formations with intransitive meaning do exist, e.g. Lat. *clīnō* beside *clīvus*, *cliens*, *sanciō* beside *sacer*, see de Vaan (2008: 532).

19 In these branches nasal presents are normally intransitive.

20 Differently from Lazzeroni (2004) I assume that nasal formations were originally restricted to transitivization of spontaneous processes, while **-eḭe/o-* causatives had a larger distribution.

meaningless or, in other words, what kind of linguistic change enabled it to select transitive roots as well.

Thus, I now consider the hypothesis that the semantics of nasal presents, as it is witnessed by historical data, was the consequence of some long-term grammaticalization processes which affected nasal morphemes, allowing them a larger distribution.

With respect to the early stages, I have claimed (Bertocci 2009) that nasal presents are the outcome of a morphosyntactic process in which past participles in *-*no* of roots indicating change of state or change of place were converted into verbal bases with causative meaning. This derivation entails that the very origin of nasal presents as a category was due to the possibility for past participle morphology to act as a causative applicative.[21]

Further evidence in favour of a coherent morphosyntactic process behind the rise of nasal morphology is offered by several nasal presents which have low-transitive meaning, but do not entail a change-of-state verb: in verbs such as Skt. *cinóti* 'urges' < **ĥe̯i̯-*, Lat. *cernō* 'I sift' < **ĥreh$_1$i̯-*, or Skt. *skabhnā́ti* 'props sth. up' < **skeb^h-*, the nasal presents do not have regular intransitive counterparts, nor do they present reduction or contact processes. Here, the verbal base to which nasal morphology applies denotes either the place in which an argument of the predication has been moved or the argument, mainly the instrument, which affects the syntactical object.

These two types do not behave similarly by chance, but they fit with the well known typological categories of location verbs and locatum verbs respectively.[22] In both cases, we are dealing with morphological operations which start from a constrained argument structure: location verbs convert their locative argument as base, while locatum verbs select another argument, basically the instrument (cf. English verbs like '*to shelve*' and '*to saddle*'). A strong relation, then, exists between these sub-groups and the proto-typical causative like *pr̥ṇā́ti*, where the element converted into a verbal base is the *-*no*-participle which predicates a state of the object. What keeps together these macro-classes, then, is that causativization applies on underlying processes whose argument structure hosts a small clause: a deep object is directly modified by a nominal element (a participle in the type 'to clean', a noun in the type 'to saddle/to shelve'), which is promoted to verbal head through application of nasal morphology.

4. Nasal morphology and high-transitivity verbs

Let us now turn to data, and consider whether it is possible to account for non-causative nasal presents as a result of a progressive grammaticalization,[23] starting from the properties I have identified above.

In verbs like Gr. *ἀμαρτάνω*, *δάκνω* etc. (see above), for instance, the argument structure does not entail any underlying process, nor a complex predication, and nasal morphology seems to select an abstract action noun ('error', 'bite' etc.). The constraints which ruled nasal

21 Romance languages and English commonly seem to use similar strategies: see Piedm. *pulidare* 'to clean' from the past participle *pulid*, Old Ital. *giontare* 'to join' < *gionta*, Engl. *activate*, *dictate* from (back-formed) *-ate* participles; a link between causative affixes and passive morphology is typologically well-known, e.g. in Korean, see Dixon (2000: 32). As to Latin, cf. the well-known frequentative verbs in *-(i)tāre* or *-sāre*.

22 In other words I hypothesise that in this kind of nasal presents the nasal elements behave as applicative heads and select for an argument, which corresponds to the verbal root. For instance, in *skabhnā́ti* (location verb, cf. Hale-Keyser 2002) *-nā* applies to the root *skabh-* which identifies the place where an object is located; on the contrary, in *cernō* (locatum verb), *-n-* is analysed as applying to a nominal root indicating the instrument of the verbal process itself.

23 I assume, following Bybee (1985), that the morphological categories of tense, mood, aspect and action are inherently susceptible to grammaticalization.

morphology, then, weakened, and it became available not only to intransitive verbal roots, or to place/instrument nouns, but also to abstract action nouns. The idea that nasal morphemes underwent grammaticalization is confirmed by the fact that, in such cases, they lost part of their actional meaning and became to some extent bare derivational morphemes (semantic bleaching).

In the light of this, it remains to be explained under which conditions nasal morphology could also spread to inherently transitive roots like those of reduction and contact verbs, whose argument structures are not as complex as the preceding ones. Thus, the selection of nasal morphology in similar conditions of redundancy requires at least two conditions: semantic bleaching (i.e., nasal morphemes are no longer causatives), and, crucially, some "triggering" properties which reduction/contact root verbs shared with the verbs of the type 'to fill'.

In order to understand this, I call attention to the fact that reduction and contact verbs all entail agentive subjects and the presence of an object, even if it is not always affected; furthermore, some of the predicates involved may be related to underlying intransitive processes (e.g. like 'to break', 'to smear', 'to extinguish', cf. Levin 1993), even though their roots show no historical trace[24] of this. Finally, many reduction/contact verbs – just like many proto-typical nasal presents – have an inherent telic meaning (e.g. Lat. *rumpō*, *tangō*, *vincō*).

These similarities are important because, following Hopper-Thompson (1980), transitivity is not to be considered a unitary category: rather, from a typological point of view, it is made up by a definite set of parameters, to which the characteristics outlined above crucially belong.

Therefore, the selection of nasal morphology also for reduction and contact verbs makes sense if one considers that nasal presents pattern as a proto-typical class, in a Roschian model:[25] once one lexical item possesses at least some of the main properties which identify the morphological class, it can be included in that class, and may take on nasal morphology, although it does not satisfy the entire intentional set of the class.

5. Conclusion

To conclude, the appearance of nasal morphology in verbs of reduction and contact may be explained as the result of a grammaticalization process which has affected nasal morphology since a common IE stage (some of the verbs here considered seem inherited), but also went on during the history of individual languages (most of these processes are idiosyncratic). Although the original nucleus of nasal presents was transitive verbs with causative alternation in the sense of Dixon (2000), the category was able to spread to other environments: locatum/location verbs, bare factitive verbs with an underlying action noun, and finally, transitive roots which attracted nasal morphs as markers of high transitivity. It is important to note that this passage was not simply analogical; rather, it was a predictable consequence of three factors: (i) some distinctive grammatical parameters of lexical bases and nasal morphology; (ii) the compositional nature of transitivity; (iii) the behaviour of nasal presents as a Taylorian class.

Many problems remain unexplained, of course. One possible objection deals with the impossibility of explaining why some reduction/contact verbs like Lat. *findō* or *tangō* show nasal presents only in some languages, while others like Lat. *terō* < **ter-* or Gk. *κείρω* 'I cut' < **ker-*[26]

24 For instance, the only remnant for an intransitive meaning of the root **ǩleu̯-* (*clīnō*) is found perhaps in Lat. *cliēns* (WH I:235); as to Lat. *fŭndō*, only the Greek adverb *χύδην* 'wholesale' (WH I:563) may represent an intransitive counterpart.

25 Cf. Taylor (1995: 190ff).

26 But cf. Skt. *kṛṇā́ti*, perhaps analogical to *śṛṇā́ti*, see EWA (257).

do not have nasal presents at all. The topic is complex inasmuch as IE linguistics cannot aim at complete predictions, being constrained by gaps and intrinsic variation; this shall hold especially when one considers complex grammatical processes like the grammaticalization outlined above. Another aspect which could be investigated is the relation between semantics and morphological complexity within different IE languages; in particular, the well-known allomorphy between several kinds of nasal formations could be considered in the light of the massive changes which affect the semantics of nasal presents.

Although it is not aimed at clarifying the origin of nasal presents as such or their morphological reconstruction, the present study may nevertheless contribute to manage the great variety of semantic and syntactic properties which affect nasal presents: in particular, it seems possible to show that the different semantics of nasal formations in historical languages are not due to chance, but to regular morphosyntactic processes whose origin date back to the common IE lexicon and morphology.

More specifically, it seems interesting to highlight that the data here gathered, as well as the explanation I have proposed, may reveal that the role of nasal morphology in the building of the IE lexicon was much more complex than has been supposed so far: the diffusion of nasal presents in unexpected lexical domains sheds light on a history in which it is very difficult to reconstruct what is 'inherited' and what is 'innovative', as even the most striking changes arose as a predictable consequence of ancient grammatical properties.

References

Bertocci, Davide. 2009. Nasal presents and weak transitivity: evidence from Sanskrit and Latin. In Kateřina Ludová & Marie Žáková (eds.), *Early European languages in the eyes of modern linguistics,* 37–47. Brno: Masaryk University Press.

Bybee, Joan. 1985. *Morphology. A study of the relation between meaning and form.* Amsterdam & Philadelphia: John Benjamins.

Dixon, Robert M. W. 2000. A typology of causatives: form, syntax and meaning. In Robert M. W. Dixon & Alexandra Y. Aikhenvald (eds.), *Changing valency. Case studies in transitivity,* 30–83. Cambridge: University Press. .

eDIL = *Electronic dictionary of Irish language.* http://www.dil.ie/ (July 2012/Aug. 2013).

EWA = Manfred Mayrhofer. 1956–1976. *Kurzgefaßtes etymologisches Wörterbuch des Altindischen.* Heidelberg: Winter.

Hale, Kenneth & Samuel J. Keyser. 2002. *Prolegomena to a theory of argument structure.* Boston: MIT Press.

Hopper, Paul J. & Sandra A. Thompson. 1980. *Transitivity in grammar and discourse.* Language 56(2). 251–299.

IEW = Julius Pokorny. 1959. *Indogermanisches etymologisches Wörterbuch.* Bern & Munich: Francke.

Kulikov, Leonid. 2011. Passive to anticausative through impersonalization. The case of Vedic and Indo-European. In Andrej Malchukov & Anna Siewierska (eds.), *Impersonal constructions. A cross-linguistic perspective,* 229–254. Amsterdam: Benjamins.

Lazzeroni, Romano. 2004. Inaccusatività indoeuropea e alternanza causativa vedica. *Archivio Glottologico Italiano* 89(2). 139–164.

Leumann, Manu. 1977. *Lateinische Laut- und Formenlehre.* München: Beck. (Neuausg. der 5. Aufl.)

Levin, Beth. 1993. *English verb classes and alternations.* Chicago & London: University of Chicago Press.

LIV² = Helmut Rix et al. (eds.). 2001. *Lexikon der indogermanischen Verben.* Wiesbaden: Reichert. (2., erw. und verb. Aufl.)

Mallory James P. & Douglas Q. Adams. 2006. *The Oxford introduction to Proto-Indo-European and the Proto-Indo-European world.* Oxford: Oxford University Press.

Matasović, Ranko. 2009. *Etymological dictionary of Proto-Celtic.* Leiden & Boston: Brill.

McCone, Kim. 1991. *The Indo-European origins of Old Irish nasal presents, subjunctives and futures.* Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.

Meiser, Gerhard. 1993. Zur Funktion des Nasalpräsens im Urindogermanischen. In Gerhard Meiser (ed.), *Indogermanica et Italica. Festschrift für H. Rix zum 65. Geburtstag,* 289–313. Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.

Milizia, Paolo. 2004. Proto-Indo-European infixation rule. *Journal of Indo-European Studies* 22(3–4). 337–359.

Rasmussen, Jens E. 1990. Zur Abbauhierarchie des Nasalpräsens – vornehmlich im Arischen und Griechischen. In Helmut Rix & Heinrich Eichner (eds.), *Sprachwissenschaft und Philologie: Jacob Wackernagel und die Indogermanistik heute,* 188–201. Wiesbaden: Reichert.

Rix, Helmut. 1992. *Historischen Grammatik des Griechischen. Laut- und Formenlehre*. Darmstadt: Wissenschaftliche Buchgesellshaft. (2., korr. Aufl.)

Rix, Helmut. 1995. Einige lateinische Präsensstammbildungen zu Seṭ-Wurzeln. In Wojciech Smoczyński (ed.), *Kuryłowicz memorial volume*, vol. 1 (Analecta Indoeuropaea Cracoviensia 2), 399–408. Cracow: Universitas.

Scheungraber, Corinna. 2012. Nasal suffix verbs in Germanic and Kluge's law. In H. Craig Melchert (ed.), *The Indo-European verb,* 295–304. Wiesbaden: Reichert.

Schumacher, Stefan. 2004. *Die keltischen Primärverben.* Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.

Strunk, Klaus. 1967. *Nasalpräsentien und Aoriste.* Heidelberg: Winter.

Taylor, John R. 1995. *Linguistic categorization. Prototypes in linguistic theory*. Oxford: Clarendon Press. (2nd ed.)

Thurneysen, Rudolf. 1946. *A grammar of Old Irish.* Dublin: The Dublin Institute for Advanced Studies.

de Vaan, Michiel. 2008. *Etymological dictionary of Latin and the other Italic languages.* Leiden & Boston: Brill.

Villanueva Svensson, Miguel. 2011 [2012]. Anticausative-inchoative verbs in the Northern Indo-European languages. *Historische Sprachforschung* 124. 33–58.

WH = Alois Walde & Johannes B. Hofmann. 1938. *Lateinisches etymologisches Wörterbuch.* Heidelberg: Winter. (3., erw. und. neubearb. Aufl.)