ON INDO-EUROPEAN E ~ O

SOBRE E ~ O INDOEUROPEAS

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Abstract: The proposal of Schmitt-Brandt (1973) of tracing most of the /e/ and /o/ documented in Indo-European languages to an ancient short tonic */a/ and to an unstressed */a/ respectively is beset with numerous difficulties, while many indications, on the contrary, rather point to the fact that the historical /e/ had its main origin in an ancient short but unstressed */a/, and the historical /o/ likewise in an ancient brief but tonic */a/.

Keywords: Proto-Indo-European, phonology, /e/ vowel, /o/ vowel.

Resumen: La propuesta de Schmitt-Brandt (1973) de remontar la mayoría de las /e/ documentadas en las lenguas indoeuropeas a una antigua */a/ breve tónica choca con numerosas dificultades, mientras que muchos indicios apuntan más bien a que la histórica /e/ tuvo su principal origen en una antigua */a/ breve, sí, pero átona, y la histórica /o/ en una antigua */a/ breve, sí, pero tónica.

Palabras clave: Indoeuropeo, fonología, vocal /e/, vocal /o/.
In his doctoral thesis 1967 (= 1973), anticipated in an article of 1966 (*non uidimus*), Robert Schmitt-Brandt had the courage to make one of the few attempts to propose to restore, at least partially, the venerable Boppian vowel pattern of three vowel sounds, */a i u/*, as the original pattern of the Indo-European linguistic matrix, the operational pattern in the discipline of Indo-European Linguistics until the time of Karl Brugmann, that is to say, until the end of the 19th and beginning of the 20th centuries. In the classic version of the model with three vowel sounds — as represented in Sanskrit, considered at that time the most venerable and archaic of the Indo-European languages then known — one of the pending problems was to explain the origin of the */e/* and */o/* that we find in practically all Indo-European historical groups from that original trivocalic pattern with */a(:) i(:) u(:)/. The proposal of Schmitt-Brandt consisted basically in deriving from a short tonic */a/* most of the historical */e/* and from a short unstressed */a/* most of the historical */o/* (1973: 114-130), thus holding that “in Indo-European vocalism */a/* is older than vocalism */e/* */o/* (1973: 113).

We say *basically*, because the German author, following in great detail the analogical situation of classical Arabic — with its original pattern */a(:) i(:) u(:)/, like so many other languages — also proposed both the maintenance of the old */a/* as well as changes from the original brief */a/* either to */e/* or to */o/* depending on the consonantal context: greater resistance of */a/* in generally guttural contexts, change to */e/* in coronal contexts and a tendency to */o/* in labial contexts (Schmitt-Brandt 1973: 92-113). On the other hand, changes such as the creation of */e/* and */o/* from the diphthongs */ai/* and */au/* respectively occurred *ante oculos* in the very same history of Sanskrit and many other Indo-European languages. Of course, from the typological point of view, this proposal is very well founded in practically all its extremes, since most of the changes envisaged by Robert Schmitt-Brandt occur in a banal way in many languages of the world, beginning with the frequent change of the vowel sound in the unstressed position to the phonematization of ancient merely allophonic oppositions. There were, however, a couple of points — but crucial points — where Schmitt-Brandt’s proposal not only did not have typological support in its favor, but also, as can now be reliably demonstrated, had typological

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1 “der a–Vokalismus im Indogermanischen älter ist als */e/* */o/*”. 
support precisely against it: the passage from */a/ to /e/ in the tonic position and the passage from */a/ to /o/ in the unstressed position, since the typological material supports precisely the opposite processes. Even without going into the particular examination of phonetic changes, there were also some previous general reasons or at least very good indications to defend the possibility of evolution just contrary to that defended by the German author on this point, to defend, therefore, */a/ → *[ɛ] → /e/ and */ˈa/ → *[ɔ] → /o/. Here are the main arguments, data or indications in favor of this specific counterproposal.

Accepting the existence of an accent—a single accent per word—in the Indo-European matrix, as is the case in most documented languages, we must first point out an argument of a, say, statistical nature. Indeed, although naturally we cannot make any computation on a purely reconstructed linguistic continuity and, therefore, without any direct documentation, it seems reasonable...
to suppose that, apart from monosyllables and an undoubtedly large group of disyllables, that language would also have trisyllables and other polysyllabic words—more expected in marked words (usually more peripheral, plural cases, certain verb modes ...)—and that, consequently, would, like most languages, have more unstressed syllables than stressed syllables. Now, which of the two vowels, /e/ or /o/, is more frequent in Indo-European languages? Although, as we said, here we cannot have empirical quantitative studies, it would suffice, among other reasons, to adduce the fact that the supporters of a model with original vowels /e/ and /o/ accept, without hesitation, as considerably more frequent the first of the two vowels, to the point that they reconstruct it as original in its roots—usually triliteral for these authors, as is known—type CeC: “The Indo-European root is monosyllabic, triliteral, composed of the basic vowel ĕ between two different consonants”\(^2\) in the classical definition of the main champion of this theory, Ezra sive Émile Benveniste (1973: 170).

All this in line with the fact that in historical Indo-European languages that have both /e/ and /o/, it seems clear that the first vowel is more frequent. Therefore, it must be concluded that, since there are more /e/ than /o/ in Indo-European historical groups, the most logical and economic hypothesis is to suppose that the historical /e/ of Indo-European languages would go back to an unstressed /a/ rather than a tonic /ˈa/, as otherwise we would have expected a lower frequency of /e/ and a higher of /o/. In a relatively common trisyllabic sequence, as in Hittite uetenaš (ue-te-na-aš) ‘water’ (genitive) or Greek φέρομεν ‘we bear’, where, as in so many other sequences in Indo-European languages we find /e/ as the most frequent vowel, \textit{a priori} and all things being equal it is obviously easier to explain /e/ as a result of several */a/* in unstressed syllables than as a result of a single */a/* in a stressed syllable.

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The principle that the greater the polysyllabism, the greater the presence of atones to be expected, would also be applicable to one of the most conspicuous testimo-

\(^2\)“La racine indo-européenne est monosyllabique, trilitère, composée de la voyelle fondamentale ĕ entre deux consonnes différentes”.

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On Indo-European apophony or Ablaut, in which we frequently find ourselves, for example, in the face of a situation in which nouns and verbs of the same root are characterized by the vocalism /e/ and /o/ respectively, thus in the famous pairs of the type Greek λόγος ‘account – consideration – reason’ but λέγω ‘I pick up – I count – I recount’ (cfr. Latin lego ‘I pick up – I choose – I read’) or Latin toga ‘toga – outer garment’ (cfr. Lithuanian stogas ‘roof’) but tegō ‘I cover’ (cfr. Greek στέγω ‘I keep off’). Here it should be remembered that according to some scholars, such as Mańczak (1997), notoriously, the -ō in tegō would in fact represent an ancient sequence *-omi. Now, since in general the Indo-European verb must present a greater polysillabism than the noun —it is enough to think of the greatest number of words corresponding to the greatest number of morphological categories of the verb: aspect, mood, person, time, voice...—, the logical thing is to suppose that the /e/ in the syllable of the verbal stem here originally represented, at least in most cases, an unstressed vowel.

The morphological expedient of total or partial reduplication, is an outstanding phenomenon well recognizable in many languages of the world with different meanings, such as its use as a plural mark in some languages, Indonesian type anjing-anjing ‘dogs’ or rumah-rumah ‘houses’ (Himmelmann 2005: 121). Some Indo-European languages —Gothic, Greek, Indo-Iranian, Irish, Latin— only testify to a greater or lesser extent a common operative reduplication: the iteration of the initial syllable in its structure CV as a mark of the perfect in the verb, type λέλοιπα ‘I have left’ as opposed to λέιπω ‘I leave’, Irish canim ‘I sing’ – ccechain ‘I sang’ or Latin tetigi ‘I touched’ as opposed to tango ‘I touch’. Although we do not know of specific typological studies on the accentuation or not of this type of reduplication in the languages of the world, the significant fact that the reduplication in no case reflects the common triliteral root CVC but is limited to the basic segment CV (cfr. Latin mordeo ‘I bite’ but momordi or memordi ‘I bit – I have bitten’ and not †mermordi nor †mermodi; curro ‘I run’ but ccurri ‘I ran’ and not †cucurri nor †curcuri) suggests that at least originally the strong syllable, so to speak, was the one that still contains the root structure in its entirety and this would therefore be the stressed
syllable, since, if it were not so, we would expect syllabic wear to have been produced on that same syllable. Consequently, we must start from the premise that before the various readjustments in the position of the accent took place in the evolutionary course of the various different languages (Latin memˈordi but tˈetɪɡi), the accent did not fall on the reduplicated syllable.

Well, it should be noted that, outside of some assimilation (type Latin mo-mordi) regularly /e/ is the majority vowel in reduplication in historical Indo-European languages: “reduplication is regularly in e […] and either reproduces an i or a u of the stem”⁴ (Meillet 1984: 102); that is: if the stem contains i or u, the vowel of the reduplication is respectively /i/ and /u/, this is generally the case in (insular) Celtic (McCone 2005: 221), Indo-Iranian and Latin. Similarly, the fact that the reduplicated vowel seems never to be long, although the stem vowel may be, suggests that the reduplicated vowel was therefore originally unstressed and short (cfr. below Sanskrit cakāra ‘s/he did’).

The above, mutatis mutandis, can also be applied to another prefixal mark of the verb tense in the historical Indo-European languages, such as the so-called augment or presence of a vowel in the past tenses, a phenomenon documented in three geographically close linguistic groups but—at least historically—not contiguous: Old Armenian (eber ‘s/he took’), Classical Greek (ἔφερε ‘s/he took’) and Indo-Iranian (Sanskrit ἀβharat ‘s/he took’), where, in addition, the augment appears as potestative or facultative but not mandatory in the oldest texts, in which it is even scarce, as well in Avestan or in Homeric Greek (Meillet 1984: 97). Again the vocalism /e/ —and not /o/— is documented, thus, although historically it sometimes appears as a tonic element, due to its probable proclitic origin we assume that at some point it must have been unstressed.

⁴ “le redoublement est régulièrement en e […] ou reproduit un i ou un u de la racine”.

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**Vice versa:** in the very few Indo-European words that we can reasonably reconstruct as unstressed, the presence of /e/ is observed. The best testimony is the enclitic conjunction — that is, unstressed — for ‘and’: Avestan -ča, Bulgarian -ce, Celtiberian -cēs, Greek -τε, Latin -que, Lepontic -pe, Lycian -ke, Sanskrit -ca, Venetic kve… where, as we can see, the presence of /e/ is clearly predominant, not the vowel /o/.
In turn, the palatalization of the velar consonant that we observe in the Indo–Iranian group (‘and’ Avestan -ča, Sanskrit -ca) for the enclitic just cited indirectly suggests that the short and unstressed /a/ knew a more palatal allophonic or anteriorized variant, a pronunciation close to [ɛ] or [e], to more easily explain the palatalization of the ancient /k/: *[kwa → ka → kɛ → tʃɛ].

On the other hand, it is known that one of the most canonical alternations between Indo-European /e/ and /o/ is found in the contrast between nominative and vocative in the so-called thematic stem with cases as clear as that of the Greek λύκος ‘wolf’ ~ λύκε ‘wolf!’ or Latin lupus ‘wolf’ ~ lupe ‘wolf!’.

To the question of whether it is more likely that there has been a change in accental position in *λυκός – *lupús or in *λυκέ – *lupé, it can only be said that the nominative case seems like a much better candidate. The nominative was probably a genitive turned ergative in a previous agglutinating pattern and, therefore, provided with an ending. On the other hand, it would be enough to invoke here the verification of the absence of an ending as a mark of the vocative in the Latin type Acci, Cæli, Titi with respect to their respective nominatives Accius, Cælius, Titius (see Gellius 14,5,2) to maintain by analogy that the vocative type λύκε – lupe does not contain any ending. As a matter of fact, the zero mark for the vocative is rebuildable for the Indo-European pool and it is also in fact documented for cases such as the Lithuanian (bròli ‘brother!’) or in the Gothic piudan! ‘king!’ or sunu! ‘son!’ in contrast to the nominatives piudans and sunus or in the Sanscrit aśva (‘horse!’) in contrast to the nominative aśvah ‘horse’ and devi (‘goddess!’) in contrast to the nominative devī ‘goddess’.

The typology further supports this assumption. Indeed, the vocative is similarly unmarked in many languages, such as the South African Oshikwanyama, where you lose the o- of the nominal class prefixes o-, omu-, oshi- and ou- or the prefix e-: ohamba but hamba! ‘chief!’ or eyoka but yoka! ‘snake!’ (Zimmermann & Hasheela 1999: 9) or as in Akkadian (Malbran-Labat & Vita 2005:...
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48). In short, where the minimum nominal stem would be expected, the vocative often appears, parallel to what happens with the imperative in verbs, as “imperatives proper often have zero expression” (Greenberg 2005: 47), such that mutatis mutandis the above is applicable to the /e/ of the imperative in the Greek type ἄγε ‘come on!’ and latin age ‘come on!’ . It is, therefore, more likely that, for example, a type of phenomenon such as the retraction of the accent that we see still operative in classical Greek and Latin could be applied in sequences provided with an ending (genitive → ergative → nominative: *λυκόςV – *lupúsV) than where no ending is expected (vocative).

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The testimony of the Indo-European vowel prosthesis is not very decisive. First of all, it is a phenomenon that occurs in only two Indo-European languages: Armenian and Greek. In addition, many scholars do not accept the interpretation of the phenomenon as a vowel prosthesis, but rather see it as another case of the emergence of a laryngeal. Third, there are the three vowel sounds in dispute: /a e o/. Finally, the phenomena of epenthesis, prosthesis or the like do not always mean that the vowel that arose out of nowhere is unstressed (e.g. German Franz → Hungarian Ferenc, with the first stressed vowel: [fˈɛrɛnc]; Latin libru– → Basque liburu /libˈuru/…), although it is usually: Latin rege-‘king’ → Basque errege with the first /e/ unstressed.

While in Armenian the vowel is normally a, in Classical Greek we find more variety, even as an indication, it must be said that /e/ has a majority presence: Greek ἐλαχός ‘small’ (cfr. ‘light – slight’ Gothic leihls and German leicht, Latin leuis, Lithuanian leìgvas or lengvûs, Sanskrit lagûś-, Old Slavic lęgъkъ and Polish lekki…), Greek ἐλεύθερος ‘free’ (cfr. German Leute, Latin liber, Russian люди…), ‘nine’ is in Armenian inn and in Greek ἐννέα (cfr. Albanian nëntë, Breton and Cornish nau, Gothic niun, Old Indian náva, Latin nouem, ŋu in both Tocharians, Welsh naw…), Greek ἐρεύγομαι ‘I barf – I burp’ (cfr. Latin rūctō ‘I burp’), Greek ἐρυθρός ‘red’ (cfr. Gothic rauþs, Old English réod, Old Icelandic raúða, Irish ruadh, Latin ruber, Lithuanian raudónas, Sanskrit rudhirāḥ, Serbian rûd, West Tocharian ratre, Umbrian rofu and rufru, Welsh rhudd…).
A process */a/ → /o/ and not vice versa is also suggested by the fact that the so-called Old European hydronymy (in German alteuropäische Hydronymie), considered almost unanimously as belonging to a stratum older than that of the historical Indo-European groups, shows up where some of these groups historically present /o/, as the same Schmitt-Brandt (1973: 112) already saw: “the Old European river names frequently present vocalism a where the corresponding Indo-European denominations would allow the vocalism o”⁴. In the words of Villar (1991: 166): “it is /a/ and not /o/ in Old European and in general in the older languages”⁵.

On the other hand, within the wide range of Indo-European linguistic groups there are languages with the pattern of three vowel sounds /a i u/, as in Luwian and Sanskrit, a vocalic pattern that we may reconstruct for the large Indo-Iranian group as well and at least for Tocharian a — also called East Tocharian — where a corresponds very frequently in Tocharian b to e or to o (Winter 1993: 185-6). There are also languages with four vowel sounds /a i u e/, like Hitite, and languages with five /a i u e o/, such as Latin or Greek. Now we have no documented phonemic pattern in historical Indo-European languages of the type †/a i u o/, that is to say: where /o/ exists, but /e/ doesn’t.

In fact, a great variety of phonotypological data point to a general precedence of /e/ over /o/, since the coronal phoneme /e/, like all coronal phonemes, enjoys virtually a greater articulatory field and thus, for example, “The number of height distinctions in front vowels is equal to or greater than the number in back vowels” (Crothers 1978: 137; see also Ladefoged 2001: 159-160). Patterns based on four basic sounds */ a i u o /, although existing, as in Adzera, Amahuaca and Jivaro (see Crothers 1987: 139), are extremely rare. Well, this circum-

⁴ “die ‘alteuropäischen’ Flußnamen häufig a–Vokalismus aufweisen, wo die entsprechenden indogermanischen Appellativa o–Vokalismus erwarten ließen”.

⁵ “es /a/ y no /o/ lo que hay en antiguo-europeo y en general en las lenguas más antiguas”

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stance is again, *pace* Schmitt–Brandt, evidently more in harmony with a greater presence of /e/, as the oldest phoneme, in Indo–European languages with the 5 basic sounds. Likewise, what has been said suggests a chronological process: */a i u → a i u e → a i u e o /* for Indo-European vocalism, congruent in turn with the data of the modern typology. In this regard it should be remembered

a) that in a three vowel system the allophonic areas “are larger and more vague than in a more complex system” (Crothers 1978: 109),
b) that “All languages have /i a u/” (Crothers 1978: 115, 134 and 136), and
c) that “Languages with five or more vowels have /ε/”. They generally also have /ɔ/” (Crothers 1978: 116 and 136, see also 134).

Vowel hierarchy predicted according to Crothers (1978: 114 fig. 10)

It seems, of course, clear that there was a phase */a i u e/ in the development of the historical Indo-European groups and indeed some authors consider that for the Indo-European linguistic matrix the “oldest model that we can reconstruct consists of four vowels (a/e/i/u)”6 (Villar 1991: 168). Thus, “The Germanic languages have a/o confused like the majority of the Indo-European languages (Baltic, Slavic, Indian, Iranian, Illyrian, Thracian, Dacian, Anatolian languages, Old European, Pelasgian)”7 (Villar 1991: 323). This detail also indicates that the pattern */a i u e/ would be earlier than the pattern */a i u e o/.

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6 “más antiguo que podemos reconstruir consta de cuatro vocales (a/e/i/u)”.
7 “las lenguas germánicas tienen a/o confundidas como la mayoría de las indoeuropeas (báltico, eslavo, indio, iraní, ilirio, tracio, dacio, lenguas anatólicas, antiguo europeo, pelásgico)”. 

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Another argument in favor of this would be the indication of the larger area: “the languages that have a single vowel are somewhat more numerous […] So that the larger area would in any case be the one formed by the /a/ languages. And they are also the ones that constitute the oldest phase” (Villar 1991: 166). The fact is that there are a few more Indo-European groups with indistinct /a/ and /o/ than groups with /a/ and /o/ distinct. Furthermore, “the comparative drawback of assuming that Indo-European had differentiated a/o is the lack of a reason why an innovation as unpredictable as the confusion of the two takes place in so many dialects and so far apart from each other” (Villar 1991: 165).

In favor of the fact that the indistinction between /a/ and /o/ is older than the distinction between the two in Indo-European there is also the fact that “the same linguistic tradition is attested first as a/o language and then as /a/ language, does not occur on any known occasion” (Villar 1991: 165), that is to say, we have always /a → a o/, but not †a o → a/. The detail is again congruent with the aforementioned presence of /a/ and not of /o/ in the Old European hydronymy.

Furthermore, in Indo-European languages with the pattern /a i u e/, when [o] appears, this sound is normally considered, as already anticipated, a mere allophonic variant precisely of /a/. As a matter of fact, the evidence that /o/ can be analyzed phonematically as the equivalent of /a:/ in some Indo-European languages or groups directly suggests that /o/ could have arisen as a variant of a strong */a/, either from a long */a:/ —as it seems to be certainly the case—or possibly also from a strong */ˈa/. For example, “The attested Germanic
languages have only short a and long ō” (Pulleyblank 1965: 90) and would be numerous examples that “certainly seem to indicate earlier *ā giving later ō in primitive Germanic” (Pulleyblank 1965: 90). The testimony of the Lithuanian language is also clear, where /o/ always represents a long vowel ([oː]) and clearly enters into phonological, morphological and lexical distribution with /a/, *exempli gratia* nominative nāmas ‘house’, genitive nāmo or, even more clearly, nominative galvā ‘head’, genitive galvōs (cfr. Old Latin ‘family’ nominative familia, genitive familias), such that [oː] has functioned in Lithuanian as a historical long correlate of [a], so it can be understood as originally a variant of /aː/ (cfr. also matches like ‘brother’ Latvian brālis, Lithuanian brólis, Old Prussian brote/ brāti etc.; see Dini 2014: 103). In Lithuanian, only in recent times short /o/ has been integrated into foreign words, such as òpera ‘opera’.

The phenomenon is also manifested synchronously in the fact that many inventories show some incompatibility between /a/ and /o/, thus either the complete series type /a o aː oː/ doesn’t exist or /o(ː)/ appears [only] as a phonomorphological variant of /a/. In Middle Persian *sive* Pahlavi we have /a aː oː/ but not /o/ (Weber 1997: 611-612). It also seems clear the passage from an old /aː/ tonic to o in Tocharian b, for example, *ost* ‘house’ as opposed Tocharian a waṣt ‘house’ and Vedic vāṣtu ‘house’ (Hackstein 2017: 1313). Much more difficult would be to find a situation like /a: o/ with /aː/ as a long correlate of /o/.

To summarize, as Kümmel (2012: 308) points out: “the fact that *o* grades seem to be rather typical for strong stems in general and appear only very rarely in weak stems does not agree well with the hypothesis that the *o–grade was some kind of variant of the zero grade […] there is even some evidence for a greater phonetic strength of PIE *o […] In some IE languages, its development seems to presuppose a vowel that was “stronger” than the other non-high vowels *e* and *a”.

Turning now to the field of linguistic typology, it should be noted that in a general way a weak, short or unstressed vowel is more frequently associated with a —apparently more comfortable and relaxed— front or raised pronunciation. In Digor Ossetic we find [*a → æ] but [*aː → a] (Testen 1997: 722-723).
Swedish “Short /a/ has a front pronunciation, and long /a/ a back pronunciation with a weak rounding” (Andersson 2002: 272). Also in the languages of the Silte group the /a/ can be raised to [æ] (Gutt 1997: 510). In Balochi, especially in Eastern Hill Balochi /a/ “tends in unstressed syllables to [ɐ]” (Elfenbein 1997: 766). In Middle English we have stages like nama → name or beran → beren ‘bear’, since “Weak vowels, especially in final position, were levelled to e” (Campbell 2000: 508). We also regularly have unstressed a → e in many word endings in French: rose ‘rose’ in contrast to Italian or Spanish rosa. We find these stages also in Italian dialects, like this spóse ‘wife’ in the dialect of the island of Ischia (Cavazza 2001: 207). In Valencian also some old -as in unstressed Latin words passed, as in French, to /es/ (Latin rosas → roses ‘roses’; Latin donas ‘you donate – you bestow’ → Valencian dones ‘you give’).

Being very frequent e as a result of an atonic, brief or weakened a, a phenotype of lenition $A \rightarrow E$ might be formulated.

![Vowels (The International Phonetic Alphabet)](image)

Conversely, in a general way a strong, long or tonic vowel is more frequently associated with a more rounded pronunciation. Thus, the passage from $a$ to $o$ is already documented, for example, in Old Egyptian around 1200 BC, when we find the change from tonic /aː/ to /oː/, with subsequent relapse around 400
AD from /a/ tonic to /o/ in the two major dialects (Loprieno 1997: 443 and 452). We are speaking about the so-called Canaanite vowel shift from \( \ddot{a} \) to \( \ddot{o} \), well known to semitists and considered by Faber (1997: 5) “a relatively natural change”. In Phoenician this change reached not only the original \( \ddot{a} \) but also the \( \ddot{a} \) that developed secondarily under the accent: */\( \dddot{a} \) → aː → oː/ and thus we have *′\( \dddot{a} \)dām → *′\( \dddot{a} \)dām → ADOM ‘man’ (Segert 1997: 61). In Old Hebrew we also find [aː → oː], thus ʃalōm ‘peace’ as opposed to the Arabic salām (Rendsburg 1997: 77). We also find the Canaanite shift in Classical East Syriac, where it “seems to reflect an areal phenomenon that has persisted from ancient Canaanite through modern Arabic dialects” (Daniels 1997: 134). In Modern Aramaic of Amadiya “aː is rounded and raised to [ɔː], almost [o]” (Hoibergen 1997: 324). In Pashto /aː/ is pronounced [aː oː] depending on the dialect (Elfenbein 1997: 748, 751) and in Afridi Pashto we find the step from /aː/ tonic to [oː] or [oː] (Elfenbein 1997: 751), but also historically the Iranian a has changed to o in Pashto, thus in Avestan ʃaθwarō → calor ‘four’ (Skalmowski 1986: 185). Also in Tajik historically there was a step \( \dddot{a} > o \) (Skalmowski 1986: 167). Similarly there is ˒ān > ˒ō[n] in Balochi (Elfenbein 1997: 764), in its Sarawani dialect, spoken in Iran, “some speakers tend to adopt [aː] for /aː/ in the Persian manner” (Elfenbein 1997: 763). In Lashari and Sarawani dialects of Balochi [aː] “is freely rounded to [aː] in a stressed position” (Elfenbein 1997: 766). In Ossetic many /o/ would come from [aː] before a nasal consonant, e. g. *nāman → Iron Ossetic nom ‘name’ and Digor Ossetic non (Testen 1997: 722). In Slavic the alternation between unstressed /a/ and tonic /o/ (or [vo]) is well known, thus in Belarusian ‘window’ akmó (акно) but in plural vőkný ( вокны). Slavic material shows the prevalence of tonicism as a mark for /o/ versus /e/ well, thus in Russian we have vestí ‘carry’ but věl ‘he carried’ ([vjoł]) and in Belarusian dialects we find variations like sjascër ~ sjëstraũ ‘of the sisters’. The Latin vowel a tonic and in an open syllable (that is, [aː(ː)]) became [u|wɔ] in Dalmatian, thus the ancient capra ‘goat’ became kuobra. For Proto-Germanic, as we have seen, a complementary contrast between /a/ and /oː/ is conjectured (Lehmann 2002: 23). The change is so natural that it also occurs sporadically in other languages, for example, English stān → stone (Hopper 1990: 151). In Burushaski “[o] is found only in a stressed position” (Andersson 1997: 1029). Also with diphthongs the solution can be
the same, as we see, for example, in the Sahidic Coptic, where “the diphthongs */ˈaj/ and */ˈaw/[…] regularly yield */ˈoj/ and */ˈow/” (Loprieno 1997: 453).

Being very frequent o as a result of a long or strong, tonic a, a phenotype of fortition ‘A → ‘O could be formulated parallel to the one observed of A → E.

The varied casuistry of contrast / e ~ o / documented in Indo–European between the various historical groups, languages or dialects better match the formula */a → e/ and */ˈa(ː) → o/, since we see it clearly works in correspondences that present all the characteristics that point to a common and very ancient phase. Both tendencies often appear as parallels naturally in some languages. Thus, in southern Semitic we find steps of the type */katˈaba/ ‘wrote’ → /kətˈɔb/ in Jibbali and in Suqutri and /kətˈɛb/ in Mehri (Corriente 1996: 24). There are also sporadic parallels, such as the treatment in ‘nineteen’ of the old /o/ of Latin nouem ‘nine’, which is tonic in Catalan: dinou /dinˈɔu/, but unstressed in Valencian: dèneu /dˈɛnɛu/. Also in the Indo-European area we have theoretically explicable correspondences without too much difficulty within the parameters indicated and these both within the same language, as well as Latin benē ‘well’ ~ bonus ‘good’, in terms of dialectic level or within a linguistic group, such as East Tocharian pracar ~ West Tocharian procer (cfr. Armenian elbayr, Old Avestan brātā and Young Avestan brāta, Gothic brōpar, Greek φράτης, Sanskrit bhrātā, Irish brathir, Latin frāter, Lithuanian brōlis, Ossetic [ä]rvad, Old Persian brātāa, Old Church Slavonic bratrъ,…) or the aforementioned case of ‘brother’ Latvian brālis, Lithuanian brōlis, Old Prussian brote/ brāti, or correspondences between different groups, such as ‘I bear’ Sanskrit bhárāmi ~ Old Slavic berǫ ‘I am taking’, Gothic bairo, Greek φέρω, Latin ferō… or Greek φέρομεν ~ Sanskrit jajānas; reduplicated perfect Sanskrit jajāna ~ Greek γέγονε ‘she begat’ (← *gagána, ergo with an accentual shift after the action of the phonematization rule of the old vowel allophony).

What is stated in points 3 and 7 is congruent with the situation that we find in words such as cakāra ‘s/he did’, perfect reduplication of the verb kɨ- ‘to do’ in Sanskrit, where, as we see, “the consonant of the reduplication...
is the corresponding palatal”\textsuperscript{11} (Lazzeroni 1993: 139), since the vowel of the reduplicated syllable (ca–) is not only short with respect to the stem vowel (–kā–) but also enables the palatalization of /k/ (→ /tʃ/), which suggests a more raised ([ɛ] or similar) pronunciation.

The fact is that “we have evidence from three branches of IE for a somewhat stronger status of *o in contrast to *e and its tendency to be longer than any other short vowel” (Kümmel 2012: 310).

To sum up, in the words of KÜMMEL (2012: 291): “*o was the reflex of a pre-PIE long *ā in contrast to PIE *e/a resulting from pre-PIE short *a”, just not in a pre-Proto-Indo-European but probably and simply in Proto-Indo-European. In sum, although certainly of dissimilar probative value, the arguments or indications presented here seem sufficient to us to reject the original proposal of SCHMITT-BRANDT of a general trend */ˈa → e/ and */a → o/ and instead propose a basic trend */a/ → [ɛ] and */ˈa/ → [ˈɔ], already operating in Proto-Indo-European.

\textbf{References}

Abbreviations


\textsuperscript{11} “la consonante del raddoppiamento è la palatale corrispondente”
Studies


Cavazza, Franco (2001). Lezioni di indoeuropeistica con particolare riguardo alle lingue classiche (sanskrito, greco, latino, gotico) I. Pisa: Edizioni ETS.


