

## ON INDO-EUROPEAN SONANTS

Peter Dunphy-Hetherington<sup>1</sup> & Xaverio Ballester<sup>2</sup>

UNIVERSITAT DE VALÈNCIA

**Abstract:** The standard theory of Indo-European Linguistics reconstructs for the common Indo-European language a series of vowel resonants /l̥ m̥ n̥ r̥/, but for this hypothesis —the so-called *Sonantentheorie*— to be fully accepted, its proponents ought firstly to satisfactorily answer the objections that we set out in the present paper.

**Keywords:** Proto-Indo-European, resonants, Phonology, syllabicity.

**Resumen:** La teoría estándar de la Lingüística indoeuropea reconstruye para la lengua indoeuropea común una serie de vocales resonantes /l̥ m̥ n̥ r̥/, pero para que esta hipótesis —la así llamada *Sonantentheorie*— sea plenamente aceptada, sus defensores deben, en primer lugar, satisfactoriamente responder a las objeciones que planteamos en el presente trabajo.

**Palabras clave:** protoindoeuropeo, resonantes, fonología, silabicidad.

### 1. THE SONANTENTHEORIE

For Proto-Indo-European, most of the corresponding handbooks admit, albeit with different nuances, the existence of resonant (also called *sonant* and *sonorant*) phonemes, laterals and nasals: /l̥ m̥ n̥ r̥/ (traditionally represented as /l̥̥ m̥̥ n̥̥ r̥̥/ too). Some scholars also include long son[or]ants: /l̥: m̥: n̥: r̥:/ [see BALDI 1983: 16: “possibly l̥̄ r̥̄ m̥̄ n̄̄”], segments that, in turn, are interpreted by the proponents of the laryngeal theory as “sequences of syllabic resonant plus laryngeal [...] \*l̥H \*r̥H \*m̥H \*n̥H” [FORTSON 2004: 56; *item* KAPOVIĆ 2017: 36: “In traditional IE linguistics, PIE reconstruction included long syllabic resonants [...] After the discovery of laryngeals, it turned out that these were in fact \*m̥̥H \*n̥̥H \*r̥̥H \*l̥̥H”].

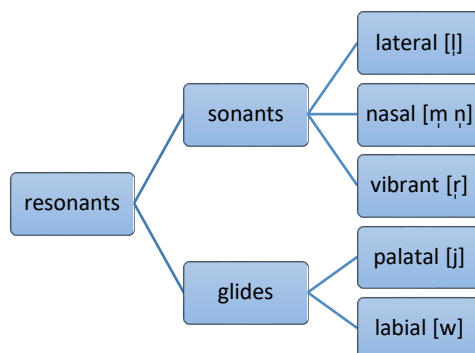
Since the technical nomenclature fluctuates in the English language according to the different scholars or schools and sometimes competes with similar denominations such as *approximant* or *continuous*, in this paper we will use the more conventional international term of *sonants* in a very restrictive way for the nasal segments (as /m/ or /n/) and the classical *liquida*, that is to say, for the lateral (as /l/) and vibrant or

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<sup>1</sup> Degree in Geography from King's College (London), independent researcher.

<sup>2</sup> Professor of Latin Philology, University of Valencia.

rhotic segments (as /r/) that can function both as vowels or syllabically, or as consonants or asyllabically. So, following a widespread practice, we shall use here the term *resonants* for all those consonants that may function as vowels, and we shall reserve the term *sonants* for the specific series of nasal (/m n/) and liquid (/l r/) resonants, but not for the approximants or specifically glides ([j w]).



Now then, if one accepts long vocalic sonants for Proto-Indo-European, then it is nearly compulsory to consider them phonemes (/l̥: m̥: n̥: r̥:/) and consequently to consider phonemes the short variants (/l̥ m̥ n̥ r̥/) too. The purported existence of sonants in Proto-Indo-European belongs to an ancient, classic, let's say, Brugmannian tradition of Indo-European Linguistics. Yet, very early, from the same start, this theory found the opposition of prestigious scholars such as SCHMIDT [1895] or COLLINDER [1923: 46]: “There can hardly be any doubt that Brugmann himself went astray with his theory”<sup>3</sup>.

For some scholars, both syllabic (= vocalic) and asyllabic (= consonantal) sonants were phonemes: “Syllabic variants appear mostly in predictable positions [...] However, the occurrence of a– [sic] syllabic variant was not always completely predictable [...] syllabic resonants were really separate phonemes in the last phase of PIE and not just allophones of their syllabic variants” [KAPOVIĆ 2017: 31]. Other authors simply consider the vocalic sonants [l̥ m̥ n̥ r̥] as mere allophones of the

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<sup>3</sup> “Es läßt sich kaum bezweifeln, daß Brugmann selbst an seiner Theorie irre geworden ist”.

consonantal sonorants /l m n r/. Thus, for KURYŁOWICZ [1987: 287]: “*r*, *l*, *m*, *n*, are not autonomous phonemes, but consonants with a syllabic function in a specific phonetic environment”<sup>4</sup>, for GAMKRELIDZE and IVANOV [1995: 141]: “The sonants had syllabic and nonsyllabic allophones depending on context”, for CLACKSON [2007: 35]: “\**n* \**m* \**r* \**l* [...] have vocalic allophones conventionally written \**ŋ* \**m̥* \**r̥* \**l̥*”, and for BEEKES [2011: 138]: “The sonants have consonantal and vocalic allophones”. Be that as it may, most scholars assume that in Proto-Indo-European times there would already have been segments, either allophones or phonemes, such as [l̥ m̥ n̥ r̥]. In the standard statement the vocalization of sonorants would have occurred “As a rule of thumb [...] between PIE obstruents or between an obstruent and a word boundary” [BEEKES 2011: 140], that is, mainly in contexts such as C\_C for laterals (C<sup>l</sup>), nasals (C<sup>ñ</sup>) or vibrants (C<sup>v</sup>), so, for example, CC·C > CC̣C. In short, the *communis opinio* holds that the resonant “consonants \**y*, \**w*, \**l*, \**r*, \**m*, and \**n* stood in allophonic variation with their syllabic counterparts \**i*, \**u*, \**l̥*, \**r̥*, \**m̥* and \**n̥*, respectively. And these syllabics in turn generally gave long or more complex outcomes when followed by a laryngeal plus consonant” [BUBENIK 2017: 638].

Now, the point is how sequences or syllables such as CC·C could arise and whether they stood *ab ouo* on the common Proto-Indo-European basis, as most Indo-Europeanists think, or rather they represent a later, already Indo-European, phase — that is to say, individual developments within the various Indo-European historical groups. As we shall try to show, there are several arguments in favor of this second —and nowadays minority— opinion, namely, that the common Proto-Indo-European dialect chain probably never possessed either allophones or, much less, syllabic sonant phonemes (/l̥ m̥ n̥ r̥/), but rather the most banal asyllabic sonorants (/l m n r/), which, as usually happens, in contact with a vowel —preferably in an unstressed position and after a vowel— underwent various reductions in the historical Indo-European

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<sup>4</sup> “*r*, *l*, *m*, *n*, nie są fonemami autonomicznymi, lecz spółgłoskami mającymi funkcję zgłoskotwórczą w określonym otoczeniu fonetycznym”.

groups, only reaching the stage of full vocalization in some of them. Please, note “the preference for syllabic consonants to arise in unstressed position” [BELL 1978: 160] and, as matter of fact, “If in a given language, syllabic consonants are created by syncope in stressed syllables, then they have been created by syncope in unstressed syllables” [BELL 1978: 162]. Note that there is no question about the existence of more basic resonants, the approximants [j] and [w], in Proto-Indo-European, but just about the sonants (l̥ m̥ n̥ r̥) and the so-called laryngeals, which, according to some scholars, would form an unusual third class of resonants —fricatives or obstruents, depending on the various theories— in Proto-Indo-European next to the so frequent nasals and glides. Therefore, the crucial question is not whether the asyllabic sonants [l̥ m̥ n̥ r̥] already existed in the Indo-European common pool as phonemes or as allophones, but, simply, whether they just existed at that time, and the practically unanimous answer of the Indo-European Linguistics mainstream is affirmative: they did exist.

## 2. SOME OBJECTIONS

However, in line with Johannes Schmidt and others, we believe that, in order to peacefully accept such a proposal, the following objections should be satisfactorily answered beforehand.

1) Our first argument will be precisely the aforementioned circumstance that **sequences of the type  $\check{V}C^1/\check{C}/C^{\sim}$**  (with  $\check{V}$  representing an unstressed vowel) tend to become syllabic in many linguistic *continua* ( $\check{V}C^1/\check{C}/C^{\sim} > C^1/\check{C}/C^{\sim}$ ), that is to say, they **are prone to the vocalization of resonants by absorbing the preceding vowel** in the due contexts. Phonetically, all this constitutes a very plausible process and a very frequent and banal one as well. Here it will suffice to quote the well-known examples of Modern English [SZEMERÉNYI 1996: 46: “*button, bottom, bottle* contain  $\check{n}$   $\check{m}$   $\check{l}$ ”].

2) **An old Indo-European pattern with** segments such as *\*l \*m \*n \*r \*l̥ \*m̥ \*n̥ \*r̥* —not to mention now their long variant (*\*l̥ː \*m̥ː \*n̥ː \*r̥ː*)— **represents a clear mismatch** for the class of non-plosive consonants, **since it would contain a single phoneme /s/, fricative and asyllabic, and at least eight resonants with four syllabic segments.** The imbalance is greater if, as many authors do, we include *\*/j/* and *\*/w/* —*nota bene*: not */i/* and */u/* (see 4))— as resonants, not to mention the controversial segments called *laryngeals*. That is, we would have some Proto-Indo-European *\*l \*m \*n \*r \*l̥ \*m̥ \*n̥ \*r̥* next to *\*/s/* in the best balanced case, and at least *\*l, \*m, \*n, \*r, \*l̥, \*m̥, \*n̥, \*r̥, \*l̥ː, \*m̥ː, \*n̥ː, \*r̥ː, \*j, \*w, \*H<sub>1</sub>, \*H<sub>2</sub>, \*H<sub>3</sub>, or \*H<sup>n</sup>* next to */s/* in the most unbalanced situation. In both cases, too many resonants for one single sibilant */s/!*

3) As other scholars noted, **the sonant theory** —in German the so-called *Sonantentheorie* [v.g. SCHMIDT 1895; HIRT 1921: 94 §118; COLLINDER 1923...]**— requires a parallel treatment for glides i - u and for l, m, n and r, the properly sonants. However,** apart from the ability to act syllabically ([i u l̥ m̥ n̥ r̥]) and asyllabically ([j w l m n r]), **there are important differences, both qualitative and quantitative, between the two classes.** The segments */i/* and */u/* —because it is so mostly in the languages of the world— are essentially vowels that can easily act as consonants [so HIRT 1921: 11 n1: “*r, l* are not vowels, but they can be syllabic and, conversely, the vowels can be asyllabic”<sup>5</sup>]. Instead, our sonants are basically consonants that occasionally —the liquid ones— or more rarely —the nasal ones— function as vowels in the appropriate contexts, so that, in regard to a linguistic *reconstructum*, a strict parallelism is somehow artificially imposed, since said parallelism does not occur in the well-known historical languages. As pointed out by KURYŁOWICZ [1968: 44]: “There is no obstacle to admitting the existence of vowels *i, u* [...] What matters is to avoid putting on the same plane *i, u* and *R̥* (*r̥, l̥, n̥, m̥*)”<sup>6</sup>. This forced parallelism becomes even more

<sup>5</sup> “*r, l* sind keine Vokale, wohl aber können sie silbisch sein und umgekehrt die Vokale unsilbisch”.

<sup>6</sup> “Il n’y a aucun obstacle à admettre l’existence des voyelles *i, u* [...] Ce qu’importe, c’est d’éviter de mettre sur le même plan *i, u* et *R̥* (*r̥, l̥, n̥, m̥*)”.

unbearable when including the controversial Indo–European *laryngeals* among the resonants.

4) As we have just mentioned [2)], the theory of **the existence of syllabic sonorants entails interpreting [i] and [u] as just mere allophones** or syllabic variants of the resonants phonemes /j/ and /w/, something **which is equally forced and totally counter-intuitive**.

5) **We know that**, in a sequence of the alleged resonants phonemes, \*/j/ and \*/w/ in contact with a proper sonorant, would be vocalized on [i] and [u], as would be expected from their highest position in the sonority hierarchy, so **an Indo–European sequence as \*Cum**, for example, **would be realized as [Cum]** (*cfr.* Latin *cum* ‘when - with’, for instance) and not as [Cw̥m̥], and furthermore, this treatment also responds to a probably universal pattern. **Yet, the sonorant theory does not explain why in** a similar case but with a *laryngeal* resonant, \*CmH, for example, the more open resonant would not have vocalized, according to the sonority hierarchy, (†[Cm̥H]), but in all cases **the laryngeal**, quite oddly, **would have disappeared and develop a long sonorant: \*Cm̄**. Why is the first resonant not vocalized and the second resonant, the laryngeal, which is more closed, not consonantized? Why in this case does the alleged resonant laryngeal simply disappear and the preceding sonorant is lengthened? *Vice versa*: in the sequence glide plus another sonorant (for example \*Cum again), why is the glide not vocalized but is lengthened (†[Cu:])?

6) **Interpreting long sonorants [l̄: m̄: n̄: r̄:] as “sequences of syllabic resonant plus laryngeal”** [FORTSON 2004: 56], as the proponents of the laryngeal theory do, **clashes with the lack of parallels** for making a long sonorant this way, for what kind of laryngeal would it be? In short, the phonetic determinants of such treatment are very arcane and obscure.

7) One must admit that, although not exceptional, **syllabic sonorants are**, however, **not among the most basic or common phonemes**. The respective proposals of Maddieson and Bybee coincide in not presenting any of these segments for the standard phonemic pattern or basic

inventory. After analyzing a survey of 566 languages [MADDIESON 2011: 540], MADDIESON [2011: 544] states that “Most languages include two series of stops, voiceless and voiced, with members at bilabial, coronal, and velar places of articulation [...] Many have also a palatal-alveolar affricate /tʃ/. Typically, there are also voiced nasals at three places where the stops occur, and a palatal nasal is often found as well. Most typically, only voiceless fricatives occur. The most common fricative is a coronal sibilant —some kind of /s/. Many languages also have a labio-dental fricative and a palate-alveolar sibilant fricative. There are typically two ‘liquids’: one a voiced coronal approximant, and one a rhotic (‘r-sound’), most frequently an alveolar trill. Voiced palatal and labial-velar approximants occur in the great majority of languages, and two ‘laryngeals’ occur in many: the glottal stop, and the voiceless approximant /h/. Hence a prototypical consonant inventory contains the following set of segments: /p, t, k, b, d, g, ʔ, tʃ, m, n, ŋ, f, s, ʃ, l, r, w, j, h/”. For BYBEE [2011: 139]: “The basic consonant inventory contains voiceless and voiced stops at three points of articulation ([p t k b d g]), voiceless fricatives ([f s h]), one voiceless affricate [tʃ], glottal stop, three nasals ([m n ŋ]), [r], [l], [w], and [j] [...] The basic vowel system contains the five vowels ([a i e o u])”. As we see, only the glides [j] and [w] —phonemes or rather allophones of /i/ and /u/— are basic or prototypical *resonants*.

8) As a matter of fact, **the existence of syllabic sonorants constitutes thus a relatively rare phenomenon**. The Indo-European area is not exceptional in this regard. Languages with syllabic sonorants are, for example, some Germanic languages, such as Danish, where we find extended use of syllabic resonants, English ([l̩ m̩ ŋ̩]), German ([ŋ̩]), and Norwegian ([ŋ̩]), or some Slavic languages, such as Czech (/l̩ r̩/ and eventually /m̩/; VINTR [1991: 76]: “/m/ (as virtually syllabic)”<sup>7</sup>), Macedonian (/r̩/), Serbo-Croatian ([r̩ r̩ː]), Slovene dialects (/r̩/; REHDER

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<sup>7</sup> “/m/ (als Potentielle Silbenträger)”.

[1991: 62]: “[r̥] shows up only in a number of dialects”<sup>8</sup>), or Slovak (/l̥ r̥/ and /l̥: r̥:/; VINTR [1991: 89]: “The long syllabic resonants *ř*, *ř̆* function as long vowels too”<sup>9</sup>). The word for ‘blood’ /krvi/, for example, is disyllabic in Czech but monosyllabic in Polish, where /r/ is regularly consonantal.

9) Cross-linguistically, much rarer are the long sonants, for which, however, we can still point out, among the historical Indo-European languages, the case of Slovak, with the long /l̥: r̥:/ in opposition to the respective short sonants /l̥ r̥/. Yet, in general and specifically for the Indo-European sphere, **long vowel sonants are rare**, and **especially** for long vowel **nasals** it could be said to be very rare. The existence of a series /l̥ l̥: m̥ m̥: ŋ̥ ŋ̥: r̥ r̥:/ might occur in a few languages, but it is still a typological oddity.

10) No less important is the fact that in **all** those cited cases of **syllabic sonants** documented in **historical Indo-European languages** and in other cases that could be added, it seems evident that they are recent phonemes and they **do not proceed from the ancestral Indo-European linguistic ensemble**. None of the Slovak sonants ([l̥ r̥ l̥: r̥:]) or of other Slavic languages (Czech, Serbo–Croatian Macedonian, Slovak, Slovenian...) can be traced back to Old Church Slavonic nor to the reconstructed Proto-Slavic. None of the Germanic (English, German...) syllabic sonants can be traced back to Proto-Germanic. This demonstrates that syllabic sonants can arise, say, spontaneously and not necessarily as a phonological series. Thus, in all the historical Indo-European groups where we now have syllabic sonants, all these represent internal innovations. Although, as we see, the emergence of a syllabic sonant is quite a normal phenomenon within the framework of historical Indo-European languages, the opposite tendency, namely, the loss of syllabic sonants is considered the most probable stage from Proto-Indo-European to Indo-European by the standard *Sonantentheorie*. So CLACKSON [2007: 36]: “in all IE languages the nasal \**n* and \**m* have lost

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<sup>8</sup> “[r̥] tritt nur in einigen Dialekten”.

<sup>9</sup> “Als lange Vok. Funktionieren auch die langen silbenbildenden Sonanten *ř*, *ř̆*”.



their original vocalic allophones, and vocalic *\*r* is preserved only in Indic”.

11) Thus, **the alleged**, hypothetical and controversial **Proto-Indo-European syllabic sonants** —short or long— **would have been preserved** as such **in no modern Indo-European language**: “syllabic resonants (*/\*ṃ \*ṅ \*ḷ \*ṛ/*) disappeared everywhere (later they appeared again in some languages)” [KAPOVIĆ 2017: 14].

12) On the other hand, **the ordinary**, basic and **not controversial asyllabic resonants**, both sonorants (*/l m n r/*) and approximants (*[j w]*), **would have been very well preserved in many Indo-European languages**. “These sounds are among the most stable elements in Indo-European. In all the languages they are preserved in general unchanged” [SZEMERÉNYI 1996: 45]. Even in an Indo-European language as innovative as English old sonorants were preserved, where, as we said, their vocalization represents a relatively recent occurrence, and a surprising archaic characteristic of English is the preservation of *\*w*, which in most languages changed into *[v]* or *[gw]* and secondarily into *[b]* or *[g]*.

Pr.	Al.	Ar.	Av.	Gr.	Go.	Hi.	In.	Ir.	La.	Li.	Sl.	To.
<i>*l</i>	<b>l</b>	<b>l</b>	<b>l</b>	<b>l</b>	<b>l</b>	<b>l</b>	<b>l/r</b>	<b>l</b>	<b>l</b>	<b>l</b>	<b>l</b>	<b>l</b>
<i>*m</i>	<b>m</b>	<b>m</b>	<b>m</b>	<b>m</b>	<b>m</b>	<b>m</b>	<b>m</b>	<b>m</b>	<b>m</b>	<b>m</b>	<b>m</b>	<b>m</b>
<i>*n</i>	<b>n</b>	<b>n</b>	<b>n</b>	<b>n</b>	<b>l</b>	<b>n</b>	<b>n</b>	<b>n</b>	<b>n</b>	<b>n</b>	<b>n</b>	<b>n</b>
<i>*r</i>	<b>r[r]</b>	<b>r</b>	<b>r</b>	<b>r</b>	<b>r</b>	<b>r</b>	<b>r</b>	<b>r</b>	<b>r</b>	<b>r</b>	<b>r</b>	<b>r</b>

Figure (slightly simplified) of the Indo-European asyllabic sonants (Al. = Albanian, Ar. = Armenian, Av. = Avestan, Go. = Gothic, Hi. = Hittite, In. = Old Indian, Ir. = Old Irish, La. = Latin, Li. = Lithuanian, Pr. = Proto-Indo-European, Sl. = Old Church Slavonic, To. = Tocharian)

13) **The evolutionary contrast between the asyllabic and syllabic sonants is also striking**, since **the former**, as we saw, **are mostly stable in Indo-European languages**, they “remained unchanged in most languages and positions” [KAPOVIĆ 2017: 31], **while “Syllabic resonants */\*ṃ \*ṅ \*ḷ \*ṛ* are completely unstable** diachronically in IE and change everywhere (the sole exception being PIE *\*ṛ* > OInd. *ṛ*” [KAPOVIĆ 2017: 34]. But “even in the case of Sanskrit it is anything but certain that there was no vowel next to *ṛ*, *ḷ*. Indeed, Indian grammarians affirm the

existence of these vowel elements”<sup>10</sup> [ADRADOS 1973: 13]. Actually, for RODRÍGUEZ ADRADOS [1973: 13-14]: “at the base of all historical treatments we have an Indo-European pronunciation| with vowel”<sup>11</sup>.

Pr.	Al.	Ar.	Av.	Gr.	Go.	Hi.	In.	Ir.	La.	Li.	Sl.	To.
*l̥	li	al	ələ	al/la	ul	al	ɽ	li	ol	il/ul	li/lu	äl
*m̥	a	am	a	a	um	am	a	em	em	im/um	em/om	äm
*n̥	a	an	a	a	ul	am	a	en	en	in/un	en/om	än
*r̥	ri	ar	əɾə	ar/ra	ɔr	ar	ɽ	ri	or	ir/ur	ri/ru	är

Figure (simplified) of the Indo-European syllabic sonants (Al. = Albanian, Ar. = Armenian, Av. = Avestan, Go. = Gothic, Hi. = Hittite, In. = Old Indian, Ir. = Old Irish, La. = Latin, Li. = Lithuanian, Pr. = Proto-Indo-European, Sl. = Old Church Slavonic, To. = Tocharian)

Therefore, according to the *doctrina recepta*, except in the particular case of the passage \*l̥ and \*r̥ > ɽ in Old Indian, the general treatment would be [see KAPOVIĆ 2017: 34]:

- a) the sonant develops a contiguous —preceding (the most frequent type by far) or following— vowel,
- b) or the sonant —directly— becomes a vowel.

14) Please note that the traditional hypothesis is less straightforward than assuming the opposite hypothesis, namely, that a group of vowel plus sonant (or sonant plus vowel) would have lost the sonant in a few cases or would have lost the vowel but this only in one case or maybe two: in ancient Indian and possibly in Lycian [ADRADOS 1971: 13] or maybe not (MELCHERT [2008: 50]: “the standard view is that the special letters  $\tilde{n}$  and  $\tilde{m}$  stand for syllabic nasals [...]  $\tilde{n}$  and  $\tilde{m}$  occur only in syllable-final position. This distribution suggest that they are unreleased allophones of the nasal consonants”). So, **the process \*C<sup>l</sup>/ C̃<sup>l</sup>/ C<sup>v</sup> > VC<sup>l</sup>/ ṼC<sup>l</sup>/ VC<sup>v</sup> (or eventually C<sup>l</sup>V/ C̃V/ C<sup>v</sup>V), defended by traditional linguistics, with the original phase preserved only and partially in Old Indian and maybe in Lycian, is less economical than the reverse**

<sup>10</sup> “aun en el caso del sánscrito es todo menos seguro que no existiera una vocal junto a la ɽ, l̥. Los gramáticos indios, en efecto, afirman la existencia de estos elementos vocálicos”.

<sup>11</sup> “en la base de todos los tratamientos históricos está una pronunciación indoeuropea| con vocal”.

**process** \*VC<sup>l</sup>/ VĊ/ VC<sup>v</sup> (or eventually C<sup>l</sup>V/ ĊV/ C<sup>v</sup>V) > Ć<sup>l</sup>/ Ć/ Ć<sup>v</sup>, with the original phase preserved in most Indo-European languages and representing a typologically better documented process. For instance, in Frisian “A syllable consisting of schwa plus a liquid or nasal usually becomes syllabified. For example, *bûter* ‘butter’ is phonetically [butɾ]. The process is quite common with the plural suffix *-en*” [HOEKSTRA & TIERSMA 2002: 510-511]. In Yiddish “the sequence post-tonic vowel + tautosyllabic sonorant tend to be realized as syllabic sonorants. The deletion is not uniform [...] the tendency is strongest with nasals, less so for /l/, and generally does not occur in Standard Yiddish with /r/” [JACOBS & AL. 2002: 393]. In Swahili “the noun prefix /mu-/ is regularly realised as syllabic [m̩] before a consonant” [CLEMENTS 2000: 147]. Note that, if we start from a common situation —the most common one— of a vowel plus sonorant, the inverse sonorant plus vowel sequences theoretically could also be explained as metathesis (VC > CV) by means of an anaptyxis (VC > VC<sup>v</sup>C) or by other causes. Specifically for liquid consonants, it must be taken into account that these are very prone to metathesis (*cf.* Armenian *elbayr* ‘brother’; Classical Latin *crocodīlus* ‘crocodile’ > Medieval Latin *cocodrillus*, etc.) and that they tend to *migrate* to the stressed syllable, possibly because they need a lot of articulatory force.

15) In historical well known languages, **creation of syllabic consonants is usually conditioned by the prior presence of a vowel** [BELL 1978: 159 n10]. “The source of syllabicity in syllabic consonants is always a vowel, either directly, when a vowel changes into a consonant (consonantalization), or else indirectly, when a vowel is lost and its syllabicity is transferred to a consonant (syllabic syncope)” [BELL 1987: 167-168]. A typical source for syllabic obstruents is a high-vowel syncope and in some languages this syncope is the final stage of vowel devoicing [BELL 1978: 184]. All this —*nota bene*— would involve the existence of contiguous vowels —usually high vowels— in a previous stage to the emergence of the syllabic laryngeals. In any case, syllabic nasals seem *universally* to come from a contiguous vowel group: “A

nasal syllabic phoneme, apart from borrowings and analogical formation, always results from loss of a vowel” [FERGUSON 1963: 47].

Marginally, it will be noted that the quite probable mistake of not considering this ordinary process of vocalization of liquid and nasal consonants as a result of the loss of a —probably unstressed— contiguous vowel contributed considerably to the proposal of the existence of resonant laryngeal phonemes in Proto-Indo-European and then to the emergence of the so-called laryngeal theory. In CLACKSON’s words [2007: 56-57]: “Cuny was the first to show clearly why the reconstructed \**E*, \**A* and \**O* had to be consonants, arguing that if any of them followed a member of the class of resonants (\**r* \**l* \**m* \**n*) it was the resonant| which became a vowel. Therefore \**E* / \**A* / \**O* were more consonantal than the resonants”.

16) Now, **although**, as documented in historical and real languages, **it is normal for a vowel to be lost and the adjacent sonorant to be vocalized** (for example CVC̣ > CC̣), **in Proto-Indo-European evolution, according to the traditional doctrine, the inverse phenomenon would have occurred**: allegedly, the sonorants created adjacent vowels (for example CC̣ > CVC̣) and in some instances they even disappeared, especially when there were laryngeals involved (for example CḤ > CVH > CV). Once again, against the typologically documented experience in other languages, the Indo-European diachronic phonology seems more like waters that, returning to the spring, go up the course of the river.

17) Phonetically, it is worth noting that in many languages the vowels placed before sonorants undergo reductions in their timbres. Truly, when in contact with a sonorant, vowels are often affected and modified in many languages in different ways, either Indo-European or not Indo-European languages. It seems that the bigger the sonority of the adjacent — especially following— and homosyllabic [con]sonant, the bigger the vocalic reduction. In Balochi [u] in “stressed syllables and before *r* tends to [ɔ]” [ELFENBEIN 1997: 766]. In Ossetic many instances of *o* may “be traced back to earlier \**ā* before nasals” [TESTEN 1997: 722]. In Swedish

/ɛ/ “normally has a mid pronunciation, but an open pronunciation in front of /r/” [ANDERSSON 2002: 272]. In Old Norse we find “/a/ > /e/ before [ŋg], [ŋk], [ŋj], and [ŋc]” [BARNES & WEYHE 2002: 192]. In the American English “Vowels are lowered and centralized before [ɹ]. And many contrasts are lost, so that ‘merry, Mary, marry’ and ‘Murray’ are often all pronounced [ˈmɚ.ɹi]” [LADEFOGED 1999: 43]. In Manx /a/ in stressed or unstressed initial syllables may be in “free variation with /o/, /e/, /i/, /ə/ especially in the environment of laterals and nasals” [BRODERICK 2002: 231]. We find similar reductions in non Indo-European languages. In Riffian Berber “*r* is the only consonant which forces *ə* to be inserted before it [...] the opposition between *ə* and *a* is neutralized before *r*. In the second stage, *r* becomes a (rather short) *a*-like sound if not followed by a vowel” [KOSSMANN & STROOMER 1997: 470]. In Burushaski “short /a/ is pronounced as [ə] before /r/ [...] Before a uvular consonant or [r], [u] is frequently lowered to [o]” [ANDERSON 1997: 1029] and we also find a number of dialectal correspondences of [i] and [ɛ] before [l] [ANDERSON 1997: 1037], and so on.

Sonants frequently produce the lengthening of preceding vowel too. In Latin, in vowels before homosyllabic /r/ a detectable tendency is to be lengthened [ALLEN 1978: 73-74]. In Albanian “Lengthening was also caused by the influence of the following resonants *-r* and *-l*” [RUSAKOV 2017: 565]. “After the Proto-Germanic period [...] long /a:/ arose from compensatory lengthening upon loss of nasal before voiceless fricatives [...] A new long close /e:/ arose in Proto-Germanic through compensatory lengthening, upon loss of nasal” [LEHMANN 2002: 23]. In Middle English “lengthening would take place when a vowel preceded a consonant cluster consisting of a nasal or liquid plus a homorganic voiced stop” [VAN KEMENADE 2002: 115]. In Dutch “Tense vowels are lengthened before homomorphic /r/” [DE SCHUTTER 2002: 446]. In Norwegian “[æ] is usual before [r], where it may be considered an allophone of /e/” [ASKEDAL 2002: 221]. In Afrikaans “When followed by /r/, the vowels /i/, /u/, /y/, and /ɛ/ are pronounced long” [DONALDSON 2002: 480]. We also find vowel lengthening before nasal, lateral and

vibrant consonants in Scottish Gaelic [GILLIES 2002: 157–159]. In Irish an original short vowel “before *ll*, *nn*, *rr*, *m*, *ng*, when not followed immediately by a vowel [...] is lengthened or diphthongized in many dialects” [MAC EOIN 2002: 107]. In Swahili all vowels “may be slightly lengthened [...] before nasals” [CONTINI-MORAVA 1997: 850]. In Mehri “duration of the vowel preceding [ʔ] is lengthened”<sup>12</sup> [LONNET & SIMEONE-SENELL 1997: 361]. In Brahui the third person plural past verbal ending *-ur* “tends to drop *-r* and lengthen *u* to *ū*, which varies freely with *ō*” [ELFENBEIN 1997: 809], and so on.

Anyway, **the noticeable reduction of vowel timbres in a sonorant environment** (mainly /a - ə/, or /i - u/, or /e - o/) **is more congruous with** an intermediate phase prior to **the disappearance of the vowel** (for example, Ca/i/uC̣ > CəC̣ > CC̣) **than with** an intermediate phase prior to **its appearance** (for example, CC̣C̣ > CəC̣C̣ > Ca/i/uC̣C̣). The former stage is known to be ubiquitous in Armenian: “a vowel /u/ and /i/ in a sequence /CiC/ or /CuC/ will pass to zero when a suffix is added: thus *surč* ‘coffee’ but *srčaran* ‘coffeehouse’. There is then, necessarily, shwa insertion: /sərč‘aran/. This same phenomenon appears in circumstances where the vocalized consonant is not a liquid or a nasal” [GREPPIN 1997: 791]. The difference in treatments for the timbres indicates that we are dealing with individual occurrences and not with the inherited results of the common Proto-Indo-European. *Verbi gratia*, in Latin the treatment /ol or em en/ is consonant with the tendency of the vowel to present a middle opening before continuant consonants (*exempli gratia* Latin *generis*, genitive of *genus* ‘stock - descent’, and not †*geniris*); in Baltic, with a tendency to feature palatalized and non-palatalized consonants, etc. Consequently (and *pace* VILLAR [1971: 260]: “in the process of vocalization of the Indo-European sonants lies one of the principles of dialectal diversification”<sup>13</sup>), the vocalization of the

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<sup>12</sup> “la durée de la voyelle qui précède le [ʔ] est allongée”.

<sup>13</sup> “en el proceso de vocalización de las sonantes indoeuropeas radica uno de los principios de diversificación dialectal”.

sonorants would not be so decisive for the distinction and classification of the various Indo-European groups.

### 3. CONCLUSION

To conclude, since the appearance of new syllabic sonorants starting from the loss of an adjacent vowel is evident in many Indo-European languages, rather than reconstructing Proto-Indo-European pure vocalic sonorants, in the sense of continuant consonants (\**l̥ m̥ n̥ r̥*) acting syllabically, it seems more cautious and appropriate simply postulating the usual continuant consonants that in some propitious contexts, notoriously after an unstressed and tautosyllabic vowel, ended up in some historical languages functioning syllabically by means of a kind of phonetic syncope entailing the vowel loss.

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