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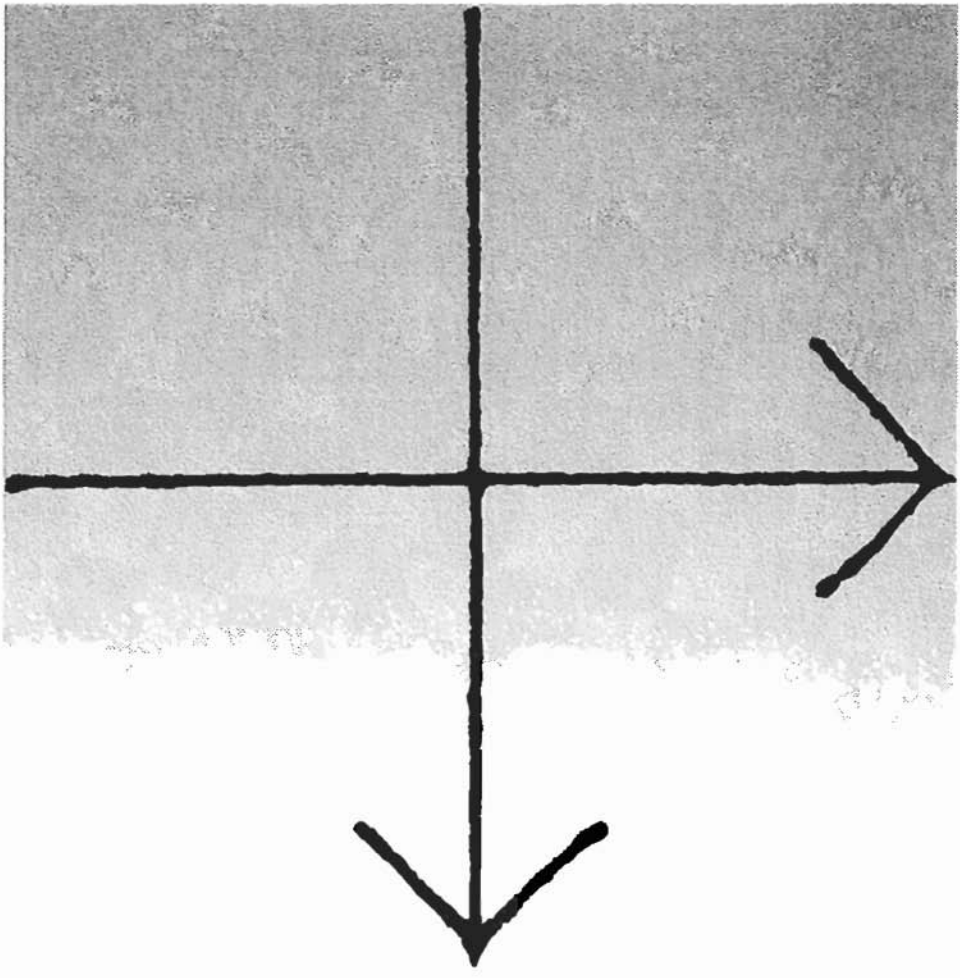

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ANAPTYXIS AND THE HISTORICAL GRAMMAR OF INDO-EUROPEAN

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0.0 *Introductory remarks*

0.1 Anaptaxis, which the ancient Indian grammarians had already known as *svarabhakti*, is a common feature in all types of languages, a *universale phoneticum*, if one may put it this way. At the same time, it is also a *universale phonologicum*: it provides all kinds of consonants with realization variants or allophones, particularly those known as consonantal sonants (liquids and nasals). As well it is a universal as far as language evolution is concerned: anaptyxis is either sporadically stabilized, thus producing a full vowel (in some words and within a certain dialect), or it results in a certain or complete regularity, a veritable 'phonetic law', or it does not become stabilized at all, but appears occasionally in sporadic realizations and spellings.

0.2 The general features of anaptyxis (German *Sproßvokal*) are quite clear: within certain consonant groups or in initial position before a consonant, there may be, before a sibilant or a glide or a(n implosively articulated) stop, a slight relaxation of the speech organs which allows for a minimum passage of air with very brief duration and a timbre that is at first indefinite. This phenomenon which creates something like a 'supporting vowel' is called 'anaptyxis' or 'svarabhakti'. At times it produces a syllable with a marked difference of aperture between the centre and the boundaries, for example C°RC instead of CRC.* It is moreover generalized at certain stages of a number of languages, with free variance occurring between forms with and forms without anaptyxis (i.e., C°RC/CRC, C°RV/CRV); on other occasions, sometimes simultaneously, there is variance between forms with anaptyxis and those carrying a regular vowel, for example, C°RC/CaRC; C°RV/CaRV. (Note that it is irrelevant for synchronic purposes to know whether the vowel derives from anaptyxis or whether or not it occurred later than a syncope. To be sure,

* Throughout the paper C stands for consonant, R for (re)sonant, H for laryngeal, and V for vowel.

they may occur in inverse order.)

However, as I have said above, the universal nature of anaptyxis, throughout the historical development of the different languages and dialects, offers differing results. Some display a regular distribution, others less so, and still others not at all. As a result, works on Historical Grammar have tended to present the regular cases only on a par with other regular phenomena of phonetic change, without mention of their anaptyctic nature. For instance, they indicate that IE *r* gives *ar* in Greek, *or* in Latin, *ur* in Germanic, and so on. By contrast, they either do not deal at all with isolated or sporadic results or, if they do so, they treat them in brief independent paragraphs that bear no relation to the general treatment. Specialized discussions of the sporadic occurrence of anaptyxis make no reference to the subject in general (cf. de Groot 1921; Reuterkrona 1920; Schmid 1954).

Until now, few scholars — and Anna Giacalone Ramat's (1967) study is a fine exception to the rule — have realized the significance of a proper understanding of anaptyxis for the phonetic evolution of languages. This is the more surprising if we note that the phonetic facts have been available for many decades; compare Maurice Grammont's (1933) *Traité de Phonétique* (esp. pp. 98ff.) or Eugen Dieth's (1950) *Vademecum der Phonetik* (pp. 383 ff.), not to mention the many phonetic and phonological descriptions of languages such as English, in which weak forms containing ultra-short vowels are common.

1.0 *The Problem of Anaptyxis Discussed*

When, from 1958 onwards, I applied the theory of anaptyxis to the study of IE sonants and, from 1961 onwards, to the analysis of the laryngeals, I soon had to realize that the supposed 'arbitrariness' of the presence or absence of the same phenomenon gave rise to incomprehending criticism, largely, it would seem, in tribute to the sacred principle of 'phonetic law': should the rule fail at any time, it would do so precisely here, and if, at times, something similar is produced, it must have occurred due to secondary regularizations.[1]

In what follows, I am quoting from the otherwise excellent work by Michel Lejeune, *Phonétique Historique du Mycénien et du Grec Ancien* (1972), in order to illustrate what I would regard as a harmful procedure in Historical Linguistics, for it separates phenomena which are essentially similar, refuses to offer an explanation where this would be possible, and calls those treatments regular which in fact are not or only partially so, while including regular cases among the irregular ones. (I could supply many examples

from other sources; if I refer here to Lejeune's book only, it is because of its general clarity and attention to the explanation of linguistic facts.)

Lejeune's work quite rightly discusses the supporting vowel, which he symbolizes as ° and which, he says, 'should be considered not as an Indo-European phonetic symbol, but as a general phonetic symbol' (p. 205); no doubt this is a remarkable advance if compared to authors who hardly mention these vowels unless for the citing of a few cases of anaptyxis. I am here not at all talking about the old school of Hermann Güntert which brought a 'schwa secundum' into play that was supposed to be an IE phoneme (cf. Gil's 1970 monograph on the history of the subject).

1.1 Lejeune, however, presents the following instances under the heading of anaptyxis, something with which I cannot wholly agree:

1.1.1 CiV and CuV groups with occasional results *CiiV*, *CuuV* (Gr. βι(ι)ῶναι, δύ(ο)ω) are deduced from C°iV and C°uV, respectively. I believe that the more generally accepted interpretation is preferable, namely, that *ii* and *uu* come from a dissyllabic development of *i* and *u*. There is reliable evidence for this to be found in diverse languages.

1.1.2 Types of the form τέ-τλᾰ-μεν, τᾰλᾰσί-φρων, which he derives from *tlə*, *t°lə*, are followed up in one and the same paragraph with others of the CRV type without a laryngeal, e.g., πάρος from *p°os*, γάλα from *g°lakt*. Lejeune rightly adds that this formation is regular in aorists such as ἐχάρην, ἔκαμον, and in present forms with *i* (βάλλω, etc.). He also cites as an 'exception' initial *a-* before *n-* (ἀνδάτεος, etc.).

All this is very well as far as it goes, but several things should be observed. Firstly, the τλᾰ,τᾰλᾰ type is different from the following ones in which the sonant was followed by *R*, and it is the supporting vowel before *R* that gives rise to the existing dual possibility, as likewise to two other possibilities not mentioned by Lejeune, namely, τᾰλ- and τλᾱ (on which see below). All this is lacking in the following types, with only one vocalization point and two solutions (πρός/πάρος, with semantic-grammatical differentiation). It is worth noting that in this type a regularity is only created in certain small morphological systems. Finally, it is quite right to include ἀν- from °*n*- here; yet there is nothing exceptional about it as it is a case which, except for this example, Lejeune deals with separately with the name of vocalic prothesis, without mentioning the supporting vowel. There is no indication (here at least) that this development of a supporting vowel is an occasional

occurrence only (cf. νημερτής, etc).

1.1.3 Lejeune finally deals with types consisting of initial syllables ending in a dental or in *-s* and the development of *ĭ* or *ĕ* (Hom. νίσσομαι, Aeol. πίσυρες, etc.) as well as others "au voisinage d'une labiovélaire" and development of *ŭ* (γυνή, κύκλος, etc.). In both instances it is useful that he points out their sporadic nature and explains their timbre through that of neighbouring consonants (which is not done at other times). I would point out that the treatment of *o* next to a labiovelar is far better explained here than on pp.43ff., where Lejeune hesitates and speaks of the vowel's 'darkness', explaining ἐλαχύς through $g^{w}h$ before *ŭ*, etc. In any case, it is not sufficiently clear that the addition of the labiovelar can, before a consonant, either vocalize (as in the above-mentioned examples and in Hitt. *nekuz*, etc.), or be lost (in the second syllable of κύκλος, in O.I. *cakráḥ*, in μνάομαι alongside γυνή, etc.); nor is it clear that this option is identical with that of other types. (The γυνή/Beot. βάνα duality for instance is quoted with an explanation of the difference in timbre.)

As may be seen, Lejeune introduces valuable material into this paragraph (save notable exceptions), albeit somewhat confusedly. He above all leaves out the following things which are similar:

1.2.1 The occasional prothesis before a consonant (p.210); the regular one before *r-*, the occasional one before the other liquids (pp.148ff., and 210ff.), and the occasional one before *u̯-* (p.174). He does not make use of the concept of the supporting vowel and seems frustrated that no regular rules appear to be available for the presence or otherwise of the vowels or for their timbres (although he points out that there is a regular prothesis before *r-*). He wrongly separates all these cases from that of 'αυ- (see 1.1.2 above) and that of the others with initial sonant that are treated with vocalization of the latter (ἄρκτος, p.196). Finally, his treatment of protheses, detached from their regular contexts and not at all clear, is quite incomplete: nothing is said about the prothetic vowel before *H-*, in recent times the object of numerous studies (see below).

1.2.2 The vocalization of the intervocalic sonants (as well as the initial and final ones), is studied by Lejeune on p.195ff. It is artificial to detach this from the CRV groups (see 1.1.2 above) and from the protheses; there is no mention of the supporting vowel, however. Now, we have at least come to one 'phonetic law' at this point: the vocalic sonant always vocalizes in Greek, the *CRC* type not surviving as in O.I. But this is obviously a secondary phenomenon and

the CRV/C°RV etc. variation is preserved. There is also variation regarding the place of vacalization (θάρσος/θράσος) and with regard to timbre. The traditional thesis that vocalization is in *á* except in Aeolian, Arcadio-Cyprian and Mycenaean (in *ó*) is without foundation (see below), and this even without mentioning the more troublesome data containing *i* and *u*. The influence of the timbres of neighbouring consonants and vowels is not used here as it is elsewhere (as it is not used either as far as the protheses are concerned). This inconsistency once more shows one thing: that there is a need for a treatment from more general points of view.

1.2.3 The vocalization of *ə* is studied by Lejeune separately within the theory of alternances (pp.199ff.) as if it were the vocalization of any phoneme. But the Greek result *á* (for I believe that the thesis that *e*, *o* are analogical timbres is still valid) is no more than the vocalization of the consonantal laryngeal *H*, as is well-known, that is, *ə* derives from *"H"*. I should add that if there has been a regularity in the resulting *á* (and I personally believe that there are other results, see below) and if, as is true, a regularity has been established at least by the fact that any CHC group vocalizes, once more we are faced with a secondary phenomenon. We find *h* without vocalization in Hittite, whereas in other languages its simple loss spread and again in others there is still vacillation between the vocalized form and the non-vocalized one, as I shall indicate below.

1.2.4 Under the heading 'Tendency to aperture in the syllables' (which could quite well serve for other matters among the former paragraphs), Lejeune (p.287) introduces dialectal forms and isolated spellings of the type of Dor. Ἀσκαλαπιός, Att. Ἔρεμς, etc. These examples, which could quite well be extended, only differ from others given above by their recent chronology and in their lack of wide or literary diffusion. (They allow us to see the influence of neighbouring timbres, although this is not stated by Lejeune.)

I believe that the foregoing supports my initial approach. It would be even further supported if one could at present supply the fullest possible data from the diverse IE languages (not to mention others) at their diverse stages, dialects and free realizations, which the spelling sometimes records. Certain information on relatively recent evolutions is to be found in Anna Ramat's (1967/68) article and in several books I have also quoted (plus other references in her article). As far as Greek is concerned, the data can be widely extended: those of most recent date are to be

found, for example, in Schwyzer (1939:267, 278), and there is also a good deal in Szemerényi (1964), which sometimes calls syncopated forms original ones and anaptyctic ones original.[4]

1.3 As far as the oldest developments are concerned, it would be very difficult to expound the state of the matter here: with regard to the protheses and the evolution of the sonants and laryngeals in general, I refer to my above-mentioned works (cf. note 1). As for more complex treatments of the laryngeals, I refer to what I shall say later in this article (see 2.0 below). However, disregarding all this for the moment, I should like to say a few things about the remaining problems, drawing upon certain works of mine mentioned earlier and on other diverse ones, without at all attempting to give a complete account. I merely wish to make a few points:

1.3.1 There is abundant bibliography on the CRC group. It suffices to compare the diverse IE languages, to see that (a) vocalization occurs either before or after or on either side of a sonant (in Av. there is *aya*, in Ved. a dissyllabic pronunciation of *r*); (b) the timbres vary within languages. It is true that there is a tendency to regularity, but this is never completed. It is useless, for example, to eliminate any *ŏ* in Greek from the non-Aeolic dialects or any *ă* from these on the strength of the traditional resorts to borrowing, analogy, etc. There is much scholarship on all this (cf. Adrados 1973:9ff.; Moralejo 1973; Bernabé 1977). The most important thing is to note that (1) together with a vowel *ă*, which is the result of the phonological tendency to maximum aperture of the syllable, the remainder, if these phenomena are irregular in a dialect, is usually explained by the timbre of neighbouring phonemes; and (2) that these irregularities usually appear in words that are no longer semantically connected to the root or else in isolated words (Gr. κάλυξ and κᾶλυξ, ἄγυρις and ἀγορά, alongside ἀγείρω; Lat. *murcus* and *marceo*, Gr. γλυκύς, etc.)

1.3.2 The CRV group is usually dealt with at the same time as the former group. Now, although vocalization is older here (it is in O.I., in which *r̥*, *l̥*, are preserved), it so happens that original forms without a vowel are preserved; and that, when there is irregularity, this depends on the same principles. But there are also lexical fixations of the CRV and CVRV type; I have already quoted alternations such as Gr. πρός/πάρος, γνάφομαι/γυνή.

1.3.3 The protheses allow one to advance along the course

of justifying timbres through the phonetic context (cf. Adrados 1973:74ff.). There is important bibliography on that which comes before a laryngeal.[5] These protheses with *a-* frequently occur alongside Hittite forms with *ḫ-* or else with *a-* (with loss of the *H-*): the type of Gr. ἄνεμος alongside Hitt. *ḫumanteš* "winds", Lat. *auus* alongside Hitt. *ḫuḫḫas*, Gr. ἀΐω<ἀFίσω and Lat. *audio*, cf. Hitt. *au(š)-*. Worth noting is that this treatment is identical to that of the medial syllable in which °*H* vocalizes in *a* (Hitt. *ah* or, with loss of *ḫ*, *a*).

1.4 The foregoing brings us to the subject of the vocalizations of *H*. As I stated above, the regularities found here and there are secondary regularizations. Thus, those of the languages which (habitually) derive *ā* and those which (like Germ. Slav. and Balt.) lose interconsonantal *H* (Goth. *dauhtar*, Lith. *duktė*, etc.); in fact, in O.I., alongside forms with *ī* (and *ā*), there are others with loss of the laryngeal (*dadhmás*, *-tta-*, etc., cf. Av. *ptā*/O. Pers. *pitā*, etc.). Under these circumstances the (non-total) generalization of *ĭ* in O.I. should also be a secondary generalization, as I have suggested (Adrados 1973:258). Hittite, with its partial preservation of *H* (*ḫ*, sometimes geminated in *ḫḫ*), gives us a clear image of these vacillations. However, we do not at times know accurately whether an *a* is phonetic or graphic; *ua-al-aḫ-zi* is probably *ualḫzi*, for example; *eš-ḫa-na-aš* alongside *ešḫnaš*, is more certainly a phonetic representation. The vocalization is sometimes clearer, thus, when only *a* remains.

2.0 *The question of the laryngeals*

Despite the fact that I have given a minimum of data and a maximum of references to published research, what is stated here will undoubtedly lead us to bridge the gap between the treatment of the sonants and laryngeals in diverse positions and also between all these data and those of diverse protheses and anaptyxes, even when there is no sonant or laryngeal. We could also draw parallels between recent data and older ones of diverse chronological stages and between sporadic data and others more or less or totally regularized ones.

At the same time there remain a series of problems. Some of these are theoretical in nature, i.e., how to tie up this whole series of facts with the general theory of phonetic evolution and with a series of constants such as syllabic fluctuation, influences of neighbouring timbres, analogical formations; their relationship to vowel metathesis and vowel lengthening. Other problems concern the chronology

of the diverse changes in the different languages and the establishment of more or less regular laws, the retention of doublets, and the consolidation of exceptional forms for the sake of grammar or of lexical facts. To approach the data from these viewpoints will, I believe, allow us to offer a richer, more real picture of the development of the IE languages, picture which is at the same time more coherent. It will moreover be particularly significant for the general theory of phonetic evolution.

2.1 Two types of questions, however, constantly interfere with one another and cannot possibly be treated separately. It is precisely the basic fact that has been met with the greatest incomprehension: the existence of variants in articulation which we could term general, for they depend on series of facts which are also general: alternatives in the *tempo* of articulation and in syllabic boundary. The conflict between traditional pronunciations and others derived from phonological tendencies (the tendency to maximum syllabic aperture or to the filling in of blanks with the aid of allophones, for example) or else their conflict with analogical phenomena which are sometimes at variance with dissimilatory or metathetic phenomena, etc. Differences of these types are well-known to phoneticians and are recorded with the aid of sophisticated instruments; scholars in sociolinguistics likewise are familiar with them. Yet they clash with the neo-grammarian stereotype of 'phonetic law', which is indeed not very often invoked today, but which is still alive in the consciousness of all those linguists who attempt to separate a regular phonetic change from 'sporadic' data.

In two above-mentioned articles I expounded ideas which are otherwise well-known today and according to which regularity in phonetic evolution is the description of a state attained at times and at other times not, for there are even regressive changes in language. But I have also stressed the fact that when this state of affairs is not attained, the at times counter-posed tensions thus produced are no less 'regular': it is merely that they sometimes lead to a unification and sometimes not. On the other hand, the regularity at times aspired is carried out to a greater or lesser extent at the dialectal level and when certain morphological conditionings occur, or as a sociolinguistic feature. Those phenomena which in a certain language or dialect or period or level do not attain this regularity, may attain it in others. I shall give examples of the data in which I am particularly interested in the present paper.

However, I wish to mention all this in order to point out that the 'free variants' which might exist with regard to anaptyxis and related phenomena (syncope, change in syl-

labic boundary, gemination), variants which sometimes lead to regular changes and to a new phonological system, and at other times not, are quite comparable to phenomena occurring in other areas, e.g., the voicing of consonants, consonant clusters and sonants. There are always variants conditioned in diverse ways which will at later times produce a regular result: for example, by the total disappearance of an old phoneme or group of phonemes.

As for the constants concerning anaptyxis, some of them already acknowledged by Michel Lejeune and Anna Ramat; we could mention several further occurrences among others.

2.1.1 To begin, with the presence of anaptyxis, above all in consonant clusters which are difficult to pronouns, and in consonant and sonant clusters (groups with a laryngeal and the case of the initial consonant should also be added) is particularly worth noting. Its recurrence in all kinds of language stages and dialects; compare the variants between strong and weak forms as in Modern English for *and* as [ænd], [ənd], [ən], [ŋ], and other forms connected with contrastive contexts.

2.1.2 In the case of an intervening sonant, the criss-crossing of these phonemes with vowels and the fact that they are practically wrapped in a vowel that can come either before or after or before and after (cf. already Grammont 1933:244). I have mentioned earlier the synchronic equivalence of syncopes and anaptyxes and spoken of solutions either on the strength of *°R, R° or °R°* of IE *r̥* and the other sonants. These double and even triple solutions can alternate in the same language, but there are secondary distributions at other times, such as when O. Slav. generalizes *rĭ, rŭ*, and Lith. *ir̃, ur̃*. Later on we shall examine examples of groups of sonant and laryngeal. Yet this is not merely an old phenomenon. See, for example, vacillations among the Germanic dialects of the type of O.H.G. *derh, durug*, O.Fris. *thruch* "through"; O.E. *burna*, O.H.G. *brunno* "spring", etc (cf. Ramat 1967/68:312ff.) In cases like these in which *r̥* is the basis, it is not possible to distinguish which are alternative realizations and which are metatheses.

2.1.3 Assimilatory contamination of neighbouring timbres is a phenomenon which sometimes leads to contradictory results. This has at times been acknowledged. Leaving aside the timbres *ŭ* and *ĭ* of the vocalizations before RV in Greek, fully discussed in the above-mentioned publications, I should like to mention the fact that Kuryłowicz pointed out some time ago (1956:245ff.) that there is a connection between Balto-Slav and Indian vocalizations with *ĭ* and *ŭ* or *r̥*,

l before a vowel (and even before a consonant in Indian) and the timbre of the preceding consonant. The *ŭ* vocalization of k^{uo} which is frequent in several languages, is likewise attributed to the fact that it is a labiovelar. As for recent anaptyxes of the type of Gr. Ἀραγχας, Ἐπιδώμος, Ἑρμῆς, the influence of the following vowel timbre is quite obvious: among thousands of examples from other languages, I will just quote O.Cast. *Ingalaterra, corónica.* Of course the decisive influence is sometimes that of the consonant, thus in Lat. *poclum, stablum* from *poculum, stabulum* through the influence of a velar *l*, just as Gr. Σικελοί gives Lat. *siculi*. As an example of contradictory influences, cf. Gr. ἕβδομος, but also in ἕβδεμος (cf. O.Slav. *sedmŭ*): either the timbre of the following vowel prevails or that of the preceding consonant. For the influence of both vowels and consonants on the timbre of the prothesis, cf. Adrados 1973:74ff.).

2.1.4 The connection between these data with differences in syllabic boundary is also widely acknowledged (compare Lejeune 1972:257). Note, for example, the double possibility in IE of CịV/CiịV, CuV/CuụV or the generally accepted idea that in Common Slavonic there was a VRC > VR°C development related to its tendency to open syllables. On the other hand, certain fluctuations in syllabic cuts in the IE languages are well-known, for example in the *muta cum liquida* group (cf. Hermann 1923).

I should like to add other points to the foregoing, although both are well-known and widely acknowledged.

2.2.4 Alongside timbres dependent on assimilatory contamination (inertia or anticipation) of neighbouring phonemes, timbres which generally tend to a unitary solution (although there may be remains of less favoured solutions in isolated words) there is a general tendency to a neutral timbre *a*: it not only neutralizes the oppositions or clashes between other timbres but also, as I have said, offers a very clear solution to the problem of syllabation. Languages in which the *o* vocalization of the sonants prevails, such as Latin and Aeolic, have forms with *ă* (Lat. *carpo, gradior, latus, marceo*, etc.; Myc. and Aeol.: Myc. *ka-po* καρπός; *a-re-po/a-re-pa*, ἄλειφαρ/ἄλειφαρ; Arc. τέταρτος; στραταγοί, etc.); likewise in Germanic, in which *u* prevails (O.Ice. *ganga* "to go", alongside O. Fris. *gunga*; O.H.G. *graban* "to dig" alongside *grubilon*, etc.).

It should also be recalled that k^{uo} at times vocalize in *a* and not everywhere in *ŭ*.

2.2.2 Under the same circumstances, one or another timbre is chosen according to the date of the dialect. Thus, in recent Latin anaptyxes coming from syncope, the timbre before r is ĕ not ŏ (*ager, piger*); likewise in Aeolic (Πεφραυος from **P°riamos* < Πρίαμος). Initial *st* in Greek takes an old prothesis à- (e.g., ἀστήρ) or lack of same (e.g., στήλη), this latter solution pertaining to Classical Latin (*stella, stāre*) whereas Vulgar Latin takes *i-, e-* (cf. Sp. *e-* in *estrella, estar*). Certain differences between preconsonantal and prevocalic treatments of sonants can thus be explained: whilst *ă* is common in many languages in prevocalic treatments (Hittite, Greek, Latin, Armenian, Celtic, above all), in several of them the preconsonantal one is different. Thus, in Latin, before preconsonantal r, l, there is *o* (*cor* <**krd, mollis* <**mlduis*) but there is a before the prevocalic one (*haruspex, palea*). These different tendencies have been given different solutions in the different developmental stages (and languages). Note that in O.I. $\underset{\circ}{r}$, $\underset{\circ}{l}$ are preserved before a consonant and vocalize in *ir, ul* before a vowel; and that, as I already pointed out, vocalization was generalized in the former case (except, it appears, in Lycian *ñ*), whereas in the latter there is the doublet CRV/CVRV. To be sure, there was a two-stage evolution everywhere, with different results as far as timbre and regularity are concerned.

2.2.3 Naturally, however, timbre does not depend exclusively on the consonants and vowels which surround the supporting vowel; neither on the sonant, when there is one. That is to say that in the groups °C, C°C, C°RC, CR°C, and C°RV there is a clear influence of the nearby C. (They conflict in C°C, for there are two; in the last group C°RV, there is tension between the influence of the C and the V.) But I would like to point out that at times in the same language the result of C RC and CR C may differ according to the sonant R; it is, for example, well-known that in Lat. the regular treatments of the four sonants are *ŏr, ăl* and *ăn, ăm*. In Celtic, even traditional reconstruction acknowledges different treatments or $\underset{\circ}{r}$, $\underset{\circ}{l}$ and $\underset{\circ}{n}$, $\underset{\circ}{m}$, treatments which for the rest are non-unitarian, but conditioned by the following phonemes (cf., e.g., Thurneysen 1909:126ff.). This is particularly important as regards $K^{\underline{u}}$, for which only the *u* and *a* vocalizations seem possible; and above all, with regard to the laryngeals, a matter I will discuss in the next section.

2.2.4 The timbre of the supporting vowels, which are at first indefinite, is also subject to analogical influences which at times create small irregular systems within the

general one. In contrast to the generally-held view that the laryngeal gives ā in Greek, which only secondarily becomes e, o through the influence of the full degrees ē, ō, I believe it is more realistic to suggest that wherever °/ē °/ō (from °H_1/eH_1, °H_3/eH_3) are opposed, the supporting vowel was attracted to e and o respectively, and the general tendency to transform it into a was halted. To my mind, the same should be suggested for occasional rē and rō forms (and ĕrĕ, ŏrŏ) in diverse languages, as against the common result rā, all these forms coming from °R°H, (see below). Yet not only the data of phonetic analogy are influential, for so are the morphological ones which tend to create small regular systems, for instance that of the Greek aorists with vocalization (ἐδάρην, ἐφθάρην, ἐμάνην, etc.), although there are still isolated forms without it (ἀπέκλην from ἀποσκάλλω). This system is the reverse to that of other languages: Lat. *pleui, flēui*, etc., O.I. *jajñaú, paprāú*, etc., and to that of Greek itself: τέθνηκα, βέβληκα, etc. On the other hand, it coincides with what is most common in the present forms with *n* (Gr. βάλλω, βαίνω, μαίνομαι; O.I. *manyate, hanyatí*; Lith. *gulíũ, giriũ*, etc.). The problem lies in the extent to which these more or less regular systems (they sometimes fail, cf., for example, Gr. μνάομαι) are General IE or dialectal variations.

2.2.5 I would also like to draw attention to the following very important fact: I have interpreted the treatments of the *RH > rā type as the result of °R°H, that is, of a double vocalization witnessed at least in results of the ĕrā type, although followed in this case by a compensatory lengthening. °R°H 'filters', so to speak, the whole of its vocalic element and places it behind the sonant, albeit lengthened. It is the reverse in the ŭr result of O.I.; there, it is the preceding supporting vowel that is lengthened.

As the etymology in favour of RH is quite clear and obvious, I do not think there could be any other explanation for these data; one need only admit that certain ĕrĕ, ŏrŏ, and rē, rō treatments are analogical to the full degree *ReH$_1$ > rē and *ReH_3 > rō, which in these cases probably implies that the supporting vowel had been contaminated at a very early age by ē and ō respectively. I also believe that lengthening is optional here: it derives from a preference for the RV type of syllabation, though this is a secondary preference of a more recent date, for at first there was oscillation between VR/RV/VRV, the syllable RV being short. In fact, vacillations ăR, Ră, ăRă and Rā have been preserved. And in O.I., as I said, there is ŭr.

Of course, the lengthening of a vowel when certain neighbouring phonemes disappear has nothing strange about it, but the most remarkable parallel phenomenon is, as I have said elsewhere (Adrados 1973:213ff.), the evolution in Slavic of the CVRC group of the CorC > Cr̄C type, upon which there is consensus that it results from a lengthening of this type. What is also remarkable here is that there is also the duality *ŏrə̆/rā*, except that in this case a regularization was carried out by choices of the dialects: Russian has *oro*, almost all the other languages prefer *rā* (**rō*). It is also worth noting that we are once more faced with a phenomenon of General Linguistics: it is not only repeated within Slavic (in close, although not identical, circumstances to those of the primitive IE languages), but also that it has different chronological levels within Slavic, the development being older in Southern Slavic than in Polish.

2.2.6 But, above all, the most interesting point for us is how a regularity or at least a semi-regularity was created on the strength of anaptyxes through the stabilization of the result with or without vocalization, as the case may be; though the placing of said vocalization (when it is optional); and through the effects of timbre.

I have said that there is no essential difference between the diverse data on anaptyxis and I would like to stress the error in the traditional division between regular phonetic phenomena (which, in the present case and in many others, sometimes display vestiges of irregularity) and sporadic ones. To this end, I refer to a former paper of mine (Adrados 1967, cited in 1974:184ff.). The result of regularity of change is sometimes attained and sometimes not; in the present instance it is attained or not for the same groups of phonemes according to period, dialects, and even analogical and morphological influences. By comparing certain cases with others we can find this regularity 'in fieri', and see the great complexity of factors operating towards it and either successfully or unsuccessfully attaining this state.

In order to attempt to fix the datas, an essential distinction should be drawn between the existence of a supporting vowel (alternating with another form, without it, or already generalized) and its vocalization with clearly defined timbre and quantity. These are quite different things. Thus, the fact that certain anaptyxes should pertain, in their vocalized form, to relatively recent stages of development does not mean that they did not formely exist in their function as supporting vowels. I think, for

example, that the vocalization of the CRC group already belonged to specific IE languages and even dialects (and not to all of them); but undoubtedly, right from PIE, this group could have been articulated with a supporting vowel or vowels. These latter would then have re-appeared at other times when similar phonetic conditions were given, although we only learn of it when new vocalizations were obtained, whether regular or otherwise.

To be sure, the division between regular and irregular developments is far too sharply drawn. Traditional accounts of IE, for example, place the evolution of the syllabic sonants among the regular treatments studied. Yet the truth is that there is regularity in only one thing: in the generalization (in the languages in which it is generalized) of vocalization, and not in its distribution, which is regularized in some languages and not in others. This is even more true of timbre. Regardless of anomalous forms which these accounts tend to leave to one side (*ŭ* and *ĭ* in Gr., *ă* in Lat., etc.), as likewise certain erroneous generalizations (Gr. would have *ă* but Aeol. *ŏ*, Hitt. *ŭ* for some words and *a* for others, etc.), traditional accounts admit a great deal of irregularity: in Celtic (see above 2.2.1), in Slavonic (O. Slav. *rĭ, ru*), Baltic (Lith. *iř, uř*), and so forth; and also in the CRV group.

2.3 In the light of the foregoing, it would be wise to give a few examples of the changing regularities. Above all, it is really a matter of recalling things that have already been said and which may, of course, be enlarged upon. Recent data come to mind within the different languages, such as the type of Lat. *ager* and Aeol. *ἄρραρος*, the *est-* or *ist-* of vulgar Latin. Vocalizations of the CRC type (with differences, for example, within Greek) should be attributed to the beginnings of the various branches of IE; for the rest, I have already said that these vocalizations were only partly regular. Compensatory lengthening, which in other languages is just one possibility among several, as we have just seen, was the solution chosen in certain Slavonic languages, but by no means the only one. I have also discussed the generalization of *i* as the solution to the vocalization of *H* (with exceptions of the type of O.I. *śaknóti*) in Indo-Iranian, as likewise the generalization of the loss of medial consonantal *H* in certain languages. Also, there are certain Latin regularities of the type of *poculum, stabulum, tagula*, etc. (although in archaic Lat. there is *periclum, poclum*). I would also like to point to small morphologically defined groups which unify evolutions of the CRV group. However, I would insist no less on the fact that not only are certain isolated cases

remaining (e.g., non-vocalization, anomalous timbre), but that occasionally, certain double, triple or even quadruple forms are normal that are only secondarily stabilized following lexical criteria (θάνᾰτος but θνήσκω) or morphological ones (τέθνᾰμεν, ἔθανον). There are, at times, non-stabilized ones (ταράσσω/ἀράσσω, etc.). The irregularities are even greater, as we may see below. However, precisely because of the general character of many data and their repetition in diverse languages and at different chronological stages, it is at times hard to establish any sort of dating in the strict sense. In the next portion of this paper I shall attempt to go as far as possible into this field, which concerns the anaptyxes of sonants and laryngeals. (In my above-mentioned works there are certain advances in this field, but they still display an excessively flat, panchronic vision.)

3.0 *Anaxtyxis of sonants and laryngeals*

In this section I am going to give an overview of the different treatments of vocalic sonants and laryngeals within the different branches of Indo-European, thereby attempting to distinguish between two types: one pertaining to the different branches and, at times, the dialects within these latter and even with lexical or morphological variations within them; and another consisting of realizations or tendencies that were already general in PIE. I shall devote this section to the first type only, however.

3.1 To begin with, it is obvious that vocalizations of the interconsonantal sonant belong here; by this I mean the conversion of the anaptyctic vowels into full (supporting) vowels in contact with this distribution of the sonants. It is quite clear that this vocalization takes place at the level of the individual languages and dialects only: it is sufficient to recall the non-existence of some in the oldest type of I.-I. (it only appears at a later date, thus in Prakrit) and even, as far as the nasal is concerned, in Lycian; the internal differences among the dialects, for example, the peculiarities of Mycenaean and Aeolic in Greek: as well as the presence of the phenomenon in all instances where it is tied up with phonemes in contact and which varies from one language to another, as likewise the differences related to the place of vocalization.

Nevertheless, this does not exclude the fact that certain languages we know from other data to have been in close contact with another at a certain moment of the evolution of IE, should have results that roughly coincide, too, as far as the vocalization of the sonants is concerned.

This must be attributed to the fact that at least the beginning of vocalization took place at that date of the community, i.e., at some point of the evolution of a late stage of Indo-European (IE III). I believe this to be the case of the dark timbres of Germanic (*ŏ*), Latin (*ŏ*), and Aeol. (*ŏ*) — this dialect shares certain innovations with western languages; these are in fact predominant in these languages and dialects and are a product of generalizations.

To be sure, vocalizations cannot have been so recent as to have come after the oldest forms of the different linguistic groups. It is true that certain dialects were able to choose (cf. Gr. ἄγυρις / ἄγυρρις, βράταχος/βράτταχος, for example); but the double forms also show that vocalization had already been carried out from an early date. Alfred Heubeck's thesis that Homeric poetry preserves traces of *r̥* cannot, I believe, be supported (cf. Moralejo 1973): among other reasons because the Homeric state of vacillation between *ă/ŏ* coincides with Mycenaean (cf. Adrados 1976: 68ff., 1981:18). On the other hand, when vocalization affects a nasal, I believe that solutions such as that of Gr. and O.I. (*ă*) were presented by development of °*m* > *ăm* > *ą* > *ă* (to exemplify with *m*); that is, by a nasalization of the vowel followed by a later denasalization. It is likewise a matter of an evolution in the individual languages, as far as it is connected to timbre fixations (in Gr. there is *o* as well as *a*), and in other languages traces are preserved of either nasalization (O.Slav. *ę*) or of the nasal itself.

It seems to me that greater antiquity should be attributed to the evolution of the CRV group, not as far as the CRV/C°RV alternance is concerned, for this occurs in all antiquity, but with regard to the vocalization of the second solution. For this is what occurs in O.I., a language in which the CRC group does not vocalize; besides, it occurs in a similar way to that of Balto-Slavonic (O. Slav. *ĭr*, *ŭr*; Lith. *ĩr*, *ũr*), and it is well-known that these were languages which were related to each other.[5] This wide spread of solutions with *ă* may be accounted for by contacts within the IE III period.

3.2 Let us now examine compensatory lengthenings in the CSHC groups of the type of Gr. ὀνητός, Dor. πρᾶτος, Lat. *grātus*, *gnātus*, O.I. *pūrṇá-*, Lith. *pìlnas*, etc. Naturally, the dispersion of the results as far as timbre and location of the vowel are concerned, points to by now developments in individual languages, although one should accept that within each language the supporting vowels could still be analogically influenced before the generalization of the 'normal' result (Gr. στρωτός, πᾶτος, -γυνᾶς, Lat. *plēnus*,

alongside forms with ā which are today acknowledged to be the phonetic ones). However, I would like to point out that a double supporting vowel must be assumed to have been present in these groups (a simple possibility, and a rare one in the CRC group) as well as a vocalization at an earlier date to CRC, at least in Ind., in which this latter possibility was not realized. Thus, in O.I. there is *dīrghá-* alongside Av. *dar ga-*: within the history of Ind. itself there was vocalization (and then lengthening). Similarly, there is lengthening, although not vocalization, in dialectal Lithuanian: there are forms derived from the lenghtened ones (*pìlnas, gìrti*) and others without lengthening, e.g., *sirvas, kirti* (cf. Adrados 1973:229), that is, the phenomenon comes after the regularization of the loss of interconsonantal *H*.

Each language proceeded in its own way on the strength of a prior basis (the double supporting vowel); there were two stages to this, however: vocalization (in Ind. earlier then in the CRC group) and lengthening. It is quite impossible to establish the chronology with respect to the vocalization of the CRV groups, which was also earlier. In any case, evolutions of the type of O.I. *pūrva-* < *prH̯°o-* show, first, that lengthening came later then the u vocalization before RV (a phrase *p°r°H̯°o-* should be assumed); secondly, that the evolution of *pūrṇa-* is in fact quite comparable to this (*p°r°H̯°no-* > *pur°no-* > *pūrṇa-*). It is in fact quite probable that the vocalizations of the CRV and CRHC groups were contemporary to each other, either in time or dialect, and that the lengthenings were later.

As may be seen, in this case and in the others, it is the phonetically general nature of a series of phonemes that causes difficulty in establishing their chronology.

3.3 I would like to add a few things concerning the phenomena discussed so far. As may have been observed, vocalizations of the C°R°H results are already dialectal, insofar as they give different timbres, and the lengthenings are more recent. However, it should be added that even the CRC results admit exceptions within individual languages, and moreover, for similar reasons: phonetic or analogical contamination. Alongside the normal result *ăRă* in Greek, we have others such as σκελετός, ἐρετμός, Aeol. ἐστόρεται, and there are parallels in other languages.
been said, there are also forms with a long vowel *ē*, *ō*.)
Therefore, the supporting vowel arose with an as yet imprecise timbre or, at least a modifiable one. This is also shown in forms such as ἔμολον, ἔφορον, etc. (from **ém°lHom*, **ér°rHom*), the timbre of the vocalization of which is usually rightly attributed to the influence of the preceding

labial.

The same can be said of the variant $^{\circ}H$, habitually transcribed as *a*, from the interconsonantal *H*. If Greek also took in the analogical timbres *é*, *ó* as well as habitual *ă*, I have already said that this was due to the fact that this timbre had not yet been fixed. And if in O.I. an *i* timbre was generalized (with a few exceptions), this may be explained through a secondary choice of the *i* solutions (from H^{i}_{u}) over the *á* ones (from $^{\circ}H$) and others. Yet I would like to add that at a time when the laryngeal had habitually been dropped, the result it left (° from $^{\circ}H$) was a vowel of undetermined timbre that could be absorbed by the now precise timbre of an older *i* that came from H^{i}_{u}. With this, I wish to put forward the argument that these $H^{uo} > \bar{u}$ and $H^{io} > \bar{\imath}$ developments are in general terms older.

Thus there came to the diverse branches of Indo-European and even to its dialects anaptyctic forms which varied as to their location of the supporting vowel and which alternated with non-anaptyctic forms. Supporting vowels before H tended to *ă*, but they could still be influenced by a former vowel (e.g., of the *ĕRé* type) or by a free variant (cf. the example of the *i* I have just given). In other instances, the timbre was freer next to a sonant not in contact with *H*, according to the criteria already stated: phonological tendency to *ă* and 'contaminated' timbres that were far more frequent here.

There is, at least one chronology that can fairly safely be established. The oldest vocalizations, i.e., conversions of the supporting vowels into full ones, seem to occur in the CRV group and in those assimilated to this latter in some way, CRHV and CRHC; then there was, at times, a lengthening. The vocalization of CRC is also later, but in this case there is no lengthening, due to the fact that the solution C°S°C had early been eliminated, save in very rare instances.

It is not easy to place the development of CHC within the same framework. For the time being, it is quite clear that just as there was a choice in each language between a C°SHC and a C°S°HC solution (there is also CS°HC and corresponding forms ending in V), both forms sometimes being dropped, the choice between CHC and C°HC (not to mention other possibilities) is also found in dialectal data. In other words, all these forms arrive at the dialectal stage with H already lost. (I have already said that a certain language can offer the vocalized and non-vocalized form in the CHC group, whilst another may offer only the vocalized, and still others only the non-vocalized solution.)

3.4 When there is °*H* (and not merely H) and when it is not re-absorbed to lengthen the preceding vowel or its timbre altered through some phenomenon of contamination or morphological analogy, its habitual result is *ă*. The same goes for both CSHC and CHC groups. This was only to be expected. But I have said that this result was already dialectal, although homogeneous with these exceptions. This homogeneity derives from a fact of general phonetics: it is quite natural that H should tend to open up a previous supporting vowel. However, this general phonetic fact may quite logically be expected to have exerted its influence in a prior stage already. That the IE languages in general should display this strong tendency to *ă* (written still as *aḫ* in Hittite), but derived from an earlier phase can only be represented graphically as *ᵃH*; the supporting vowel before *H* had an open quality, susceptible to influence which altered it, although in itself tending to become *ă* in each of the diverse languages.

This tendency was so strong that the *ă* from °H imposed its timbre on that of another previous supporting vowel; note that the solutions *ăRă* (and those derived from these latter, namely, *Rā*) are even to be found in languages which generalized another timbre before R. Thus, is Latin, which generalized *ŏ* in *cor*, etc., in which there is *grānum*, *grātus*, etc.; and in Germ. which tends to *ŭ*, there is a form such as O.H.G. *halam* "cane" (cf. Lat. *calamus*). This aperture to *ă* even occurs when the normal spelling in Avestan is of the *arəma-* ("shoulder") type; and even when the form with vocalization has in fact prevailed only before a sonant (cf. Lat. *armus*, N.O.G. *Arm*). There is a solidarity that tends to generalise the *a*: Gr. θάνατος, ἔθανον, τέθνηκα, τέθναμεν, etc. This, of course, does not always happen; remember what was said on the results of O.I., Balt. and Slav. with *i* or *u* before a sonant: the generalization of treatments after a labial or guttural; and also note what was said on the treatment of Greek in the case of other timbres.

3.5 There seem in fact to be two age levels in the vocalizations discussed above: one, a more recent one, for those of the CRC group and for lengthening (although its relative antiquity is not obvious); and another, older one for the CRV group and those with a laryngeal in their diverse results: CR°HC, C°R°H, and C°HC. The vocalizations of the protheses before sonants and even the others probably belong to the more recent stage. It is well-known that this phenomenon of the prothesis before a sonant and laryngeal is particularly important in Greek and Armenian, languages which are acknowledged to be related (although each differs in matters of detail).

4.0 *Vocalization of anaptyxes and laryngeals in IE II and IE III*

So far, I have worked with more or less ancient or recent results of anaptyxes in the different IE languages and dialects which had long existed in contact with a sonant or a laryngeal (or with both phonemes at once). I have attempted to fix their chronology, albeit offering a rather superficial picture of the IE dialects. Nevertheless, I have put forward certain points on what the IE panorama may have been like prior to the branching-off of individual languages; for example, *°H would have had in it a realization *$^{a}_{H}$.

However, I shall try to say a few more things regarding this previous stage of IE, although from this point onwards I shall have to build upon two theories that I have attempted to justify elsewhere and which, of course, I can discuss here only briefly. Yet I would like to point out that non-acceptance of these two theories and, consequently, of what follows below, by no means invalidates what I have said so far, except perhaps for the extent to which certain aspects of either may have to be modified.

4.1 The first of these theories is that which establishes a chronology for IE in three phases: IE I (or PIE), which was pre-flexional; IE II, which was monothematic (essentially preserved in Anatolian and in vestiges or fossils outside same), and IE III, which was polythematic (classical IE in traditional reconstructions). As far as phonetics and phonology (the least characteristic part) are concerned, IE II still preserves the laryngeals, which altered the timbres of the vowels in contact and which are in the process of being dropped; there is doubt as to the extent to which they lengthened the preceding vowels.[7] Now, an attempt should be made to introduce all the foregoing as regards the vocalizations of the supporting vowels within this chronological schema, which is continued in the division between IE IIIa (or Indo-Greek) and III b (or Northern IE), as likewise in the splits between these branches and their reciprocal contacts and influences.

4.2 The second theory is the one which I already mentioned briefly in my study of the laryngeals with appendix. At least from my *Estudios sobre las laringales indoeuropeas* (first published in 1961) onwards, I have upheld the theory that there were formely six laryngeals in IE which combine three timbres (*e, a, o*) and two appendices (labial and palatal): H^{u}_{1}, H^{u}_{2}, H^{u}_{3}; H^{i}_{1}, H^{i}_{2}, H^{i}_{3}. I have already said

that spellings such as H^{u} and H^{j} mean "labial" and "palatal laryngeal", not to mention the timbre, for it is either unknown or, if known, of no interest in the cited context. H_1, H_2, H_3 mean respectively "laryngeal with timbre e, a, o", whatever its appendix may be. It is not a question of new laryngeals; I'm only referring to my long-standing hypothesis.

The theory of the laryngeals with appendix was expounded in my above-mentioned book (see Adrados 1973) and elsewhere in other recent articles (Adrados 1981, 1982b). To a certain extent, the treatments of these laryngeals are those habitually acknowledged for the laryngeals in general: they are, among others, those indicated above. Other treatments, however, are different. (I cannot, of course, discuss them in detail or even justify them here. I refer to this end to the works already mentioned.)

Nevertheless, I am obliged to state here what is indispensable from the point of view of the subject we are concerned with. The appendices may be dropped, above all in initial position before a vowel and in medial position before a consonant when there is no vocalization. Yet in other instances there are vocalizations. Furthermore, a laryngeal may take these, just like a sonant, on both sides: before *or* after or before *and* after. Hence, we obtain results which, in the case of H^{u}, and *ă*, *ŭ* and *au* (from ^{o}H: H^{uo} and $^{o}H^{uo}$, respectively), and which in Hittite have the expected counterparts *aḫ*, *ḫu* and *aḫu* (sometimes with gemination of *ḫ*). Likewise, for H^{j}, there is *ă*, *ĭ*, *ai* (Hitt. *aḫ*, *ḫi*, *aḫi*). In certain languages, there are instances of compensatory lengthening *ī*, *ū*.

All this occurs, too, in the groups of sonant plus laryngeals; in these cases there may be CR°H°C (normally giving as final vocalization *u* or *i* according to whether it is a case of H^{u} or H^{j}) the vocalizations already discussed. There does not seem to be a triple vocalization. However, in this case the CRH group may be followed by a V instead of by a C: the laryngeal leaves a *u̯* (if it is H^{u}) before the vowel or an *i̯* (if it is H^{j}). Apart from this, there may be the usual vocalizations which we already know and also compensatory lengthening; I have mentioned O.I. *pūrva-* and Lithuanian forms (and there are also Slav. and Greek ones) without it; cf. also Lat. *gnāuus* from *genH*^{u} (below).

All this is strictly correlative to the general principles and data (widely accepted) given thus far; it is also in agreement with the facts. I shall now give a few examples.

4.3 These examples prove that vocalizations with *a* before H^{u} and with *ŭ* (from H^{u}) and *ĭ* (from H^{j}) after it, were already

habitual in Anatolian, as likewise later in more recent IE languages. Bearing in mind that *ḫ* was in the process of being lost in Anatolian (but is also sometimes to be found geminated), we find in the languages of this branch not only the above-mentioned forms *ḫa/ḫu/aḫu* (and the geminated ones), but also *a/u/au*, the same as in later languages; and the same goes for the series *a/i/ai* alongside *aḫ/ḫi/aḫi*.

In fact the forms in question are to be found alternating in one and the same root and precisely in roots for which comparison within the whole of IE shows that they had a laryngeal. The forms with *aḫ* and *a* are certainly the easiest to exemplify and I need only point out that alongside forms such as Hitt. *tar-aḫ-zi*, *šan-aḫ-zi* and so many more of this type, forms such as *es-ha-na-as* are to be found which as I said represents */ešḫnaš/* and */eš-na-aš/ /ešnaš/*; that is, non-vocalized forms with preservation or loss of *h* according to each case. However, there is *aḫ* alongside *ḫu*: *tar-aḫ-zi / tar-ḫu-uz-zi*, *tar-num-me-ni*, *ga-al-aḫ-zi/ ga-al-ḫu-un*, *ḫarnauš* (from *-eH$^{u}_{2}$s*). On the other hand, there may be a vocalization C°RH$^{u}_{2}$C in the CRHC group, thus in *a-ru-na*, *ka-lu-ti*. And when *H$^{u}_{2}$* follows a sonant, we also find the vocalization *a(ḫ)ḫu*: of the type of *paḫḫur*, (from the root of Gr. πῦρ; see below), Hier. Luv. *daḫḫušiia-* (from the root of Gr. δύος, etc.), *la(ḫ)ḫa-* from "to wash", etc.

What we do not seem to find in Hittite is the vocalization of the *áRā* type; neither do we find compensatory lengthenings. Yet all these vocalizations exactly respond to others which, despite later regularizations, can still be glimpsed in the different IE languages. I have given more than sufficient examples of this, I believe, in my above-mentioned publications: examples of the type of Lat. *sătus* as against O.Ice. *saurr* "seed" (root **seH$^{u}_{2}$*) "to sow", cf. Lat. *sēmen*, *sēuī*); Gr. χυτός, ∅ degree of the root of ἔχωσα and χεύω; Lat. *nĕto* alongside O.I. *snutá-* (and full degrees of O.I. *nāus* from *neH-H$^{uo}_{2}$s*, Ac. Dor. νᾶν from **neH$^{u}_{2}$m*); Gr. πεφάσκω alongside φανερός (and full degree φημί); ∅/Full alternances such as Gr. αὖς / ὗς, and also τρῦμα / τρῶμα, and so forth. Of course, the result of the appendix before a vowel will be *u*: we get it in the above-mentioned examples in Gr. πλέFω, νέFω, νᾶFός, ἀγλᾶFός from *glH$^{u}_{2}$* (cf. γελάσαι), Lat. *lauo*, and their corresponding forms in other languages. This also goes back to IE II; cf. Hitt. *tarḫuili-*, *e-šu-e-ni*, *paḫ-ḫuenaš*, etc.

Of course, when it is a case of the laryngeal *H$^{i}_{2}$*, we encounter totally parallel results. In Hittite we find forms such as *išhimana-* "string", in Luv. abstracts in *-ahi(t)*, in Lyc. datives in *-ahi* (cf. Adrados, forthcoming) which corresponds to others in *-ai* from diverse Hittite

stems. The declension in *-aiš* of this language (e.g., *zaḫḫaiš*) is to be explained along similar lines, on the strength of a full degree; likewise, different verbal forms of the type *memaḫḫi / memišta*, though here the timbre *i* may come from assimilation. Naturally, there is *i* before a vowel: types such as *zaḫḫaiš / zaḫḫiias, taḫḫi/ tiianzi* etc. The non-Anatolian IE languages preserve both vocalizations with *i* and forms with *ī*, both types being widely used morphologically (as likewise those in *u* and *ū*, for the rest); cf., for example, verbal stems with *i*, which were originally radical, such as $*g^{\mu}neH_2^{i}$ produces γυνή in Gr. and a derived verb μνα(ᾱ)ομαι "to look for a wife". Compare alongside this a Voc. γύναι and an adj. γυναῖος, to give just one example among a great many. The datives/locatives of the first declension in *-āi*, others from stems in *-i* in *-ēi*, and the pure stem forms in *-i* of these same stems are further examples.

4.4 I have already stated that I shall give here no more than a summary account of my theory, which should be judged on the strength of the fuller discussions to be found in the above-mentioned works; what I wish to show here is that, to the extent that — as I believe — it responds to the data, it is valid for both Anatolian (a vestige of IE II) and for IE II, although in this latter stage there are certain losses (loss of the laryngeal) and certain gains (the establishment of the lengthened type). The lack of the *aRaH* type in Anatolian is perhaps a choice of this branch, which preferred *arHa* (and *aRHi*), which for the rest are to be found outside this language group, as we shall see.

In my opinion, there is from IE II onwards a tendency toward the vocalization of *ŭ* and *ĭ* from H^{u} and H^{i} respectively; these vocalizations alternate, as has been said, with *ă* (which comes from a previous anaptyxis) and *au*, *ai* (from a double anaptyxis). But, just as I stated that the tendency to timbre *ă* in these anaptyxes comes from an earlier stage, albeit only the tendency for we cannot postulate anything else but ^{a}H for both the beginnings of IE II and those of IE III, this vowel being as yet not a full one and susceptible to changes in timbre, I must also say that IE II and even IE III begin at a stage in which only a tendency to the vocalizations *ŭ* and *ĭ* after a laryngeal, and no more, can be admitted. That is to say that $H^{\breve{u}\breve{o}}$ gave H^{u} and $H^{\breve{i}\breve{o}}$ gave H^{i} which later habitually produced *Hŭ* and *ŭ*, *Hĭ* and *ĭ*, but which were susceptible to influences of timbre (through assimilation or analogy) and thus occasionally produced other timbres.

To begin with Anatolian, it should first of all be stated that alongside *aḫu aḫi* there appear *uḫu*, *iḫi*, with

assimilation of timbres. Thus, from the root we gave before in the form *daḫḫus-*, we find in Hitt *tuḫuš-* most frequently; cf. also *muḫur* "at the moment" from *$*m^{\circ}H^{u\circ}r$*. Conversely, H^{u} gives *i*, *e* before *-t*, *-š*; cf. *da-ma-aš-zi* and *da-me-ša-š* (cf. the root of Lat. *damaui*) - *palḫatar* and *palḫiš*, *palḫešaš* (cf. O.I. *paprau*, Lat. *pleui*), verbal forms of the type of the above-mentioned *memišta*, which are very numerous. All this has nothing to do with the fact that there are *a/u* alternances among others which accept one or other placing of the anaptyxis: cf. Pal. *ešur* / Hitt. *ešar* and alternances of this type. On the other hand, a root with H^{i} may vocalize in *u* through assimilation; thus in *daluki-*, *dalugaes* alongside Gr. δολιχός, O.I. *dīrghá-*.

4.5 As I have said, these phenomena are not exclusive to Anatolian. It is the only way to explain, for example, diverse forms with *-is* in roots with a laryngeal of any timbre and appendix of the type of Gr. ἔνῆσκω, O.I. fut. in *-iṣyati*, etc. Quite different are, here too, alternances of the type *ă/ŭ* (Gr. κάλαθος / Myc. *ka-ru-ti-*; Gr. φάρυγξ/φάραγξ, etc.) and *ă/ĭ* (Gr. ἀριθμός/ Lat. *rătus*, cf. O.I. *īrmá-*), for example, which are to be explained in the matter already stated.

Thus, the supporting vowel after a laryngeal may change its timre, tending to evolve toward *ŭ* or *ĭ* according to the laryngeal, in several directions. There is nothing strange about this, for the same thing occurs with the timbre of the vocalization of k^{uo}, which also tended to *ŭ*, as I have said. This phenomenon is quite parallel: we have non-vocalized forms before a consonant (Lat. *secta* from *$*sek^{u}$*, Gr. κνάομαι from *$*g^{u}neH_{3}^{i}$*, κύκλος - from *$*k^{uo}$-k^{u}l-os*), forms with *u* mentioned above (even in Hittite, e.g., *nakuz*, *kunanzi*); and forms with another vowel. (I quoted the Boet. form βάνα "woman" above.)

In this way, what is common to both Anatolian, the representative of IE II, and the languages of IE III has been specified: basically, the tendency toward the *a* vocalization before the laryngeal and to *ŭ* and *ĭ* vocalizations after same; and the fact that the RH group can take double anaptyxis. I have pointed out the differences above. To these latter combinations I would like to add one more, or, rather, complete what I have already said: there is no trace in Anatolian of compensatory lengthenings.

To those already studied two more should be added to IE III:

4.5.1 Anaptyctic forms of the type of $^{a}H^{u}$, $^{a}H^{i}$ are established on the results of *ū*, *ī*; cf. alongside Hitt. *paḫḫur*,

Gr. πῦρ; O.I. *dūnā́* "burnt" from $*deH^{u}$; Lat. *grūs* from $*gerH^{u}$ (cf. Gr. γέρανος; Gr. ἔστυκα, O.I. *sthūrá-* from $*steH_{2}^{u}$; cf. Gr. σταυρός, O.I. *ásthur*). The same goes for $*gheH_{3}^{i}$ (cf. Gr. χάσκω).[8]

4.5.2 Pre-vocalic anaptyctic forms of the type of *Rāu* in diverse languages and of the type of ūRuV in O.I. (and parallels with *-i*) correspond to the treatments Rā, ūR before C already discussed; cf., for example, Lat. *prāuus*, O.I. *pūrva*, O.Slav. *pravŭ*, from the same root which gives Dor. πρᾶτος. It should be noted that, just as it happens in the treatments before C, in these, too, there is a trace of non-lengthened forms, due to a lack of anaptyxis between R and H (e.g. Lith. *šir̃vas*, O. Slav. *prŭvŭ*). That is, $C^{\circ}R^{\circ}H^{u}$ was inherited, which gives *CRā* (before -C) and *CRāu̯* (before -V), but it may also give *CūR*, *CūRu̯-* according to the timbre of the prevailing vowel and its placement. Just $C^{\circ}SH^{u}$ was also possible. And, of course, the corresponding forms with H^{i}. There are no traces of any of these lengthenings in Anatolian, whilst there are of forms with vocalizations of the different placements.

5.0 *Summary remarks*

It is possible to establish a chronological table of the various anaptyxes in Indo-European and their vocalizations. It would be more or less as follows (limited to instances where anaptyxis occurs next to a sonant and a laryngeal):

5.1 To begin with, the diverse development possibilities of the supporting vowels, as likewise of their non-development, should be attributed to IE I or pre-flexional or Proto-Indo-European. It is to be assumed that this double possibility occurred at the beginning of a word and in the medial group CRV and CRHC (and CRHV). This, however, needs greater precision. One gets the impression that only C°RC and CR°C were generally accepted; there are very scant traces of C°R°C in Indo-Iranian. Neither in the case of the future prothesis nor in this other possibility could there have been vocalizations in the strict sense of the word: there were merely tendencies to assimilatory or analogical timbres of the supporting vowels, which changed according to the circumstances. As regards the CRHC groups (and also CSHV), there are several points to be made.

The first of these is that there does not seem to be any possibility for the three supporting vowels that were theoretically possible. Secondly, the majority of the double developments are possible in both IE II and III, but only

some of them in III. We shall discuss their interpretation later. As an example, I shall give the laryngeal H in combination with groups ending in C.

5.1.1 In the first place there is a series of possibilities which occur from IE II and then continue in III. These are the groups $CR^{\circ}H^{u}C$ (whence CRaC), $C^{\circ}RH^{u}C$ (> CăRC, also CăRŭC), $CRH^{u}{}^{\circ}C$ (> CRúC), and $C^{\circ}RH^{u}{}^{\circ}C$ (> CăRúC, here, too, lengthened forms CRūC). These are forms of simple vocalization between C and H, R and H^{u}, H^{u} and C or else of double vocalization in first and third position. I would like to stress the fact that there is not only åR, but that there were other solutions as well, and that the ă of CăRŭC must have been a simple supporting vowel when the lengthening occurred.

5.1.2 On the other hand, anaptyxis of the $C^{\circ}R^{\circ}H^{u}$ type (whence mainly CăRăA, as likewise forms with compensatory lengthening) do not appear to be Anatolian, as I have said earlier. I believe that this duality arose, if not because of our lack of data, through a selection process within Anatolian: that is, that all these possibilities go back to IE I. As for the timbre of the vocalizations, it is doubtful that we could make the ones we already know go back to IE I; neither can we do this with the conversion of H^{u}, H^{i} before a vowel to *u̯*, *i̯*.

5.2 As far as IE II is concerned, one should beware of identifying it with Anatolian or the Anatolian languages we more or less fully know. It is the starting-point for these languages, known to us as certainly being of a much later date. At the same time, it is also the starting-point for IE III and its various branches. Therefore, not only IE II, but also IE III, should be used to reconstruct IE I. This is what I have just done by attributing to it a development of supporting vowels of the CRHC group (in positions 1 and 2) which seems to be missing from IE II. By following this course, I have suggested above certain colourings of the supporting vowels in contact with a laryngeal in IE II: ^{a}H, H^{uu}, H^{ii}; as likewise with a labio-velar (k^{uu}). It is of course not possible to determine the extent to which these colourings come from IE I. But it is quite clear that the *status* of supporting vowels (and not full ones) still survived in IE II for these anaptyxes, which came down to both IE II and IE III, for the same thing happened in both: on the one hand, there was vocalization with the timbres mentioned; on the other, vocalization at times occurred with different timbres due to the effect of diverse factors.

It should be borne in mind that the supporting vowels of IE II either next to a sonant or a a prothesis were still

merely this: supporting vowels. They did not even prevail as such for alongside with them there were forms without a supporting vowel, which explains the date of IE II mentioned above (the persistence of *r̥* in O.I., etc.) as likewise of IE II (there is no prothesis at times, in contexts in which IE III develops one). It is, however, quite certain that the development of *i̯*, *u̯* already came from the IE II period.

5.3 Finally, almost everything concerning IE III has already been said. This latter, to a certain extent, behaves in a parallel way to Anatolian on the strength of a common phonetic basis, inherited from IE II; essentially, from languages to languages, although the beginnings of the process are at times polydialectal. In any case, there is a big difference between widespread data such as the vocalizations *ă*, *ŭ*, *ĭ* of the laryngeal and *dRă* of the RH group, and other more restricted ones such as the fixation of the vocalization timbres of the sonants, the protheses, the generalization of the vocalization or otherwise of interconsonantal H, and so forth.

I have already said that all this is tied up with different chronological stages and also with dialectal developments. I have also pointed out that, apart from the almost general data parallel to those of Anatolian, there seem to be two chronological stages for the remaining IE languages. Compensatory lengthenings belong to the second of these. But one should bear in mind that the whole process operated on a common legacy and on certain general phonetic tendencies. Moreover, it is therefore often recurrent or may have given different results in individual occurrences at different periods and in different areas. This alliance of general principles and concrete processes connected to specific periods and dialects is what makes this type of research difficult. Yet it remains necessary to integrate detailed observations into a systematic whole, if we are to get a deeper understanding of the data and surpass atomizing views that lack any general, historical perspective.

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NOTES

1) My earliest writings on the subject are collected in the 2nd ed. of my *Estudios* (Adrados 1973), which also includes later papers. For

more recent treatments of the subject and related questions, see Adrados (1981b) and (1982b). I replied to earlier criticism and discussed the problem of anaptyctic vowels within the general problem of phonetic change in Adrados (1963) and (1967); both have been reprinted in Adrados (1974:137-206).

2) For a view contrary to Lejeune's, cf. Kuryłowicz (1977).

3) The use of *H* in the present context does not prejudge anything concerning the laryngeal theory adopted; it means that the result is the same, whatever the timbre may be, H_1, H_2, H_3 or the appendix forms H^i_a or B^u_a.

4) Cf. Adrados (1966:170). As I state above, from a synchronic point of view a doublet such as Ἀσκαλαπιός / Ἀσκλαπιός (with anaptyxis) is identical with one like Βερενύκη / Βερνύκη (with syncope). The feeling that doublets of this kind were possible is what favoured both apocope and syncope. At times it is not easy for the modern linguist to decide on the origin of such phenomena.

5) See, above all, Austin (1941), Beekes (1969). My argument that there is a prothesis before a laryngeal, but that this is not obligatory, can be found in Adrados (1973:103ff.); cf. also my review of Beekes in Adrados (1969[1972]).

6) At a relatively recent date; cf. Adrados (1979) and (1980). Still more recent are, without doubt, the western contacts noted with regard to the CRC group.

7) Cf., among other papers, Adrados (1979), which has also appeared in a German version, *Die räumliche und zeitliche Differenzierung des Indoeuropäischen im Lichte der Vor- und Frühgeschichte* in the series of 'Vorträge und kleinere Schriften' of the "Innsbrucker Beiträge zur Sprachwissenschaft" (Innsbruck, 1982) as its No.27, and also Adrados (1982a), which contains a fairly rich bibliography.

8) Forms with diverse vocalic degrees of these roots may be seen in the Appendix to Adrados (1973).

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SUMMARY

'Anaptyxis', 'svarabhakti', or the feature of 'supporting vowel' is a *universale phoneticum* as well as a *universale phonologicum*. On a synchronic level, there exist variants with differing syllabic structure, e.g., C'RC / CRC, C°RV / CRV, and others, showing the same syllabification as the type C°RV / CaRV, etc. This is quite independent of the diachronic explication of the phenomenon. The phonetic evolution of groups that can

take an anaptyxis may differ noticeably: depending on the language in question and the circumstances the anaptyxis is or is not regularized; otherwise, it is its loss that becomes generalized. If a full and stable vowel results, its timbre may differ: this depends either on the languages and dialects concerned or, within these, on the phonetic environment.

The present paper makes use of the concept of 'anaptyxis' as a unifying principle in the explanation of a series of diachronic facts that are traditionally explained in a piecemeal fashion, for instance, sometimes as 'regular' phonetic changes, at other times as 'sporadic' ones. All things considered, this comes to the same thing: the regular changes retain the trace of the general facts which are in relation to the 'anaptyxis', and the evolutions called 'sporadic' attest to the fact that the loss of 'anaptyxis' is not complete either. It is argued that the line between these two kinds of change are not very clear and that both, basically, depend on the same factors, even if there is variation in the details of change, depending on the language in question. What is regular in one is sporadic in another, or the regularisation is of a different nature, and so on. The study of 'anaptyxis' not only can clarify a particularly interesting phonological fact, but also the details and the characteristics involved in phonetic evolution.

RÉSUMÉ

L'*anaptyxis* ou *svarabhakti* ou la 'voyelle d'appui' est une *universale phoneticum* et également un *universale phonologicum*. Au niveau synchronique, il existe des variantes, avec une syllabation différente, du type C'RC / CRC, C°RV / CRV et d'autres, avec la même syllabation, du type C°RV / CarV, etc. Et ceci indépendamment de l'explication diachronique du phénomène. L'évolution phonétique des groupes pouvant présenter une 'anaptyxis' peut différer sensiblement: selon les langues en question et les circonstances l'*anaptyxis* se régularise ou non; autrement, c'est sa chute qui se régularise. Lorsqu'une voyelle pleine et stable apparaît, son timbre peut différer: ceci dépend soit des langues ou dialectes, soit, à l'intérieur de ceux-ci, de l'environnement phonétique.

La présente étude utilise le concept d'*anaptyxis* pour unifier l'explication d'une série de faits diachroniques qui s'expliquent d'habitude d'une façon isolée; par exemple, tantôt comme des évolutions phonétiques 'régulières', tantôt comme des changements 'sporadiques'. Tout compte fait, cela revient au même: les changements réguliers conservent la trace des faits généraux qui sont en rapport avec l'*anaptyxis*, et les évolutions qu'on appelle sporadiques témoignent du fait que la chute de l'*anaptyxis* n'est pas complète non plus. La frontière entre ces deux genres de changement n'est pas nette, et les uns les autres dépendent au fond des mêmes facteurs, quoique les détails de l'évolution varient d'une language à l'autre. Ce qui est régulier dans l'une est sporadique dans l'autre ou la régularisation y est différente, etc. L'étude de l'*anaptyxis* peut éclairer non seulement un fait phonologique général particulièrement intéressant, mais encore certains détails et caractéristiques de l'évolution phonétique.

ZUSAMMENFASSUNG

'Anaptyxis', 'svarabhakti' oder 'Sproßvokal'* bezeichnet ein *universale phoneticum* wie auch ein *universale phonologicum*. Auf der synchronen Ebene gibt es Varianten mit verschiedener Silbenstruktur, etwa des Typs C'RC / CRC, C°RV / CRV u.a., oder mit solcher des Typs C°RV / CarV, usf. — und dies unabhängig von einer historischen Erklärung des Phänomens. Die phonetische Wandlung der Gruppen, die eine Anaptyxis enthalten, kann verschiedener Art sein. Abhängig von den einzelnen Sprachen und den Umständen wird sie entweder regelhaft oder nicht; dann aber wird sein Verlust regelhaft. Entsteht ein voller und stabiler Vokal, so kann seine Tonfarbe variieren; dies hängt ab entweder von den Sprachen oder Dialekten oder, innerhalb dieser, von der phonetischen Umgebung.

Der gegenwärtige Aufsatz verwendet den Begriff der Anaptyxe um die Erklärung einer Reihe von Tatsachen historischer Natur zu vereinigen, die üblicherweise isoliert behandelt werden, z.B. einmal als phonetischen Veränderungen 'regelhafter' Art, ein anderes Mal als 'sporadische' Wandlungen. Insgesamt betrachtet, kommt dies auf dasselbe hinaus: die regelhaften Veränderungen bewahren Spuren allgemeiner Fakten, die im Zusammenhang stehen mit der Anaptyxis, und die Veränderungen, die wir als sporadisch bezeichnen, geben Zeugnis von der Tatsache ab, daß der Verlust der Anaptyxis auch kein kompletter ist. Die Grenze zwischen diesen beiden Arten von Veränderungen ist nicht scharf, und beide hängen im Grunde von den gleichen Faktoren ab, auch wenn im Detail die Veränderungen verschiedener Art sein können, jeweils von der Einzelsprache abhängig. Was in der einen regelhaft und durchgreifend ist, ist in der anderen entweder sporadisch oder weist eine Regelmäßigkeit anderer Art auf, usw. Das Studium der Anaptyxis kann nicht bloß ein allgemeines phonologisches Faktum aufhellen, das von besonderem Interesse ist, sondern darüber hinaus Einzelheiten und besondere Eigenheiten des phonetischen Wandels.

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Note added in proof:

The Editor regrets that this paper has not benefitted from the author's own proof reading.

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* It appears that the more adequate rendering of *anaptyxis* in German is 'Erleichterungsvokal' (cf. Reuterkrona 1920). *Ed.*