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THE DEVELOPMENT OF THE PROTO-INDO-EUROPEAN LARYNGEALS IN GREEK

PROEFSCHRIFT

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Voor mijn Moeder

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For the aim and the plan of the work the reader is referred to the survey and the table of contents, and section D of the introduction.

The manuscript was completed in December 1966; afterwards a few things only were added, both in the text and in the appendices and addenda.

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Word = *Word*. Journal of the Linguistic Circle of New York (New York, 1945ff.).

Addenda

Chadwick-Baumbach = J. Chadwick-L. Baumbach, "The Mycenaean Greek Vocabulary" in *Glotta*, 41 (1963), 157-271.
Chantraine, *Dict. Etym.* = P. Chantraine, *Dictionnaire étymologique de la langue grecque*, I A-Δ (Paris, 1968).
Palmer, *Interpretation* = L. R. Palmer, *The Interpretation of Mycenaean Greek Texts* (Oxford, 1963).
Proceedings Cambr. Coll. Myc. Stud. = *Proceedings of the Cambridge Colloquium on Mycenaean studies*, ed. L. R. Palmer-J. Chadwick (Cambridge, 1966).
Solta, *Stellung* = G. R. Solta, *Die Stellung des Armenischen im Kreise der indogermanischen Sprachen* (Wien, 1960).
Strunk, *Nasalpr.* = K. Strunk, *Nasalpräsentien und Aoriste* (Wiesbaden, 1967).

ABBREVIATIONS AND SYMBOLS

ABBREVIATIONS

a. Modern literature

For the abbreviations of books and journals see the bibliography.

b. Languages

The following abbreviations have been used for the names of the languages:

Alb.	Albanian	MHG	Middle High German
Alem.	Allemannic	Mod.	Modern
Arm.	Armenian	Norw.	Norwegian
Av.	Avestan	NPers.	New Persian
Balt.	Baltic, Balto-	O	Old
Bret.	Breton	OBret.	Old Breton
Brit.	Britannic	OCS	Old Church Slavic
Celt.	Celtic	OE	Old English
Corn.	Cornish	OHG	Old High German
Etr.	Etruscan	OIcel.	Old Icelandic
Gaul.	Gaulish	OIr.	Old Irish
GAv.	Gāthā-Avestan	ON	Old Norse
Germ.	Germanic	OP	Old Persian
Goth.	Gothic	OPr.	Old Prussian
Gr.	Greek	OS	Old Saxon
Hitt.	Hittite	Osc.	Oscan
IE	Indo-European	Oss.	Ossetic
Ill.	Illyrian	Phr(yg).	Phrygian
Ind.	Indian	PIE	Proto-Indo-European
Ind.-Ir.	Indo-Iranian	Russ.	Russian
Ir.	Iranian	Serb.	Serbian
Ital.	Italic	Skt.	Sanskrit
L.	Late	Sogd.	Sogdian
Lat.	Latin	Swed.	Swedish
Latv.	Latvian	Thrac.	Thracian
LAv.	Late Avestan	Toch.[1]	Tocharian
Lith.	Lithuanian	Umbr.	Umbrian
Luw.	Luwian	Ved.	Vedic
Lyc.	Lycian	Ven.	Venetic
Lyd.	Lydian	W.	Welsh
M	Middle		

[1] The letters A and B are used to distinguish between the two dialects.

c. Greek dialects

The abbreviations for the Greek dialects are those of Buck, *Gr. Diall.*, p. 2.

d. Classical authors

For the Greek authors the abbreviations of Liddell and Scott have been used. (They are therefore the same as those of Frisk, except that the latter uses German spelling.)

SYMBOLS

*	indicates reconstructed forms
>	becomes, changes into
<	(has) developed from
|	indicates in words the syllable boundary, in verses the end of the verse
~	in citing Homer: nearly identical verses
V	any vowel (*V̄* long, *V̆* short vowel)
R	any sonant
C	any consonant
T	any occlusive
H	any laryngeal
h	laryngeal[2] of which the "colour" is not known
h_1 h_2 h_3	the *e*-, *a*- and *o*-colouring laryngeal respectively.

[2] There are many symbols used to designate the laryngeals; see Introduction, p. 2. The use of capitals in the middle of a word is annoying to the reader. Symbols like ʾ ʿ ʔ ʕ x γ have the disadvantage that their meaning is not evident. The same applies to the figures, but these have meanwhile become generally known. The use of *ə/ə̯* is confusing, since this symbol after all serves to indicate a vowel. I am therefore following Kuiper in the use of *h*; see his views on this, *Notes*, p. 3 n. 1.

INTRODUCTION

Ich finde es sehr erheiternd, wenn Whatmough in allem Ernste Pokorny den Vorwurf macht, dass er in der Aufzeichnung der idg. Wurzeln nicht die ... Laryngale angewendet habe!

V. Pisani, *Allg. u. vgl. Sprachwiss.*, 1953, p. 47

INTRODUCTION

οὗτοι ἀπ' ἀρχῆς πάντα θεοὶ θνητοῖς παρέδειξαν,
ἀλλὰ χρόνῳ ζητοῦντες ἐφευρίσκουσιν ἄμεινον.

XENOPHANES, D. B 18

The writer's task is to ... write when there is something you know; and not before; and not too damned much after.

ERNEST HEMINGWAY

A. GENERAL

The laryngeal theory is not of recent date. In fact it is nearly ninety years ago now that it was formulated by Ferdinand de Saussure in his *Mémoire sur le système primitif des voyelles dans les langues indo-européennes*, in 1878.[1] That was at a time of discoveries that were of fundamental importance to comparative Indo-European linguistics. It was then that the "Ausnahmslosigkeit der Lautgesetze" was found and defined.[2] In the same year (1876) Osthoff's discovery of the liquida sonans[3] and that of the nasalis sonans by Brugmann[4] were published.[5] The last two discoveries gave an entirely new understanding of the phoneme system of the proto-language, especially of the vowel system. At this stage De Saussure put forward his view, in which an essential place was occupied by the "coefficients sonantiques" which he postulated and which since Møller have been called laryngeals. However, De Saussure's system was outstripped by that of Brugmann and others, codified in the *Grundriss* (1886). The influence exerted by this work in the German-speaking area in particular was and still is so great that as recently as 1965 it could be said of someone that he used it "almost as god-given revelation".[6]

It is understandable that the theory found little acceptance in the first years of its existence, since the idea was based largely on a schematic analysis for which no concrete facts could be adduced as arguments. But it may be considered surprising

[1] Although the title page has the date 1879, it was published in 1878, as the author remarks in the foreword to the new edition in 1887.
[2] Leskien, *Declination im Slavischlitauischen und Germanischen* (1876), Einl., p. xxviii; Osthoff-Brugmann, *Morphologische Untersuchungen* 1 (1878) xiii.
[3] *Paul und Braunes Beiträge*, 3 (1876), 1-89, in particular p. 52f.
[4] *Studien zur Griech. u. Lat. Gramm.*, hrsg. von G. Curtius, 9 (1876), 285-338.
[5] These two had incidentally already been found by De Saussure in 1872-5, when he was still at school. (For what he says about this see *Cahiers Ferd. Sauss.* 17 (1960) 23f.)
[6] Polomé, with reference to Kronasser, *Evidence*, p. 36.

that today, after so many years of research, the theory is definitely not yet universally accepted — or universally rejected. The reason seems in part to be an emotional question. Anyone brought up with Brugmann's system is confronted with a group of sounds whose phonetic value can be indicated only very vaguely, which had different functions in the proto-language, which passed through many developments in the individual languages and which are reproduced in the literature by a variety of not very attractive signs ($ə_{1\text{-}4}$ $H_{1\text{-}4}$ Ḫ A E O A^{w} H^{y} X Z Ω ʾ ʿ ʔ ʕ x γ ḫ $ħ_{1\text{-}3}$). The reconstructed forms, which not infrequently contain two or more laryngeals, assume a deterring appearance (**h₃bhréuhs*, **pleh₁dhueh₁s*, **hihhgh-*, **h₃meh₃moh₃h₂e*), which renders them unpronounceable for most Europeans and which, compared with the familiar picture, seems very un-Indo-European. The theory is based on an "algebraic-structural"[7] analysis, which daunts many and seems too abstract, too remote from the concrete facts. This feeling is strikingly expressed by Vendryes' words: "le désastre est moins grand qu'une première impression ne ferait croire."[8] Partly as a result of this — more rational arguments will be stated below — the parties adopted sharply opposed positions and a sensible discussion between adherents and opponents never really came about. In their enthusiasm some proponents certainly went much too far. This upset confidence in the theory and the resultant general scepticism also discredited what was reliable. Criticism thus became so violent that even adherents began to doubt the truth of many explanations. It is highly regrettable that Kuryłowicz — partly through his increasing interest in structural problems — renounced many of his brilliant observations.[9] In this way, however, the theory lost so much of its content that the critics could in turn retort that it makes little difference whether *ā* or *eh₂* is assumed for the proto-language if this does not have the slightest consequences for the explanation of the historical forms. For instance, Frisk says in the preface to the first part of his dictionary (p. vi): "Für die griechische Etymologie fällt sowieso die Laryngaltheorie, sie mag prinzipiell noch so wichtig sein, nicht schwer ins Gewicht. Die offenbare genetische Identität von ἄγω, lat. *ago*, aind. *ájati* usw. wird nicht greifbarer, wenn man als gemeinsamen Ursprung eine 'Wurzel' *ə₂eĝ-* ansetzt". And so on. This statement of the case testifies to a lack of understanding of the laryngeal theory and may even be called unscientific. If the root in the proto-language had the form *ə₂eĝ-*, it must be stated in that form.[10] It may or

[7] Polomé, *ibid.*, p. 10, n. 8.

[8] *BSL*, 37 (1936), 34f; in the first instance this is directed towards Benveniste's *Origines*.

[9] See for instance *AiGr. Nachtr.*, p. 81, 28.

[10] One can of course proceed from the view that the forms reconstructed for PIE need not be stated in an etymological dictionary of Greek. However, this ignores the fact that these dictionaries are used in the first place by Indo-Europeanists. Of course Frisk is right when he says (p. v): "Es ist kein indogermanisches Wörterbuch nach griechischen Stichwörtern." But the Greek material should be pursued as far as possible and this research only ends (in the case of inherited words) at the basic language. For the connection with the other languages a reconstruction of the forms of the proto-language is often necessary. If this is not done, much remains unclear to the majority of readers. Insofar as the cognate forms of the other languages do not contribute to the explanation of the Greek words, it may of course suffice to refer to the lemmata in the etymological dictionaries of these languages. Incidentally, it must be said that Frisk's treatment largely satisfies these requirements, much more than the dictionaries of De Vries and Fraenkel, where one too often finds merely a list of the cognate words, without a discussion of the genetic connection. The present author has consequently made grateful use of Frisk's extensive work, which may be stated here as a counterweight to the criticism which this book gives.

may not be clear whether this finding has further consequences for the interpretation of Greek or another language, but in an etymological dictionary reference should be made to this interpretation of the material compared. This scepticism should be compared with the words with which Chantraine, *Morph.*[2] 4-15, concludes his treatment of the laryngeal theory (which is more positive than that in the 1947 edition, p. v-ix): "Les faits analysés ... doivent être placés à leur niveau, qui est celui de l'indo-européen le plus ancien. Sur le plan grec, il ne s'agit que d'archaïsmes figurant dans des formes ou des mots, sans doute importants, mais rares et dispersés. Nous ne saisissons là que des débris". Finally, mention may be made here of the words with which Cowgill starts his treatment of the subject in *Evidence* (p. 143): "To my mind, there is relatively little in Greek itself that can be explained better by laryngeal theory than without it". This pronouncement is a result of the fact that Cowgill — who without doubt must be considered one of the adherents of the theory — in my opinion wrongly rejects many explanations which the theory renders possible.

Recently (1964) Hiersche, *Unters.* 10-2, summarized his objections to the laryngeal theory in six points. As these are more or less the general objections of the theory's opponents, it may be as well to discuss them briefly here.[11] For it seems to me that all the points can be adequately answered, albeit not all refuted. His points are as follows (the quotations are not complete):

(1) Als blosse Symbole für Laute unbekannter Qualität, die nur in ihren Reflexen fassbar werden, bringen die Laryngale keine echte Lösung ... .

(2) Bedenklich ist die Vielzahl der Laryngale, deren Skala jetzt von 1 bis 10 reicht.

(3) Die phonetische Natur der Laryngale konnte bisher nicht eindeutig bestimmt werden.

(4) Die Laryngale sind in der Lage, beinahe jede Lautveränderung hervorzurufen oder selbst zu erfahren, was in der allgemeinen Phonetik nicht seinesgleichen hat.

(5) Die Laryngaltheorie kommt zumeist ohne Annahme von Analogiewirkungen, umständliche Hilfskonstruktionen, Aufstellung neuer, oft wenig überzeugender und gewaltsamer Etymologien nicht aus.

(6) Die Laryngaltheorie lässt oft eine kritisch-philologische Sichtung des von ihr verwerteten Materials vermissen.

The first point is based on a lack of methodical insight. The comparative historical study of language knows only reflexes. It will suffice here to refer to Meillet's explanation of the method in his *Introduction*, e.g. p. 44: "... un phonème indo-européen est défini par un système de correspondances". It will be clear that only after such a system has been drawn up as accurately as possible can one try to obtain an idea of the

[11] After the following had been written, I found that it agrees almost entirely and is sometimes literally identical with the criticism by Kuiper in *IIJ*, 9 (1966), 223f.

phonetic value that this phoneme must have had. However, this necessarily remains at all times a broad approximation.

In my opinion point 3 is identical with point 1. As we have seen, the fact that the phonetic value can hardly be determined need not be an essential drawback.

The discussion of the number of laryngeals is indeed — in part — a depressing business. But it is rather unfair to call the extremes 1 and 10. Once the starting-point of the theory has been accepted, practically everyone explains the $\bar{e}$ and $\bar{a}$ assumed for the proto-language as $e\hbar_1$ and $e\hbar_2$ respectively, so that two laryngeals are almost universally assumed.[12] The existence of the third is less evident, since $\bar{o}$ could be explained as an ablaut variant (i.e. from $o\hbar_1$, with or without in addition $o\hbar_2 > \bar{o}$). The existence of a third laryngeal has therefore never been considered proven by Pedersen. To demonstrate this third laryngeal is one of the principal objectives of this book. A fourth laryngeal was assumed on the strength of interpretation of the Hittite material. In my opinion this is a weak basis, since the interpretation of Hittite still presents many difficulties (see below). I cannot appraise Hamp's attempt to demonstrate the fourth laryngeal in Albanian (*Evidence*, pp. 123-41). However, I believe that the same objection applies here as in the case of Hittite. Now if an eminent scholar like Pedersen did not consider the existence of the third laryngeal as irrefutably proven, and on the other hand Kuryłowicz and Sturtevant, two other great proponents of the theory, felt themselves obliged to assume a fourth, it is a puzzle to me how anyone can come to assume more than four. These have largely been posited on the strength of theoretical considerations.[13] However, as long as such considerations find no support from facts, the "correspondances", and an adequate number of these, they may not be taken as a basis. One should assume two laryngeals, the third has still to be demonstrated — and I believe that the Greek material does not leave the slightest doubt about this — and a fourth may prove necessary once the interpretation of the Hittite (and the Albanian) material has become more reliable.

What is stated under point 4 may at first sight appear disquieting; once the principle of the theory has been accepted, the question is to investigate which developments are probable and which are not. "Dehnung" and "Abtönung" are the two bases of the theory ($e\hbar_2C > \bar{a}C$). It may be a point of discussion whether the consonantal laryngeal can cause aspiration (and sonorization); however, these are the only phonetic developments (apart from vocalization) that can be mentioned. Development to *k* or *r* is assumed by only a few and can safely be left out of consideration. On the other hand, the fact that the Greek and Armenian prothetic vowel, Attic reduplication and other phenomena can be explained by the theory, practically without auxiliary hypotheses, can only plead in favour of the theory. Indeed, it is the best conceivable

[12] Only Zgusta, *Archiv Orientální*, 19 (1951), 428-72, made do with one laryngeal. He based his theory on the Hittite data and was of the opinion that the opposition *ḫ:ḫḫ* could not yet be regarded as evidence of two different laryngeals.

[13] See for instance Puhvel's scheme in *Evidence*, p. 92, where six laryngeals are assumed on the strength of a presumed opposition voiced:voiceless.

support for a theory if it can explain other facts than those on the strength of which it was drawn up. Now the laryngeal theory proves capable of giving an explanation on entirely different points, which raises its correctness above all doubt.

It is not true to say (point 5) that laryngeal theory does not work without complicated auxiliary hypotheses. Here Hiersche bases his criticism on the most unfortunate excesses of the theory, which — and that must be admitted — are to be regretted.[14] It must be pointed out that Kuryłowicz' explanations were of great simplicity, which impressed even opponents (such as Marstrander).[15] As against Debrunner's words quoted by Hiersche[16] one can, however, set the former's pronouncement: "Die Forschungen K.'s ... erklären ... zahlreiche Absonderlichkeiten der idg. Lautlehre überraschend leicht."[17] The explanations of certain phenomena in Greek defended in the present book are likewise of extreme simplicity (cf. in particular part three: "Conclusions"). Analogy is of course a general linguistic phenomenon, and when allowance is made for the effect of analogy in the application of the theory no excuse need be offered for so doing.

Systematic critical-philological research into material is one of the weakest points of most laryngealists. It is indeed irritating to see that conclusions are often built up on two or three facts. I hope that this book does not suffer from that defect.

A strict distinction must therefore be made between the theory and its application by individual researchers. It is undeniably true that the manner in which many have used it cannot withstand the test of criticism. But I do not see an essential argument against the theory in these six points.

Like all theories, the theory must be appraised by verifying it against the facts. Theoretical discussions can do no more than state possibilities.[18] A parallel case is the deciphering of Mycenaean: the starting-points on which the deciphering was based

[14] See for instance the theory of Vey discussed below (p. 209). Compare also the pronouncements of decided laryngealists on Lehmann's hypotheses about Germanic (in *PIEP*, pp. 36-73): "the least convincing and inspiring sections of the book, with their array of phonetic laws established upon a handful of pretty inconclusive cases, with little or no regard to phonetic likelihood" (Martinet, *Word*, 9 (1953), 287) and "His argumentation ... too often consists of a concatenation of assumptions, none of which has a solid foundation in facts" (Kuiper, *Lingua*, 5 (1955), 319-24).

[15] For instance Polomé, *Evidence*, p. 26, n. 116, calls Zgusta's ablaut scheme, which corresponds to the one defended in this book, "extremely simple": with something of regret?

[16] "Alle Erscheinungen, die sich mit einiger Wahrscheinlichkeit ohne die Laryngaltheorie erklären lassen, sollen mit Laryngalen verschont werden"; etc. *Kratylos*, 3 (1958), 29.

[17] *IJb*, 13 (1929), 67. It emerges from this how greatly confidence in the theory suffered in those years among some — and not the least important — authorities.

[18] An interesting example is the article by Wyatt, *Lg* 40 (1964), 138-52. One of his opinions is that the argument by Cuny (see p. 203 of this book) that *CRəC* cannot explain the historically demonstrable forms, so that *CR̥ə̯C* must be assumed, "is a false issue, since it is a phonetic guess" and not a phonemic consideration. Such a manner of reasoning is something that I cannot follow: if the historical facts point to a consonantal *ə̯*, how can one then argue on the strength of a theoretical consideration that this is "a false issue"? After all, this finding gives an important property of the phoneme. Here the structural method is wrongly used in the field of linguistic-historical research, by giving structural considerations a priority that cannot be founded on facts.

are irrelevant to the question of the accuracy of the deciphering, now that the result irrefutably demonstrates the correctness thereof.

How has this verification to be performed? In the first place, of course, the philological examination of the material urged by Hiersche is required. For this it is desirable first to consider all possible developments within one language or linguistic group, making use only of what can be regarded as definite from the other languages.[19] The languages most suitable for study are without any doubt Hittite, Indo-Iranian and Greek. There seems to be a widely held view that all research in this field must begin with Hittite.[20] I doubt this. In my opinion the interpretation of Hittite still offers too many difficulties for a "philologische Sichtung" to be sufficiently reliable in that case. Compared with the more than two millennia during which Indian and Greek have been studied, the study of Hittite (since 1917) may be said to have just begun. Moreover, there is much less material available of this language and the script presents particular difficulties. This consequently means that the chance of incorrect interpretation is greater here than in Indian and Greek. Indo-Iranian offers many prospects. As a result it is not coincidental that Kuryłowicz took up the theory again (in 1926) from Indo-Iranian (and Greek) and not only from Hittite, as is often suggested. However, in Indo-Iranian the problems seem more complicated and the material is more extensive than in Greek, while the latter language has the advantage of having preserved the original timbre of the laryngeals. Consequently a systematic treatment of the Greek material seems useful at this time.

There is no manual for the theory and evidently the time is not yet ripe for this. Since Kuryłowicz' *Etudes* (1935), which is still the best, nothing of this kind has been published. For Lehmann's book see the criticism cited above (p. 5 n. 14). *Evidence* (1965) is a collection of papers of a very varied nature. The one by Cowgill seems to me to be among the best. I have therefore made grateful use of it (initially in the 1960 version), but I differ in opinion from him on many essential points.

[19] For it is evident that the laryngeals existed down to the separate languages. The following may be commented on this. If the laryngeals were not preserved down to the separate languages, that would mean that they had already disappeared from the proto-language as independent phonemes. If this were so, they would not, by definition, be demonstrable by the comparative method; the theory would have to remain a hypothesis for ever. In this form the laryngeal theory would therefore be a glottogonic speculation. However, the laryngeal theory proceeds from the fact that the phoneme that is determined by the correspondence Ind.-Ir. *i* — other languages *a* (i.e. the earlier shwa, *ə*) always or usually had a consonantal function. That this phoneme was preserved down to the separate languages can therefore not be doubted, by definition, since it is the phoneme which — inter alia — is determined by the above correspondence: if it had disappeared without trace or merged with another phoneme in the proto-language, it could not have had a separate series of correspondences. The real problem is therefore: 1. was this phoneme in fact always or at least usually consonantal? and 2. was it preserved in all positions down to the separate languages? This question can be answered only by investigating the development of this phoneme in every conceivable position in all languages. If the assumption that the phoneme was (or could be) consonantal proves to explain more than that according to which it was exclusively vocalic, the theory must be regarded as correct.

[20] For instance Couvreur, *Ant. Class.*, 12 (1944), 104: "Il est évident que toute étude sur les phonèmes 'laryngaux' en indo-européen doit avoir son point de départ en hittite."

B. STARTING-POINTS

It is not necessary here to give a survey of the history of the research, since Polomé did that recently in detail (*Evidence*, pp. 9-44). However, it is necessary to determine our position in the sea of views. Of the dominant figures, little mention will be made of Sturtevant in the following observations. The three most important points in his interpretation are: (1) he assumes four laryngeals; (2) he disclaims vocalization of the laryngeal; (3) he connects the theory with his Indo-Hittite hypothesis. These starting-points are unacceptable to me. The number of laryngeals has been discussed above. It seems to me incorrect to assume when studying Greek that there was a fourth laryngeal. Sturtevant's solution of the vocalic representation of the laryngeal (for which he assumes $\hbar_e$, laryngeal followed by a reduced vowel) is untenable; the first chapter of this book gives a clear argument for this (besides the others that there are). The Indo-Hittite hypothesis need not be further discussed here. Further theories of Sturtevant have also proved untenable.[21]

The basis on which this book rests is formed by the studies of Pedersen and Kuryłowicz. Pedersen had already incorporated the theory in his *Vergleichende Grammatik* (1.177-83) in 1909. In 1926 he used it to explain the Latin fifth declension, in 1938 he drew a parallel between Hittite and Indian and in 1945 he demonstrated that the Lycian χ corresponds to the Hittite $\underline{h}$ and is a direct representative of a laryngeal.

Kuryłowicz' articles from 1926 to 1928 and their summary in his *Etudes* meant a revival of the theory, which had passed into oblivion since 1900 (except in the case of a few scholars, such as Pedersen and Cuny). Although his observations on Indian and Greek are no less important, the spectacular interpretation of the Hittite $\underline{h}$ as the reproduction of a direct representative of a PIE laryngeal drew particular attention to the theory.[22] Unfortunately, as stated above, in his later works he abandoned many of his ideas.

In a series of studies (since 1942) Kuiper has dealt with various problems in Indo-Iranian which are of importance to the theory. These articles, like those by Kuryłowicz, are listed in the bibliography.

In the following a summary is given of what is regarded as proven from now on. The fundamentals of the laryngeal theory taken as starting-points are the following:

[21] For example his explanation of the Greek κ-perfect; see the discussion in Cowgill, p. 175f.

[22] One of the most striking cases of parallel discoveries is that Cuny published the same idea in a footnote which ended up on the page opposite to the one on which the article by Kuryłowicz begins (*Symb. Rozw.*, pp. 94 and 95). This discovery is of great fundamental significance, but in practice it is less important than one had hoped: "Diese Bestätigung, die erst gefunden wurde, nachdem die Theorie ... ungefähr ihre endliche Form erreicht hatte, zeigt, auf wie sicherer theoretischer Grundlage die Theorie aufgebaut ist. Es darf als ein Triumph der vergleichende Sprachwissenschaft betrachtet werden, dass sie imstande war, die frühere Existenz eines Lautes nachzuweisen, der in den damals bekannten Sprachen verschwunden war und erst später in einer neu entdeckten Sprache auftauchte" (Hendriksen, *Unters.*, p. 19); "almost disappointing as a support for the theory" (Lehmann, *PIEP*, p. 25).

(1) the proto-language had at least two laryngeals ($\hbar_1$ and $\hbar_2$);

(2) the laryngeals are mostly consonantal, but the proto-language also had vocalic allophones ($\underset{\circ}{\hbar}$);

(3) in most positions the laryngeals have been preserved down to the individual languages;

(4) in various languages a PIE consonantal laryngeal could be vocalized;

(5) in Hittite $\underset{\circ}{h}$ can be a direct representative of a PIE laryngeal (to which χ corresponds in Lycian);

(6) a number of phenomena in Indo-Iranian to be further specified are caused by a laryngeal.

Some remarks may be made on these points.

The first needs no comment. Cf. p. 4 above.

Re 2. Kuiper pointed to the need to assume both vocalic and consonantal laryngeals for the proto-language. The following concise arguments are taken from his *Notes*, p. 20ff. The Indo-Iranian forms of the word for 'daughter' point to *gh*, which must have been formed from $g + h$. As here the laryngeal cannot have stood before a vowel, it must have brought about aspiration of the preceding occlusive between consonants as well. As the same situation occurs with the word for 'father', one would expect **phitar-* here; the form *pitar-* can be explained only by assuming a vocalic laryngeal which did not aspirate the preceding occlusive.

Skt. *duhitár-* points to aspiration by the consonantal laryngeal, but the *i* must stem from a vocalic laryngeal. This suggests that this word has had a paradigmatic change $\hbar/\underset{\circ}{\hbar}$. The truth of this assumption is demonstrated by the Late Avestan forms of the word for 'father':

nom. sg.	*pita*	dat. sg.	*fəδrōi*
acc. sg.	*pitarəm*	dat. pl.	*ptərəbyō*

The *i* is thus missing in the weak cases, where evidently a consonantal laryngeal has disappeared, which apparently always happened in Avestan (after aspiration of the preceding occlusive, **phtr-V-* > **phtr-V-* > **ftr-V-* > **fθr-V-* > *fδr-V-* as against **phtr̥-C-* > **phtr̥-C-* > **ftr̥-C-* > *ptr̥-C*). In the strong cases the *i* must then be attributed to a laryngeal already vocalic in the proto-language.

Re 3. What is posited above follows from the difference discussed above between Indian and Iranian and from points 5 and 6. Cf. above p. 6 n. 19.

Re 4. For Indian this follows for instance from the neuter plural, of which the ending must have been a consonantal $\hbar$, as appears from Av. *manå* /*manāh*/; cf. p. 152. Skt. *mánāṁsi* points to a secondary vocalization. In the same way we have Av. *nāmąn* as against Skt. *nā́māni*.

Indian often has *i* where the laryngeal has disappeared in Avestan, e.g. Skt. *vṛṇīté*: Av. *vərənte*, *brávīti* : *mraoiti*, *gr̥bhītá-* : *gərəpta-*, *gabhīrá-* : *jafra-*. It is improbable that the *i* in Indian is founded in all these cases on generalization of $\underset{\circ}{\hbar}$, which then would have originally been in paradigmatic interchange with $\hbar$.

A special case is Skt. *tigitá-* 'sharp'. As Avestan has no participle ending in *-ita-* (cf. Av. *gərəpta-* : Skt. *gr̥bhītá-*), the ending here must be based on *-ħto-* (with secondary vocalization in Indian). This form *-ħto-* has then been preserved as such in the individual languages. This will also have been the case in *tigitá-*, which explains why the *g* is not palatized here. The latter in turn confirms the truth of this interpretation.

It may be useful to summarize the representation in Indo-Iranian:

PIE	$\underset{\circ}{\hbar}$	Av.	*i*	Ind.	*i*
	$\hbar$		zero		zero/*i*

It will be clear that the above is important to the question whether one is concerned with a consonantal or a vocalic laryngeal of the proto-language. The vocalic laryngeal is — by definition — found in all languages as a vowel, but once it coincided with vowels of a different origin it was naturally subjected to more recent sound changes. If, therefore, the laryngeal has disappeared in one language in the corresponding form, where a vowel would normally have been retained, the proto-language had the consonantal allophone here.

The only way of establishing a vocalic laryngeal with certainty seems at present to be comparison with the Avestan forms. For in this language secondary vocalization does not appear to have occurred (although of course it should be asked what criterion there is for this). The Germanic and Hittite material does not in my opinion as yet allow of sufficiently reliable conclusions in this respect. The vocalic allophone is therefore the most difficult to establish and if a corresponding form is missing in Avestan — which of course is often the case — certainty is difficult to acquire here. Since, as we shall see, secondary vocalization was very pronounced in Greek, when further proof is impossible it will be assumed that the laryngeal was consonantal.

Re 5. For this no further proof is required. The opposition $\underset{\circ}{h} : \underset{\circ}{hh}$ is not used in this book.

Re 6. Various phenomena in Indo-Iranian can be most easily explained with the aid of laryngeal theory. The principal ones are the following.

(a) An aspirate in Indo-Iranian that corresponds to a non-aspirate in the other languages can be caused by a laryngeal following the occlusive. This point is now almost universally accepted. The clearest example is GAv. *dugdar-*, which must have been formed from **dhughter-* according to Bartholomae's Law (**dhughtar-* > **dhugdhar-* > *dugdar-*). As the latter must have operated in the Indo-Iranian period, the transition *gh* > *gh* must be still older. Of antevocalic instances there are, among many others, the celebrated cases *pr̥thú-* and *pánthāḥ*, which are discussed on p. 179; cf. under b as well.

(b) Some cases of hiatus are explained by assuming that at least until shortly before the period of the oldest texts a laryngeal stood between the vowels concerned.

For instance, one finds (the hiatus is indicated by ‘):

Ved. *bhaʿas-* for *bhās-* from the stem *bhā-*, PIE **bheh-es-*, the type *manas-*, PIE **men-es-*;
Ved. *pánthaʿam* for *pánthām*, Av. *pantąm* /*pantaʿam*/, PIE **ponteh₁-ṃ*;
Av. *mazdaʿam*, PIE **mn̥z-deh₁-ṃ*;
Ved. type *vr̥kíʿaḥ*, *tanúʿaḥ*, PIE **u̯l̥kʷ-ih-ós*, **tₑn-uh-ós*;
Ved. *préṣṭha-* /*prayiṣṭha-*/, PIE **preih-is-*.

In Vedic only a few traces are left of such a hiatus, preserved as archaisms, but Gāthā-Avestan seems to display a hiatus consistently in all cases where a laryngeal must be assumed.

It should be pointed out that in the inflexion of the word for 'path' the two phenomena mentioned occur; Avestan has here preserved the original situation the best:

sg. nom.	PIE **pont-éh₁-s*	LAv. /*pantāh*/
acc.	**pont-éh₁-ṃ*	LAv. /*pantaʿam*/
gen.	**pn̥t-h₁-ós*	LAv. /*paϑah*/

(c) Apparent exceptions to Brugmann's Law are explained by assuming that these forms originally contained a consonantal laryngeal, so that the *o* was in a closed syllable. This is found in:
separate words, e.g. *jána-* < **ĝonh₁-o-*, Gr. γόνος;
the first person singular perfect active, type *cakára* < **kʷe-kʷor-h₂e* (with the ending *-h₂e*, Hitt. *-ḫa*, Lyc. *- χa*, Gr. -α), as against 3 sg. *cakā́ra* < **kʷe-kʷor-e*;
the causatives, type *janáyati* < **ĝonh₁-éi̯eti*, as against *pādáyati*;
the aorist passive, type *ájani* < **é-ĝonh₁-i*, as against *ákāri*.

(d) Vedic forms that end in a long vowel but have a short vowel *in pausa* indicate that in Indian the form still ended on a laryngeal shortly before the beginning of transmission. This phenomenon is discussed in greater detail on p. 145 f.

(e) Indian had laryngeal umlaut; the colour (*i*) of a 'prop-vowel' (either of PIE origin, or of more recent date) was determined by a following laryngeal even if these two sounds were separated by a sonant. For instance *timirá-* < **tₑmh-ró-*. The development of the sonant + laryngeal group is based on the same principle, e.g. *r̥h* to *īr* before consonant, *ir* before vowel, which must have gone via a phase *ₑrh* > *irh*. For a more detailed discussion see p. 208.

(f) When a zero in Avestan responds to an *i* in Indian, we are concerned with a consonantal laryngeal vocalized in Indian. For instance *gr̥bhītá-* : *gərəpta-*. See further under point 4.

(g) An *i*/zero interchange within Indian (and Iranian) will go back to a paradigmatic interchange of vocalic and consonantal laryngeal. For this interchange see under point 2 and also compare:
nom. acc. sg. *jánima* : instr. sg. *jánmanā*, etc.;
mahimán- (in *mahimnā́*) : instr. *mahnā́* (< **maźhmnā́* < **meĝh₂mnē*);
vánitā, *vánitāram*: instr. *vantrā́*, etc.

(h) The compositional shortening of the type *carkr̥tí-* as against *kīrtí-* can be

explained only by assuming that the laryngeal has disappeared from **kr̥ḫti-*. For a more detailed discussion see p. 166, 204 and 242 ff.

C. FURTHER ASSUMPTIONS

It seems useful here to point explicitly to three matters which are of importance to this work. What is posited here will be used without further argumentation. They are the following.

(1) PIE had a phoneme /ₑ/, which can best be described as a not very clear vowel, which was probably formed in an earlier stage of the proto-language through weakening from *e* as a result of stress effect. This is the so-called *shwa secundum*,[23] Meillet's °, Sturtevant's ɒ.

This is not the place to reproduce and consider the long discussion on this problem. For recent literature see Polomé, *Evidence*, p. 29 n. 126. In my opinion, various forms oblige us to assume such a phoneme; we need only envisage such Latin ones as *quattuor* and *canis* and Greek ones like βαρύς (Skt. *gurú-*) < PIE **gʷₑrú-*; cf. the type *pā́mi pāmáḥ* from **péhmi *pₑhmés*, Kuryłowicz *Etudes*, p. 56 f. In this work the need is shown to assume such a phoneme for the proto-language for a certain category (p. 260 ff.), but in numerous other forms this assumption likewise proves inescapable.

(2) PIE had two types of inflexion, known as proterodynamic and hysterodynamic. Hysterodynamic inflexion is characterized by the zero grade of the suffix in all cases of the singular except the nominative and the accusative, with the ending *-e/os* in the genitive. Proterodynamic inflexion, on the other hand, has the full grade of the suffix in the weak cases, with the ending *-s* in the genitive. The change in the suffix is responded to by a similar one in the stem. The stress seems to have been a decisive factor. The essential thing is that the two types of inflexion appear to have been possible in all nominal classes. For instance:

	hysterodynamic	proterodynamic
sg. nom.	πατήρ < *-ér*	**mént-i-s*
acc.	πατέρα < *-ér-ṃ*	**mént-i-m*
gen.	πατρός < *-r-ós*	**mn̥t-éi-s*

This idea was brought to the fore by Pedersen, *Cinq. décl.* 23-5, but even he was sceptical with regard to the possibility of establishing this more accurately. In *Notes on Vedic noun-inflexion* (pp. 1-70), Kuiper worked out the theory, in which form it is used here.

In the individual languages this original system has been simplified in various ways. Traces of ablaut both in the stem and in the suffix are, however, so frequent

[23] "Güntert, *Indogermanische Ablautprobleme*, Strassburg 1916, hat die in jeder Beziehung verfehlte Benennung Schwa secundum (schöne lateinische Orthographie!) eingeführt" (Pedersen, *Hitt.*, p. 161, n. 1).

that they cannot be denied, any more than the existence of the two paradigms given above. Consequently I do not see objections of a general nature. Kuiper has found numerous indications of the correctness of the theory in (mainly) Indo-Iranian. But further research, which is urgently required, has not been performed.

A group of Greek forms which can be combined in this way into a paradigm consists of λειμών (-ῶνος), λιμήν (-ένος), λίμνη; see Frisk, II, pp. 97ff. These forms seem to originate from a hysterodynamic inflexion:

sg. nom. **leim-ṓn*
acc. **leim-én-m̥*
gen. **lim-n-ós*

For *-ṓn -énm̥* cf. *Nerio -enem* and Lith. *piemuõ píemenį*. From this **leimṓn* will first have been detached (with the nominative as stem); then within the newly formed **leimḗn *leiménm̥ *limnós* the zero grade of the stem of the weak cases will have been generalized, after which in λιμήν λιμένα *λιμνός (type ἀρήν ἀρνός) the zero grade of the suffix has been abandoned (before consonant **limn̥-* must have become *λιμα-; the form *λιμασι, as is known, has been replaced by λιμέσι), as in ποιμήν, -ένος. The zero grade can still be seen in λίμνη (cf. ποίμνη and ποιμαίνω).

The forms δώτωρ -ορος and δοτήρ -ῆρος could point in the same way to one original paradigm:
**deh₃-tór* > *δωτώρ
**deh₃-tér-m̥* > *δωτέρα
**dh₃-tr-ós* > *δοτρός
With *o*-vocalism of the suffix the form δώτωρ has the full grade of the root like λειμών; δοτήρ has *e*-vocalism of the suffix with zero grade of the root, like λιμήν. That the two forms derive from one paradigm is perhaps confirmed by Lat. *dator*, which connects the zero grade of the root with the *o*-grade of the suffix. (The zero grade of the suffix in Skt. *dātré dātṛ́ṣú*.) Cf. βώτωρ βοτήρ. The same distribution is also found in ἀλέκτωρ (δ 10) ἀλκτήρ (Il. Od.): **h₂lektór *h₂lektérm̥ *h₂lktrós*? The fact that the nominative has full grade may be the cause of the stress of the forms having been shifted back from -τωρ. Without ablaut in the root one finds ἰάτωρ ἰητήρ (Myc. *ijate*) ἰατρ-. The type of ῥήτωρ ῥητήρ may be based on ablaut **u̯reh₁-/*u̯rh₁-*. Cf. δμητήρ as against (παν-) δαμάτωρ, which may stand for *δεμάτωρ (**dn̥h₂-/demh₂-*).

(3) Greek has many words of non-Indo-European origin. Often discussion is seriously hampered by the fact that elements are brought into it which are of foreign origin. This can also be encountered in Frisk's dictionary. It is therefore of great importance that more systematic research be performed on this point. The language (or languages?) from which these words must have been taken are referred to as 'pre-Greek', 'pre-Hellenic' or 'Mediterranean'. The last term then means that this language may have cognates in other regions in the Mediterranean basin. In this book we shall mainly confine ourselves to 'non-Indo-European'. The term 'Pelasgian' will not be used, since it is bound up with the theory of the "Protoindogermanische Schicht", which I do not consider to be sufficiently reliable.[24]

[24] This theory is defended above all by Georgiev, Van Windekens and Carnoy. See for instance Van Windekens, *Etudes pélasgiques*, Louvain 1960. A study of the testimonia on the Pelasgians may be found in Lochner-Hüttenbach, *Die Pelasger* (Vienna 1960).

Among the formal criteria of this language special reference may be made to the procedure of prenasalization.[25] This term indicates that, besides forms with occlusive, cognate forms occur with nasal in front of the occlusive, e.g. σαλάβη : σαλάμβη, κυβιστάω : κύμβαχος; κολύφανον : κολύμφατος; κιδάφη : κινδάφη, Διδυμήνη : Δινδυμήνη; αἴγιθος : αἴγινθος, ἀσπίθιον : ἀψίνθιον; κίχραμος : κύγχραμος, θάλασσα : δαλάγχαν.

In addition some words seem to have been derived from a Central European language, since they have related forms in other Indo-European languages in Europe (mostly Balto-Slavic and Germanic), but seem to be non-Indo-European. It is not always possible to distinguish between these two groups — assuming the fundamental correctness of the theory; this book does not go into this matter, since it is of no further importance here.

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D. OBJECTIVE AND SET-UP OF THE WORK

The objectives of this work are:

(1) to verify on the Greek material the correctness of the starting-points stated above (p. 8) as regards the laryngeal theory;

(2) to demonstrate the need for assuming a third, *o*-colouring laryngeal for the proto-language;

(3) to study all Greek developments of the laryngeals and groups with laryngeal.

The treatment of the material appears from the table of contents. This purely formal arrangement proved to be the most appropriate one from a methodical point of view. The first chapter on the "prothetic vowel" forms a self-contained whole that leads to obvious conclusions. This is reinforced by the treatment of the negative adjectives with νη- νω- (which in turn form a parallel of part of the problem of the disyllabic roots, which is dealt with in the last chapter) and Attic reduplication; the latter points ahead to the first chapter of the third part (ch. VI: After vowel before consonant). More difficult to demonstrate is initial laryngeal before vowel. The development at the end of the word is more troublesome, since in this case more allowance has to be made for the effects of analogy. Of course the third part is more complicated, since in this allowance has to be made for both the preceding and the following sounds. The developments discussed in chapters VI to X of this part, which in general are of less importance, are difficult to demonstrate. Far and away the trickiest problem is that of the disyllabic roots, which at the end is considered as a whole. This is followed by a short study of possible dialectal differences. In the last part the results are summarized and placed in a wider context, following on the general remarks in the introduction. As this survey shows, there is a close connection

[25] Various cases of this have been collected by Ch. Autran, *Tarkondemos*, Paris 1922, pp. 83-6. The examples given here are taken from Kuiper, Μνήμης χάριν.

between the various parts of the book. The work must therefore be regarded and appraised as a whole.

It should finally be remarked that not all the theories that have ever been published are discussed. Many of these have been conclusively refuted by Cowgill (pp. 160-80).

THE GREEK MATERIAL

LARYNGEAL AT THE BEGINNING OF THE WORD

I. BEFORE CONSONANT

A. THE 'PROTHETIC VOWEL'

1. Introduction

a. The Problem

Greek has a number of words beginning with a vowel which in cognate forms in the other IE languages is missing. On the strength of the assumption that this vowel was added in Greek, it was given the name of 'prothetic'. This nomenclature will continue to be used in the following because this term is current and easy, even where it would be incorrect, strictly speaking.

The assumption has been voiced that this prothetic vowel arose from vocalization of a PIE laryngeal. This can therefore only have been the case with inherited IE words. However, it is known that not all prothetic vowels belong to the same group. A distinction should be made between:

(A) prothesis of possible IE origin; if a word is to be regarded as belonging to this group, an IE etymology is necessary;

(B) prothesis of a different origin:

(1) prothesis in words of non-IE but pre-Hellenic or Mediterranean origin; e.g. ἀσταφίς ὀσταφίς σταφίς 'dried grape', which cannot be separated from σταφυλή 'grape', has no IE etymology and whose stem (*stabh-*) seems non-IE;[1]

(2) more recent prothesis, consisting of *i* before consonant group beginning with *s*, in late Greek in or near Asia Minor, e.g. ἱστήλη, ἱστρατιώτης; Schwyzer, 413. This does originate from non-Greek speakers.[2]

Perhaps related to the latter group is ἐξατράπης Theopomp. and (ἐξαιτραπεύω) in Carian inscriptions (as against σατράπης X., σατραπεία Hdt.) from **xšaθrapā-*, cf. OP *xšaçapāvan-*.

It will be clear that where a convincing etymology is lacking, only considerations on the structure must decide whether the word is IE or a loan-word from a Mediterranean language. In general, however, this is the only way in which the latter group can be identified, since the possibility of an etymology is practically out of the question as long as we do not have a good knowledge of a relative of this substratum language. Thus fundamentally there remains a moment of uncertainty for the individual cases. The last group (B2) is by definition easy to recognize.

[1] Lit. Kretschmer, *Einleitung*, p. 422, *Glotta*, 21 (1933), 86-92; Bertoldi, *Riv. Fil. Class.*, 60 (1932), 345, n. 1, *ZRPh*, 57 (1937), 158f., *Mél. Van Ginneken*, p. 169; Belardi, *Rendic. d. Lincei, sc. mor.* 8, X (1955), 317f.; Kuiper, Μνήμης χάριν, p. 221.

[2] The phenomenon is already found in Hittite, *išpant-*, *ištantanun*, *išḫai*; Kronasser, *Vgl. Laut- u. Formenlehre d. Heth.*, p. 29f; *Evidence*, p. 27, n. 123. For Armenian see Meillet, *Esquisse*², p. 53 (*st-* > *əst-*). The same is found in Turkish: *iskelet*, *istasyon*, *istatistik*, *isterilize*. In Phrygian a prothetic *i* is very uncertain, see Haas, *Phr. Spr.*, p. 215f.

Within the words that belong to group A a distinction should be made between two cases. We have:

(1) α, ε, ο before ρλμνϝ and sometimes other consonants;

(2) ι before groups of guttural + dental.

In addition there is a second distinction; while in Armenian words with a prothetic vowel correspond to the first group (*infra*), Armenian has no prothetic vowel beside the second group. This group consists of only a very few words which may be listed here.

ἴκτινος (Sch. Il. Oxy., Choerob.), ἰκτῖνος (Hdn.) 'kite' (Semon., Theogn., S., Hdt.): Arm. *çin*.

ἴκτις (ἰκτίς) 'marten' (Ar., Arist.) as against κτιδέη (κυνέη K 335. 458). Here Maas, *KZ* 60 (1933) 286, has suspected an incorrect split from κρατὶ δ'ἓπ' ἰκτιδέην κυνέην; the same explanation is given by Leumann, *Hom. W.* 53f.

ἰχθῦς: Arm. *jukn* (with *-kn* as in *mu-kn*: μῦς), Lith. *žuvis*.

The laryngeal theory cannot, in principle, offer any solution for the latter group, since in vocalization the three laryngeals gave ε, α, ο. It is not inconceivable *a priori* that an ε (< $\hbar_1$) was assimilated to ι (Schwyzer, p. 256), but this would not explain why Armenian has no vowel there.

A few observations impose themselves. Ἴκτις has no etymology; nor is it certain that there is any question of prothesis here. The two other words have the ι before the phoneme k^s or $\hat{g}^zh$ (**k*^{s}*īno-*, **ĝ*^{z}*huḫ-*). And yet it is improbable that this is in itself the cause of the phenomenon, for one does not have it in κτείνω κτάομαι and χθών χθές. Ἴφθιμος might be important here, if this belonged with φθάνω and Skt. *kṣáyati* (lit. in Frisk s.v.).

Associated with the above cases is perhaps ἴκταρ (Call.): κτάρα· ἰχθῦς βραχύτερος πάντων Hsch.: ἀκτάρα (Sch. Opp.), where the changing form and the meaning point to non-IE origin.

We shall therefore confine ourselves in what follows to group A 1, prothetic vowel α, ε, ο before ρλμνϝ and sometimes before another consonant.

b. Prothetic Vowel elsewhere

Besides the prothetic vowel in Greek we find the same phenomenon in Armenian, which will be discussed in the following section, while usually Albanian is also mentioned. Further the Phrygian and Macedonian material should be discussed. The prothetic vowel which Harl, *KZ* 63 (1936) 19, believes to have found in Iranian, *i* before *ri-*, *u* before *ru-*, has nothing to do with the Greek and Armenian phenomenon.

Albanian. — Hamp, *AION* 2 (1960) 185-90, has disclaimed the existence of the

prothetic vowel in Albanian. He points out that the unstressed short initial vowel in this language disappeared in post-Roman times, *mik* < *amícus*, *peshkëp* < *episcopus*, *sy* < **okᵘi̯-ōu* (? cf. Gr. ὄσσε, Arm. *aç-k'*, OCS *oči*, PIE **okᵘī*).[3] In addition *l* intervocalically became *ll*, but the words that correspond to the Greek prothetic vowel before λ have *l-*, *lig* 'bad, thin, sick': ὀλίγος, *lyej* 'to smear': ἀλείφω, *le(h)* 'light' if connected with ἐλαχύς ἐλαφρός. The fact that *ll-* was preserved in this position is shown by Geg. *llânë*, Tosc. *llërë* 'arm from elbow to hand' (ὠλένη, PIE **ǒlenā*). Nor does one find a prothetic vowel in *nyerí* 'person': ἀνήρ, *myel* 'to milk': ἀμέλγω, *nip* 'nephew, grandson': ἀνεψιός, *nëndë* 'nine': ἐννέα. Next he demonstrates that the three forms cited as evidence of a prothetic vowel must be explained otherwise, *im* 'my': ἐμέ, Geg. *ândërr*, Tosc. *ëndërrë* 'dream': ὄνειρος, Geg. *emën*, Tosc. *emër* 'name'[4]: ὄνομα. He believes that *im*, ἐμέ, etc., is a separate case that is not on a par with the other cases of prothetic vowels, which seems correct to me; cf. p. 43. Having regard to the *d*, *ândërr* will stem from **ḫ₃onr̥* (**ḫ₃enr̥*, ὄναρ; cf. p. 46). For *emën* see p. 47 s.v. ὄνομα.

I consider it to have been convincingly demonstrated that Albanian has nothing that corresponds to the Greek prothetic vowel. Consequently *erë* 'darkness' will not correspond to ἔρεβος either.

Phrygian. — LPhryg. *anar* may be a direct representation of **ḫ₂nēr* (IE *ē* > Phr. *a*, cf. *matar*; Haas, *Phr. Spr.*, p. 202), but the context (Haas, *ibid.* p. 106) does not give any certainty for this interpretation.

Even more difficult is OPhr. *onoman*. The word occurs on the Arezastis inscription from the sixth century, so that it is not very probable that this word was borrowed (from Greek), which in any case would be surprising for this word. (Phrygian has another word ending in *-ma(n)* (< **-mn̥*) in OPhr. *keneman*, LPhr. *knouman*.) The words are divided here by dots. From the context, the following *daχet* is probably 'fecit', but the preceding ... *evet eksetiz* : *ovenin* : is too uncertain. The basic form is unclear. If the first or the second *o* were to go back to *ḫ₃* (the *o* is short, for IE *ō* is written Phr. *ou* or ω, *op. cit.*, p. 203), this would presuppose *ḫ₃* > *o* and *ḫ₁* > *e* for Phrygian. In accordance with this would be the etymology of OPhr. *keneman* as **kenəmn̥* from **k(ḫ)enē-* (i.e. **kḫ₁enḫ₁-/kḫ₁neḫ₁-*) in Skt. *khanati khanitum* 'to dig', *khani-* 'mine, pit, quarry'.[5] This development *ə* (*ḫ₁*) > *e* is at variance with Haas' *ə* > *a* (p. 204), but this word is not discussed by him there. However, two things argue against this assumption. The form *daket*, *ad(d)aket* seems to correspond to

[3] Greek often has the stress on the prothetic vowel (ἔρεβος, ὄνειρος), which has not yet been explained. It must be an innovation.

[4] I cannot guarantee the correctness of these forms, since they are written differently in different manuals (Hamp's notation is not consistent either). Frisk seems to have interchanged 'geg.' and 'tosk.'. One also finds Geg. *êmen êmën*, Tosc. *ëmër*.

[5] It does not seem probable that LPhr. *knouman* is a development of OPhr. *keneman*. As *ou* may go back to PIE *ō*, a variant form **kḫ₁noḫ₁-mn̥* seems obvious. If this is correct, the two forms will point to paradigmatic ablaut. An older form (occurring once) is *kinouma* (with *i*, = *e*, from *ḫ₁*?). However, in Greek inscriptions one sometimes finds it reproduced by κένωμα (through secondary association with κενός?), so that *k(i)nouma* may have developed under the influence of κένωμα.

Lat. *fac-*, i.e. to go back to **dhḫ₁k-*. However, it is conceivable that Phr. *dak-* has the full grade **dheḫ₁k-* > **dhēk-* (with *ē* > *a*, supra), as is probable for *dakar*, *dakaren* 'fecēre, fecērunt'. The form *detoun*, which Haas reproduces by 'fito' (*ibid.*, 104), could have **dhḫ₁-* > *de-*, but the context is too uncertain. If *vrekuntedatoz* contains a second element *-datos* 'given', one would have *da-* from **dḫ₃-*. However, this interpretation is highly uncertain: the text (the Arezastis inscription) seems to have punctuation after the *n*, although this is not certain; furthermore, the first element (which would have to be the name of a god) is not known (the *v-* prohibits the connection with Βερεκυντ-). If it is in fact a name, allowance must also be made for the possibility of strange (perhaps Iranian) origin. At present, therefore, certainty is not possible, but *keneman* continues to carry weight. Phrygian *onoman* could in that case also go back to **onḫ₃mn̥* (cf. p. 229 f.).

The cases of prothetic vowel mentioned by Haas (*ibid.*, p. 220: *olavos*, *evet*, *ovevin*) are not reliable, since the interpretation of these words is too uncertain. In *oouitetou* 'videto' the group *oou-* can be simply an indication of the bilabial *u̯*.

Macedonian. — Ἀβροῦτες· ὀφρῦς. Μακεδόνες Hsch. is clear, if the gloss is reliable. Recent discussion in J. N. Kalleris, *Les Anciens Macédoniens* (Athens, 1954), I, pp. 77 ff. Further material, however, is not known to me. If the interpretation of ἀβροῦτες is right, we would find here a prothetic vowel, but — otherwise than in Greek — with *a* < *ḫ₃*.

c. *The Armenian Prothetic Vowel*

Armenian is the only language which, like Greek, has forms that have a vowel as the first phoneme that is absent from the other languages. This phenomenon largely occurs in the same words as in Greek.

G. Royen, *Handelingen van het Zeventiende Vlaamse Filologencongres*, pp. 83 f., denies, in my opinion wrongly, that this is of significance to PIE. Admittedly, in general it is correct that identical phenomena in different linguistic groups do not necessarily go back to the proto-language, but here in my opinion a parallel development is out of the question. Royen points out that prothesis is an Armenian phenomenon. The first phoneme of the PIE groups *tr- pr-* was lost, after which the *r-* acquired a prothetic vowel (*erek'* 'three' — Skt. *tráyaḥ*; *erastank'* — πρωκτός). On the other hand the *l-* from PIE *pl-* remained without prothesis (*luanam* 'to wash' — πλύνω, Skt. *plávate*). In the groups *dr- gr- bhr- sr-* metathesis occurred and the *r-* acquired a preceding vowel, *dr-* > *rt-* > *art-* (*artasuk'* < **draǩ(r)u-* — δάκρυ, OHG *trahan*), *gr-* > *rk-* > *erk-* (*erkan* 'mill' — Skt. *grāvā*), *bhr-* > *rb-*, which with dissimilation became *lb-* and with prothesis *e|alb-* (*elbayr* — φράτηρ, *albiwr* 'well' — φρέαρ), *sr-* > *rs-* > *ŕ-* > *aŕ-* (*aŕu* 'canal' — Skt. *srutí-*).[6] Even the *r-* of loan-words acquired a prothetic vowel, *erank'* 'thigh' — Av. *rāna-*.

Against this it must be posited in the first place that Lazzeroni, *Ann. di Pisa* II 27

[6] The same phenomenon is found in Ossetic, *tr-* *ϑr-* > *ärt-*; *br-* > *ärw-*, *ärf-*; *sp-* > *äfs-*; e.g. *ärtä* 'three'; *äfsad* 'exercise' — Sogdian *spad.*

(1958) 127-37, has pointed out that the prothetic vowel for Arm. *r-* < *tr-* must have come into being *after* fixation of the Armenian accent on the penultimate, in view of *eris*, Goth. *þrins* (which otherwise would have been **ers*, Meillet, *Esquisse*², p. 19), while the prothetic vowel that corresponds to the Greek one dates from before that time, *ayr* — ἀνήρ, with loss of the last syllable after the stress. It emerges from this that the two prothetic vowels are of different origin and that the vowel corresponding to the Greek one is the older of the two.

But, even apart from this, Royen's argument does not detract from the importance of the forms with prothetic vowel that correspond to Greek ones. Firstly these are not exclusively words with a prothetic vowel in front of *r* and secondly there is a clear correspondence between the Armenian words with and without prothetic vowel and the Greek ones. Compare the following (leaving aside the cases with *r*):

alkʿat	ὀλίγος	as against	*loys*	λευκός
aluēs	ἀλώπηξ		*loganam*	λούω
			lkʿanem	λείπω
anicanem	ὄνειδος	as against	*nor*	νε(ϝ)αρός
anurǰ	ὄνειρος			
anun	ὄνομα			
ayr	ἀνήρ			
inn	ἐννέα			
atamn	ὀδών	as against	*tasn*	δέκα

There seem to be a few exceptions. For instance *mēg* — ὀμίχλη and *mēz*, *mizem* — ὀμείχω. Austin, *Lg.* 17 (1941) 83-92, considers them both to be loan words from Persian, which may be correct; cf. Hübschmann, p. 474. As examples of the opposite *olokʿ* and *amis* are stated. *Olokʿ* 'shinbone' is connected with λοξός 'slanting, crosswise', which semantically is not convincing. Nor is there an obvious relation between λοξός and Lith. *alkū́nė*, Russ. *lókotь* (< **olkъt-*) 'elbow'. Fraenkel connects *alkū́nė* with ὠλένη. Cf. also p. 20. *Amis* 'month' — μήν is, however, obvious. It has been suspected that the *a* was taken over from *arev* 'sun' and *astl* 'star' (Winter, *Evidence*, p. 29). One could further think of the influence of *am* 'year', *amaṙn* 'summer', *awr* 'day'. That *amis* is recent becomes probable through the following considerations. Beside the stem **mēns-* (Gr., see Frisk; Lat., Celt.; Ind.-Ir.?) the forms **mēnes-* (Lith.) and **mēnōt-* (Germ., Balt.) existed. The Armenian form cannot stem from the latter group, for then the *-s* could not be explained. This must go back to *-ns* (Meillet, *Esquisse*², p. 39). But the form **amēnsos* posited by Hübschmann (*Arm. Gr.* I 417) and Meillet nowhere finds support. It might seem likely that the basic form was **amēns*, partly in view of the correspondences between Armenian and Greek and Indo-Iranian. However, this is impossible, since in that case the Armenian stress would have fallen on the prothetic vowel (*supra*) and the vowel of the second syllable would have disappeared (**amēns* > **ams*, cf. **anēr* > *ayr*). Thus the basic word was **mēns*

> **mis*, with a 'prothetic' vowel of more recent date than the others and thus of different origin. S. E. Mann, *Armenian and Indo-European*, p. 19, explains *amis* as *am-mis* 'month of the year', by way of distinction from *mis* 'meat' (from PIE **mēms-*, Skt. *māṁs-*).

Recently Szemerényi, *Syncope*, p. 112, repeated the counter-examples of Kuryłowicz, *Apophonie*, p. 270, viz. *jukn* — ἰχθῦς and *kʿsan* — *ἐϝίκοσι. However, both are irrelevant. The first belongs to another group, as seen above (p. 19). As regards the second, it must be borne in mind that Armenian never has a prothetic vowel before *u̯*, cf. ἄεσα: *gom*. Here, therefore, Armenian has a different development from Greek; cf. p. 76. See moreover for *ἐϝίκοσι p. 60 ff. and p. 76 ff. It should be noted that there is no certain case of prothetic vowel before *m* either, as far as I can see.

These counter-examples are not strong enough to dispute the principle. The fact of the correspondence between Greek and Armenian remains and is so striking that common origin is an inescapable conclusion. Influence of a substratum or "inherited Indo-European speech-habits" (Szemerényi, *loc. cit.*) alone cannot explain the occurrence of these exact resemblances. In anticipation of what follows it must, however, be admitted that the question remains why precisely Greek and Armenian have vocalized the PIE laryngeal in this position. Here the influence of a substratum cannot be excluded; cf. p. 18 n. 1. But this is something fundamentally different from explaining the prothetic vowel directly by the phonetic laws of a substratum. The matter must be further left out of consideration here.

d. *Attempts at an Explanation*

So far, if we except the explanation with the aid of the laryngeal theory, the so-called prothesis has not been adequately explained.

The explanation has been sought in "verfrühtes Einsetzen des Stimmtons im Satzanlaut (oder ähnlich)", Schwyzer, p. 412.

Another very widespread idea is that these are sandhi vowels, developed between consonants in the whole of the sentence.

Neither of the two, however, can explain the correspondence with Armenian nor elucidate the appearance of ε and ο as well as α. The well-known formulation by Meillet, *BSL* 27.130, "résonance de timbre vague qui ne s'est précisée que peu à peu", does not explain why now this vowel appears and then that one. Another argument against the theory of the sandhi vowels is that such a vowel is not found in words of exactly the same structure as those that have that prothetic vowel. Moreover, Winter, *Proth. Vok.*, p. 2, is correct in his objection that Greek laws concerning word end greatly reduce the chance of difficult combinations of consonants. If one assumes, as one is compelled to do and as the correspondence with Armenian would also indicate, that these 'prop-vowels' date from before the effect of these laws, then these vowels had to be preserved despite the fact that the groups in which they arose disappeared, which is after all most improbable. Moreover, the prothetic vowel is found in by far the largest number of cases before sonants (*r l m n u̯*), and much less before other

consonants, rarely before groups of consonants (only ὀφρῦς). Compare also the criticism of the theory of Adrados, p. 29 f.

Meillet's idea (*l.c.*) of also regarding the ε at the place of the reduplication of the perfect in ἔκτημαι, ἔζευγμαι as a prothetic vowel (which for instance is still found in Chantraine, *Gr. Hom.*, p. 422, *Morph.*², pp. 187 f.) seems to me entirely incorrect. It is surely evident that in these cases the ε has the function of reduplication, and so is a functional element, which the prothetic vowel is not.

On the other hand substratum influence has been envisaged and it has been pointed out that Hittite, Lycian, Lydian, Armenian and Turkish never have an *r* at the beginning of the word. However, it seems to me of importance that Greek does have ῥ-, albeit mainly from *sr-* or *u̯r-*. Cf. Frisk s.v. 2. ῥέζω and ῥυκάνη: he is surprised at the absence of a prothetic vowel. For in Asia Minor the substratum is believed to have made its effect felt down to Turkish. Further, the prothesis is not found only in front of *r*. Cf. p. 22.

IE 'prefixes' have also been envisaged. Evidently composition is meant here. There originated from PIE *sm̥-*, the zero grade of **sem-* (in Skt. *sám* 'together', Gr. εἷς), with the meaning 'one, the same (ὁμός)', in Greek ἀ- which is found in ἅπαξ (Lat. *sem-* in *simplex*, Skt. *sa-* in *sánāman*) etc.; by breath dissimilation this became ἁ- in ἄλοχος ἀδελφ(ε)ός, from which ἀ- was extended, ἄκοιτις ἀγάστωρ ἀετέα, Schwyzer, p. 433. Perhaps the Aeolian development of **sm̥-* is ὀ- in ὄπατρος ὄτριχες (pl.) ὀγάστωρ ὄζυξ οἰέτεος.

In all the words mentioned the meaning is clearly recognizable. This becomes more difficult where ἀ- is supposed to have only an intensifying effect, the so-called 'α *intensivum*'. Here the examples are fairly scarce and in my opinion highly dubious: ἀσπερχές ἀστεμφής ἀπρίγδα ἀπτερέως ἀτενής ἀτραπός ἀφλοισμός ἀχανής.

Another prefix is ὀ- 'close to, towards, with', for instance ὀκέλλω ὄζος ὄσχη. This is compared to the (unrelated ?) Skt. *ā, ā-gam-* 'to arrive'. As ὄζος is related to Goth. *asts*, PIE *o-* has been demonstrated, if at least the analysis **o-sd-*, parallel to *ni-sd-* in Lat. *nīdus*, OHG *nest*, is correct; that for **osd-* is, however, much less obvious. If Hitt. *ḫasdu̯eir* 'branches' belongs to this, *o-* has originated from *ḫ₃e-* or *ḫo-*. For ὄσχη 'vine-branch with grapes' the connection with σχ-εῖν is "semantisch alles andere als einleuchtend" (Frisk). Then only ὀκέλλω 'to run (a ship) aground, on shore' (Hdt.) would remain against κέλλω (Od. and Tragg.). The following are also mentioned as examples of this prefix: ὄαρ ὄψον ὀτρύνω, Schwyzer, p. 434.

For an element ἐ- there are no indications except in two words, ἐχθές (: χθές) and ἔνερθε (: νέρθε etc.). In the case of the first the ἐ- is probably not the same as the prothetic vowel, since it stands in front of a group of consonants (of two occlusives, as against *muta cum liquida* in — exclusively — ὀφρῦς) and because the forms with and without ἐ- occur side by side. This ἐ- is, I think, the deictic particle that also occurs in ἐκεῖ (: κεῖ), etc.; see Frisk I 475. In the case of the second it is noticeable here that Armenian has no prothetic vowel, *nerk'in* "inférieur, der untere".

However, there are two general and overwhelming objections to the explanation of

the prothetic vowel by these 'prefixes'. Firstly, despite the fact that α, ε and ο could all have originated in this way, it still does not become clear why α, ε and ο appear as equal elements in the prothesis. The relation of the 'prefixes' mentioned is quite a different one.

The second point is that the elements discussed have an obvious significance, and so are or were functional elements. In ἀ-/ὀ- the meaning 'the same' is entirely clear, and the value of the deictic ἐ- can likewise be demonstrated. Less clear are ὀ- (ὀκέλλω) and the 'α *intensivum*'. However, it should be remarked in this connection that the cases where it is thought that these are recognized are few in number (and should perhaps be explained in another way) and that these are precisely *not* the cases that are regarded as instances of prothetic vowel. It seems improbable that these vowels originated by composition with elements conveying a meaning. There is nothing to show that these words differ in meaning from related words in the other IE languages (ἔρεβος ἐρυθρός ἐλεύθερος ὀλίγος ὄνειδος ἀμέλγω). Moreover, these ἀ- and ὀ- are found before groups of consonants, occlusives and vowel (ὄαρ), while the prothetic vowel occurs mainly before sonants. It would further be quite a coincidence if three prefixes were to have become meaningless elements precisely in Greek — quite apart from the parallel with Armenian.

Two recent attempts at an explanation by means of 'prefixes' will be further discussed.

e. *The Prothetic Vowel from* en/n̥ *according to Seiler*

In a penetrating article, *KZ* 75 (1958) 1-23, Seiler defends the old hypothesis that the prothetic vowel ἀ- stems from **n̥-*, which is the zero grade of **en* 'in'. On p. 2 he gives a survey of the etymologies that are based on this assumption: ἀσπάζομαι, Lagercrantz; ἀλέγω, Schulze; ἀκέομαι, Brugmann; ἀγείρω ἀγοστός, Solmsen; ἀκαρός, Schulze; ἄζα, Fraenkel; ἀπέλλα, Solmsen; ἀλία, Solmsen; ἀτενής, ἀχανής, ἀστεμφής Solmsen (who rejected it).

He takes as the criterion "enge und häufige Beziehung zu der 'Präpositio' ἐν" and considers as the clearest case:

ἀκαρός : κάρα = ἐγκέφαλος : κεφαλή
ἀκαρός = ἔγκαρος (cf. ἴγκρος).

Apart from the fact that ἀκαρός is known only from the *Etymologicum Magnum* it is the question whether the late ἔγκαρος (AP, Lyc.) is of much value to this problem. ῎Ιγκρος (Hsch., Hdn.) with zero grade -κρ- seems rather to be an old formation, but is precisely without *n̥*.[7]

It is useful further to study the examples discussed by Seiler.

His solution may be correct for ἀτενής 'stretched, intense, intent'. As against

[7] See Frisk s.v. As κάρᾱ contained a laryngeal, this must have disappeared in composition, ***en-ḱrh₂-o-* > *enḱro-***; cf. p. 242.

the usual derivation of ἀ- from **sm̥-* with Ionic psilosis he states that the word cannot be demonstrated in Ionic (Hes., Pi., Tragg., Ar., Pl.). Parallels are ἔντονος (Hdt., E., Thuc.) 'intense, eager, vehement', young is ἐντενής (A.R. 2.933); ἐντείνω (Hom.) and Lat. *intentus*.

The situation is different with ἀλέγω. Explaining the word as **n̥-leg-* he tries to separate this root from that in λέγω, Lat. *lego* and connect it with Lat. *neglego*, Alb. *plog(ët)*. Szemerényi, *Syncope*, pp. 144-60, points out that Alb. *plog(ët)* 'lazy' cannot be taken with these on account of its meaning (from **legh-* 'to lie', Russ. *ležaka* 'lazy person', etc.). Nor does it do to separate *lego* from *neglego*. This by-way is all the more strange because Seiler's basis for the analysis of ἀλέγω as **n̥-leg-* is the use with ἐν, just as ἐν ... λέγω 'to reckon, count', in Alcm. fr. 1.2 P ἐν καμοῦσιν ἀλέγω, Pi. *O.* 2.78 ἐν τοῖσιν ἀλέγονται beside Γ 188 δ 452 ἐν ... λέγω. On the strength of this comparison Seiler postulates "beachten, berücksichtigen" as the meaning and sees himself obliged to separate ἄλγος from the verb (a form which would be formally difficult to explain in that way: **n̥lg-* ?).

There are insurmountable objections to this interpretation. The chronology of the data indicates that ἀλέγω ἐν (Alcm., Pi.) is more recent than the other ways of use (Hom.). After Homer ἀλέγω occurs only rarely (Alcm., Simon., Pi., A. and the Hellenistic poetae docti, Call., A.R.). In fact the locution ἀλέγω ... ἐν is difficult to explain from Homeric use; the meaning would have to be completely blurred. The impression is rather gained that this is a scholarly reinterpretation (in fact ἐν ... λέγω with the "more learned" form ἀλέγω). Furthermore, Seiler's interpretation does not explain the frequent occurrence in negation (ten times against twice without in Homer, as Seiler himself remarks). The meaning 'trouble oneself about', on the other hand, calls for negative use; ἐμπάζομαι, which has the same meaning, occurs eight times out of ten in negation in Homer (the exceptions being α 271 ~ 305); cf. Οὐκαλέγων Γ 148, and νηλεγής, p. 99f. Finally, the separation of ἄλγος is difficult to accept. Cf. p. 39f.

His analysis of ἀλίγκιος as **n̥-link-*, in which **link-* is claimed to be a substantive for 'face', as in ἔναντα, is not convincing. The etymology with OCS *lice* 'face' would presuppose a form **līnkom*, but then the connection with OIr. *lecco* 'cheek' (Berneker, *Slav. etym. Wb.*, p. 720) would have to be abandoned, which is not to be preferred. Nor do the speculations on the relation of ἐναλίγκιος to ἀλίγκιος inspire confidence (dative + *en* + *link-* as against *n̥* + *link-* + dative, on the strength of the fact that ἀλίγκιος occurs only before the dative (twice) and ἐναλίγκιος only (twenty times) after the dative).

The explanation of ἄμοτον as **n̥-mn̥-* is untenable, since it would presuppose *n̥* > α and *n̥* > ο in the same word; this seems to have escaped the author's notice. This demolishes the argument based on the identity of the two words in the formula ἄμοτον μεμαώς and the comparison with ἐμμεμαώς, which would thus demand the root **men-* in ἄμοτον. Leumann's explanation of ἐμμεμαώς (*Hom. W.*, pp. 52f.) as the result of a false split seems more plausible. Seiler's objection that E 143 μεμαώς against E 142 ἐμμεμαώς proves that the poet was aware of the difference in meaning is something that I cannot share.

There are supposed to be more examples, but the author only mentions ἀσπάζομαι — ἐννέπω, Lat. *insece*. This connection is not convincing (one would expect instead **n̥-sek^{u}-* : **en-sk^{u}-*); the one with σπάω (with prothetic ἀ-), which Frisk still mentions, is even less probable.

Seiler has tried to give the formation a theoretical basis by comparison with the proclisis of prepositions. He asserts that besides loss of stress (Skt. *pariyási* against *pári yasi*, Gr. ἐπὶ against ἔπι in 'anastrophe') the proclisis initially also led to weakening of vocalism. In this way he explains Skt. *api-* : *pi-*, Gr. πιέζω; ἔνι : *ni-*, Skt. *nīḍá-*, Lat. *nīdus*, OHG *nest* < **ni-sd-*. The zero grade **n̥* is claimed to be preserved in Lith. *ĩ*, OCS *vъ-*.

This idea will be correct in principle, but little can be found in Greek that goes back to this phenomenon (for πιέζω see Frisk, and cf. Kuiper, *Nasalpr.*, Index). On the strength of the above one would also expect parallels in Lithuanian (with *ĩ-*) and Old Church Slavonic (with *vъ-*).

It is clear that this cannot offer any explanation of the Greek prothetic vowel in general, since one would expect the same phenomenon in the other languages as well. Nor does one see why this ἀ- should have spread secondarily in Greek. In addition the exact correspondence with Armenian cannot be explained in this way, where *n̥* would probably have appeared as *an-*. From the study of the material (*infra*) it further appears that ε and ο were about as frequent as α. This shows that *n̥* can present no solution for the problem of the prothetic vowel. Moreover, up to now there has only been one case for which the explanation proposed here can be made plausible (ἀτενής). As, however, none of the other languages has such a formation elsewhere, this cannot be regarded as certain either.

To state that besides this explanation (and α privative (!) and copulative) another origin of the prothetic vowel remains possible, "von der wir vorläufig aber nichts wissen" (p. 3) — without even mentioning the laryngeal theory — is unscientific.

f. *The Prothetic Vowel from* n̥ *according to Winter*

Winter too, after his treatise on the prothetic vowel that will be dealt with below, has endeavoured in *Lg.* 28 (1952) 186-91 to defend the origin of ἀ- from *n̥*. He believes that he can reconstruct a PIE prefix *n̥-* 'together with' on the strength of material in Tocharian B. He finds here a prefix *a(n)-*, *e(n)-*, *on-*, the form of which is identical with the privative **n̥*, on the strength of which he postulates a PIE prefix *n̥*. In a manner not entirely clear to me he tries to determine the meaning, which he then puts on a par as a working hypothesis with that of Lat. *co(n)-*, Goth. *ga-*, etc. How he envisages the relation to **en* does not become any clearer by the remark "that this prefix *n̥-* was sometimes used simply as a variant of *en-*" (p. 190).

Although I cannot assess the Tocharian material, I am in no way convinced that his interpretation is the only possible one. But it seems to me to be fundamentally

incorrect to trace back this phenomenon that evidently does not even occur in Tocharian A to PIE. In general Tocharian is not a language which, when it stands alone, allows of far-reaching conclusions regarding PIE.

The above author believes that he can find PIE *ḫ* in ἀγείρω, which he tries to support by the semantic parallel

ἀγείρω: Lat. 'colligere': Goth. 'galisan'
(ἄκαρος: ModG. 'Gehirn')

It may be asked whether α < *ḫ* was also lengthened in composition, as in ὁμηγερής ὁμήγυρις (Hom.). In any case this one example — whatever it may prove — is not enough for assuming such a prefix. For the rest the same objections apply here as were made to Seiler's theory.

g. *The Prothetic Vowel from Reduplication according to Winter*

As the last person before Adrados, Winter devoted a special study to the prothetic vowel (*Studien zum "prothetischen Vokal" im Griechischen* (1950); with critical historical survey pp. 1-9). He regards the explanation of the prothetic vowel before sonants "als Ausdruck der Stimmhaftigkeit oder als Zeichen eines verfrühten Einsetzens des Stimmtons" (p. 2) as adequate and devotes no further attention to this group. He bases his own theory on the difference in length of the vowel of the root syllable as in Φᾶραί Φηραί: Ἀφᾰρεύς and concludes that there must have been vowel shortening in 'prefixed' forms. It suffices — to employ his own method of criticism (of Wood, p. 6) — to cite his solution (p. 42): "Das Präfix vor gekürzter Wurzelsilbe ist entstanden aus einer doppelt dissimilierten Reduplikation der Wurzelsilbe". He summarizes this in the following scheme:

**kal-*:	**kal-k(a)l-* >	**al-k(a)l-* >	1. **aŋ-k(a)l-*
			2. **ai-k(a)l-*
			3a. **aH-k(a)l-*
			3b. **a-k(a)l-*
**skal-*:	**ka-sk(a)l-* >		4. **a-sk(a)l-*

Winter makes the following comment on this: "Dieses Unsicherheitsmoment, das jede Aussage 'Aus x muss y werden' unmöglich macht und nur eine Formulierung 'Wenn x nicht x bleibt, so kann aus x ein y oder y_1 oder y_2 usw. werden' erlaubt, und das auf den ersten Blick einen schweren Nachteil zu erhalten scheint, gibt in Wirklichkeit eine Lösungsmöglichkeit an die Hand".

I am not yet further than that "at first sight". The greatest objection — apart of course from the fundamental point that the "Ausnahmslosigkeit der Lautgesetze" is ignored here — is the dissimilatory loss of the initial consonant of the reduplication syllable. The reference (p. 44) to Schwyzer, p. 260, is not enough; there cases of a different kind are mostly concerned, which moreover are very rare. It is furthermore not clear how it happens that type 3b (and 4), which is the least probable, occurs the most. It should be borne in mind that the type παφλάζω καχλάζω, where thus the reduplicated consonant is still preserved, is in itself rare; Schwyzer, p. 647. Furthermore (the criticism is already to be found in Adrados, p. 326), the vocalism of the root in reduplicated and unreduplicated forms is usually the same (ἄσταχυς : στάχυς), while Winter's theory presupposes a reduced vocalism (not necessarily, although in that case his solution has nothing more to do with his starting-point). In addition one would expect the same timbre in prefix and root, which leaves many cases unexplained. Finally, many of his etymologies are disputable. He states "die einigermassen sicheren Fälle ... überhaupt nicht und stellt dafür möglichst unsichere Beispiele", Risch, *Glotta* 33 (1954) 209.

To explain ἀ- before a root with *e*-vocalism he calls in the aid of the laryngeal theory, though in a very strange manner: in the dissimilation of the consonants, besides the fact that the consonant can disappear entirely, a laryngeal can also come into being (in type 3b therefore *He-CeC* < *Ce(C)-CeC*?), which colours the *e* to *a* (p. 47); he thus starts here from the idea that all laryngeals colour to *a* or that only the *a*-colouring laryngeal could occur. The same idea may be found in the discussion of type 3a (p. 42): Skt. *jāgarti* < **geH-gor-* < **ger-gor-*. "Wichtig ist jedenfalls, dass es nicht absurd ist, mit einem Laryngal als Dissimilationsprodukt zu rechnen". However, it has not been demonstrated that this is not absurd, for this idea nowhere finds support and is by no means self-apparent (unlike the types παμφαλάω and παιπάλη).

Winter's thesis cannot therefore be taken seriously either as a contribution to the solution of the problem of the prothetic vowel or as criticism of the laryngeal theory.

h. *Adrados' Theory*

Building on his theory on the reduced vowels (*Emerita* 26 (1958) 249-309 and 27 (1959) 155-62), Adrados discusses in *Emerita* 27 (1959) 323-48 the cases with Hitt. *ḫu-*, *ḫu-w-*, which therefore definitely had laryngeal, and proceeds from

	PIE	*Hu̯*	*Hu*	beside	°*Hu̯*	°*Hu*
which developed	Hitt.	*ḫw-*	*ḫu-*		*ḫw-*	*ḫu-*
	Gr.	ϝ-	υ-		ἁϝ-	αὐ-
	Lat.	*u-*	*u-*		*au-*	*au-*

The laryngeal is not essential here, as he also expressly states: the 'prop-vowel' (°) can equally well develop before other consonants or before sonants (p. 329, 331). Here lies the weakness (and the strength) of this theory, which in fact is therefore that of Meillet (see p. 23 f.). Every unexpected initial vowel can be "explained" in this way. For the general objections to the theory of the 'prop-vowels' see p. 23 f.

Adrados has again summarized his views in *Estudios*, pp. 31-46. His starting-point makes discussion practically impossible; cf. p. xiv: "el concepto neogramático de ley fonética no es adaptable a nuestro material". See the criticism of Cardona, *Lg.* 39 (1963) 91-100.

His material is too disputable to be discussed here in detail. His first etymon (p. 37) may serve as an example: it connects ἑστία, ἄεσα (ἰαύω < *Hi̯i̯°Husō*), ὦρος ἀωρέω (should read ἀωτέω) 'dormir' (con otro vocalismo de la raíz), and ϝάστυ (< *Hu̯°stu*).

The reconstructed °*Hu-* cannot explain the prothetic vowel. The 'prop-vowel' develops into a full vowel (as always and everywhere), °*Hu̯-* > *aHu̯-*, so that one would expect *āu-*. Moreover, though this is less essential, one would expect that the 'prop-vowel' would acquire the timbre of the laryngeal, but Adrados posits that this always became *a*. He tries to explain these two phenomena as follows (p. 43, paraphased): there is a chronological difference between the development of °*H* and *eH* which explains why they did not coincide: when °*H* becomes *aH H* falls, while the full vowel has the time ("tiene tiempo") to absorb the laryngeal, as a result of which it is lengthened and assimilated. It is not clear to me what "tiene tiempo" means and why it is the case the one time but not the other. The sign ° is the symbol for a non-clear vowel that develops in a certain milieu and becomes a full vowel and here too, therefore, it is true to say that *VHC* becomes *V̄C*. The development °*H* > *a* before consonant is a paper construction that cannot reproduce any reality. What Adrados proposes in fact amounts to vocalization of the laryngeal. It is therefore not possible to connect the theory of the 'prop-vowels' with the laryngeal theory to explain the prothetic vowel.

It is evident that the vocalic segment that developed before the laryngeal underwent the influence of this laryngeal rather than an original full vowel. According to Adrados the *a* is caused by the "abertura" of the laryngeal. Nevertheless the stem vowel was sometimes able to exert influence: ἐέρση (with ε under the influence of the stem vowel ε) beside Cret. ἄερσα. This difference is not further stipulated and is therefore unusable. This would explain why ε occurred only before stem vowel *e*, while with a stem vowel *o* the prothetic vowel was "forzosamente" α. A glance at the survey of the material demonstrates, however, that this is not the case; p. 68 f (of this book).

Furthermore Adrados is of the opinion that *H* could always (in all languages) give aspiration, e.g. ἕσπερος, ὕδωρ. For these words, laryngeal is, however, highly uncertain. It will not do to reply that for many prothetic vowels, too, the origin from laryngeal cannot be further demonstrated. Here in my opinion the principle can be demonstrated, but everything is still uncertain with reference to the supposed aspiration. For the rest, it is also true for Adrados here that "nunca se trata de un hecho regular".

i. *The Pelasgian Theory*

Georgiev, *Vorgriechische Sprachwissenschaft* (1941), p. 115, has tried to explain the prothetic vowel from Pelasgian, the IE language believed to have been spoken in Greece before the advent of the Greeks. This idea was most recently defended by Carnoy, *Lingua* 7 (1957) 242-53. They believe that the prothetic vowel α must be partly explained by assuming that the word in question has been derived from

Pelasgian, in which this *a* was formed from the PIE *o-*, the same as is found in (genuine Greek) ὀκέλλω.

The article contains a large series of words that are said to be Pelasgian, for which a PIE basic form is (re)constructed, but practically without any evidence, e.g. (p. 246): "Ἄμυκος guettait les voyageurs pour les attaquer (i.e. *meug-* 'guetter, attaquer' — g > k)". Not the slightest value can be attached to this method of argumentation.

In itself, once the theory of Pelasgian has been accepted, the idea is of course not impossible. However, the words would have to be etymologically recognizable as non inherited loan-words. Anyone who states that a certain Greek word is borrowed from Pelasgian will have to give proof of this, which, of course, is practically only possible if the word has a reliable IE etymology. However, for the words with which we are concerned here and which have such an etymology there is no reason to assume the detour via Pelasgian; see the collection of material pp. 32-69. Only for ἀβροῦτες· ὀφρῦς. Μακεδόνες Hsch. can borrowing be made plausible — insofar as one can speak of borrowing here — for if ἀβροῦτες is related to Skt. *bhrúḥ*, one would expect φ in Greek (such as ὀφρῦς in fact has). However, there is little reason to speak of Pelasgian here. In this way, therefore, the problem of prothesis as such is not solved. For the rest the same general objections apply as to other theories which were discussed above.

j. *Explanation by Means of the Laryngeal Theory*

The attempts at an explanation discussed so far are therefore fundamentally incorrect. For completeness' sake mention will also be made of Lemaire-De Vaere, *Album Baur*, 1948 II, p. 31-9. This author accepts the laryngealistic explanation but tries to tie it in with Sievers' anlaut intensification (*IF* 42.193 ff., 43.1 ff. and 143 ff.), which is claimed to have been caused by the disappearance of vowels. What our conception must be of this is not made clear. The augment is also said to have its origin in a laryngeal (which thus formed part of the stem!). The author threatens to involve reduplication in this as well. It is to be hoped that this attempt will be abandoned. The article can safely be forgotten.

It was Kuryłowicz, *Eos* 1927, who explained the prothetic vowel by the PIE laryngeal, e.g. **ə₂leg-* > ἀλέγ-ω. He started from the idea that every PIE root began with a consonant, so that therefore the "thème II" sometimes gave a laryngeal before consonant, **ə₂elg-/ə₂leg-*. Although I consider this starting-point incorrect (p. 90 ff.), it cannot be denied that the laryngeal could also function as the first phoneme of a PIE root. See for this ablaut p. 89 f.

The arguments supporting this idea will be discussed later; first we should see what conclusions the material of the prothetic vowel in Greek permits of.

2. The Material for the Prothetic Vowel

The material for the prothetic vowel will be examined here on a basis of Frisk's etymological dictionary. First of all the four sonants are dealt with, in the order ρλμν, each preceded by the three vowels α, ε, ο (ι and υ are after all not of importance here, see p. 19), in the order αρ-, ερ-, ορ-, αλ-, ελ-, ολ-, etc. Next all other words with α-, ε-, ο- are dealt with, with the exception of αϝ-, εϝ-, οϝ-, which are discussed separately at the end. The words will be divided into six groups, viz.:

I. Words which are dealt with under other headwords;
II. Words whose etymology gives no reason to speak of a prothetic vowel;
III. Words which are of non-Indo-European origin;
IV. Words which have no etymology at all;
V. Words of which the proposed etyma are too unreliable to admit of further conclusions;
VI. Words which may be of importance to the question of the prothetic vowel.

Needless to say, the limits between these categories cannot be sharply drawn. Words which in Frisk are simply referred to another headword have not been included here (e.g. ἄγαμαι s. ἀγα-), together with a number of non-Greek proper names which do not belong in a Greek etymological dictionary (Ἀχαιμένης). The designation αϝ εϝ οϝ means that the words are dealt with under the words with αϝ-, etc. The words of the sixth group are briefly discussed; the conclusions follow at the end of each section and of the whole collection of material. The perfects with Attic reduplication, of which the first vowel is in essence identical with the prothetic vowel, are here mentioned only; they are dealt with in detail on pp. 113 ff. In the discussion of the separate forms the reconstructed form with laryngeal has usually already been given where this seemed probable or possible. This is simply for clarity's sake; the argumentation comes later.

a. αρ-

I. (elsewhere) Ἀράτυος s.v. ἀρόω; ἀργαλέος s.v. ἄλγος; ἄργεμον ἀργής ἀργιλιπής ἄργιλλος ἄργυρος ἄργυφος s.v. ἀργός (1.); ἀρείων ἀρετή s.v. ἀρέσκω; ἄρθρον s.v. ἀραρίσκω; ἀριδείκετος ἀρίζηλος s.v. ἀρι-; ἄριστος s.v. ἀρέσκω; 1. ἅρμα ἄρμενα ἁρμόζω ἁρμονία s.v. ἀραρίσκω; ἀρνειός s.v. ἄρσην; ἄροτρον ἄρουρα s.v. ἀρόω; ἁρπάζω s.v. ἁρπή; ἁρπαλέος s.v. ἄλπ(ν)ιστος; ἀρτάω s.v. 2. ἀείρω; ἀρτέομαι s.v. ἀραρίσκω; 1. ἀρτήρ s.v. 1. ἀείρω; ἀρτηρία s.v. 2. ἀείρω; ἄρτι ἀρτύω s.v. ἀραρίσκω; ἀρχή s.v. ἄρχω.

II. (no proth. vowel) 2. ἀργός (α-priv.), ἀρήν (ϝ-), ἄρκυς (Slav. **orkytā*; IE?), ἅρπη (*s*-), ἄρρατος (α-priv.), 1. ἀρύω (ϝ-).

III. (non-IE) ἀρασχάδες, ἀρβύλη, ἁρμαλά, ἅρμωλα, Ἁρποκράτης, ἀρράβη, ἀρ(ρ)αβών, ἄρριχος, ἀρσενικόν, ἀρτάβη, ἄρτος, ἀρύβαλλος.

IV. (no etym.) ἀρά, ἄραβος, ἄραδος, ἀράζω, ἀραιός, ἀράκη, ἄρακος, ἀράχιδνα,

ἄρβηλος, ἀρβίννη, Ἀργαδεῖς, Ἀργεϊφόντης, ἄργελλα, ἀργέλοφοι, Ἄργος, ἄρδα, ἀρή, 1.2. ἀρίς, ἀρίσαρον, ἀριστερός, ἀρκάνη, ἄρκευθος, 2. ἅρμα, ἁρμαλιά, ἄροκλον, ἄρον, ἀρπεδής, ἁρπεδόνη, ἅρπεζα, ἁρπίς, ἅρπυς, ἀρρηνής, ἀρρηφόρος, ἄρσεα, ἄρταμος, ἀρτεμής, Ἄρτεμις, ἀρτέμων, 2. ἀρτήρ, ἀρτίαλα, 2. ἀρχός, ἄρχω, ἄρωμα.

V. (unreliable) ἄρδις, ἀρεή (Skt. *irasyá*), ἀρνευτήρ (ἀρνειός), ἄρυα (OCS *orěchъ*, Lith. *ríešas*? and κάρυα; IE?), 2. ἀρύω.

VI. ἄρα. The Baltic forms, which are generally considered to be cognate, point to **or* (Lith. *aĩ*, Latv. *ar*) and **r̥* (Lith. *iĩ*, Latv. *ir*). The existence of a Cypriot form ἔρ (ἔρ'), which was generally assumed on the strength of data from Hesychius, is contested on good grounds by Latte in his edition (II (1966), p. 816). It is therefore better to regard the existence of this form as very uncertain.

Laryngeal at the beginning of the word is possible if one starts from **or*/*r̥*: **ḫ₂or*/*ḫ₂r̥*; *ḫ₂* on account of ἄρα. However, the form ῥα makes **ḫ₂r̥* improbable here (it would probably give ἀρα). If Cypr. ἔρ is a reality (*supra*), laryngeal is out of the question. Laryngeal at the end of the word is also improbable, since one would have expected **ir*, *ar* in Lithuanian. It seems to me that ἄρα is secondary and that ἀρ and ῥα are older. The last two forms are different realizations of **r̥*, depending on the place in the sentence; this view is shared by Schwyzer, p. 342 *Zus.*, and Grammont, *Phonétique du grec ancien* (1948), p. 285 f. In my opinion one can expect the following developments *a priori*:

Cr̥C > ρα (cf. δρατός)
Cr̥V > αρ
Vr̥C > ρα
Vr̥V > ρ'

It never occurs at the beginning of the sentence. At the end one expects:

Cr̥ > αρ (cf. ἦπαρ)
Vr̥ > ρα

It seems that both elements were fused in ἄρα; possibly the -α here came into being under the influence of that of ἄνα, πάρα, κάτα (assuming that it was older there; cf. Schwyzer, p. 622.8, and p. 152 ff. of this book). Grammont expects ῥα after a single consonant and ἀρ after a double consonant (or long vowel + consonant). Hoenigswald, *Lg.* 29 (1953) 288-90, is of the opinion that the facts support Grammont's proposition: he counts only eight times ῥα after 'heavy syllable' (e.g. A 430 τήν ῥα)[8] out of the 91 cases in A-M, and not once out of 95 ῥ' (though he does after long diphthongs). Perhaps γάρ < γε ἀρ dates from the time when ἄρα did not yet exist: this would eliminate the objection to this explanation of γάρ (Denniston, p. 56,

[8] Τήν ῥα may itself have been created on the example of τόν ῥα, which is not at variance with Grammont's rule.

Humbert, p. 386), viz. that no *γάρα is found. (Incidentally, Hom. γ'ἀρ' could be represented not only as γάρ, but also as γάρ'; γέ ῥα does not seem to occur.) The same form is presupposed by αὐτάρ < αὖτε ἀρ.

The connection with ἀραρεῖν, ἁρπάζω has no basis. (If these forms began with h_2, it is impossible.)

That ἀράσσω and ῥᾴττω belong together is improbable, since ῥᾴττω began with *u̯-* (καταρράκτης, etc.), while for ἀράσσω there is no evidence for ϝ- (ἀπ-, κατ-). Apart from this ϝαραχ-, ϝρᾱχ- (*$u̯_e rh_2gh$-, *$u̯rh_2gh$-) is conceivable; Frisk s.v. ῥάσσω.

ἀράχνη, Lat. *aráneus* < **arak-sn-*. If OE *renge, rynge* 'spider, spider's web' goes back to **ruʒnia* < **rəkʰnia* (Walde, WH s.v. *araneus*), a *$_e rh_2k$- > *arak-* is conceivable; for Greek and Latin perhaps **h₂erh₂-*. The word may, however, be of foreign origin.

ἀργός beside ἀργι- must, having regard to Ved. *ṛjrá-* : *ṛji-*, go back to *αργ-ρός. Ved. *ṛjrá-* points to **ṛ̥ĝ-ró-*, Hitt. *ḫarkis* 'white, bright', gives a laryngeal, so that **h₂ṛ̥ĝ-ró-* (beside **h₂erĝuro-* in ἄργυρος, Skt. *árjuna-*) must have been the original form. One cannot speak of prothetic vowel, since ἀρ- is based on *ṛ̥*.

The development *h₂ṛ̥ĝ-* > ἀργ- is interesting. It demonstrates that in the group *HṚ̥C-* the vocalic element appeared before the sonant (as when the vocalic sonant is at the beginning of the word). In this structure (*CṚ̥C-*) one might also have expected a development *Ṛ̥R* > *RV*, with later vocalization of the laryngeal, i.e. of *$h_2ṛ̥ĝ$- > *αραγ- (and with h_1 *ἐρεγ- and h_3 *ὀρογ-). However, there is no evidence of such a development.

If ἄρδω, as *ἀ-ϝαρδω, is related to ῥαίνω, one would expect *ἀρραίνω there (ἀ-ϝρα-; if not *ὑραίνω < **hur-*). For ῥαίνω (connected with ῥαθάμιγξ ῥάσσατε ἐρράδαται Hom.; non-IE) see Kuiper, Μνήμης χάριν, p. 216, with n. 23. The analysis *αϝαρδω has no support at all.

That Ἀρέθουσα is connected with ἀρέσκω is not evident semantically. The analysis **h₂redh-* is possible, but names like *Radantia* are not a sufficient basis for IE **redh-*, since they do not convey the impression of being of IE origin; see for instance the survey in Krahe, *Sprache u. Vorz.*, p. 58.

ἀρέσκω has a disyllabic root; as ἀρέσαι presupposes *e*-vocalism, **h₂erh₁-* is probable. Forms with **h₂reh₁-*, Gr. *ἀρη-, elsewhere **rē-*, are not known.

ἀρήγω 'aid, succour', cannot be connected with OS *rōkian* 'take care of', since the words related to the latter point to another meaning (cf. Falk-Torp, *Norw.-dän. etym. Wb.*, p. 347 and *idem, Sprachschatz*, p. 333).

ἀρι-, ἐρι- cannot have had a laryngeal at the beginning, since a laryngeal would have determined the quality of the vocalism; see p. 91.

ἀριθμός beside Germ. and Celt. *rīm* 'series, reckoning, number' may go back to **h₂ri-*, but **h₂eri-* is also possible.

ἄριστον < *αιερι- beside Goth. *air*, OIcel. *ār* 'early' < **aiəri-*, Av. *ayarə* 'day' suggests **h₂eiər-*; ἠερι- by metrical lengthening.

The connection of ἀρκέω with Hitt. *ḫark-* 'hold, have' is just as weak as that

with Lith. *rãktas* 'key', OHG *rigil* 'bolt' (**h₂erk-*/**h₂rek-*?). If Lat. *arceo* belongs here, this points to **h₂erk-* or **h₂ṛ̥k-*.

ἄρκτος. Only Hitt. *ḫartagga* 'predator' could point to laryngeal, but the connection is far from certain; *ḫartagga* may be non-IE.

ἀρνέομαι, Arm. *uranam* 'deny' may point to *ar-*/*ōr-* (**h₂er-*/**h₂ōr-*; or *ṛ*/*ōr*?); however, there is insufficient certainty here.

For ἄρνυμαι Hitt. *arnuzi* 'bring, take away' (Av. *ərənav-* 'permit') would not point to laryngeal, but semantically the similarity is not great. Arm. *arnum* 'take' does not permit of further conclusions either.

ἀρόω ἀρόσαι is from the stem **h₂erh₃-*, see p. 129.

Ἄρπυια. Szemerényi, *Syncope*, p. 203-14, goes into details on this. The form Ἀρεπυια occurs on a vase from Aegina (VI[a]) and *EM* ἁρεπυιαΐ; it can be read everywhere in Homer (Π 150 α 241 = ξ 371 υ 77). The word has been associated with ἀνηρείψαντο (Υ 234 δ 727 α 241 = ξ 371 υ 77), which one prefers to read as *ἀνηρέψαντο on the authority of Pi. *Paean* 6.136 and Hsch. ἀνερεψάμενοι· ἀναρπάσαντες. The manuscripts give ει unanimously for Homer. Hes. *Th.* 990 has ἀναρεψαμένη, with vv.ll. ἀναρειψαμένη and ἀνερειψαμένη. As the last two may be based on the influence of the Homeric tradition, the first would be backing for the change into ἀνηρέψαντο. In that case the origin of the ι is unclear (according to ἤρειψα Pi., Hdt. ?). On the other hand it would be understandable if the word were identified with ἐρέπτομαι (without v.l. in Hom., Β 776 Ε 196 Θ 564 Φ 204 ι 97 τ 553). The timbre of the initial phoneme of ἀνηρείψαντο is not known. In favour of α are Hes. *Th.* 990 ἀναρε(ι)ψαμένη beside ἀνερειψαμένη. Pi. *Paean* 6.136 is of no value, as the syllable in question is a conjecture, ἀ[να]ρέψατο. The parallelism ἅρπυιαι ἀνηρείψαντο (α 241 = ξ 371 υ 77), ἀνηρείψαντο θύελλαι (δ 727), ἀναρπάξασα θύελλα (δ 515) suggests a relationship between ἀνηρείψαντο (from *αρεπ-), Ἀρεπυια/Ἅρπυια and ἁρπάζω. It is in itself conceivable that we are concerned here with a recent "etymologizing" explanation, but the very form Ἅρπυιαι ἀνηρείψαντο indicates rather that an old *figura etymologica* (ἀρεπυιαι ἀνᾱρέψαντο, Fick, *Od.*, p. 2) forms the basis. In that case the aspiration of ἁρπάζω remains unexplained (after αἱρέω εἷλον?).[9] It is improbable that ἐρέπτομαι is assimilated from *ἀρεπ- (Szemerényi, p. 205); this word should be kept separate. The parallelism with ὀρόγυια (v. p. 37) suggests a paradigmatic ablaut *ἀρέπυια *ἁρπυιᾶς here (Kretschmer, *Vaseninsch.*, p. 208 f.). This would indicate that this is an old IE word. There is no reason to start from a perfect participle. The original forms will therefore have been **h₂répusih₂* **h₂ṛ̥pusi̯éh₂s*. See Add

ἄρσην : ἔρσην excludes laryngeal; see p. 91.

Conclusion. — Prothetic vowel from laryngeal is possible for ἀριθμός, ἀρήγω, Ἀρέθουσα and Ἀρεπυια. Ἀργός and ἄραρα (ἀραρίσκω), ἀρηρομένη (ἀρόω) and ἀρέσκω also had initial laryngeal, but here one does not speak of a prothetic vowel.

[9] Cf. the aspiration of ἁμαρτάνω, p. 109f.

b. ερ-

I. (elsewhere) ἔργω s.v. εἴργω (εϝ); ἐρεείνω, 1. ἐρέω s.v. ἐρευνάω; ἐρι- s.v. ἀρι-; ἐρίηρες ἐριούνης s.v. ἐρι-; ἔρση (εϝ); ἐρυθρός s.v. ἐρεύθω; ἐρῦκω s.v. ἔρυμαι; ἐρυσίβη (?), ἐρυσίπελας s.v. ἐρεύθω.

II. (no proth. vowel) ἔρα, ἔργον (ϝ-), ἔρδω (ϝ-), ἔριφος (OIr. *heirp* < **erbhī*?), ἔρκος (*s*-), ἔρπω (*s*-), ἔρρω (ϝ-).

III. none.

IV. (no etym.) ἔρανος (connected neither with ἔροτις, nor with ἑορτή), ἐρεσχηλέω, ἐρίθακις, ἔρῑθος, ἐρῖνεός, ἔρινος, ἐρίσφηλος, Ἐριχθόνιος, ἐριώλη, ἑρμηνεύς, ἔροτις (v. ἔρανος *supra*), ἔρραος, ἐρρεντί, Ἔρρος, ἔρσαι, ἔρφος, ἔρχατος.

V. (unreliable) ἔραμαι (*hṛṣyati*), ἐρέας, ἐρείκη (Centr. Eur.?), ἐρητύω (connected with ἐρωή?), ἔρις, ἔρμα, Ἑρμής, Ἐρυσίχθων, ἔρχομαι, ἐρῳδιός, ἐρωτάω.

VI. ἐρέβινθος, Lat. *ervum*, OHG *araweiz*, do not point to a prothetic vowel. It is probably of non-IE origin.

ἔρεβος, Arm. *erek* as against Goth. *riqis* admits of **ḫ*$_1$*reg*^{u}-.

ἐρέθω allows of an analysis **ḫ*$_1$*redh*- just as much as of the non-committal connection with ὄρνυμι (with a root **ḫ*$_3$*er*-).

ἐρείδω can be interpreted as **ḫ*$_1$*reid*-; cf. ἐρηρέδαται p. 119.

ἐρείκω as against Skt. *likháti*, Lith. *riekiù*; cf. ἐρήριγμαι (p. 118), but ἤρικε (P 295); **ḫ*$_1$*reik*-?

ἐρείπω as against Lat. *ripa*, ON *rīfa* (see Frisk); cf. ἐρήριπε (Ξ 55); **ḫ*$_1$*reip*-?

ἐρέπτομαι as against Lith. *ap-rĕpti* 'grasp', Alb. *rjep*- 'rob', Lat. *rapio*; **ḫ*$_1$*rep*-.

ἐρέτης as against Lat. *rēmus*, Skt. *arítra*-; stem **ḫ*$_1$*erḫ*$_1$-, cf. p. 132.

1. ἐρεύγομαι as against Lith. *riáugmi*, Russ. *rygátь*, Lat. *ē-rūgo*, etc., **ḫ*$_1$*reug*-. Arm. *orcam* < **orucam*.

2. ἐρεύγομαι, Lat. *rūgio*, OCS *rykati* (with **k*); **ḫ*$_1$*reug*-; may be identical with the preceding one.

ἐρεύθω beside OE *rēodan* 'paint red', etc., and ἐρυθρός, Skt. *rudhirá*-, etc., gives **ḫ*$_1$*reudh*-.

ἐρευνάω beside OIcel. *raun* 'attempt, examination' < **roun-ā* renders **ḫ*$_1$*reu-n*- possible.

ἐρέφω beside OHG *hirni-reba* 'skull' may have **ḫ*$_1$*rebh*-. Ὀροφή, etc., must then replace *ἐροφή by assimilation, Schwyzer, p. 255.

ἐρέχθω has a prothetic vowel if connected with Skt. *rákṣas*- 'destruction'.

ἐρῆμος. The link with Lat. *rārus*, *rēte* seems very unreliable to me. However, should it be correct, then Lat. *rē*- may go back to **ḫ*$_1$*reḫ*$_1$-, *rā*- to **ḫ*$_1$*r̥ḫ*$_1$-, Gr. ἐρη- to each of these two forms. For **ḫ*$_1$*r̥ḫ*$_1$- > ἐρη- see p. 95. Goth. *arms* could also belong here as **ḫ*$_1$*orḫ*$_1$*m*-.

Ἐρῑνύς connected with Skt. *ríṣyati* 'suffer harm' could be **ḫ*$_1$*ris*-, but this remains very uncertain.

ἔρνος perhaps cognate with ὄρνυμι, which has a stem **ḫ*$_3$*er*-; ἐρ- is unclear, see p. 38. Cf. Norw. *run(n)a* 'branch'.

ἔρυμαι. An interchange ϝερυ-/ϝρῡ- is unexplained (see p. 205). Ruijgh, *Etudes*, p. 358 n. 32, wonders whether ϝερυ-/ϝρῡ- (instead of *ϝρῡ-) developed on the analogy of κερᾰ-/κρᾱ- (< **ḱerḫ*$_2$-/**ḱr̥ḫ*$_2$-). It is not necessary on the strength of the present εἰρύομαι to assume a prothetic vowel ἐ-ϝερυ- (Frisk, cf. *idem*, I 568, top: from the perfect or *metri causa*).

ἐρύω. To εἰρύομαι the same applies as was stated above.

ἐρωή. Both the Germanic words going back to **rēs-o*-, *-ā*, and those going back to **rēu̯ā*, **rōu̯ā*, leave a prothetic vowel.

Conclusion. — There is a large group that allows of an analysis *Hre(R)T*-: ἔρεβος ἐρέπτομαι ἐρέφω ἐρέχθω and ἐρείδω ἐρείκω ἐρείπω ἐρεύγομαι ἐρεύθω ἐρευνάω ἐρωή. Ἐρέθω and ἐρῆμος are uncertain. Ἐρείδω (ἐρηρέδαται), ἐρείπω (ἐρήριπε), ἐρέτης (*rēmus*) have support for laryngeal.

c. ορ-

I. (elsewhere) ὀραυγέομαι s.v. ὁράω; ὄργανον ὄργια s.v. ἔργω; ὄργυια s.v. ὀρέγω; ὀρέοντο s.v. ὄρνυμι; ὀρεσκῷος s.v. ὄρος; ὀρκάνη ὅρκος s.v. ἔρκος; ὄρμενος s.v. ὄρνυμι; 1. ὅρμος s.v. εἴρω; ὄροβος s.v. ἐρέβινθος; ὀροθύνω s.v. ἐρέθω; ὄρος s.v. ὄρνυμι (**ḫ*$_3$*er-os*, p. 131).

II. (no proth. vowel) ὁράω (ϝ-), ὀργή (*ūrjá*, *u̯*-, cf. p. 241), ὀρθός (*ūrdhvá*-, *u̯*-, cf. p. 241), ὀρθρός (ϝ-), ὁρμή (*s*-), ὀρόδαμνος (ϝρο-?), ὀρός (Lat. *serum*), ὄρρος (OIr. *err* < **ersā*), ὄρτυξ (ϝ-), ὀρφανός (**orbh*-), ὀρφώς.

III. (non-IE) ὀρεσχάς, ὀρίγανον, ὀρίνδης, ὄρυζα.

IV. (no etym.) ὄρδημα, ὀρε(ι)ᾶνες, ὅρκυς, ὅρμινον, 2. ὅρμος, ὀρόντιον, ὄρπηξ, ὀρρωδέω (ἀρρ-), ὀρσολόπος, ὀρταλίς, 1.2. ὀρύα, ὀρυμαγδός, ὄρχιλος, ὄρχος.

V. (unreliable) ὀρεύς (ὄρος?), ὀρθαγορίσκος, ὅρος, ὀρσοθύρη (ὄρρος?), ὄρφνη, ὄρχαμος, ὀρχέομαι (ὄρνυμι, ἔρχομαι).

VI. ὀρέγω beside *rego*, Skt. *ṛjati* (*irajyáti*, see p. 236 f.), etc.; **ḫ*$_3$*reĝ*-. A detailed treatment may be found in Szemerényi, *Syncope*, pp. 229-38. Derived from ὀρέγω is ὄργυια ὀρόγυια, 'length of the outstretched arms, fathom'. This connection seems evident. Ὀρέγω is often linked with χείρ in Homer. Semantic parallels in Szemerényi. He regards the form as a perfect participle, *ὠροϝ-υια, by syncope *ὠργυια > ὄργυια. He thus regards the Attic reduplication ὀρωρέχαται (Il.) as recent. The form ὀρόγυια (Sappho, Pi., Ar., inscr.) must then have been the result of anaptyxis, for *ὠρογυια would not have become ὀρόγυια. This is, of course, an entirely arbitrary supposition. In itself it does not appear as if ὀρόγυια is recent. Anaptyxis forms like ηερεμες are rare and hardly ever occur in literary language (Schwyzer, p.278), certainly not in such different authors. Homer has only ὅσον τ'ὄργυι' Ψ 327 ι 325 κ 167 and further ἐννεόργυιος λ 312. The derivation from *ὠροϝ- is therefore improbable. As in the case of ἀρεπυια/ἄρπυια original paradigmatic ablaut is obvious for ὀρόγυια/ὄργυια, i.e. **ḫ*$_3$*róĝ-us-iḫ*$_2$ **ḫ*$_3$*r̥ĝ-us-i̯éḫ*$_2$*-s* > ὀρόγυια *ὀργυιᾶς, as J. Schmidt, *KZ* 32 (1893) 348 f. supposed. There is no reason to assume that the form goes back to a perfect.

Nor is Szemerényi's explanation of -ωρυγος in διώρυγα, etc. (ἐνόδια and δίκτυα)

a convincing one. This form occurs only in Xen. *Cyn.* 2.5 and on two inscriptions. This technical term may be of great antiquity (by nature the fathom is a measure of cordage; cf. κ 167 πεῖσμα). A development *ὠρογυ(ι)ος > *ὠρυγυος > *ὠρυγος, such as Szemerényi suggests, is highly improbable. Apart from the disappearance of υι, one does find assimilation ε-υ > ο-υ, but never > υ-υ (Schwyzer, p. 255); there is rather a tendency towards dissimilation υ-υ > ο-υ (*ibid.*, p. 258). Comparing Lejeune, *Traité*, p. 162 n. 3, Arg. υπωρυφια : ορορφα, ἐπώνυμος : ὄνομα, it seems to me that *-ωρογ- > -ωρυγ- (: ὀρόγ-υια) is more probable. There is thus no reason to assume that this term originally contained the word ὀρόγυια; -ωρυγ-ος therefore points to *-*h₃rog̑-* (the ω is the lengthening in compounds).

I do not see the point of Szemerényi's idea of ascribing *h*₁ to ὀρέγω (p. 231). There is not the slightest reason to assume *h*₁ instead of *h*₃ and I do not see how in that case he plans to explain the *o*; **h*₁*oreg̑-* cannot be considered. Forms with *ἐρεγ- have not been demonstrated. The connection with ὄρνυμι solves nothing and merely creates new problems. The inclination to reduce everything "zur grossen 'Bewegungs'wurzel *er-*" (Frisk, II 424) is great. Ὄρνυμι probably also has *h*₃. The forms ἔρσεο, etc., present an awkward problem for the laryngeal theory. However, it is methodically incorrect to deny the rule, which is based on many facts, on the strength of a single exception.

ὀρεχθεῖν as against ῥοχθεῖν; ὀρεχθεῖν occurs only once in Homer, Ψ 30, where the meaning has been disputed (cf. Leaf *ad loc.*). The link with ῥοχθεῖν cannot be regarded as certain.

ὀρίνω from the root of ὄρνυμι; **h*₃*r-ei-* or **h*₃*r-ih* is possible. The relation to Lat. *ir-rī-tare*, *rīvus*, Skt. *riṇāti* is uncertain.

ὄρνις from **h*₃*er-*; cf. p. 130.

ὄρνυμι see p. 132 f.

ὀρούω. The prothetic vowel, indicated by comparison with Lat. *ruo*, can be explained by a laryngeal; the word is considered to be related to ὄρνυμι whose root is **h*₃*er-*, so that **h*₃*reu-* seems obvious. However, the form **h*₃*reu-* would have given *ὀρευ-, not ὀρου-. Schwyzer compares κολούω κελεύω (τελευτή) (ἀλεύεται may be explained as **h*₂*leu-*). If Lith. *kálti* 'forge, hammer' is related to κολούω (Frisk, I 897), this indicated a disyllabic root (**kolh-*). In that case a basic form **k*ḷ*h*₃*-eu-* > κολου- would be conceivable for κολούω. In the same way κελεύω could be based on **k*ḷ*h*₁*-eu-*; here, however, a laryngeal cannot be pointed to. (The connection with καλέω is not strong semantically. Skt. *kaláyati*, beside *kālāyati*, 'impels, bears' points perhaps to **kolhéi̯eti.*)[10] This would give **r̥h*₃*-eu-* (or **h*₃*r̥h*₃*-eu-*) for ὀρούω, but there is no indication of such forms. Frisk II 423 points to κρούω, for which Balto-Slavic forms suggest PIE **krous-*, so that perhaps one must start from **h*₃*rou(s)-* (the aor. ὀροῦσαι seems the oldest form) for ὀρούω too.

[10] In addition the vocalism of ἀκόλουθος as against κέλευθος is not explained if it must be connected with κελεύω. However, the word may well be non-IE; cf. ἄρκευθος. Cf. the problem of ἐρέφω : ὄροφος, ἐρέθω : ὀροθύνω, ἐλεφαίρομαι : ὀλοφώϊος.

ὀρύσσω beside Lat. *rūga*, Lith. *raũkas* 'groove' may contain **h*₃*r(e)ug-*. A difficulty is formed by the Greek χ; see Frisk.

ὄρχις beside Av. *ərəzi* (du.), Lith. *eřžilas* may be **h*₁(*e*/*o*)*rg̑hi-*, but there is no reason to assume a laryngeal.

Conclusion. — One can speak of a prothetic vowel only in ὀρέγω ὀρούω ὀρίνω and ὀρύσσω, where a laryngeal is possible. Ὀρεχθεῖν is uncertain.

d. αλ-

I. (elsewhere) ἄλγος s.v. ἀλέγω; 1. ἀλέα s.v. εἴλη (ϝ); ἀλεκτρυών s.v. ἀλέξω; ἀλής (ϝ); ἅλις s.v. ἀλής (ϝ); ἀλλάσσω ἀλλοδαπός s.v. ἄλλος; ἄλπ(ν)ιστος s.v. ἔλπομαι (?); ἅλυσις s.v. εἰλύω (?); ἀλύω s.v. 2. ἀλέα.

II. (no proth. vowel) ἀλάομαι (Latv. *aluôt*, **al-*), ἀλδαίνω (*alo*), ἀληθής (α- priv.), ἀλθαίνω (*alo*), ἁλίσκομαι (ϝ-), ἄλλομαι (*s*-), ἄλλος (**ali̯o-*), ἅλς (*s*-; IE?), ἀλύτᾱς (*u̯*-?), ἀλφάνω (Skt. *árhati* < **alg*ʷ*heti*, **h*₂*el-g*ʷ*h-*).

III. (non-IE) ἀλάβαστος, ἅλιζα (Goth. **alisa*, Russ. *olьcha*; Centr. Eur.?), ἀλόη, ἄλφα.

IV. (no etym.) ἀλαζών, ἀλαιθερές, ἀλαλά, ἀλάλυγξ, ἀλαός, ἄλαστος, ἄλεισον, ἀλίβας, ἁλιβδύω, ἀλίγκιος, ἀλίη, ἀλικάκκαβος, ἀλινδέω, ἅλιξ, ἅλιος, ἀλισγέω, ἀλίφαλος, ἀλκυών, ἀλλᾶς, ἄλλιξ, ἀλοσύδνη, ἄλυσσον, ἀλωή.

V. (unreliable) ἄλιψ, ἄλσος, ἄλυζα, ἀλυκτοπέδη, ἄλφι (IE?).

VI. ἀλαπάζω. The α may be prothetic. For the Aeschylean forms without see p. 80.

2. ἀλέα ἀλέομαι, ἀλύσκω may contain **h*₂*l(e)u-*, but related forms from other languages are not known.

ἀλέγω 'to care': ἄλγος 'pain, grief'. The group has recently been discussed by Szemerényi, *Syncope*, pp. 148-60. He points out that Frisk's comparison with ἀλέξω : ἀλκή is misleading. This formation is normal for ἀλκή, unknown for ἄλγος. **H*₂*elg-es-* (e.g. Kuryłowicz, *Etudes*, p. 43) would be impossible. One expects **h*₂*leg-os*, cf. ἔρεβος, Goth. *riqis* < **h*₁*reg*ʷ*os*, not **h*₁*erg*ʷ- (cf. Schwyzer, p. 512,5). The form *ἀλέγος is confirmed by ἀλεγεινός < *-es-no-* (and others, δυσηλεγής ἀπηλεγέως ἀνηλεγής and ? τανηλεγής). For the semantic objections Szemerényi compares Goth. *kara* 'sorrow': Eng. *to care* and Eng. *trouble* and *to trouble*. Incomprehensible, both semantically and formally, is his suggestion to connect ἀλέγω as 'to reckon, count' with λέγω; cf. for this p. 26. His thesis: "this means that if we want to separate ἀλέγω from ἄλγος we have to connect it with λέγω" (p. 151 f.) is unclear to me. It starts from the idea that there must be related forms known of every IE word; cf. (*ibid.*) "... only ἀλέγω would remain to carry the burden of an IE **leg-* ... ". On the contrary, it would not be surprising if no related forms could be shown any more of a very large number of the IE inherited words. For Szemerényi's view of the prothetic vowel see p. 47. It has been assumed that ἄλγος was formed by syncope from *ἀλέγος (De Saussure, *Mél. Graux*, p. 743; likewise Szemerényi). But

as such syncope is very rare,[11] it is perhaps better to explain ἄλγος as having come into being on the analogy of forms with zero grade *$\hbar_2 l̥g$- > ἀλγ- as for instance ἄλγιστος. Cf. κράτος instead of κρέτος (Aeol.) beside κράτιστος (and κάρρων κάρτων for κρέσσων; in the same way, therefore, ἀλγίων for *$\hbar_2 legi\underline{i}ōn$ > *ἀλεζων). And yet in my opinion the possibility of *$\hbar_2 elgos$ for the basic language cannot be excluded, having regard to Skt. *ójas-*, Av. *aoǰah-*, Lat. *augus-tus*, PIE *$\hbar_2 eugos$ and γένος < *$\hat{g}enh_1os$, βέλος < *$g^u elh_1os$.

ἀλείτης (ἀλοιτός, ἀλιταίνω) may be *$\hbar_2 leit$-. Perhaps in OHG *līdan*, etc., see p. 85.

ἀλείφω 'anoint'. The formal differences (α : zero, φ : π) make the connection with λιπ- objectionable, of which the meaning is also more that of 'stick', causat. 'glue'. Ἀλείφω itself can be analysed as *$\hbar_2 leibh$-.

ἀλέξω, Skt. *rákṣati* : ἀλκή (OE *ealgian*) from a stem *$\hbar_2 lek$-/$\hbar_2 elk$-; see p. 89.

ἀλέω ἄλεσσα from the disyllabic root *$\hbar_2 elh_1$; see p. 129.

ἀλίνειν: Lat. *lino lēvi* may go back to *$\hbar_2 l(e)i$-.

2. ἄλκη. Germ. *$al\chi$- and *$el\chi a(n)$- make laryngeal impossible. (It seems to me that *$\hbar_1 l̥k$- would have given *ἐλκ- in Greek.)

ἄλοξ 'furrow' has many by-forms, see Frisk, I 77. In my opinion the laryngeal theory can offer no explanation of this. The forms are so capricious that one must consider non-IE origin. This is perhaps indicated by εὐλάκᾱ (Lacon.), αὔλακες : αὐλάχᾱ Hsch. with κ : χ and further αὖλαξ (Hes., Hdt., Pi.): ὦλαξ (*EM*), ὁμ-ώλακες (A.R.) with αυ : ω, cf. θαῦμα : θῶμα (p. 177) and finally the change of the initial phonemes ἀλοκ-/ὁλοκ-/αὐλακ- compared with ὀρεσχάς· τὸ σὺν τοῖς βότρυσιν ἀφαιρεθὲν κλῆμα Hsch., which has the forms ὀρε-/ἀρα-/αὐρο- (for these forms see Frisk s.vv. ἀρασχάδες and αὐροσχάς).

ἀλφός (Lat. *albus*) cannot contain a disyllabic root; if Arm. *alawni* 'dove' and Serb. *lȁbud* 'swan' have a disyllabic root and ἀλωφούς· λευκούς Hsch. belongs to this group, it must be separated from ἀλφός. In itself ἀλφός : ἀλωφός may be interpreted as *$\hbar_2(e)lbh$- : $h_2 lōbh$-.

The relation of ἀλώπηξ to the related words is not clear. Arm. *aluēs* < **alōpek*- cannot be separated from it, but allowance must be made for the possibility of non-IE origin.

Conclusion. — Laryngeal is probable for ἀλέγω (ἄλγος) and ἀλέξω (ἀλκή). One can speak of a prothetic vowel in ἀλέ(ϝ)ομαι, ἀλείτης, ἀλείφω and ἀλίνειν. Ἄλοξ and ἀλώπηξ are unclear.

e. ελ-

I. (elsewhere) ἐλαίαγνος s.v. ἐλαία; ἐλάνη s.v. εἰλέω (εϝ); Ἐλάστερος s.v. ἐλαύνω;

[11] Szemerényi's recent study (*Syncope*) confirms this impression rather than that it demonstrates that syncope was a phenomenon of any great extent in Greek. (Review by Lejeune, *BSL* 61 (1966) 34-8.)

ἔλδομαι (εϝ); ἐλελίσφακος s.v. ἐλελίζω; ἔλεμος s.v. ἔλυμος; ἔλινος ἔλιξ s.v. 2. εἰλέω; ἑλίχρυσος s.v. ἔλος; ἔλπομαι (εϝ).

II. (no proth. vowel) ἔλαφος (**el-n*-), ἐλεῖν (*s*-), ἑλίκη (ϝ-), ἕλκος (Skt. *árśas*-), ἕλκω (*s*-), ἕλος (Skt. *sáras*-), ἔλπος (*s*-?).

III. (non-IE) ἐλαία, ἔλεγος, ἐλεδώνη, ἐλέφας, ϝελχανος.

IV. (no etym.) ἐλάργει, ἐλέα, ἐλειός, ἐλελεῦ, Ἑλένη, ἐλεόν, 2. ἐλεός, ἐλεσπίδας, Ἐλευσίς, Ἑλλάς (*s*-?), ἔλλερα, Ἑλλήσ(ποντος), ἔλυμος.

V. (unreliable) ἐλασᾶς, ἐλάτη, ἐλεγαίνειν, ἐλθεῖν, ἑλίκωψ, ἐλινύω, ἐλλέβορος, ἐλλεδανοί, ἔλλοψ, ἐλλύτας (εἰλύω), ἐλμίς (*u̯*-?), ἐλύδριον.

VI. ἐλαύνω ἐλάσαι has disyllabic root *$(\hbar_1)elh_2$-, p. 197.

ἐλαφρός as against OHG *lungar*. If this is based on **l̥ng^{u}h-ró*-, the Greek could point to *$\hbar_1 l̥ng^u h$-*ró*-.

ἐλαχύς as against Skt. *laghú*- from *$\hbar_1 l̥ng^u hú$-? Cf. Lith. *leñgvas*.

ἐλέγχω is not interpreted with sufficient certainty. All suggested related words begin with *l*-. The structure of the word allows of *$\hbar_1 len$-$g^{(u)}h$- (cf. Av. *rənjaiti* 'makes light, strong', Latv. *langāt* 'curse'). In itself ἐλέγχω could go back to a conjunctive *$\hbar_1 l$-*en-gh-ō* of a nasal present *$\hbar_1 l̥$-*n-egh-mi* *$\hbar_1 l$-*n̥-gh-mes*; for this phenomenon see Kuiper, *Nasalpr.*, p. 97 and p. 236 f. of this book. For the connection with Hitt. *linkzi* 'swear' see p. 93.

ἐλελίζω must, if related to Skt. *réjati*, etc., go back to a reduplicated form. A stem *$\hbar_1 l(e)ig$- is conceivable, but this expressive word probably escapes linguistic analysis.

ἔλεος from the stem *$\hbar_1 leu̯$-, see p. 109.

ἐλεύθερος as against Lat. *liber*, Ven. *lo.u.zeroφo.s.* (dat. pl.), etc., may go back to *$\hbar_1 leudh$-.

ἐλεύσομαι as against OIr. *lod*, *luid* < **ludh-om* (Skt. *ró(d)hati*?) gives **e-leudh*- from *$\hbar_1 leudh$-? It remains an open question whether this stem is identical with the preceding one.

ἐλεφαίρομαι, to which may belong ὀλοφώϊος, remains uncertain. Lith. *vìlbinti* 'make a fool of' may point to *$u̯elh$- (in τ 565 οἳ ῥ' ἐλεφαίρονται ϝ- can be read instead of the ῥ' τ' δ' γ' of the manuscripts). With ἐλεφ-: *vìlbinti*, cf. ἀλώπηξ: Lith. *vilpišỹs*.

Conclusion. — Ἐλαύνω perhaps had laryngeal at the beginning on account of ἐλήλαμαι, where, however, one does not speak of a prothetic vowel. Prothetic vowel may be suspected in ἐλαφρός ἐλαχύς ἐλέγχω ἐλεύθερος ἐλεύσομαι and ἔλεος. The interpretation of ἐλελίζω and ἐλεφαίρομαι is highly uncertain.

f. ολ-

I. (elsewhere) ὀλαί s.v. οὐλαί; ὀλιγηπελέων s.v. ὀλίγος (*ἄπελος, p. 89); ὁλοκόττινος s.v. ὅλος; ὁλοός s.v. ὄλλυμι; ὁλοσχερής s.v. ὅλος; ὁλούφω s.v. ὀλόπτειν; ὁλοφλυκτίς s.v. ὁλός; ὁλοφώϊος s.v. ἐλεφαίρομαι.

II. (no proth. vowel) ὁλκή (*s*-), ὅλμος (*u̯*-?), ὅλος (Skt. *sárva*-).

III. (non-IE) Ὄλυμπος, ὄλυνθος.

IV. (no etym.) ὄλβος, ὀλολύζω (cf. ἐλελίζω), ὀλός, ὄλυραι.

V. (unreliable) ὀλοοίτροχος.

VI. ὀλιβρόν may be compared with OE *slipor* < **slib-ro-*; see further p. 84 ff.

ὀλίγος, Arm. *alk'at* 'poor, needy' would, if connected with λοιγός 'ruin', give an ὀ-/zero interchange within Greek; see for this p. 74 ff.

ὀλισθάνω from the stem *ὀλιθ-, connected with OE *slīdan*, etc.; see p. 85.

ὄλλυμι from the stem **ḫ₃elḫ₁-*; see p. 131.

ὀλόπτειν Hsch., Call., ὀλούφω Hsch. beside λέπω; Lat. *liber* < **l(e)ubh-*? The etymology is weak. It is difficult to explain original relationship of λεπ-/ὀλοπ-/ὀλουφ- within IE. Foreign origin must therefore be considered (π/φ, -/ο/ου).

ὀλοφύρομαι, Arm. *olb*. Less certain is Lith. *ulbúoti* 'call, sing, write'.

Conclusion. — Ὄλλυμι has laryngeal. Prothetic vowel as against *s-*: ὀλιβρόν ὀλισθάνω. Prothetic vowel beside zero (in Greek): ὀλίγος (λοιγός). Ὀλόπτειν and ὀλοφύρομαι are entirely uncertain.

g. αμ-

I. (elsewhere) ἁμαρτή s.v. ἅμα; ἄμβλυς s.v. ἀμαλός; ἀμείρω s.v. ἀμέρδω (?); ἄμμος (from ἄμαθος and ψάμμος?); ἄμπωτις s.v. ἀνά; ἀμφιάζω Ἀμφιάραος ἀμφίον ἀμφίπολος ἀμφισβητέω ἀμφορεύς ἀμφουδίς s.v. ἀμφί.

II. (no proth. vowel) ἅμα (*s-*), ἄμαθος (*s-*?), Ἀμάλθεια (α- priv.), ἀμάομαι (*s-*?), ἀμέθυστος (α- priv.), ἀμενηνός (α- priv.), ἀμνός (*agnus* etc.), ἀμύμων (α- priv.), ἀμυσχρός (α- priv.), ἀμφασίη (α- priv.), ἀμφί (**m̥bhi*, **ambhi*?), ἄμφω (Lat. *ambo*).

III. (non-IE) Ἀμαζών, ἀμᾰρᾰκον, ἀμία, ἀμιχθαλόεσσα (cf. ἀμυγδάλη p. 71), ἄμπελος, ἄμπυξ (ἄντυξ), ἀμυγδάλη, ἄμωμον.

IV. (no etym.) ἀμαιμάκετος, ἀμαλογία, ἀμάμαξυς, ἀμαμηλίς, ἀμάναν, ἀμάνδαλον, ἅμαξα, ἀμάρα, ἀμαρεῖν, ἅματα, ἄμβη, ἄμβιξ, ἀμβλίσκω, ἄμβων, ἀμέσω, ἀμεύσασθαι, ἀμήκωα, ἄμης, ἄμιλλα, ἀμνίον, ἄμοιος, ἀμόρα, ἀμορβός, ἄμοτον, ἀμπλακίσκω, ἀμπρόν, ἀμυδρός, ἄμυλος, ἀμύνω, ἀμύς, ἄμφην, ἄμωτον.

V. (unreliable) ἄμαλλα, ἀμαρύσσω, ἀμείνων, ἀμύσσω (Lat. *mucro*), ἀμώσας.

VI. ἀμαλδύνω has cognate forms without ἀ- in *βλαδύς (βλαδεῖς) βλαδαρός. These include Skt. *mṛdú-*, Lat. *mollis* (<**mḷdu̯i-*). Arm. *melk* (<**meldu̯i-*) has no prothetic vowel. It thus seems probable that the basic form had no laryngeal and that the ἀ- is of more recent origin; see Frisk, I 84. On the other hand, the difference in treatment of the sonant (αλ : λα) could be a consequence of the difference in structure between **ḫ₂mḷdu-* and **mḷdu-*. If the stem is cognate with μέλδομαι : ἀμέλδειν, we would have a parallel there; for a possible explanation of this see p. 85 ff.

ἀμαλός. There is insufficient reason to speak of a prothetic vowel.

ἁμαρτάνω, cf. νᾱμερτής, p. 109.

ἀμαυρός beside μαυρόομαι. As with the other words for 'weak', introduction of an (unmotivated) α-privative must be reckoned with. On the other hand, allowance must also be made for the possibility that this word (-αυρος) is non-IE.

ἀμάω as against OHG *māen*, OE *māwan* has a prothetic vowel; PIE **ḫ₂meḫ₁-/ḫ₂emḫ₁-*. The Germanic forms point to **mē-*; one would therefore expect *ἀμέω instead. The ἀ- may partly go back to *ḫ₂e-*. In ἄμητος as against MHG *māt* one can speak of a prothetic vowel, if from **ḫ₂m̥ḫ₁tós* (for the development of *ḫ₂m̥h₁-* see p. 95); the form may, however, be recent.

ἀμείβω. The connection with Lat. *migrare* remains highly hypothetical. A form **ḫ₂mei-b/gᵘ-* is in itself highly feasible.

ἀμέλγω as against OE *melcan*, etc., may be **ḫ₂melg-*.

ἀμέργω (not cognate with ὀμόργνυμι, see p. 71) has no cognates. The structure permits of **ḫ₂merg-*.

ἀμέρδω (Skt. *márdati* 'to rub to pieces, press'?); Hsch. μέρδει and μερθεῖσα· στερηθεῖσα, see p. 85.

ἀμολγός is unexplained.

Conclusion. — A great deal is uncertain here. Laryngeal is probable for ἀμάω, prothetic vowel in ἁμαρτάνω and ἀμέλγω, and possible according to the structure in ἀμείβω, ἀμέργω, ἀμέρδω, ἀμολγός; further ἀμαλδύνω.

h. εμ-

I. (elsewhere) ἐμβάδες ἐμμαπέως 2. ἔμπαιος ἔμπεδος ἔμπειρος ἐμπλατία ἔμπλην ἐμποδῶν ἐμπολή ἔμπορος ἐμπυριβήτης ἔμφωτον s.v. ἔν.

II. (no proth. vowel) ἐμέω (Skt. *vámiti*).

III. none.

IV. (no etym.) 1. ἔμπαιος, ἔμπης, Ἔμπουσα, ἐμύς.

V. (unreliable) ἐμπάζομαι, ἐμπίς.

VI. ἐμέ : με cannot be put on a par with other cases, as emerges from Hitt. *ammuk*, Alb. *im* (whilst Albanian does not have a prothetic vowel) and because the forms with and without ἐ- occur side by side; cf. also Frisk s.v. Cowgill's suggestion (p. 170) that ἐμέ is dissimilated from **meme* is not convincing, and even less his view that ἐμός continues both **memos* and **mos* with prothetic vowel (in the strict sense).

i. ομ-

I. (elsewhere) ὁμηγερής s.v. ὁμός; ὁμηγερέω s.v. ὄμηρος; ὁμόγνιος s.v. ὁμός; ὁμοίιος s.v. ὄμνυμι.

II. (no proth. vowel) ὁμαλός (*s-*), ὄμμα (**okᵘ-*, Goth. *ahma*), ὁμός (*s-*), 1. ὀμφή (Goth. *siggwan*), 2. ὀμφή (ON *anga* "to smell" (trans. and intr.), **ongᵘh-*).

III. (non-IE) ὄμφαξ.

IV. (no etym.) ὁμάζω.

V. (unreliable) ὄμαδος, ὁμαρτέω (*s-*?), ὄμβρος (not cognate with νέφος, see p. 74), ὄμηρος, ὄμῑλος (*s-*?), ὁμοκλή (ὄμνυμι?), ὄμπνη.

VI. ὀμείχω, Skt. *meha-*, etc., has beside it ἀμῖξαι· οὐρῆσαι Hsch. If the connection with μοιχός 'adulterer' is correct, this would give a problem; see p. 74 ff. Cf. Arm. *mēz* 'urine', *mizem* 'urinate', p. 22.

ὀμίχλη, Skt. *meghá-*; for Arm. *mēg* see p. 22. (Not cognate with ἀμιχθαλόεσσα, see p. 71).

ὄμνυμι from **ḫ₃emḫ₃-*, p. 131.

ὀμόργνυμι as against Skt. *mā́rjmi mṛjánti* 'to wipe off' may have **ḫ₃merĝ-*. The form ὀμόργνυμι cannot be old. Skt. *mṛ-ṇ-ák-ti* has the old nasal present; cf. ὀρέγνυμι ὀριγνάομαι: Skt. *ṛ-ñ-jati*. In *mṛ-ṇ-ák-ti* < **ḫ₃mṛ-n-eĝ-* the laryngeal could be compared with the *s-* in σκίδνημι. This form would have given *ὀμαρ-ν-εγ- in Greek. Ὄμαρξον in Hesychius has zero grade (cf. Skt. *amṛkṣat*). If assimilation is rejected, the *o*-vocalism of ὀμόργνυμι is not explained. One might envisage a phonetic development in **ḫ₃mṛC-* > ὀμορC-, whereby the laryngeal determines the colour of the vowel developing from the sonant, but this development is improbable on account of ὄμαρξον (or confined to certain dialects). There is no reason to assume *o*-vocalism in Skt. (aor.) *amārkṣīt*, as the formulation in Frisk suggests. On the other hand original *o*-vocalism is possible in the root present, to which Skt. *mā́rjmi* points (p. 131 n. 60).

ὀμφαλός, Lat. *umbo umbilicus*, as against Skt. *nābhi-* etc., points to **enbh-* (*onbh-*)/*nebh-* or **ḫ₃enbh-*/*ḫ₃nebh-*. The ὀ- cannot be called prothetic. Szemerényi, *Syncope*, pp. 238-49, tries to explain all the forms by paradigmatic ablaut **nebh-*/*n̥bh-*. He naturally admits the existence of the ablaut type **(ḫ)enbh-*/*(ḫ)nebh-*, but posits that such a change did not occur in "ready-made words". The explanations which Szemerényi thus finds himself obliged to make are, however, forced. For instance, he says that Lat. *umbo* stands for **ombo* < **embo* < **n̥bh-*, a form to which OIr. *imbliu* may also go back. Ὀμφαλός is said to have been formed by syncope from *ὀνοφαλος. The ὀ- in this word is then a prothetic vowel in the true sense of the word. However, there is nothing that points to this form and the syncope is in itself highly improbable. For the structure compare ὀρφανός, for which all cognates point to full grade. Cf. s.v. ὄνυξ.

Conclusion. — Ὄμνυμι (ὀμώμοκα) has *ḫ₃*. Prothetic vowel is probable in ὀμείχω ὀμίχλη ὀμόργνυμι.

j. αν-

I. (elsewhere) ἀνακῶς ἀναλίσκω ἀναρριχάομαι ἀνασταλύζω ἀνασυρτόλις (?) s.v. ἀνά; ἀνδράποδον ἀνδρεϊφόντῃ Ἀνδρομάχη s.v. ἀνήρ; ἀνήνοθεν ἀνοκωχή s.v. ἀνά; ἀντάτας ἀντηρίς ἄντησις ἀντί ἀντιάνειρα ἀντικρύ s.v. ἄντα; ἄνωγα s.v. ἀνά.

II. (no proth. vowel) ἄν (Lat., Goth. *an*), ἀνά (Av., Goth. *ana*), ἄναλτος (α- priv.), ἀνδάνω (*su̯-*), ἄνθος (Skt. *ándhas-*), ἄνυμι (Skt. *sanóti*).

III. (non-IE) ἄναξ, ἀνθρηδών[12], ἄνθρυσκον, ἄνθρωπος[12], ἄντυξ.

[12] Kuiper, Μνήμης χάριν. (As another instance of the interchange prothetic vowel/reduplication in words of the substratum language discussed in this article must be considered ἄγλις/γέλγις 'head of garlic', on the assumption that the latter form stands for *γε-γλις. An exact parallel for this metathesis is not known, as far as I see, but τκ > κτ and τπ > πτ (Lejeune, *Traité*, p. 59 f.) probably rests on the same principle that the more open sound comes first, and may have been prompted to avoid the group γεγ-. That the word is a substratum word appears, apart from ἀ-/γε-, also from the suffix -ῑθ-/-ῑδ- (for -ιθ- beside -ινθ- see Kuiper's article, p. 216 ff.) and the meaning.)

IV. (no etym.) ἀναγαλλίς, ἀνάγκη, ἀνάγυρις, ἀναλεῖ, ἀναστίδωνος, ἄναυρος, ἄνδηρα, ἄνδινος, ἀνδράχνη, ἀνενετεῖ, ἀνέω, ἄνηθον, ἀνιγρός, ἀνόπαια, ἀντακαῖος, ἄντρον.

V. (unreliable) ἀνεμώνη (ἄνεμος), ἄνευ (Germ. **ĕ-nu*), ἀνθίας, ἀνίη,[13] ἄνται (ἄνεμος), ἄντλος (Lat. *sentina*), ἀντόμους (ἀνατέμνω).

VI. ἄνεμος, Lat. *animus*, Skt. *ániti*, from the stem **ḫ₂enḫ₁-*, p. 229.

ἀνεψιός as against Av. *naptya-*; **ḫ₂nept-*. (Νέποδες is not cognate, p. 105 f.)

ἀνήρ, Arm. *ayr* (Hitt. *innar-*, Luw. *annar-*?) have prothetic vowel as against Skt. *nar-*, Ital. *ner-*. Δρώψ and ἄνθρωπος do not belong here.[13a] See further p. 75.

ἀννίς has laryngeal if connected with Hitt. *ḫannas*, Arm. *han* 'grandmother'.

ἄντα is cognate with Hitt. *ḫanza*.

Conclusion. — In ἄνεμος ἀννίς ἄντα laryngeal is probable, but there is no reason to speak of prothetic vowel; this is found in ἀνεψιός and ἀνήρ.

k. εν-

I. (elsewhere) ἔναγχος ἐναντίβιον ἐναργής ἔναυλος (1., 2., 3.) ἐνδάπιος *ἔνδινα ἔνδιος ἔνδον ἔνδορα ἔνδρυον ἐνδυκέως ἐνεῖκαι ἕνεκα s.v. ἔν; ἐνενήκοντα s.v. ἐννέα; ἐνετή ἐνέωρα ἐνηής (?) ἐνηρόσιον ἔνθα (?) 2. ἔνθινος ἐνθουσιάζω ἐνθύσκει ἐνῑπή ἐν(ν)έπω ἐννέσιαι ἐννότιος ἐνόπαι ἐνοπή ἐνοργείας ἐντελέχεια ἐντός ἐντροπαλίζομαι ἐνῴδιον ἐνῶπα s.v. ἔν.

II. (no proth. vowel) ἔν (**en*; OCS *on-* < **on*?), ἔνη (Hitt. *eni-*, *anni-*, OCS *onъ*), ἔννυμι (**u̯es-*), ἕνος (Skt. *sána-*), ἔντερα (Skt. *ántara-*, Lat. *inter*).

III. (non-IE) Ἐνυάλιος.

IV. (no etym.) ἔνελος, ἐνεός, ἐντυπάς.

V. (unreliable) ἔναρα, ἐνιαυτός, ἔνιοι, ἔντεα.

VI. ἐνεγκεῖν from the stem **ḫ₁neĥ-*/*ḫ₁enĥ-*; cf. ἐνήνοχα, p. 118. The stem form *ἐνεκ- < **ḫ₁neĥ-* in -ηνεκής. For the connection with Hitt. *ninink-* 'to lift up' see p. 93.

ἐνέρθε, ἐνέρτερος stand against νέρθε, νέρτερος, Arm. *ner-k'-*, Umbr. *nertru* etc. For the ἐ- see p. 24.

ἐνθεῖν from the stem **ḫ₁endh-*/*ḫ₁nedh-*; cf. ἐνήνοθε p. 118. (Frisk's ἐνεθ-/ἐνοθ-/ἐνθ- is possible only if the ἐ- of ἐνεθ- is a prothetic vowel, for otherwise one may reckon only with the forms **nedh-*/*endh-*: PIE **enedh-* is impossible.)

ἐννέα. As Arm. *inn* also begins with a vowel, it is obvious to regard the initial vowel of both words as prothetic vowel as against **neu̯n̥* elsewhere. The form **ḫ₁n(e)u̯n̥*, however, explains neither ἐνενη- nor ἐννέα without more ado. The problem is discussed in detail by Szemerényi, *Syncope*, pp. 107-44. Greek has beside *ἐν(ν)ϝα a form *ἐνϝα- in compounds. The latter will therefore have caused the double νν of ἐννέα (but -νϝ- > -νν- is far from sure; cf. p. 248 and Lejeune, *Traité*, p. 137 n. 1). Szemerényi disclaims an ablaut **ḫ₁neu̯-*/*ḫ₁enu̯-*, cf. s.v. ὀμφαλός, p. 44. He further

[13] Against connection with Skt. *ámīvā-* Kuiper, *AION* (1959) 157-65.

[13a] See note 12.

disclaims that Arm. *inn* can come from **ħ₁enu̯n̥*, since this would have become **ing* (on account of *cung-* < **gonu̯-*, Meillet, *Esquisse*², p. 84). It is, however, the question whether the development in this position would have been the same. He is of the opinion that **eneu̯n̥* would have given Arm. *inun-* (**eneu̯n̥* > **inowan* > **inoun* > *inun*), which functions as the stem of the oblique cases, while the parallelism *tasunkʿ* (plural of 'ten') *inunkʿ* would have yielded the form *inn* beside *tasn*. I am not in a position to assess that. Both ἐννέα and *inn* would then go back to **ħ₁neu̯n̥*. Szemerényi explains the form ἐνϝα- by syncope from **ἐνεϝα*. He believes that support for this may be found in Myc. *enewo(peza)*, '*enewo-*'. In Homer the forms with ἐνϝα- are evidently older than those with ἐννεα- (-βοιος etc.), and therefore one would have expected **enwo-* (written **e-nu-wo* or **e-no-wo-*) in Mycenaean if ἐνϝα- had already existed then. Evidently, therefore, the syncope took place *after* the Mycenaean era but *before* Homer. However, it seems strange to me that the syncopated form, which has had such an influence, did not come into being until after 1200 B.C., but had already disappeared again from the living language at the time when the Iliad and the Odyssey were put in their final form. Consideration should be given to the possibility that ἐνϝα- goes back to the zero grade **ħ₁n̥u̯-*: the sonant develops into VC (cf. **ħ₂r̥ĝró-* > ἀργ(ρ)ός, p. 34), the colour of the vowel is determined by the laryngeal. In compounds zero grade is to be expected.

A particularly awkward case is ἐνενήκοντα. Szemerényi's solution is not convincing, **(ħ₁)neu̯n̥konta* > **ἐνευνᾱκοντα*, by analogy **ἐνεϝανᾱκοντα*, by syncope **ἐνϝανᾱκοντα* > ἐνενήκοντα.

ἔνοσις perhaps **(ħ₁)enħ₃-*; see p. 231.

Conclusion. — Ἐνήνοθε and -ηνεκής (ἐνήνοχα) have laryngeal. Prothetic vowel is also probable in ἐννέα.

l. ον-

I. (elsewhere) ὄναλα s.v. ἀνά(?); ὄνειαρ s.v. ὀνίνημι.

II. none.

III. (non-IE) ὄνος.

IV. (no etym.) ὄνθος, ὀνθυλεύω, ὄνιννος, 2. ὄνυξ.

V. none.

VI. ὄναρ, Arm. *anurǰ*. The forms further known are ὄνειρος, Aeol. ὄνοιρος, Cret. ἄναιρον and ἄναρ and in Albanian Geg. *ândërr*, Tosc. *ëndërrë*. Armenian points to **ħnōr-i̯o-*, ὄνειρος to **ħ₃ner-i̯o-*; ὄναρ (ἄναρ) and ἄναιρον point to zero grade of the suffix, to which the Aeolian form will also go back. This suggests an inflexion nom. *-ōr*, acc. *-ér-m̥*, gen. *-r-ós* (cf. ἀνήρ).[14] Less clear is the form of the stem. For ὄναρ **ħ₃nr̥* is possible (in the oblique cases **ħ₃nr̥-* before consonant, **ħ₃n̥r-* before vowel, gen. **ħ₃n̥rós*, loc. pl. **ħ₃nr̥sí*), but Albanian would suggest **ħ₃enr-*, p. 20.

ὄνειδος, Arm. *anicanem* as against Goth. *ga-naitjan* 'to revile' (cf. Goth. *neiþ*, Dutch *nijd*).

[14] An exact parallel is Arm. *awr* < **ămōr*, ἡμέρ-ᾱ, ἦμαρ.

ὀνίνημι ὀνίναμαι, Dor. ὄνᾱσις, stem ὀνᾱ- implies **ħ₃neħ₂-*. Cf. p. 94, 130 n.

ὄνομα, Arm. *anun* as against Lat. *nōmen* etc. seems to suggest prothetic vowel. For ὄνομα this would have to be *ħ₃*, but Lac. Ἐνυμακρατίδας with OPr. *emmens* points to PIE *e-*, which makes *ħ₃* impossible. In that case there is no reason to assume *ħ₁*. This is confirmed by the fact that in compounds like *sa-nāman* in Indian lengthening of the preceding vowel never occurs; see p. 93 f. Szemerényi, *Syncope*, p. 244 f., disclaims the value of the Old Prussian form, but without strong arguments (see p. 230 n. 115). His explanation of the Greek forms (his p. 244 n. 3) is unacceptable: prothetic vowel (in the strict sense of the word) ἀ- with assimilation to ὄνομα and in other dialects dissimilation (from **ἄνομα*) to **ἔνομα/ἐνυμα-*. According to Hamp (see p. 21 f of this book and *Evidence*, p. 138), the Albanian forms suggest zero grade, since in his opinion diphthongization of PIE *e-* to *je- ja-* occurred, cf. *jam* 'I am' (**esmi*), *jashtë* (ἐκτός), *t-jetër* (Umbr. *etro-*). See for further interpretation p. 229 f.

ὄνομαι has no certain cognate forms. See p. 231.

ὄνυξ as against Skt. *nakhá-* etc. could go back to **ħ₃nogh-*. The interpretation of Arm. *ełungn* 'nail' is difficult. According to Meillet, *Esquisse*², p. 47, this developed from **e-nogh-* with *-n* for words representing parts of the body (*otn* 'foot', *unkn* 'ear') and anticipation of this *n* (which was itself secondary), **enongn*, and dissimilation to *ełungn*. Frisk is of the same opinion. In this case prothetic vowel would be certain (although the timbre of Armenian is striking). Osthoff, *Etym. Parerga*, p. 280, explained *eł-ungn* as a compound, 'Horn-nagel'; cf. *amis* p. 23. For *ung-* cf. Lat. *unguis*, which does stem from **-ongh* (**ħ₃engh-*). This would mean **ħ₃nogh-/*ħ₃engh-*. Szemerényi, *Syncope*, p. 238-49, denies this and tries to explain Lat. *unguis* from **n̥gh-u̯-* > **engh-u̯-* > **ongh-u̯-*[15] (supported by OIr. *ingen* < **n̥gh-u̯īna*. However, this development is not plausible for Latin; cf. s.v. ὀμφαλός p. 44. Skt. *aṅghri-* 'foot' will not belong here (Mayrhofer, I 545). Hitt. *šankuiš* is also obscure; it is conceivable that the form has *s* movable before laryngeal, but the group *sh* is preserved in Hittite and gets prothetic vowel at the beginning of the word, *ish-*, see p. 82. Ὄνυξ will therefore be based on **ħ₃nogh-* with dissimilation o-o > o-υ (cf. ω-ο > ω-υ[16] s.v. ὀρέγω p. 37 f.) and in addition o > υ in the vicinity of labial sounds, νύξ < **nok*ʷ-, πρυμνός < **προμνος*; cf. Cowgill, *Evidence*, pp. 156 f. With a reduced grade **ħ₃nₑgh-* the υ is even more difficult to explain (one expects **ὀναχ-*, unless one assumes that **ħ₃nₑgh-* became **ὀνοχ-* phonetically).[17]

Conclusion. — Many words present special difficulties. Prothetic vowel is probable for ὄνειδος ὄνειρος ὀνίνημι ὄνυξ.

[15] If the form originally had a laryngeal at the beginning, one would in my opinion expect from **ħn̥ghu-* in Latin the form **angu-* (for the influence of laryngeal on the vocalic sonant in Latin see p. 133).

[16] Compare the compounds with -ῶνυξ and -ώνυχος, e.g. γαμψῶνυξ, κρατερῶνυξ (Il.).

[17] As appeared above (p. 44), it is, however, improbable that **ħ₃mr̥-* became ὀμορ-, on account of ὄμαρξον; thus **ħ₃nₑC-* > ὀνο*C-* is even less likely.

m. α-

I. (elsewhere) ἀβροτάζω[18] s.v. ἁμαρτάνω; Ἀγαμέμνων ἀγανακτέω ἀγάννιφος s.v. ἀγα-; ἀγελή s.v. ἄγω; ἀγήνωρ s.v. ἀγα-; Ἀγησίλας s.v. ἡγέομαι; Ἄγλαυρός s.v. ἀγλαός; ἁγνός s.v. ἅγιος; ἄγνυμι (αϝ); ἀγορά s.v. ἀγείρω; ἀγρήσκεται ἄγρυπνος ἄγρωστις s.v. ἀγρός; ἄγυια s.v. ἄγω; ἄγχι ἀγχίλωψ s.v. ἄγχω; ἀδαγμός s.v. ὀδάξ; ἄδδαυον s.v. ἄζα; ἀδνόν s.v. ἁγνός; ἀδρός s.v. ἅδην; ἄεθλος ἀείδω ἀείρω ἀέλιοι ἄελλα ἄεσα (αϝ); ἀεσίφρων s.v. ἀάω; ἀηδών ἄημι ἀήρ (αϝ); αἰγίλωψ s.v. αἴγειρος (?); αἰγίς s.v. αἴξ; αἰετός (αϝ); αἰθάλη αἰθήρ s.v. αἴθω; αἴκλοι s.v. αἰχμή; αἰπόλος s.v. αἴξ; αἶσα αἰτέω αἴτιος s.v. αἴνυμαι; αἴφνης s.v. αἶψα (?); αἰσθάνομαι (αϝ); ἀΐω s.v. αἰσθάνομαι; αἰών s.v. αἰέν; ἀκαίνω ἀκαχμένος s.v. ἀκή; ἀκέων s.v. ἧκα (?); ἀκμή ἀκόνη ἀκρᾶής ἄκρος ἄκων s.v. ἀκή; ἀολλής (αϝ); ἄορ s.v. ἀείρω; ἀπεράω ἀπηνής (?) ἀποδιδράσκω ἀπόθεστος ἄποινα ἀπόκυνον ἀπολαύω ἀπολεῖν[α] ἀπόμελι ἀπούρας ἀποφράς ἀποχειροβίοτος s.v. ἀπό; ἄστυ (αϝ); ἀτμός s.v. ἄημι; ἀτρακίς s.v. ἄτρακτος; αὐαψῆ s.v. αὖος; αὐδή s.v. ἀείδω; αὐερύω s.v. ἀνά; αὐθᾴδης s.vv. αὐτός and ἀνδάνω; αὐθέντης s.vv. αὐτός and ἄνυμι; αὖθι s.v. αὐτός; αὐλή s.v. ἄεσα; αὔξω s.v. ἀέξω (αϝ); αὔριον s.v. ἕως; αὐτίκα s.v. αὖ; ἀϋτμή s.v. ἄημι; αὐτόδιον αὐτοκράτωρ αὐτόματος s.v. αὐτός; αὐχμός s.v. αὖος; ἀφαδία s.vv. ἀπό and ἀνδάνω; ἄψορρος s.v. ἄψ.

II. (no proth. vowel) ἄατος (α- priv.), ἀβλοπές (α- priv.), ἀγκ- (Skt. *anc-*), ἀγρός, ἄγχω, ἀδαής (α- priv.), ἀδελφεός (α- copul.), ἀδευκής (α- priv.), ἀδήν (*ǥ-*), ἅδην (*s-*), ἀδίαντον (α- priv.), Ἄδραστος (α- priv.?), ἀζηχής (α- priv.), ἀθρόος (*sm̥-*), αἰάζω (interj. αἴ), ἀΐδηλος (α- priv.), αἰεί (Skt. *áyu-*), ἀϊκής (α- priv.), αἴλινος (interj.), αἴνυμαι (**ai-*), αἴξ (**aiǧ-*; cf. p. 128), αἰχμή (**aiḱ-*), ἀκαρός (*ǥ-*?), ἄκαστος (*acer*? IE?), ἀκή (**aḱ-*?), 1.2. ἀκήρατος (α- priv.), ἄκνηστις (false word division), ἀκοίτης (α- copul.), ἄκμων, ἀκόλουθος (α- copul.), ἀκοστή (Lat. *acus*?), ἀκρᾰχολος (α- priv.), ἄξων, ἄοζος (α- copul.?), ἄορον (*sm̥-*), ἀοσσέω (*sm̥-*), ἅπαξ (*sm̥-*), ἀπειρέσιος (α- priv.), ἁπλόος (*sm̥-*), ἀπό (Skt. *ápa* etc.), ἄσβεστος (α- priv.), ἀσκηθής (α- priv.), ἀσπερχές (α- intens.), ἄσπετος (α- priv.), ἄστηνος (α- priv.), ἀστραβής (α- priv.?), ἀσχέδωρος (ἀνά), ἀτάρ (Lat. *at*), ἀτάρβακτος (α- priv.), ἀτάσθαλος (α- priv.), ἀτειρής (α- priv.), ἀτενής (α- copul.? p. 25f), ἄτερ (*sm̥-*), ἀτέραμνος ἀτίζω ἀτίω ἀτρεκής ἀτρύγετος (α- priv.), ἀτύζομαι (Hitt. *ḫatugi-*?), αὖ (*au*), αὐλός (*aul-*, IE?), αὖος (*s-*), ἀφαμιῶται (α- priv.), ἀφλοισμός (α- copul., or anal.), ἀφόρδιον (young), ἄχην (p. 129), ἀχλύς (OPr. *aglo*), ἄψ (Lat. *abs*).

III. (non-IE) ἄβαξ, ἄβιν, ἀβολεῖς, ἀβόλλης, ἀβρυτοί (ἄμβρυττοι, βρύττος), ἀβυρτάκη, ἀγάλοχον, ἄγγαρος, ἄγγελος, ἄγγος, ἀγέρδα (Mac.), ἀδάρκη, ἀδῆ (Mac.), ἀδραία (Mac.?), Ἄδωνις, ἀθάρη, Ἀθήνη, ἀθήρ (ἀνθ-), αἰδωσσα, ἀκακαλίς, ἀκακία, ἀκαλήφη, ἄκανθα, ἀκῖνάκης, ἄκολος (?), ἄκριστιν, ἄκυλος, ἀπήνη, ἄπιον, Ἀπόλλων, ἀσάμινθος, ἄσαρον, ἄσιλλα, ἀσίρακος, ἀσκάλαβος, ἀσκάλαφος, ἀσκαλώνιον, ἀσκαρίς, Ἀσκληπιός, ἄσκρα, ἀσπάλαξ, ἀσπάλους, ἀστακός (see p. 51 s.v. ἀστράγαλος), ἀστράβη, ἀσύφη, ἀσφόδελος, ἀτάλυμνος, ἀτράφαξυς, ἀττηγός, αὐροσχάς, αὐχήν (Aeol. ἄμφην), ἀχαρνώς, ἀχᾱτης, ἄχερδος, ἀχερωΐς, ἀχράς, ἀψίνθιον.

[18] Cf. also Ruijgh, *L'élém. ach.*, p. 74.

IV. (no etym.) ἀάατος, ἀάζω, ἀάνθα, ἄαπτος, ἀάω, ἄβα, ἄβαγνα, ἀβακής, ἀβάντασιν, ἀβαριστάν, ἀβαρύ, ἄβεις, ἀβήρ, ἀβλαδέως, ἀβριστήν, ἁβρός, ἁβρότονον, ἀβυδόν, ἀγαθίς, ἀγάλλομαι, ἀγανός, ἀγαπάω, ἀγαρικόν, ἀγαυός, ἀγαυρός, ἄγγουρα, ἀγερώχος, ἀγέτρια, ἀγλαός (not cognate with γαλήνη), ἄγλῑς, ἀγλύεσθαι, ἄγνος, ἀγνύς, ἄγχουσα, ἀδαλός, ἀδημονέω, ἀδίκη, ἄδις, ἀδολέσχης, ἄεμμα, ἄεπτος, ἀερόπος, ἄζετον, ἄζον, ἀήσυλος, ἀθερίζω, ἀθραγένη, ἀθρέω, αἶα, Αἴας, αἴγειρος, αἰγιαλός, αἰγίθαλλος, αἰγίλιψ, 1.2. αἴγλη, αἰγωλιός, αἰζηός, αἴητος, αἰκάζει, αἰκάλλω, αἴκλον, αἵμων, αἶνος, αἰνός, αἰονάω (cf. p. 95), αἶπος, 1.2. αἶρα, αἱρέω, αἴσακος, αἰσάλων, ἀΐσθων, αἴσυλος, αἴψα, ἀκαλαρρείτης, ἄκαρον, ἄκασκα, ἄκατος, ἀκιδνός, ἀκιρός, ἀκκώ, ἄκμηνος, ἀκόνῑτον, ἄκορνα, ἄκορον, ἀκραιφνής, ἀκρεμών (beside κρεμών Eratosth.), ἀκριβής, ἀκρίς, ἀκτέα, 1.2. ἀκτή, ἀκτηρίς, ἀκτίς, ἅπαλός, ἀπαργία, ἀπαφίνιον, ἄπαφος, ἄπελος, ἀπολάντιον, ἄππα, ἀπροξίς, ἅπτω, ἀπυλιῶναι, ἄπφα, ἀσαλής, ἄσβολος, ἀσελγής, ἀσκάντης, ἄσκαρος, ἀσκελής, ἀσκέρα, ἀσκέω, ἀσκός, ἄσκυρον, ἀσκώλια, ἀσπάζομαι, ἀσπάλαθος, 1.2. ἀσπίς, ἄσπρις, ἀστραβδα, ἀσύφηλος, ἀσχίον, ἀταβυρίτης, ἀταρτηρός, ἀτέων, ἄτη (ἀϝα-?), ἀτμήν, 1. ἄττα, ἀτταγᾶς, ἀττάκης, ἄττανα, ἀττάραγος, ἀττέλαβος, αὐκήλως, αὖρι, αὐροί, αὐτός, αὐχέω, ἄφαρ, ἀφάρκη, ἀφαυρός, ἀφελής, ἀφήτωρ, ἄφθα, ἀφία, ἀφίας, ἄφλαστον, ἄφνω, ἄφρα, ἄφρισσα, Ἀφροδίτη, ἀφρός,[19] ἀφύη, ἀφυσγετός, ἀφύσσω, ἀχαίνη, ἀχαΐνης, Ἀχαιοί, ἀχάλιον, ἀχᾱνη, ἄχθομαι, Ἀχιλλεύς, ἄχωρ, ἀών.

V. (unreliable) ἀβέλτερος (α- priv.), ἀβολέω (young), ἀγα- (Av. *aš-*?), ἀγήρατον (α- priv.), ἅγιος (*i-*), ἄγος, ἄγρα, ἀδάμας, ἀδάρεξα, ἀδμωλή, ἄδρυα (*sm̥-*), ἄζω, ἄητος, ἄθρας, ἀθύρω, αἰᾱνής, αἰγανέη, αἰγυπιός, Ἅιδης (α- priv.), αἴδομαι, ἄϊδυλος, αἰέλουρος (cf. p. 95), αἷμα, αἱμασιά, αἱμύλος, αἱμωδέω, αἴνω[20], αἰόλος (cf. p. 95), αἰσυμνάω, αἶσχος, ἀΐτης, ἀκάκητα, ἄκανος, ἀκαρής, ἄκος, ἀκροάομαι, ἀκταίνω, ἀξῖνη, ἄξιος, ἀπάτη, ἀπαφίσκω, ἀπελλαι (ἀπειλή), ἀποφώλιος (ἀπαφίσκω), ἀπρίγδα (α- intens.), ἀπτερέως (α- copul.), ἀπτοεπής (α- priv.), ἆσαι, ἄση, ἄσθμα, ἄσις, ἄσμενος, ἀσπιδής, ἄσπληνον (α- priv.), ἀσυρής, ἄσφαλτος (IE?), ἀσχαλάω, Ἀταλάντη, ἀταλός, ἀτέμβω, Ἄτλας, ἀτραπός (α- copul.), ατροπανπαις, ἄττομαι, αὐγή, αὐίαχοι (α- copul.), 2. αὖω (*aus-*), ἀφάκη, Ἀχέρων, ἄχνη, ἄχνυμαι, ἀχρεῖον, ἄχρι (*ǥ-*?), ἄχυρον, ἀψίς (ἅπτω), 1. ἄωροι (α- priv.), ἄωρος, ἀωτέω, ἄωτος.

VI. ἀβληχρός (Hom., beginning of the verse) as against βληχρός (everywhere else). In opposition to the idea of Leumann, *Hom. W.*, p. 55, that βληχρός arose from false word division, it must be stated that it is not probable that a passage unknown to us would have had so much more influence than the Nekyia. Compare the words s.v. ἀμαλδύνω p. 42, which have the same meaning.

ἀγαθός, Hsch. ἀκαθόν and χᾶσιος, may be non-IE, because of the different forms.

ἀγείρω has no cognate forms outside Greek. The connection with γέργερα· πολλά Hsch. and γάργαρα is not obligatory. The structure suggests **h₂ger-*.

[19] Not connected with Arm. *p'rp'ur*, where one would also expect a prothetic vowel. But cf. n. 12.

[20] The etymology that connects αἴνω 'to winnow' with ἄημι and explains it from **Hwənyō* (i.e. **h₂uh₁nḭ̯ō*?) — still repeated by Crossland, *Arch. Ling.* 10 (1959) 84 — is neither formally nor semantically of any value. Cf. Cowgill, p. 161.

ἀγοστός is compared with Skt. *hásta-* 'hand' and OCS *grъstь* 'handful'. Ἀγείρω has also been brought in here, which is rather meaningless semantically. The form ἀγοστ- suggests *ἀγορ-, *ἀγοσ- or a stem ending in dental, the first of which would correspond to the Old Church Slavonic form. The explanation of the *h-* of Sanskrit by metathesis of the laryngeal, **ḫ₂g- > *gḫ₂-*, is an arbitrary one.

ἀγρεῖφνα ἀγριφή 'harrow' goes with γριφᾶσθαι· γράφειν. Λάκωνες. οἱ δὲ ξύειν καὶ ἀμύσσειν Hsch. No etymology. Non-IE?

ἄγω Lat. *ago* etc. must be **ḫ₂eĝ-*; cf. p. 128.

ἀθέλγειν (also β, δ instead of γ) is unexplained. An interpretation **ḫ₂dhel-* is possible, but the varying forms could point to a non-IE word; see p. 193 f.

αἴθω points with ἰθαρός to **ḫ₂(e)idh-*; see p. 129.

αἰώρα. To be able to link this with ἀείρω one has assumed for αἰωρ- a basic form **ḫ₂ei-ḫ₂u̯er-*, dissimilated from **ḫ₂u̯ei-ḫ₂u̯er* (from **ḫ₂u̯er-ḫ₂u̯er-*), which is highly hypothetical. See p. 95.

ἀκούω ἀκεύει beside Goth. *hausjan* suggests **ḫ₂ke/ou-*, which may be confirmed by ἀκήκοα and νηκουστέω. Here κοέω would form a problem, but θυοσκόος, OHG *scouwon*, OE *sceawian* etc., suggests **(s)keu-*. These forms must probably be kept separate from ἀκούω and connected with Skt. *kaví-* as 'to survey, see'.

ἀπειλή. If a stem with the meaning 'to proclaim solemnly, with emphasis', cognate with Latv. *pelît* 'to revile' and Goth. *spill* etc., Arm. (*aṙa-*) *spel*, may be taken as starting point, **ḫ₂pel-* and **spel-* would seem to stand beside one another; see for this p. 85 f.

ἀσκαρίζω (Hp.) stands against σκαίρω (Il.). No reliable etymology; perhaps of foreign origin.

ἀσπαίρω (Il.), ἀσπαρίζω (Arist.) beside σπαίρω (Arist.) can hardly be separated from the widespread group to which Lith. *spiriù*, Lat. *sperno*, Skt. *sphuráti* belong. There are many difficulties of detail which must perhaps be ascribed in part to the expressive character of these words. Contamination with the preceding is feasible. Nor may the possibility of foreign origin be excluded.

ἀσταφίς ὀσταφίς σταφίς 'dried grape'. Like the cognate σταφυλή, the word seems to be a substratum word.

ἄσταχυς στάχυς 'ear of corn'. The connection with OIcel. *stinga* etc. 'to sting' is not semantically obligatory. If a stem without nasal **stegh-*, Lith. *stegerỹs* (*stãgaras*) 'withered stem of a plant' belongs here, non-IE origin must be considered for **stegh-/stengh* (Centr. Eur.?). Cf. Boisacq s.v. στάχυς and Feist s.v. *us-stagg*.

The ἀ- of ἀστεμφής may be called copulative-intensive or privative. The word has been compared with στέμβω, cf. also ἀστέμβακτος = ἀστεμφής. If this is correct, the interchange β/φ points to a substratum word. This is all the more probable for στέμβω, since στεμβάζειν and στοβάζειν (plus still other forms), both of which are defined by glossographers as λοιδορεῖν, suggest stem forms *stob-/stemb-*. Finally, the meaning of ἀτέμβω seems the same, cf. ἀτέμβιος· μεμψίμοιρος *EM* (but see Leumann, *Hom. W.*, p. 33). For ἀστ- : στ- see p. 72. For στ- : ἀτ- cf. (σ)κιμβάζω : ὀκιμβάζω.

(I have grave doubts about στέμφυλον 'mass of olives from which the oil is pressed' taken with this).

ἀστήρ, Arm. *astl* stands against **ster-* (Ind.-Ir., Toch., Lat., Celt. and Germ.).

ἀστεροπή στεροπή (Il.) beside ἀστραπή (Hdt.), ἀστράπτω (Il.) and στορπά· ἀστραπή. Πάφιοι Hsch., Στορπαῖος. A connection between ἀστραπή and ὀπ- (**ḫ₃(e)kʷ-*) 'to see' is impossible. The vocalic interchange is difficult to explain, as is the absence of the prothetic vowel. One must therefore assume non-IE origin. Ἀστεροπή is perhaps secondary, the product of popular etymology.

ἄστλιγξ (Philet. ap. Sch. A.R.), ὄστλιγξ (Call.), see p. 72.

ἀστράγαλος. Of the words compared, ὄστρακον 'shell' (h. Merc., A.), 'potsherd' (inscr. IV B.C.) is eligible in the first place. The formation (*ost-r-k* + αλ-, Frisk) is, however, strange for an IE word; nor can the interchange κ/γ be explained and ἀ-/ὀ- has its parallel in words that are of Mediterranean origin. The two words may be cognate with ὄστρειον 'oyster'. Finally ἀστακός/ὀστακός 'lobster' may also belong to this group, where the same interchange ἀ-/ὀ- is encountered. The connection with ὀστέον must therefore be abandoned. See Add.

ἀστραλός has prothetic vowel if cognate with Lat. *sturnus*, OHG *stara*. But a form **(a)strn̥lo-* is not very probable. Non-IE origin seems probable.

1 and 2 ἀσφάραγος offer numerous problems. It is not clear whether a distinction must be made here between two words differing in origin. The correspondence in form and meaning (this is discussed in more detail on p. 197) of σφαραγέομαι, Skt. *sphắrjati*, Lith. *spùrgas*, must go back to an original identity. However, a difficulty is presented here by Gr. φ — Skt. *ph*, and further the interchange π/φ and the ἀ- in Greek, which might both be of non-IE origin. Contamination with a substratum word for asparagus, for instance (cf. for form and meaning — a plant name — ἀσφόδελος) should be considered. Hiersche's detailed discussion, *Unters.*, pp. 158, 197 f., offers nothing new here.

ἄτρακτος beside Skt. *tarku-* 'bobbin' could go back to a stem **ḫ₂terkʷ-*; however, I am not convinced of the correctness of this connection.

1. αὔω, ἀΰσαι has been connected with Lat. *iubilare*; therefore **ḫ₂i̯u-*? Ἰυγή is also difficult to connect with this.

ἄφενος has been compared with OIr. *imbed* 'abundance, riches, multitude' as **n̥bhen-es-* and Skt. *apnas-* 'possession'; the φ must in the latter case have developed from **apsnos-*, which leaves ἄφενος unexplained. Szemerényi, *Syncope*, pp. 144-8, compares Hitt. *ḫappinant-* 'rich', which he regards as **op-en-* from the root **op-* in *ḫap-zi* 'il y a abondance', further Lat. *ops* (however, putting *opulentus* as **openent-* on a par with *ḫappinant* is unfortunate; cf. *idem*, *Glotta* 33 (1954) 266-82) and Skt. *apnas-* as **op-n-es-*. This would suggest a root **ḫ₃ep-*. Even if this connection is possible, Gr. ἄφενος cannot be explained by it, neither the ἀ- nor the φ. Consequently Szemerényi assumes with Heubeck, *Praegraeca* (1961), p. 70, that it has been borrowed from an Anatolian language. Although it is a charming idea to assume that the Greeks took a word for 'wealth' from the country of Croesus, I do not consider this likely. In

itself the word may very well be Greek, cf. ὄφελος, ἔρεβος. This leads to the interpretation **ḫ₂bhenes-*. Connection with εὐθενέω with a basic form **ḫ₂gʷhen-* is not possible, since then one would expect *εὐηθεν-, cf. εὐηφενής Il. The formation of ἀφνειός (Il.) is unclear; it cannot have been derived from ἄφενος itself.

Conclusion. — Prothetic vowel is probably found in ἀγείρω ἀγοστός ἀθέλγειν ἀκούω ἀπειλή ἀστήρ ἄφενος. The words (ἀ)βληχρός ἀγρεῖφνα ἀσκαρίζω ἀσπαίρω ἀστεμφής ἀστραλός ἀσφάραγος ἄτρακτος αὔω are unclear. Ἀσταφίς ἄσταχυς ἀστεροπή ἄστλιγξ are definitely not IE; for the prothetic vowel in these words see p. 72.

n. ε-

I. (elsewhere) ἐάν s.v. εἰ; ἑαυτοῦ s.v. ἕ; ἑβδομήκοντα s.v. ἕβδομος; ἐγγύη ἔγκαρος s.v. ἔν; ἐγκάς s.v. ἔγκατα; ἐγγύς Ἐγκέλαδος ἐγκίλλαφον ἐγκοακίσαι ἐγκλίς (?) ἐγκοιωταί ἐγκονέω ἐγκυτί s.v. ἔν; ἐγχεσίμωρος s.v. ἔγχος; ἐγχίδιον ἐγχόδια see Frisk; ἐδέατρος s.v. ἑλεόν; ἕδνα (ϝ); ἕδρα ἑδώλια ἕζομαι s.v. ἕδος; εἶδος εἴδωλον s.v. εἴδομαι; εἴδομαι (ϝ); εἴθε s.v. εἰ; εἰκάζω s.v. ἔοικα; εἴκοσι (ϝ); εἰκών s.v. ἔοικα; εἰλαμίδες εἰλεός s.v. εἰλέω; 1.2. εἰλέω (ϝ); 2. εἵλη (ϝ); εἰλόπεδον s.v. 2. εἵλη (?); εἰλυσπάομαι εἰλυφάω s.v. εἰλύω; εἰλύω s.v. εἰλέω (ϝ); εἶργω (ϝ); εἴρερον (ϝ); εἴρομαι s.v. ἐρευνάω; εἰς s.v. ἔν; εἶτα s.v. εἰ; ἑκάεργος s.v. ἑκών; ἕκαστος s.v. ἑκάς (?); Ἑκάτη ἑκατηβελέτης s.v. ἑκών; ἑκατόμβη s.v. ἑκατόν; ἐκεῖνος s.v. ἐκεῖ; ἐκεχειρία s.v. ἔχω; ἐκτός s.v. ἐκ; Ἕκτωρ s.v. ἔχω; ἐκφλῆναι ἐκφλυνδάνω ἐξαίφνης ἔξαλος ἐξάντης ἔξαστις ἐξαυστήρ (?) ἑξαυτῆς ἐξεράω s.v. ἐκ; ἑξῆς s.v. ἔχω; ἐξιστων s.v. ἕξ (?); ἐξονομακλήδην ἐξουλή ἔξω ἐξώφακαι s.v. ἐκ; ἐπᾶλής ἔπαλπνος ἐπάντης ἐπαρετέω Ἐπάριτοι ἐπαυρίσκω 2. ἔπαφος ἐπεί ἐπείγω s.v. ἔπι; ἐπεσβόλος s.v. ἔπος; ἐπήβολος ἐπηγκενίδες ἐπηετανός ἐπήρεια ἐπήρετμος ἐπήτριμοι Ἐπίασσα ἔπιβδα ἐπιβουκόλος ἐπιεικής ἐπίεικτος ἐπιζαρέω ἐπιζάφελος ἐπίηρος ἐπίθυμβρον ἐπικάρσιος ἐπίκερας ἐπικοκκάστρια ἐπίκουρος ἐπιλᾶῖς ἐπιμήδιον ἐπίνητρον 1. ἐπίξενος ἐπίξηνον ἐπίορκος ἐπίουρος ἐπιούσιος ἐπιπακτίς ἐπιπατρόφιον ἔπιπλα ἐπίπλοον ἐπιπολῆς ἐπίρροθος ἐπισκύνιον ἐπίσσωτρον ἐπίσταμαι ἐπίστιον (?) ἐπισχερώ ἐπιτάρροθος ἐπίτεξ ἐπιτηδές (?) ἐπιτηλίς ἐπίτυρον ἐπιωγαί ἐπωτίδες ἐπῴχατο s.v. ἔπι; ἑσμός s.v. ἵημι (?); ἔστε s.v. ἔν; ἐστώ s.v. εἰμί; ἔσχατος s.v. ἐξ (?); ἑτεός s.v. ἐτάζω; εὐᾱγής εὐδείελος εὐδία εὔεξος (εὐηγενής) εὐηφενής εὐθενέω s.v. ἐύς; εὐθυωρία s.v. εὐθύς; Εὔιος s.v. εὐάζω; εὐκραής s.v. ἐύς; εὔληρα (ϝ); εὐμαρής εὔοχθος εὐπέμπελος εὐπετής εὔριπος s.v. ἐύς; εὑρίσκω (ϝ); εὐρυάγυια Εὐρυβάλινδος εὐρυόδεια εὐρύοπα s.v. εὐρύς; εὐρύς (ϝ); Εὐρυσθεύς s.v. εὐρύς; εὐσωπία εὐτράπελος εὐφρόνη εὐώνυμος εὐωχέω s.v. ἐύς; ἐφέται ἔφηλις ἔφηλος s.v. ἔπι; ἐχεπευκής ἐχέτλη s.v. ἔχω; ἐχθοδοπέω s.v. ἔχθος; 1. ἕως (ϝ).

II. (no proth.) ἐ- (Skt. *a-*), ἕ (**sṷe*), 1. ἑανός (ϝ-), 1. ἔαρ (Hitt. *ešḫar*), 2. ἔαρ (ϝ-), ἕβδομος (*s-*), ἑβρατάγησεν (augm.), ἔγχελυς (Lat. *anguilla*, Lith. *ungurỹs*), ἐγώ, ἕδος (*s-*), ἕδω, ἔθος (*sṷ-*), ἔθρις (ϝ-; ἀ-, ὀ- see Frisk and p. 71), εἴκω (ϝ-), εἴλαρ (ϝ-), εἰμι, εἰμί, εἰνατέρες (*i̯-*), εἶπον, εἴρος (ϝ-), 1. εἴρω (*s-*), 2. εἴρω (ϝ-), εἶς (*s-*), 1. εἶσομαι (ϝ-), εἴωθα (*se-sṷ-*), ἐκεῖ (see p. 24), ἑκυρός (*sṷ-*), ἑκών (ϝ-), ἐξ, ἕξ (*sṷ-*), ἔοικα (ϝ-), ἔορ

(*sṷ-*), ἐόργη (ϝε-ϝ-), ἔπι, ἕπομαι (*s-*), ἔπος (ϝ-), ἑπτά (*s-*), ἕπω, ἔπω (*s-*), ἔσκον, ἕσμα (*s-*?), ἕσπερος (ϝ-), ἑταῖρος (*s-*?), ἔταλον (ϝ-), ἕτερος (*s-*), ἔτης (*sṷ-*), ἔτι, 1. ἑτός (ϝ-) 2. ἔτος (ϝ-), εὕδω (*s-*), εὔχομαι (see p. 90), εὖω (**eus-*), ἐχῖνος, ἔχις, ἐχυρός (*s-*), 1. ἔχω (*s-*), 2. ἔχω (ϝ-), ἕψω (*s-*?), 2. ἕως (*i̯-*).

III. (non-IE) ἔβενος, ἐγγαρεύω (ἄγγαρος, Persian), Εἰλείθυια, ἐσσήν, ἔτελις, εὐμᾶρις.

IV. (no etym.) ἔ (interj.), ἔα (interj.), 2. ἑανός, *h*εαρα, ἔβρος, ἐγγαροῦντες, ἔγγραυλις, ἔγκατα, ἐγκρίς, ἐδανός, ἔδαφος, εἶα, εἰαμενή, εἴβω, εἰέν, εἴθαρ, εἰλαπίνη, εἰλιτενής, εἰρεσιώνη, εἰρήνη, εἴρων, ἐξαπίνης, ἑορτή, ἐπαινή, ἐπενπέτω, ἔπερθα, ἔπερος, ἐπέτοσσε, ἐπητής, 2. ἐπίξενος, ἐπίσιον, 1.2. ἐπίσκυρος, ἔπισσαι, ἔποψ, ἐσχάρα, ἔσχαρος, ἔτνος, ἑτοῖμος, εὐάζω (interj.), εὐθύς, εὐνή, εὖνις, εὐράξ, Εὖρος, Εὐρώπη, εὖτε, ἐψία.

V. (unreliable) ἐάφθη, ἔδεθλον, ἐθμή, ἐθμοί, ἔθνος, ἔθων, εἰ (αἰ), εἴλιγγος (εἰλέω), εἰλικρινής, εἰλίπους (εἰλέω), Εἵλωτες, εἰμάδες, Εἰραφιώτης, *εἴρω (ἐρῶ), εἰρήν, ἑκάς (ἕ), ἐπασσύτεροι, ἐσθλός, ἑστία (see ϝ), ἕστωρ, ἐτάζω, εὐλή (εἰλέω), εὐρώς, ἐφιάλτης, ἔχθος.

VI. ἐάω. In the disyllabic root *C*εϝα- assumed by Frisk the consonant (*C*) may also be absent or be a laryngeal, **(ḫ₁)eu̯ḫ₂-*, which is more probable than *s-* on account of the absence of aspiration.

ἐγείρω, Skt. *gṛ-*. Cf. ἐγρήγορα, pp. 117, 121.

ἔγχος beside OCS *pro-noziti* 'to pierce' etc. could be **(ḫ₁)engh-* : *(ḫ₁)negh-*. Hypothetical.

ἔθειραι 'horses' manes'. The connection with ἔθρις· τομίας or ὄθη· φροντίς, ὥρα, φόβος, λόγος (!) Hsch. is extremely meaningless. Interpretation **ḫ₁dher-*, **ḫ₁gʷher-* is possible.

ἐθείρω, Φ 347 only, exact meaning unknown. The structure is the same as that of the previous word.

ἐθέλω. It is highly improbable that ἐ- is an apophonic variant of the prefix ὀ- (Schwyzer-Debrunner, p. 491 : 13), since it would be the sole instance of it. If cognate with OCS *želěti* **ḫ₁gʷhel-* is conceivable. (θέλω is secondary, lit. in Frisk).

εἰκῇ. Wackernagel's interpretation (*Sprachl. Unters. zu Hom.*, p. 137 A 1) as *ἐ-ϝεκῇ cognate with ἑκών, ἕνεκα leaves the ἐ- unexplained (of which these words show no trace). The interpretation must therefore be abandoned.

ἑκατόν. The origin of ἑ- is unknown. The aspiration cannot be explained by analogy, so that we are probably not concerned here with a single vowel. Cf. p. 62.

ἐύς. If ἐυ- is compared with Skt. *su-*, a basic form **ḫ₁su-* is obvious. Hitt. *aššuš* can in that case have *a* from *ḫ₁*. On the other hand the archaic ὑγιής has no ἐ-; however, for this compare p. 242. In any case the details are unclear and allowance must be made for crossing of forms. See Add.

ἐχθές is not on a par with the cases of prothetic vowel; cf. p. 24 and Schwyzer, p. 613.

Conclusion. — 'E- as prothetic vowel, otherwise than before ρ λ μ ν ϝ, has been

demonstrated only in the case of ἐγείρω. Ἐχθές is capable of different interpretation, as is ἑκατόν. The other cases are very uncertain or have no prothetic vowel.

o. o-

I. (elsewhere) 1. ὄγκος s.v. ἀγκ-; 2. ὄγκος s.v. ἐνεγκεῖν; ὄγμος s.v. ἄγω; ὀδύρομαι s.v. ὀδύνη; οἴγνυμι (ϙF); Οἰδίπους s.v. οἰδέω; οἴομαι (ϙF); οἶος s.v. 1. ὅς; οἰσοφάγος s.v. οἴσω; οἰσπώτη s.v. ὄϊς; οἴστρος s.v. οἶμα; οἰσύπη s.v. ὄϊς; ὀκωχή s.v. ἔχω; ὄξος ὀξυρεγμία s.v. ὀξύς; ὁπλότερος s.v. ὅπλον; ὅσσα s.v. 1. *ὄψ; ὄσσομαι s.v. ὄσσε; ὅσσος ὅτε s.v. 1. ὅς; ὀτραλέως (ὀτρηρός) s.v. ὀτρῡ́νω (?); οὔλιος s.v. 3. οὖλος; 1. οὖλος s.v. ὅλος; 3. οὖλος s.v. ὄλλυμι; οὐρία s.v. οὐρέω (?); 2. οὖρος s.v. ὁράω (?); οὐτιδανός s.v. οὐ; οὗτος s.v. ὁ; ὄφρα s.v. 1. ὅς; ὀχεύω s.v. 1. ἔχω (?); ὄχος s.v. 2. ἔχω.

II. (no proth. vowel) 1.2. ὀ- (prefixes), ὁ (*s*-), ὄβδην (ὀπ-), ὄγδοος, ὀγκάομαι, 1. ὁδός (*s*-), 1. ὄζος (pref. ὀ- ?), οἴαξ (**ois*-), οἶδα (ϝ-), οἰδέω (**oid*-), οἰέτεας (pref. ὀ-), οἶκος (ϝ-), οἶμα (**ois*-), οἶνη (**oin*-), οἶος (**oiu̯*-), οἶσος (ϝ-), οἴχομαι (**oigh*-), ὄκρις (ἄκρος), ὀκρυόεις (false word division), ὀκτώ, ὀξίνα (**ok*-), ὀξύς (**ok̂*-/*ak̂*-?), ὄπατρος (ὀ- copul.), ὀπή (ὀπ-), ὄπισθεν (**opi*), ὅπλον (ἕπω), 1. ὅς (*i̯*-), ὅσσε (**okʷ*-), ὀστέον (Hitt. *ḫaštai*-), ὄσχη (pref. ὀ-?), ὀτρῡ́νω (pref. ὀ-?), οὔθαρ, οὐλαμός (ϝολ-), οὐλή (ϝ-), 2. οὖλος (ϝ-), 4. οὖλος (ϝ-), οὕνεκα, οὐρά, οὐρέω (ϝ-), οὖς, οὐσία, ὀφθαλμός, ὀφνίς (ϝ-), ὄχα, ὄχλος (ϝ-), 1. *ὄψ (ϝ-), ὀψέ, ὀψείοντες (ὀπ-).

III. (non-IE) ὄβρυζα, ὄγχνη (ὄχνη), ὀδόλυνθοι, ὀθόνη, ὀθόννα, ὄθρυς, οἶνος, ὄστλιγξ (p. 51 and 72), ὄστρακον, ὄστρειον (for this and foreg. see p. 51 s.v. ἀστράγαλος), ὀστρύα, οὐδών.

IV. (no etym.) ὀά (interj.), ὄβρια, ὄγκιον, Ὀδυσσεύς, ὀθνεῖος, ὀθομαι, ὀϊζύς (interj.), οἶκτος (interj.), οἰμώζω, ὀϊστός, οἴσω, οἶτος, οἰωνός, 1.2. ὄκνος, ὀξερία, ὀπέας, ὁπλή, ὀπτάω, ὅσιος, ὄσπριον, ὄστριμον, ὄτοβος (interj.), οὐδας, οὐδός, οὐλαί, οὖλον, οὖν, οὖνον, οὐροί, 2. οὖρον, 1. οὖρος, οὐτάω, ὄχθη, ὄχθοιβος.

V. (unreliable) ὅα, ὀδύσ(σ)ασθαι, 2. οἴη, οἶμη, οἶμος, οἰρῶν (Skt. *śíra*-), ὀκλάζω (pref. ὀ-), ὀξύα, ὀπάζω, ὀπᾶων, ὀπηδός, ὀπίς, ὀπός (*s*-?), ὀπώρα (**op(i)*-?), ὀσφραίνομαι, ὀσφῦς, οὐ, οὐρανός, ὄφις, ὀχθεῖν (ἔχθος), ὄψον (pref. ὀ-).

VI. ὄαρ does not have a certain etymology; ὀ- may be a prefix, cf. ἄκοιτις.

ὀβελός ὀδελός seems to point to *-gʷel*-; foreign origin is probable, see p. 193 f.

ὄβριμος stands beside βριμός and ὄμβριμος, which does suggest non-IE origin.

ὀδάξ. Bechtel, *Lex.* pp. 241 ff., demonstrates that the original meaning is 'grasping, scratching' and that it was not connected with ὀδών until later. This same meaning may be found in ὀδάξω ἀδάξω ἀδαχάω etc. That would give a stem ὀδαχ-/ἀδαχ-. There is no convincing IE etymology. The interchange ἀ-/ὀ- is reminiscent of non-IE origin. See Add.

ὀδύνη, Aeol. ἐδύνας. If Frisk's derivation of Arm. *erkn*, gen. *erkan*, from **ed-u̯ē/ōn* is correct, the Greek word will be a derivation of the apophonic form **ed-un*-; cf. also Skt. *-ad-van*- 'eating'. Ὀδύνη must in that case be based on assimila-

tion; various cases are known of ε-υ> ο-υ (Schwyzer, p. 255). PIE **od-u̯ē/ōn* is not plausible. We thus have here PIE full grade (in view of the Indian form; the Armenian may also go back to *du̯*-).

ὀδών, Arm. *atamn* as against Skt. *dán* etc. points to prothetic vowel. If Aeolian ἔδοντες is the original form, the connection with ἔδω becomes easy: if this had laryngeal (**ḫ₁ed*-), the word for 'tooth' originally had the form **ḫ₁dón(t)* (**ḫ₁déntm̥ *ḫ₁dn̥tós*); ὀδών is then based on assimilation. Hittite has no *ḫ*: *e-it-mi*. It has been supposed (Hendriksen, *Unters.*, pp. 51 and 72 ff.) that the *ḫ* has disappeared here on analogy with the plural form, in which the laryngeal was vocalized in the zero grade: *a-tu-e-ni, az-za-aš-te-ni* [*atsteni*], *a-da-an-zi*. This interchange *e*/*a* is, however, also found in words where it cannot be of that origin (*še-eš-zi ša-ša-an-zi* 'to sleep', *ú-e-eš-tin* (2 pl. imp.) *wa-aš-ša-an-zi* 'to dress'). Hendriksen ascribes the latter to a kind of vocalic harmony, which does not convince me, as long as it is not also demonstrable elsewhere in Hittite. When he finally concludes from the fact that this vocalic harmony is absent in *a-tu-en-i, az-za-aš-te-ni* that the *a* here must therefore go back to vocalized laryngeal, he forgets that the same forms (1 pl. *-ueni*, 2 pl. *-teni*) occur with each verb (so that vocalic harmony is also improbable there) and that here too allowance may be made for the effect of analogy (*ad-* in 1 and 2 pl. from 3 pl.). In addition, the *a* may go back to PIE *ₑ*. One cannot therefore say that Hittite points to laryngeal, although the possibility of a laryngeal is not entirely excluded by the Hittite data either.

However, it is also conceivable that the word for 'tooth' originally had *ḫ₃* — and therefore is not cognate with ἔδω — and that the Aeolian form is based on secondary transformation under the influence of ἔδω. This interpretation is perhaps suggested by νωδός, p. 110, and αἰμωδέω, from which it emerges that ὀδ- was the basic element; for the connection with ἔδω the participle form is essential. Finally, the parallelism with the forms in the previous lemma is striking. It is conceivable that the one group has influenced the other.

οἴφω as against Skt. *yábhati* is easy to understand as **(ḫ₃)eibh*- : *(ḫ₃)i̯ebh*-; compare the suggested solutions in Frisk. For **ḫ₃i̯ebh*- in Greek see p. 97. If the *o*-vocalism goes back to a root present **oibhmi*, there is no reason to assume a laryngeal; cf. p. 131.

ὀπῑπεύω see p. 129 (PIE **opi-ḫ₃kʷ*-).

ὀπυίω is uncertain; neither cognate with Skt. *púṣyati* 'to cause to thrive', nor with Lat. *puer puber*. The closest connection is with Etr. *pui(a)* 'woman' (Brandenstein, *REIE* 1.308). In that case the ὀ- will also have originated from the substratum language; there is no reason to assume Greek prefixing of a substratum word.

ὄπωπα see p. 122.

ὄτλος (A.) is interpreted as (pref.) ὀ + *tlḫ₂* - 'to suffer, tolerate'. It must then be assumed that the laryngeal has disappeared (**o-tl̥ḫ₂-os* would have given *ὀταλος); for this disappearance see p. 242. The etymology is, however, too unreliable, like that of Ἄτλας.

3. ὀφέλλω (Hippon.), Arm. *avelum* 'sweep' may be **ḫ₃bhel-*. This form is also possible for 2. ὀφέλλω 'to increase' beside Arm. *y-avelum* 'to grow' and ὄφελος, for which a PIE stem form **obhel-* would be very unusual (cf. Schwyzer, p. 512). The connection with Skt. *phála-*, *phalati* is very uncertain on account of the *ph*. The same interpretation also remains possible for ὀφείλω. The ϝ- of ϝοφληκόσι (Arc.) is probably not etymological (Fraenkel, *Philologus* 97 (1948) 62), which also emerges from Myc. *operosi*. The explanation by Szemerényi, *Syncope*, p. 201 f., from *op-* + *hel-* (ἑλ-) is not convincing. Lat. *debeo* < **de-habeo* is not appropriate as a semantic parallel; *de-* seems to be essential in this.

ὀφρῦς, Skt. *bhrū-* etc. presupposes **ḫ₃bhru-ḫ-*; cf. p. 171.

Conclusion. — Prothetic vowel is probable for ὀδών ὀφέλλω (2×) ὀφείλω and ὀφρῦς. Ὄτλος is very uncertain. Ὄβελος ὄβριμος ὀδάξ and ὀπυίω are probably non-IE.

There still remain the words in which prothetic vowel before ϝ may be suspected. Such words have been pointed out above. They will be discussed here in the order αϝ-, οϝ-, εϝ- (sic).

p. αϝ-

ἁλής ἄλης (Ion.), Aeol. ἀολλής is interpreted as ἀ-(ἀ-)copulative + ϝαλ-ν-/ ϝολ-ν- with the zero grade of ϝελ- in εἵλω, cf. (ἄλις) γάλι· ἱκανόν Hsch. (i.e. ϝαλ-). However, in that case one could expect ὀ- instead of ἀ- in the Aeolian form. Perhaps Dor. ἀ(ϝ)λανέως also belongs here. The full grade in ἀελλής Γ 13? The formation is unclear; one would expect **ἀ-ϝελ-ής*; see Frisk.

ἄγνυμι. After preverbs in -α (-α-ϝα-) > -ᾱ-, which was spread from there. For ἐάγη see Chantraine, *Gr. Hom.*, p. 18.

ἄεθλος, Arc. ⟨ἄ⟩ϝεθλα (IG 5:2,75). The connection with Goth. *wadi*, OIcel *veð* 'pledge', Lat. *vas*, basic meaning 'to tie, bind; connection', remains semantically difficult (but cf. Dutch *wedstrijd* 'contest', in which the idea of 'pledge' is entirely lost). A difficulty is also offered by the vocalism, Lat. *vas*, Germ. **wadja-*. Hitt. *ḫuitiazi* 'to draw (the bow)' (Hammerich, *Lar. b. Son.*, p. 6) does not belong here, since the basic meaning is 'to draw'. In itself **ḫ₂u̯edh-* is highly feasible. See Add.

ἀείδω. For αὐδή: Skt. *vádati* 'to speak' the analysis **ḫ₂eud-* : **ḫ₂u̯ed-* is an obvious one; see p. 89. However, ἀείδω cannot be derived from this. Wackernagel's **α-ϝε-ϝδ-εῖν* > **α(ϝ)ειδεῖν* is rightly rejected by Frisk on the strength of ἀλαλκεῖν, i.e. if the ἀ- forms part of the stem (and therefore is not a prothetic vowel in the strict sense, as Wackernagel's explanation presupposes), **ḫ₂u̯e-ḫ₂ud-* can only give **αϝαυδεῖν* (**αϝαιδεῖν*). Origin from the aorist is not obvious for 'to sing' either (one would also expect a differentiated form for the present) and there is no trace of this aorist: one finds φ 441 ἄεισε. Consequently ἀείδω must be interpreted as **ḫ₂u̯-ei-d-* (beside **ḫ₂u̯-ed-*/*ḫ₂eu-d-*). Ἀοιδός also points to this; there is no reason why this

should not be an old ablaut. Winter's explanation, *Lg.* 26 (1950) 365-70, of ἀείδω as secondary ablaut, based on a perfect **ἀοιδω* < **Ạw-Aowd-* (!), does not deserve serious consideration.

ἀείρω. It is not necessary to assume two words of different origin. See Frisk's hesitation with reference to κατήορος κατωρίς and ἀορτή. The basic meaning is more or less 'to hang up, tie to'. The derivation of ἀείρω from ἀήρ is very unsatisfactory. For ἀείρω the interpretation **ḫ₂u̯er-* imposes itself. For the connection with Alb. *vjer* 'to hang up' and Lith. *sveriù sveřti* 'to weigh' see p. 85.

ἀέλιοι· οἱ ἀδελφὰς γυναῖκας ἐσχηκότες Hsch. OIcel. *svilar* (pl.) '*idem*' gives a stem **su̯el-*. Perhaps εἰλίονες is also derived from this with metrical lengthening (cf. εἰνατέρες). Derivation from **su̯e* is meaningless. The paraphrases σύγγαμβροι ὁμόγαμβροι συγκηδεσταί are perhaps an argument for α-copulative. And yet **ḫ₁u̯el-* > **ἐ(ϝ)ελ-*/*ἀ(ϝ)ελ-* deserves consideration.

ἀέξω beside Goth. *wahsjan*, Skt. *vakṣáyati* etc. contrasts with Goth. *aukan*, Lat. *augeo* etc. as **ḫ₂u̯eg(s-)* : *ḫ₂eug-(s-)* with zero grade **ḫ₂ug-(s-)* in Skt. *úkṣant-*, *ugrá-* etc. Cf. p. 89.

ἄεσα (νύκτας) 'to pass (the night)' beside Skt. *vásati*, Goth. *wisan* points to **ḫ₂u̯es-*, which is confirmed by Hitt. *ḫu-i-iš-zi* [*ḫwiszi*] 'he lives'. These words cannot be separated from αὐλή αὖλις (cf. αὐλίζομαι), **ḫ₂eu-l-* (cf. p. 127) and ἰαύω < **ḫ₂i-ḫ₂eu-* (cf. p. 129), with Arm. *aw-tʿ* 'place for spending the night', *aganim* 'to spend the night'. For Hsch. ἄιες αἰέσκοντο see Latte's edition.

ἀηδών 'nightingale' perhaps as lengthened grade **ḫ₂u̯ēd-* of **ḫ₂u̯ed-* beside **ḫ₂u̯-ei-d-*; *supra* s.v. ἀείδω.

ἄημι, Skt. *vā́ti*, OCS *vějǫ* etc. shows **ḫ₂u̯eḫ₁-*; *ḫu̯-* is confirmed by Hitt. *ḫu-u-wa-an-te-eš* [*ḫwant-*] 'winds'. This form (with Lat. *ventus*, Goth. *winds*, Toch. A *wänt*) is, however, based on another root enlargement, **ḫ₂u̯-en-*. A basic form **ḫ₂u̯eḫ₁-nt-* would have given Skt. **vānt-*, and if one wants to start from **ḫ₂u̯eḫ₁u̯t-* for *vā́ta-*, one would expect Goth. **wiunds* (an opinion shared by Hendriksen, *Unters.*, p. 50 n. 1). For OHG *wetar*, OIr. *feth* 'air' a form **ḫ₂u̯-et-* is necessary, to which ἀετμόν ἄετμα may also go back; ἀϋτμή is unclear (**ḫ₂u̯ₑt-* ?). For ἄελλα (Aeol. αὔελλα) W. *awel* points to full grade of the root.

ἀήρ (αὔηρ, ἀβήρ) as against αὔρα may go back to **eḫ₂-u̯-ēr* : *ḫ₂-eu-r-*. For the first structure cf. **eḫ₁-t-mó(n)* **ḫ₁-t-men-ós*, Skt. *ātmá tmánaḥ*. For αὔρα **eḫ₂-u-r-* is also possible. These constructions are no more than phonetic possibilities.

αἰετός on account of αἰβετός· ἀετός. Περγαῖοι Hsch. from **αιϝετος*. This stands for **αϝι-ετο-* and is cognate with Lat. *avis* etc. This is also suggested by W. *hwyad* 'duck', which may go back to **au̯ietos*. Lat. *avis*, Arm. *hav* as against Skt. *víḥ*, Av. *vīš*, Skt. *váyas-* 'poultry' point to laryngeal. Lat. *avis* etc. must, however, be **ḫ₂eu̯i-*. This points to a (proterodynamic) inflexion **ḫ₂éu̯i-s* **ḫ₂u̯éi-s* (Kuiper, *Notes*, pp. 61 f.). There is thus no reason to call the ἀ- in αἰετός prothetic, especially having regard to the Celtic forms, which must go back to full grade.

αἰσθάνομαι has been connected as ἀϝισ- with *audio* < **au(i)s-d-* (not from

**aus-d-* on account of *oboedio*, which in that case is more likely to have been **obūdio*, WH). Although ἀϝισ- suggests **h₂u̯is-*, Latin would require **h₂eu̯-is-*. Skt. *ávati* 'is pleased, promotes, protects, refreshes' (Szemerényi, *Syncope*, p. 217) does not belong here.

ἄστυ < *ϝαστυ, Skt. *vāstu*, is usually connected with ἄεσα, *vásati* etc., to which there are objections on account of the absence of a prothetic vowel. The α of the stem in Greek is also striking.

2. ἄωρος 'sleep' (Sappho 57) beside ὥρος (Call., Hsch., *EM*). Is ὥρος based on contraction? Formally a connection with ἀωτέω is difficult, and in any case the meaning of this word is not certain.

ὤλκα see p. 40 s.v. ἄλοξ and App. 2.

Conclusion. — Ἄγνυμι ἄήρ αἰετός ἅλής and ἄστυ do not have prothetic vowel. Prothetic vowel is probable in ἄεθλος ἀηδών ἀείδω ἀείρω ἀέξω ἄεσα ἄημι; it is conceivable in αἰσθάνομαι, and perhaps also in ἀέλιοι. Ἄωρος ἀωτέω and ὤλκα are unclear.

q. οϝ-

Two forms may have a prothetic vowel ὀ- before ϝ.

οἴγνυμι, Aeol. ὀείγην and Hom. ὠΐγνυντο suggest a stem ὀϝειγ-. However, it is not permitted to replace ἀναοίγεσκον in Ω 455 by *ἀνοϝειγ-. The structure of this stem makes prothetic vowel probable, which the connection with Skt. *vejate vijate* 'to retreat' would confirm. **H₃u̯eig-* is therefore possible.

οἶομαι on account of ἀνώϊστος (Φ 39) may be from ὀϝισ-, which may go back to **h₃u̯is-*. (Szemerényi, *Syncope*, pp. 217f., connects it with Skt. *āviḥ* etc. 'clearly' as **ōu̯is*, which is mostly associated with αἰσθάνομαι. If *āviḥ* is connected with OCS *ěviti* 'δεικνύναι', the basic form was *ēu̯-*.)

r. εϝ-

ἕδνα perhaps belongs with OE *weotuma* (< **u̯ed-mon-*); Russ. *věno* 'purchase price for the bride' may also be connected with ὦνος, Lesb. ὄννα, Skt. *vasná-* 'purchase price'.

Only Homer has a form with prothetic vowel; the word does not occur very often elsewhere (A., E., Pi.; Call., Theocr.), doubtless because the institution disappeared. Homer has seven forms with and seven without 'prothetic vowel':

ἕδνα	Π 190 X 472 λ 282	ἐπεὶ πόρε μυρία ἕδνα |
	Π 178 τ 529	πορὼν ἀπερείσια ἕδνα |
	λ 117 ν 378	μνώμενοι ἀντιθὴν ἅλοχον καὶ ἕδνα διδόντες
ἔεδνα	α 277 β 196	οἱ δὲ γάμον τεύξουσι καὶ ἀρτυνέουσιν ἔεδνα
	π 391 φ 161	| μνάσθω, ἐέδνοισιν διζήμενος
	ζ 159	| ὅς κε σ' ἐέδνοισι βρίσας
	ϑ 318	ἀποδώσει ἔεδνα |
	ο 18	ἐξώφελλεν ἔεδνα |

It is difficult to draw a conclusion from this. The *Iliad* only has the formula πόρε/πορὼν ...-α ἕδνα. The *Odyssey* has ἔεδνα, apart from καὶ ἕδνα (λ 117 = ν 378, where it is striking that λ 282 also has the *Iliad* formula with ἕδνα; this suggests -α ἕδνα Il. ⩾λ 282 > λ 117 = ν378). This leads to the idea that -α ἕδνα stands for -' ἔεδνα (μυρί', ἀπερείσι'). That ἔεδνα is the original form is confirmed by ἐεδνόομαι (β 53) and ἐεδνωτής (N 382). If this analysis is correct it would seem that ἕδνα is an artificial form. (A. *Pr.* 559 ἕδνοις — which incidentally is based on a conjecture — may, if it goes back to ζ 159 (Groeneboom *ad loc.*), be based on an incorrect split (σε ἕδνοισι).) If this is so and ἕδνα is not based on a reality in the spoken language, the aspiration must also be artificial and must perhaps be attributed to the Alexandrine scholars, cf. Chantraine, *Gr. Hom.*, p. 188. (For the principle of false word division in general see e.g. Leumann, *Hom. W.*, pp. 48ff.).

A special problem is presented by ἀνάεδνος (I 146 = 288 (122-57 = 264-99) N 366). With ἀνα- instead of ἀ(ν)- (Schwyzer, p. 432); 'not with many ἕδνα' with α-copulative, cf. ἄεδνον· ἄφερνον ἢ πολύφερνον Hsch. (*idem, ibid.*); -αεδνος with prothetic vowel α instead of ε or incorrect transmission of *ἀνέεδνος (Chantraine, *Gr. Hom.*, p. 182)? Did the form come into being through a false word division in ἀπερείσια ἕδνα and μυρία ἕδνα? One is incidentally reminded of ἐέρση, ἔρση, (Cret.) ἀέρση; see below s.v. ἐέρση.

εἴδομαι. The participle ἐεισάμενος is said to have a prothetic vowel in opposition to εἰσάμενος, Chantraine, *Gr. Hom.*, p. 182. There is no trace of prothetic vowel in any of the cognate forms (in Homer εἴδεται 6×, -όμενος -η 13×, εἴσαιτο, διαείσεται, εἶδος *passim*, εἴδωλον 13×; the ἐ- of ἐείσω and ἐείσατο, 16×, is an augment).

There are eight cases of εἰσάμενος, nine of ἐεισάμενος. In λ 241 there is a varia lectio τῷ δ' ἄρα εἰσάμενος, so that this place will be left out of consideration for the time being (8 : 8 remains). If we examine these cases, ἐεισάμενος proves to occur only in a fixed pattern: τῷ μιν ἐεισάμενος προσέφη + epithet + name of a god (or supernatural being, ϑεῖος Ὄνειρος B 22). Variants are τῇ, ἐεισαμένη and προσεφώνεε (this B 22 Γ 389). On three occasions the verse ends with Διὸς υἱὸς Ἀπόλλων (Π 720 P 326 Y 82), and once with ἑκάεργος Ἀπόλλων (P 585; missing from many manuscripts). Further one finds B 795 πόδας ὠκέα Ἶρις, Γ 389 δῖ' Ἀφροδίτη and ζ 24 γλαυκῶπις Ἀθήνη.[21] This situation strongly suggests that this formula has developed through a false word division. Bekker, *Hom. Blätter* I, p. 156, already suspected that the form is recent. According to Solmsen, *Unters.*, p. 250, it served to avoid a στίχος λαγαρός, which in itself is not an adequate explanation. The cases of εἰσάμενος elsewhere in Homer cannot have been the example here (if only because this one formula is concerned here): three times at the beginning of the verse (N 45.216 P 555), three times |ἀνέρι (ϝ)εισάμενος (Π 716 P 73 Φ 213), Στέντορι (ϝ)εισάμενος

[21] If one studies these cases the formula προσέφη Διὸς υἱὸς Ἀπόλλων seems the oldest. Προσεφώνεε is a metrical variant (B 22 Γ 389).

(E 785), ἵππῳ (ϝ)εισάμενος (Υ 224). (Noteworthy is (ϝ)εισ- Π 716: ἐεισ- Π 720; cf. Υ 82 : 224.)

If we want to reconstruct the original form we are therefore looking for τῷ C˘ε ϝεισάμενος, i.e. a group of sounds that begins with a consonant, whose first syllable is short and whose second (perhaps independent) syllable ends in ε. The closest equivalent of μιν is ˓(ϝ)ε, and one could therefore assume τῷ C˘ ˓(ϝ)ε ϝεισάμενος. Compare for the use of 'to speak to (πρός)': ι 258 ἀλλὰ καὶ ὥς μιν ἔπεσσιν ἀμειβόμενος προσέειπεν and ε 96 καὶ τότε δή μιν ἔπεσσιν, etc., where, to restore the ϝ of ϝέπος, ˓ϝε ϝέπεσσιν is presumed, Chantraine, *Gr. Hom.*, p. 119 (although it is not automatically evident that an older form is the basis here). As ˓ϝε arose from **sμe*, one would expect that it would make position. This is, however, only so in some forty of the over 800 (?) cases (*op. cit.*, pp. 146ff.). It is tempting to posit τῷ μέν ˓ϝε ϝεισάμενος, but it is not probable that ˓ϝε would not have lengthened preceding μέν. The possibility of δέ then remains. One can imagine the following development: τῷ δέ ˓(ϝ)ε ϝεισ- > τῷ δὲ ἐεισ- > (? τῷ μὲν ἐεισ- >) τῷ μιν ἐεισ-. Compare for the transition from the second to the third phase μέν οἱ for older δέ ˓ϝοι (? *op. cit.*, p. 147). For replacement of δέ by μέν see further Hoekstra, *Modifications*, pp. 35 and 56ff. Δέ is normal in these locutions, cf. for instance Π 706.744 P 18 and formulas like ὀχθήσας δ' ἄρα εἶπε πρὸς ὃν μεγαλήτορα θυμόν and τὸν δ' ἀπαμειβόμενος προσέφη.

As regards λ 241, it is tempting to assume τῷ δ' ἄρα ϝεισ-, because the verse does not have the exact formula τῷ μιν ἐεισ-, etc. And yet τῷ δ' ἄρ' ἐεισ- may be a first step towards a freer use of the doublet. For example, one finds in ζ 24 a varia lectio ἐειδομένη. B 795 αρ ειδομενη P^{40} will simply be an attempt at restoration. It is, however, possible that the present is original, ἐεισαμένη 'restored' on the example of the other places. Pi. *N.* 10.15 (and Arat. 395, A.R. 4.221, Q.S. 3.590) may be based on this. [Theocritus] 25.58 has a further extension, ἐείδεται.

It therefore seems probable that ἐεισάμενος is an artificial form from the language of the epic, which is of no value to comparative linguistics.

εἴκοσι is explained by *ἐϝῑκοσι, ἐείκοσι as the old form with graphic ει for ῑ under the influence of the contraction. Chantraine, *Gr. Hom*, p. 128, 182, 260, has a different point of view: εἴκοσι in Homer points to ϝ, i.e. graphically for *ϝῑκοσι.

When the distribution in Homer is considered, there proves to be a preponderance of ἐείκοσι (27×, including ἐεικοστ-) over εἴκοσι (17×, including εικοστ-). The use of ἐείκοσι does not seem to be tied to a single rule. However, the occurrence of εἴκοσι is limited:

nine times after καὶ (B 510.748 Λ 25 N 260 β 212 = δ 669 ι 241 κ 208 π 249)
four times ἤλυθον εἰκοστῷ ἔτεϊ ἐς πατρίδα γαῖαν (π 206 τ 484 φ 208 ω 322)
twice at the beginning of the verse (β 355 ε 244)
ε 34 ἤματι κ' εἰκοστῷ init.
ι 209 ἀνὰ εἴκοσι.

It seems to me that a ϝ is only weakly attested to here. At the beginning of the verse no ϝ needs to be assumed. There is no reason to omit κ' in ε 34. In the formula ἤλυθον εἰκοστῷ ϝ is impossible. Bekker read here ἦλθον ἐεικοστῷ. Hoekstra, *Modifications*, p. 52, suggests that it is a replacement of ἤλυθε ϝεικοστῷ ϝέτεϊ.

This seems more probable to me, for it is not clear why an original ἦλθον ἐεικ- should not have been preserved. Here it is of importance that one can read ἤλυθ' ἐϝεικ- instead of ἤλυθε ϝεικ-.

The reconstruction gains in probability through the following consideration. To explain the length of the ι of ἔτεϊ Hoekstra suggests πτολίπορθος Ὀδυσσεύς to complete the verse. This is of course highly feasible, but cannot be further demonstrated. It would be less drastic to replace ἐς by ἦν; the ˓ϝ- group then causes the length of the preceding syllable (or ϝέτεει (˓)ϝήν?); cf. Chantraine, *Gr. Hom.*, p. 146. In the replacement of ἤλυθε by ἤλυθον the form ἦν was regarded as a difficulty, and ἐς was substituted for it. It is true that in Homer there seem to be traces that originally ὅς could refer back to all three persons singular and plural, but firstly this is an archaism that probably no longer formed part of the living language at the time of the supposed replacement, and secondly at least a part of these cases may have come about through similar replacements to the ones here. (For instance, one can solve the difficulty for ι 28 by starting from an original οὔ τοι Ὀδυσσεὺς | ἧς γαίης δύνατο γλυκερώτερον ἄλλο ἰδέσθαι. Without much difficulty the whole passage here up to verse 32 can be put in the third person: 19 ἦν, 20 μέλει/μέλεν, τοῦ, 21 ναιέταεν; but this remains a remote possibility.) See Chantraine, *Gr. Hom.*, p. 273. However, it is clear that Hoekstra's hypothesis of the replacement of the third person by a first and the reconstruction of ἦν reinforce each other, the more so as the *two* problems that the verse presents in its later form can be ascribed to the *one* fact of this replacement. The reconstructed verse is remarkable: *ἤλυθ' ἐϝῑκοστῷ ϝέτεϊ ˓ϝὴν πατρίδα γαῖαν, for it has various elements pointing to great age: (1) ἤλυθε, which in Homer seems older than ἦλθε; (2) ἐϝῑκ- (ἐεικ-); (3) the ϝ of ϝέτεϊ; (4) ˓ϝήν; (5) the formula πατρίδα γαῖαν; (6) the single accusative of direction. See Add.

In any case, this verse cannot be regarded as proof of ϝεικ-. Beside ι 209, where ϝ is possible, the places then remain where it follows on καί; according to Chantraine, *loc. cit.*, p. 128, these point to ϝ. In my opinion the large number of these cases is striking. It is seen that these nine places split up into two groups: καὶ εἰκοσ- – $\overset{5}{\smile}$ ⏑ seven times as against ⏑ $\overset{4}{\smile}$ ⏑ in Λ 25 and π 249 (Λ 25 χρυσοῖο καὶ εἴκοσι κασσιτέροιο as against Λ 34 ἐείκοσι κασσιτέροιο; there is no reason to omit τε in π 249). In the last two cases ϝ is impossible. In the other seven cases one may assume ϝ. However, as these cases all occur at the same place in the verse, it is possible that they go back to an old 'formula', and that καὶ (ϝ)εικ- is a modernized form of καὶ ἐ(ϝ)εικ-. If this is correct in principle, then only ι 209 ἀνὰ εἴκοσι remains as support for the ϝ. Of course, this may be replaced by ἀν' ἐεικ-, but that is arbitrary; we shall be concerned here with a recent verse (perhaps a modernization of a (formular?) ἀν' ἐεικ-).

It seems to me justifiable to conclude that in Homer ἐϝεικ- is the old form, and

εἰκ- the more recent (β 355 ε 244; ε 34; Λ 25 π 249; ? ι 209), which was introduced in a few old formulae (ἤλυθ' ἐεικ-, καὶ ἐεικ-, ? ἀν' ἐεικ-).

It now therefore seems probable that all forms of the Eastern dialects go back to *ἐϝῑκοσι (which is what Frisk argues against Chantraine). Boeot. ϝίκατι, Thess. ἴκατι, Pamph. φίκατι are borrowed from West Greek dialects, which also emerges from -τι (not -σι). Against this we have Dor. etc. ϝίκατι, which corresponds to Av. *vīsaiti*, Lat. *vīginti*. It thus remains uncertain whether these forms go back to **ḫ₁u̯īk-*; in West Greek the laryngeal would not have been vocalized in that case. If this is correct, the reconstruction **du̯ik-* no longer applies; even if it is assumed that the *d* disappeared back in the proto-language, this cannot be combined with **ḫ₁u̯īk-*. Comparison with ἑ- of ἑκατόν is incorrect, since here the same form is found in Doric too.

εἰλέω. Everything in Homer points to ϝ; cf. Cret. καταϝελμένος and the widespread stem **u̯el-*, WP i. 295f. There is only one form with 'prothetic vowel' in Homer, Φ 295. One could read ϝέλσαι here instead of ἑέλσαι, but the whole passage is definitely late. Compare the strange use of Ἰλιόφιν in the same verse; cf. Leaf *ad loc.* It therefore does not seem impossible that the form has been created by analogy with (ἐ)έλδομαι (ἐ)έλπομαι (and perhaps also under the influence of the perfect ἔελμαι). Cf. Chantraine, *Gr. Hom.*, p. 130 and 181 (but εἰλίσσω can stand for ἑλίσσω by analogy with εἰλέω: Frisk s.v. ἕλιξ). Nor does Att. εἴλλω seem adequate for assuming a prothetic vowel. The picture becomes even more complicated with εἰλύω. Here the perfect εἴλῡμαι < ϝε-ϝλῡ- may have played an important part. The impression is gained that the form εἰλ- has spread further from this. Cf. Frisk s.v. and Chantraine, *Gr. Hom.*, pp. 131f.

εἴλη ἕλη (Ar.) 'heat of the sun' is connected with **su̯el-* in Lith. *svìlti* (no disyllabic root, Fraenkel s.v.), OE *swelan* etc. The form *ϝελα is found in Hsch. βέλα· ἥλιος, καὶ αὐγή, ὑπὸ Λακώνων. Εἴλη is explained by *ἐ-ϝhελα. Must one assume **ḫ₁su̯el-* beside **su̯el-*? Cf. p. 85f. One is inclined to connect ἀλέη (since ρ 23) with the preceding forms on account of its identical meaning. It is, however, difficult to derive ἀλέη from **su̯el-* (**su̯ₑl-* ?). The forms discussed here cannot be cognate with ἥλιος, which is based on **seḫ₂u̯el-*, if only on account of the *ḫ₂*.

εἴργω. It appears that Homer has forms of ἐργ- beside ἐεργ-. For Attic see below. Forms without prothetic vowel have been assured for Doric by Heracl. ἐφέρξοντι, συνηέρξοντι, where the aspiration is difficult to assess (Buck, *Gr. Diall.*, p. 54).

If we study the forms in Homer, we find that the present stem ἐεργ- occurs 19× (including compounds with ἀν-, ἀπ-, δι-, προ-, συν-, the lengthened stem ἐεργαθ- and finally ἐεργνυ-) as against ἐργ- 5×. Of these, P 571 | ἥ τε καὶ ἐργομένη has a varia lectio ἥτε ἐεργομένη, while Heyne reads ἡ καὶ ἐεργομένη (as does Leaf). In Λ 437 χρόα ἔργαθεν Leaf reads χρο' ἐέργαθεν. In addition one finds ἀποέργει twice (Θ 325 γ 296), and ἀποέργαθε once (Φ 599), where one may suspect ἀπεεργ-. It therefore seems probable that the present stem was originally only ἐεργ-. The isolated form

(τῆλέ με) εἴργουσι Ψ 72 could go back to μ' ἐέργουσι (Bentley) and the strange ἐρχατόωντο (ξ 15; *infra*) is in my opinion of no value to this discussion. On the other hand the aorist has ἔρξαν ξ 411 and ἔρχθεντ' Φ 282 and the perfect ἔρχαται. The explanation of these forms is difficult.

ἔρχαται. The forms ἔρχαται (Π 481 κ 283), ἔρχατο (P 354 ι 221 ξ 73), ἐέρχατο (κ 241) present many problems. Chantraine describes the forms as not old, in view of their *e*-vocalism. They belong (if from ἐέργω) to the small group of aspirated perfects (in 3 pl.) in Homer (Chantr., p. 434; Schwyzer, p. 771: τετράφαται, ὀρωρέχαται, ἐπώιχατο). None of the six places calls for ϝ (for ξ 73 see Chantraine, *Gr. Hom.*, p. 136). ϝ is impossible in Π 481 and κ 241; the context does not recommend the replacement of γάρ by δέ in P 354. Ἐέρχατο is regarded as reduplication ϝε-ϝ-. But in this place (κ 241, the only time that it occurs), a ϝ cannot be read. In addition, ἔρχαται is said to have been created by metanalysis of ἐέρχατο as augment form (this is, for instance, the view of Leumann, *Hom. W.*, p. 179f.). I do not believe that this is correct. The absence of ϝ, and likewise the absence of prothetic vowel, does not point to this being cognate with ἐέργω (cf. the doubt in Chantraine, *Gr. Hom.*, p. 136: "On a l'habitude de rattacher à ce verbe..."). A stem **sergh-* may be suspected. Cf. also ἔρχατος. It could be connected with Lith. *sérgmi* and *sérgiu sérgeti* 'to guard' (this is the opinion of Fick, *Vgl. Wb.*⁴ I 562), and ἐέργω on the other hand with Lith. *veržiù* 'einengen, schnüren, pressen', see WP i. 272 *u̯erĝh-*.

ἐεργμένος. The perfect participle ἐεργμένος occurs at two places only. E 89 τὸν δ' οὔτ' ἄρ τε γέφυραι ἐεργμέναι ἰσχανόωσι, where there is a varia lectio ἐερμέναι. The meaning is not entirely clear. ϝ- (ϝεϝεργ-) is impossible. The phonetic correspondence with M 38 is striking, νηυσὶν ἐπὶ γλαφυρῇσιν ἐελμένοι ἰσχανόωντο, where there is a varia lectio ἐεργμένοι.

ἔρξαν. There are two aorist forms, ἔρξαν ξ 411 and ἔρχθεντ' Φ 282 (in the same passage, 295, the suspect ἐέλσαι appears). For ἄρᾱ ϝέρξαν see p. 81.

The Attic material (Solmsen, *Unters.*, pp. 221-4) gives the same picture: εἰργ- predominates strongly, ἐργ- several times only in the aorist and ἄφερκτος (A. *Ch.* 445). Aspiration is found in non-present forms (also with ἐργ- in the aorist), but no aspiration in the present (this is based on the interchange ἀπ-/ἀφ-, κατ-/καθ-). In my opinion this points, with Homer, to ἐεργ- in the present, and ἐρξ-, ἐρχ- outside it, i.e. **ḫ₁u̯erg-* and **sergh-*. However, the material does not allow of a definite conclusion. If in fact two different forms are the basis, they were evidently associated at an early stage.

εἶρερον is not definitely interpreted; from *ϝερϝερον Frisk, with semantic parallels.

ἐέλδομαι has in Homer prothetic vowel seventeen times, as against three forms without: E 481 ψ 6 (τά τ' ἔλδε(τ)αι to be corrected into τὰ (ϝ)έλδε(τ)αι?) and Ψ 122 ἐλδόμεναι at the beginning of the verse. In addition only ἐέλδωρ occurs in Homer (10×), and ἔλδωρ solely in Herodianus and Hesychius. One is therefore inclined to regard the forms without ἐ- as secondary; however, the cases mentioned cannot be

corrected (in Ψ 122 there is a varia lectio ἑλκόμεναι, to which, however, there are objections; v. Leaf). See the following.

ἐέλπομαι occurs beside ἔλπομαι in Homer, but elsewhere one finds only forms without prothetic vowel, and likewise ἔλπω (in Homer only β 91 = ν 380 (| πάντας μέν ῥ' ἔλπει) and ἐλπίζω. Of ἐλπίς (Hom. only τ 84 = π 101 ἔτι γὰρ καὶ ἐλπίδος αἶσα) no by-form is known. Further Homer has ἐλπωρή (4×) and the proper name Ἐλπήνωρ (Od.). The old perfect ἔολπα < *ϝε-ϝολπ- does not suggest prothetic vowel (one would expect Attic reduplication, *ἐϝήϝολπα). In ἀελπής (ε 408) and ἀελπτέω (H 310), too, there is no evidence of prothetic vowel. In the forms of (ἐ)έλπομαι the ratio is the opposite of that of (ἐ)έλδομαι: 46 to 8 with prothetic vowel (sc. Θ 196 K 105 M 407 N 8.609.813 P 488 ψ 345; N 8 τιν' ἐέλπετο not to be replaced by τινα ἔλπετο). Twice the formula θυμὸς ἐέλπεται occurs, M 407 N 813. Apart from ψ 345 (the only place in the *Odyssey*), Ὀδυσῆα ἐέλπετο (with hiatus), ϝ- can be read everywhere for ἐ- (which does not mean to say that this has to be done). For K 105 M 407 N 813 there is a varia lectio ἐελδ-. (That K 105 is recent is evidenced by the fact that the νυν preceding ἐέλπεται has a short vowel, which only occurs further in Homer in Ψ 485; Ruijgh, *L'élém. ach.*, p. 64.) See Add.

When the last two groups are considered, one has the impression that ἐέλδομαι originally did have a prothetic vowel and ἔλπομαι did not. Both the semantic and the great formal correspondence caused the two verbs to influence one another. This explains the three forms with ἐλδ- (in the epic and Pi. *O.* 1.4, apart from ἔλδωρ in Herodianus and Hesychius) and the forms with ἐελπ- (only in the epic).

ἔέρση has a wide variety of forms. Homer has only ἐέρση, but beside ἐερσήεις (Ω 429) also ἐρσήεις in Ξ 348 (λωτόν θ' ἐρσήεντα) and Ω 757 (νῦν δέ μοι ἐρσήεις). In ι 222 (χωρὶς δ' αὖθ' ἔρσαι) ϝ is not possible; this confirms that this word, perhaps 'young lambs', is not ἐέρση used figuratively (A. *Ag.* 141 δρόσοι may be based on incorrect interpretation of this place). It is clear that ἔρση indicates an age category here, just as there are many separate names for animals in their early years. One also finds ἐέρσα Sappho 73(a)9 LP., ⟨ἐ⟩έρσα ead. 96.12, ἔερσα Pi. *N.* 3.78. Then ἄερσαν· τὴν δρόσον. Κρῆτες Hsch. and ἀέρσην Posidipp. (P. Lit. Lond. 60); finally ἔρσα Alcm. 57 Page (ap. Plut., Διὸς θυγάτηρ Ἔρσα), ἔρσα Theocr. 20.16, but ἐέρσα 2.107. The form ἐρσ- in ἐρσώδης (Thphr.), and further only in Hsch. ἐρσαῖα beside ἐρρήεντα (with Att. ρρ).

It may be wondered whether the rarely occurring ἔρση does not in part go back to an incorrect interpretation of ι 222. If one starts from **ḫ₁u̯ers-*, beside Skt. *varṣám* 'rain', the connection with οὐρέω becomes difficult, but cf. p. 76. The word was evidently replaced at an early date by δρόσος (since A., Pi., Hdt., still in New Greek).

ἑστία has nothing that suggests prothetic vowel.

εὔληρα Ψ 481 beside αὔληρα Epich. 178, ἀβληρά· ἡνία Hsch. can hardly be explained by **ḫu̯lēr-*, since in that case one would rather expect **ḫulēr-*, which would have given *ὑλην-. The connection with εἰλέω is difficult, since this word has no prothetic vowel. The link with Arm. *lar* 'bond, rope' is doubtful for the same reason.

It must be asked whether we are in fact concerned here with a prothetic vowel: in structure this case differs from most — if not all — other cases to the extent that it has prothetic vowel before two sonants instead of before one. The word could be of non-IE origin; cf. s.v. ἄλοξ p. 40.

εὑρίσκω may be interpreted along with Frisk as reduplicated aorist.

εὐρύς beside Skt. *urú-*, Av. *vouru-*, may be based on metathesis of *ϝερυ-. A laryngeal gives the same difficulty as in εὔληρα (possibly **ḫ₁u̯ru-* > εὐρυ-). Add.

1. ἕως, Ion. ἠώς, Dor. ἀϝώς from **āusōs*, Lat. *aurora*, must be based on **ēḫ₂-u-s-ōs* (or **ḫ₂ēus-ōs*); it is not probable that the *u* is consonantal, **eḫ₂u̯sōs*. The zero grade **ḫ₂us-* in Skt. *uṣás*. There can be no question of prothetic vowel.

Mention should also be made here of a form not found under ἐ- (Chantraine, *Gr. Hom.*, p. 144 and 182 Add.):

ἴσος, Boeot. ϝισϝος, Hsch. γίσγον· ἴσον. This has a form in Homer with apparent prothetic vowel; this is the opinion of Chantraine l.c., for instance. However, there are various indications that this is not a real but only an artificial form from the epic language. Outside Homer there is no indication of prothetic vowel (for Mycenaean see below). All derivations in Homer have ἰσο- (-θεος 14×, -μορος, -ομαι, -πεδον, -φαρίζω 4×, -φόρος). The ratio of prothetic vowel to none is 53× : 55× (with in addition ἴσον 9× and ἴσα 8× as adverbs). This seems a practically equal distribution, but at closer sight the prothetic vowel proves to occur only in the feminine, at the end of the verse (with one exception) and in a number of fixed formulae. It occurs only with ναῦς (19×), ἀσπίς (17×), δαίς (13×), φρένας (3×) and in one separate case. One finds:

I. 5× νηὸς ἐίσης
2× νῆες ἔἴσαι
11× νῆας ἐίσας
1× νηυσὶν ἐίσῃς (δ 578)
II. 14× ἀσπίδα πάντοσ' ἐίσην (all Il.)
1× ἀσπίδι πάντοσ' ἐίσῃ (N 405)
2× ἀσπίδα... πάντοσ' ἐίσην (M 294 ~ Φ 581)
III. 10× δαιτὸς ἐίσης[22]
1× δαιτὸς ἐίσης not at the end of the verse (I 225)
1× δαιτὸς... ἐίσης (θ 98)
1× δαῖτας ἐίσας (λ 185)
IV. 3× φρένας ἔνδον ἐίσας (ξ 178 λ 337 = σ 249)
V. 1× σταφύλῃ ἐπὶ νῶτον ἐίσας (B 765)

In addition χ 128 has a varia lectio ἐντὸς (ἔνδον) ἔἴσαι (for εὖ ἀραρυῖαι).[23]

[22] δαίνυντ', οὐδέ τι θυμὸς ἐδεύετο δαιτὸς ἐίσης in A 468. 602 B 431 H 320 Ψ 56 π 479 τ 425; cf. οὐ γάρ μοί ποτε βωμὸς ἐδεύετο δαιτὸς ἐίσης Δ 48 Ω 69; further only O 95.

[23] This version is generally ignored, although it may well be the oldest. True, it is not evident what the exact meaning is, but there are other obscurities in this technical passage. Εὖ ἀραρυῖαι seems a — rather flat — replacement for solving this difficulty, while it is not clear where the version ἐντὸς

In cases I, III, IV (V) the ἐ- may be omitted, which, however, gives spondean verses. In II this is impossible, but here an original πάντοσε ϝίσην is self-evident (so others, e.g. Ebeling, *Lex.* s.v. ἐίση); cf. A 163 σοί ποτε (ϝ)ἴσον (not at the end of the verse). In this way it seems probable that ἐίση has come into being by metanalysis[24] of cases like πάντοσε ϝίσην, after which this form was used to avoid spondees in the fifth foot in existing formulae (I, III). This was followed by a somewhat freer use, which in this perhaps unique case can be followed step by step (separation, not used at the end of the verse, νηυσὶν ἐίσῃς δ 578, of horses B 765), but at first always with the same words and at the same place in the verse. Only in this way is this strange form comprehensible, in my opinion. See Add.

The Mycenaean material gives nothing but difficulties. One finds *wisowopaṇa* PY Sh 740, *Docs.* p. 378 f., 412. The first part could be *wiswo-*, ἰσο-; the second part is unknown (description of plates of a corslet). However, one also finds *ewisuzoko* KN Se 1007. 1008 and *ewisu*79ko* PY Va 404+, *Docs.* p. 348, 394, in which *ewisu-* *εϝισυ- has been sought, parallel to στενύ- (κληρος) beside *στενϝος etc. (it is not permitted to identify the second part with ζυγόν). This interpretation, however, must be incorrect.[25]

Conclusion. — Prothetic vowel seems plausible in ἔεδνα ἐείκοσι/εἴκοσι ἐέργω/εἴργω ἐέλδομαι ἐέρση. Εἴλη εὔληρα εὐρύς are uncertain. For a general discussion of the prothetic vowel before ϝ (and εϝ in particular) see the general conclusions, p. 76 ff.

s. *Survey of the Material for the Prothetic Vowel*

In general it is of course possible that words with prothetic vowels have not been included in the preceding lists because they have no reliable etymology; in addition words with 'prothetic vowel' may also have been preserved in compounds which have not been found in this way. On the other hand it is possible that prothetic vowel has been incorrectly assumed; in particular non-IE words may have been included which are irrelevant to our problem. And yet the majority of the material will have been collected here and it seems justified to base a conclusion on this.

Two words that were found elsewhere may be mentioned here.

*ἄπελος in ὀλιγηπελέων stands beside OIcel. *afl*, OE *afol* 'force' as **ḫ₂pel-* beside **ḫ₂epl-*.

ἠμεκτεῖ· δυσφορεῖ Hsch., περιημεκτέω, may have a stem *ἀμεκ-τ- or *ἐμεκ-τ-

ἔϊσαι would have come from: lectio difficilior potior. Formally, the resemblance with πάντοσ' ἐίσην is striking; for ἔνδον cf. IV *supra* (where it may be remarked that this exactly agrees with the structure of II, unlike I and III). There is no indication of an original ἔνδοθε (ἔντοθε) ϝἴσαι.

[24] Perhaps influence was exerted by the frequent ἐντὸς ἐεργ- (-ει, -ε(ν), -ον; B 617. 845 I 404 Σ 512 X 121 Ω 544 η 88); in addition ἐκτὸς ἔεργε μ 219. Cf. in particular ὕψοσ' ἔεργε Ξ 349. All these locutions are at the end of the verse. Cf. finally ἄψ ἐπὶ νῆας ἔεργε Π 395 (not at the end of the verse).

[25] Ruijgh, *Etudes*, p. 361, suggests reading *ewisu-* as *ἠϝισυ-, which he thinks developed by assimilation in *ἠμισερος. He compares ϝέδιμνος, which would have developed by *dis*similation from μέδιμνος. However, the interchange *u̯/m* here points more towards a substratum word, cf. p. 129, n. 57. Consequently, Ruijgh's interpretation does not seem likely to me.

as basis. However, composition with α-privative may also be considered. Frisk, II 513, is of a different opinion.

A prothetic vowel is perhaps also found in Myc. *ewepesesomena*. The text, MY Oe 127, reads: *pawea₂ ewepesesomena* WOOL 20. The first word, *pharweha*, φάρεα 'cloaks', is clear. The second word is derived by Palmer, *BICS* 2.44, from *ὐ (Cypr., = ἐπί) and ἔπω. However, there is now no longer an adequate foundation for this form *ὐ; see Risch, *Kratylos* 10 (1965) 92. Another explanation is that of εὖ ἐψησόμενα 'to be well boiled' (*Docs.*, p. 322). However, there are a number of objections to this. In the first place εὖ- is always spelt *e-u-*; for the assumed *ewakoro* instead of *euwakoro* see Ruijgh, *Etudes*, p. 360. (Whatever the etymology of εὖ- may be, the fact that it is often disyllabic in Homer makes it certain that it was so in Mycenaean too.) Further, the spelling *-we-* is in conflict with the aspiration of ἕψω: if this is old, then the *h* ought still to be present in Mycenaean, and one would expect the spelling **e-u-e-pe-*. Finally, the interpretation of the tablet as a whole is rather strange. The translation (*Docs.*) 'woollen cloaks to be well boiled' seems incorrect to me. For one would expect the ideogram for 'cloak' (*159), not that for 'wool' (*145); one finds this (*159) for instance in KN L 870, with the adjective *werweha* 'woollen'. Moreover, it seems dubious that it would be noted on these tablets that they had to go to the laundry (an attempt at another interpretation in *Docs.*), while here εὖ- too appears rather naive. (True, φᾶρος ἐυπλυνὲς is found in 9 392.425 ν 67 π 173, but these are not palace records.)

I would suggest that the word be interpreted as *ewepsēsomena* 'that must be woven', with *eweps-* from **ḫ₁webh-s-*. This root, which occurs in classical Greek only in the form ὑφ-(αίνω) (i.e. **ḫ₁ubh-*), is known in the full grade from Germanic, ON *vefa*, OHG *weban*. That this root had a laryngeal as first phoneme is perhaps demonstrated by the following reasoning. A nasal present from this root lives on in Skt. *unábdhi* and *umbháti*, which in the first instance point to **u-n-ebh-*/*u-n-bh-*. Now the nasal presents almost always have two phonemes in front of the *n*, so that these forms suggest **ḫu-n-(e)bh-*. (Cf. *inddhe* < **ḫ₂i-n-dh-* on account of αἴθω (**ḫ₂eidh-*); *unátti* 'to wetten' < **ḫ₁u-n-ed-*, if the root is cognate with ἐϝέρση < **ḫ₁u̯-er-*. It may be mentioned *en passant* that in that case ὑδ-(ωρ) would go back to **ḫ₁ud-*; that the *ḫ₁* has been lost in Hitt. *u̯atar* is in accordance with other data.)

If the root is *au-* (**ḫ₂eu-*), as the manuals usually state, the supposition ceases to apply. However, this reconstruction is not very reliable; it seems to be based almost entirely on Arm. *aud-* 'shoe', *z-aud* 'ribbon' (WP, p. 16), a by no means evident connection.

The enlargement *s* has no parallel in the other languages for this root, but cf. ἀέξω < **ḫ₂u̯eg-s-*, ἀλέξω < **ḫ₂lek-s-* (with fut. ἀλεξησ-, *Il.*).

The — obvious — combination of the two words is found in Homer only in ν 108 φάρε' ὑφαίνουσιν ἁλιπόρφυρα, θαῦμα ἰδέσθαι.

In my opinion this interpretation explains the use of the ideogram 'wool' with the word *pharweha* (in fact: 'wool to weave cloaks from').

A survey follows of the forms in which prothetic vowel was assumed.

	α	ε	ο
ρ	Ἄρεπυια	ἔρεβος	ὀρέγω
	ἀρήγω	ἐρείκω	ὀρίνω
	? Ἀρέθουσα	ἐρείπω	ὀρούω
	? ἀριθμός	ἐρέπτομαι	ὀρύσσω
		ἐρεύγομαι	? ὀρεχθέω
		ἐρεύθω	
		ἐρευνάω	
		ἐρέφω	
		ἐρέχθω	
		ἐρωή (2× ?)	
		? ἐρέθω	
		? ἐρείδω	
		? ἐρῆμος	
λ	ἀλέγω	ἐλαφρός	ὀλιβρόν
	ἀλείτης	ἐλαχύς	ὀλίγος
	ἀλέξω	ἐλέγχω	ὀλισθάνω
	ἀλέ(ϝ)ομαι	ἔλεος	
	? ἀλείφω	ἐλεύθερος	
	? ἀλίνω	ἐλεύσομαι	
	? ἀλώπηξ	? ἐλήλακα	
μ	ἁμαρτάνω		ὀμείχω
	ἀμέλγω		ὀμίχλη
	ἀμέλδω[26]		ὀμόργνυμι
	? ἀμαλδύνω		
	? ἀμείβω		
	? ἀμέργω		
	? ἀμέρδω		
	? ἄμητος		
	? ἀμολγός		
ν	ἀνεψιός	ἐννέα	ὄνᾶσις
	ἀνήρ	-ηνεκής	ὄνειδος
		? ἐνήνοθε	ὄνειρος
			ὄνυξ
ϝ	ἀείδω	ἔεδνα	οἴγνυμι
	ἀείρω	ἐείκοσι	? ὄἶομαι
	ἀέξω	ἐέλδομαι	

[26] See s.v. ἀμαλδύνω, p. 42.

	ἄεσα	ἐέργω	
	ἀηδών	ἐέρση	
	ἄημι	? εἴλη	
	? ἄεθλος		
	? ἀέλιοι		
	? αἰσθάνομαι		
κ	ἀκούω		
γ	ἀγείρω	ἐγείρω	
	? ἀγοστός		
π	*ἄπελος		
	? ἀπειλή		
φ	? ἄφενος		ὀφέλλω (2×)
			ὀφρῦς
			? ὀφείλω
δ			? ὀδών
ϑ	? ἀϑέλγω	? ἔϑειραι	
		? ἐϑείρω	
		? ἐϑέλω	
σ	ἀστήρ	? ἐυ-	
	? ἀσφάραγος		

	α	ε	ο	tot.	tot.
ρ	2 (2)	10 (3)	4 (1)	16 (6)	22
λ	4 (3)	6 (1)	3	13 (4)	17
μ	3 (6)		3	6 (6)	12
ν	2	2 (1)	4	8 (1)	9
ϝ	6 (3)	5 (1)	1 (1)	12 (5)	17
occl.	3 (4)	1 (3)	3 (2)	7 (9)	16
σ	1 (1)	(1)		1 (2)	3
tot.	21 (19)	24 (10)	18 (4)	63 (33)	96
tot.	40	34	22	96	

3. Conclusions

a. *The Consonant before which the Prothetic Vowel stands*

The first thing that attracts attention is that the prothetic vowel is much more frequent with sonants than with other consonants. Otherwise there seems to have been no limitation, since the occlusives occurring represent all categories:

κ	γ	-
π	-	φ
-	δ	ϑ

For the absence of the *i̯* see p. 95 ff.

b. *The Timbre not exclusively* a

Feder,[27] Harl,[28] Winter, Georgiev, Carnoy, Seiler, Austin[29] and Adrados regard only *a* as the original timbre of the prothetic vowel; the same idea was also recently expressed by Szemerényi, *Syncope*, p. 205: "(IE **rep-* developed a) prothetic vowel which, as is normally the case, was α" (based on Schwyzer, p. 412).

It seems to me that this idea is disproved by the facts. A glance at the survey of the material is enough to make it evident that all three vowels are well represented. It would be misleading to work with percentages here, as the material is too scanty for that and the classification into more or less probable is not a strict one and therefore cannot be binding.[30] But the total number of cases of α is certainly not so much greater that it is justifiable to regard *a* as the original timbre. The number of 'certain' cases of α (21) is in fact less than that of ε (24). However, the idea of the 'original α' dies hard.

For ε and ο assimilation or influence of the following consonant is assumed when starting from the idea that α is original. However, assimilation is uncommon in Greek. The material has been studied by J. Schmidt, *KZ* 32 (1893) 321-94; the cases are given in Schwyzer, p. 255 f., including various ones which are dubious. Cf. Buck, *Gr. Diall.*, p. 43 f., Lejeune, *Traité*, p. 208, and cf. his index p. 348. There is even less evidence of influence of consonants on vocalism; Lejeune, *Traité*, pp. 209 f. Thus Adrados posits that before μ and ν one almost always finds ο. Whilst in the definite cases one can speak of a certain preponderance of ο, ἀμέλγω, ἀνήρ and ἐνεγκεῖν (-ηνεκής) are enough to guarantee the existence of the other vowels. Moreover, it is quite possible that several of the less certain cases of αμ do have a prothetic vowel. But the principal objection is that in four cases against two (ον : αν) one cannot speak of preponderance on account of the small number (let alone in three against three, ομ : αμ). One can say no more than that with ρ the ε is very frequent and that on the other hand no case is known of εμ.

The possibility of assimilation cannot, of course, be denied. For instance, I can explain ὀροφή : ἐρέφω only by assimilation (see below). It may be true that with prothetic vowel ε the stem usually has ε (but ἐρωή, ἐλαφρός, ἐλαχύς; ἐρυθρός etc.);

[27] Unprinted thesis (Vienna) of 1920 (?), quoted by Harl.
[28] *KZ* 63 (1936), 1-28.
[29] *Lg.* 17 (1941), 83-93.
[30] Ruijgh, *L'élém. ach.*, p. 20, points to the dangers of this in a survey of the occurrence of ἀτάρ in Aristophanes. In works with about the same number of verses as Pax (1359) and Lysistrata (1320) a difference of frequency of 1 against 2 would give an average of 1 in 1359 or 1 out of 660 verses. These figures have, of course, no value.

opposed to this is the fact that in the same case α often occurs. It should also be borne in mind that *e*-vocalism in the stem is after all the most frequent case. There is hardly any evidence of correspondence between prothetic vowel ο and *o*-vocalism in the stem (ὀρούω, ὀμόργνυμι).

With regard to the timbre of the prothetic vowel before ϝ, Solmsen, *Unters.*, p. 266, says: "In wahrheit wissen wir ja gar nichts darüber, von welchen bedingungen es abhing ob der stimmton, der vor der artikulation des u̯ angeschlagen wurde, sich zu ε oder α gestaltete".

Consequently practically nothing may be perceived of influence of the following phonemes on the timbre of the prothetic vowel, so that we are obliged to admit that the prothetic vowel could be ε or ο as well as α.

c. *The Timbre Constant*

Another question is whether prothetic vowels of different timbre could occur with one and the same stem. There are a number of cases that suggest this. They will be discussed here.

Connecting ἀμέργω 'to pluck' with ὀμόργνυμι 'to wipe off' should be abandoned on account of the difference in meaning. Ἀμιχθαλόεσσα can best be connected with ἀμυγδάλη instead of with ὀμίχλη. The interchange ι/υ and χϑ/γδ in that case points to a non-IE substratum language (see Leumann, *Hom. W.*, p. 214 n. 8). It does not seem correct to connect ἀρεπυια with ἐρέπτομαι, p. 35.

Assimilation must be assumed in a number of cases. Mention has already been made above of ἐρέφω: ὀροφή (Od.), ὄροφος (Orac. ap. Hdt. 7.140), ὑψόροφος (Il.) as against ὑψ-ε/ηρεφής (Il.), of which the second syllable evidently has another apophonic phase, i.e. **ḫ₁robh-* > **ἐροφ-* > ὀροφ-. For ὀδύνη from **ἐδύνη* (which probably does not have a prothetic vowel) assimilation is probable. Ὀδών may therefore also be explained from **ἐδών*. In a case like ελετρυϝονα (Schwyzer, p. 256) too, nobody will assume another prothesis.

A few cases more difficult to interpret remain. For instance, beside ὀμείχω one finds in Hesychius ἀμῖξαι· οὐρῆσαι ἢ ἠχῆσαι (ἐκχύσαι Latte) ἢ ὄμιξαι, whilst μοιχός is also connected by some with it. This recalls the interchange to be discussed below in non-IE words, although ὀμείχω is definitely IE. Is it to be ascribed to a less civilized linguistic stratum? On account of its meaning the word may have been subject to expressive transformation. Cf. Frisk I 449 on ἔϑρις ἄϑρις ὄϑρις ἴϑρις (likewise definitely IE, while ablaut is not probable). Possibly comparable with ὀμείχω — ἀμῖξαι is ὄνειρος — Cret. ἄναιρον, for which assimilation may also be considered (cf. Ἀνασίφορον — Ὀν- Schwyzer, p. 255; *ibid.*, p. 256 otherwise on ἄναιρον: influence of the preposition ἀνά). There are, however, still other cases in which α is found beside other prothetic vowel: ἐέρση — ἄερσαν· τὴν δρόσον. Κρῆτες Hsch. (i.e. Cretan, as ἄναιρον); further perhaps ἀέλιοι — εἰλίονες, if **ḫ₁u̯el-*. Here one could therefore assume a development to α of all laryngeals in Western Greek. See for this p. 260 f.

In non-IE words which have evidently been borrowed from a substratum language an interchange may be pointed to, besides which forms without prothetic vowel also occur (cf. for this the following section): ἄστλιγξ — ὄστλιγξ, ἀσταφίς — ὀσταφίς — σταφίς (σταφυλή), ἀκορνός — ὀκορνός — κόρνοψ, ἀτρυγηφάγου — ὀτρυγηφάγος — τρύγη. I am not aware of cases of this kind with ε, unless Ἐρίων Ἀρίων Ὀρίϝων (Schwyzer, p. 521 n. 3) belongs here. Compare with this the interchange ο/α in for instance μολόχη μολάχη μαλάχη.

Some questions thus remain unanswered here. However, the cases mentioned do not seem adequate to me for assuming an arbitrary interchange α/ε/ο in the prothesis with IE inherited words. In my opinion the very comparison with the non-IE forms demonstrates that. I therefore consider it justified to conclude that the prothetic vowel had a fixed timbre, either α, or ε, or ο.

d. *The Prothesis Constant*

For prothetic vowel before ϝ see p. 76 ff.

The immediately following question is whether there is an interchange of forms with and without prothetic vowel. More examples are given of this, but they are scarcely more convincing than those in the preceding section.

In the first place there is a large group with (ἀ)σ*C*-, which seem to be non-IE: (ἀ)σπάλαξ (π/φ), (ἀ)σκαλαβώτης, (ἀσ)κάλαφος, (ἀ)σφάραγος, (ἄ)στάχυς, (ἀ)στεροπή (ἀ)στράπτω, ἀσκαλώπᾱς : σκολόπαξ, (ἀ)σταφίς (ὀ-).[31] The following also appear to be non-IE: ἀκορνός (ὀ-): κόρνοψ, ἀτρυγηφάγου (ὀ-): τρύγη, ἀτταγήν : ταγήν, ἀμαρυγή : μαρμαρυγή, ὄβριμος (ὄμβριμος) : βριμός, ἀβρυτοί (ἄμβρυττοι) : βρύττος (σσ), ἀνθρήνη : θρώναξ, ἄνθρωπος : δρώψ. The same applies to ἀγρεῖφνα ἀγρίφη 'harrow' if connected with γριφᾶσθαι· γράφειν. Λάκωνες Hsch.; ὀλόπτω ὀλούφω : λέπω; ἀληνής· μαινόμενος : λῆναι 'Bacchantes' and probably also ὀκιμβάζειν : (σ)κιμβάζειν.

Less clear are words like (ἀ)μαυρός, ἀφαῦρος : φλαῦρος (?); for (ἀ)λαπάζω see p. 80).

Other cases are based on unreliable etymologies, βέλος : ὄβελος (Austin), ἀδαγμός : δάκνω, ἀταλός : τᾶλις (Adrados, p. 347), ἀγανός : γάνος, ἀνήρ : δρώψ. (Ἐ)χθές and (ἐ)νέρθε do not have a prothetic vowel. Θέλω is secondary in respect of ἐθέλω. The connection ἐρωή — ῥώομαι is improbable. That of ἀλείφω with λιπ' also seems incorrect. The form λάχεια (ι 116 κ 509) cannot be automatically identified with ἐλαχύς, as Chantraine, *Gr. Hom.*, p. 183 Add. does; see Frisk. The relation ῥοχθεῖν — ὀρεχθεῖν is also dubious. For ἀμαλδύνω — βλαδύς see p. 42. Ὀλίγος : λοιγός is more difficult. Ὀμείχω : μοιχός is comparable. See for these cases p. 75 f. However, for the form μόρξαντο (Q.S.) of ὀμόργνυμι see Frisk II 390.

Then there are cases in which prothetic vowel stands beside *s* movable. This is discussed in detail on pp. 82 ff. Such a situation is obvious in μέλδομαι 'to (cause to) melt' (Φ 363), OE *meltan*, OIcel. (*s*)*melta*, OHG *smelzan*, beside which Hesychius gives ἀμέλδειν· τήκειν. If the interpretation given on pp. 82 ff. is correct other cases can be explained in this way, for which cases with *s* movable cannot be pointed to. For instance, one finds beside ἀμέρδω 'to rob' in Hesychius μέρδει· κωλύει, βλάπτει and μερθεῖσα· στερηθεῖσα, ἀμερθεῖσα. For the absence of prothetic vowel in Hesychius (and other glossographers) see, however, Latte, *Prolegomena* XXX. Cf. the gloss ἴγνυντο· ἠνοίγοντο Hsch.

Although there are some difficulties here — in my opinion the most serious are μοιχός, λοιγός with perhaps ῥοχθεῖν and in the second place the type μέλδομαι, μέρδειν — compared with the totality of forms with prothetic vowel the material does not seem enough to support the assumption that forms of IE inherited words with and without prothetic vowel occurred side by side without any rule. Another explanation of the forms mentioned will have to be sought. With the Mediterranean words, on the other hand, this possibility certainly existed. Here one could therefore speak with more justice of "prothetic vowels", although of course we know nothing about the origin of the phenomenon within that linguistic system. Here too precisely the comparison with the interchange α/ο/zero in the words of non-IE origin shows that the prothetic vowel is a fixed element in the IE words.

e. *Final Conclusion*

For many years the prothetic vowel, as an element that could be added or not in an unpredictable fashion (hence the name), was used as a *deus ex machina* for the solution of etymological and morphological problems. For instance, this was still done by Chantraine in his *Grammaire Homérique* and by Frisk. Cf. Szemerényi, *Syncope*, p. 112: "in view of the fact that prothesis is undoubtedly found in many cases, there is no pressing need for trying to avoid it (here)". In *Morph.*², pp. 187 f. Chantraine even calls the ἐ- of ἐσκέδασμαι a prothesis. This has in turn contributed to the incorrect concept of the prothetic vowel and on the other hand hampered the solution of the problems for which it was used. An analysis of the material shows that the so-called prothetic vowel in IE inherited words in Greek is a fixed element of fixed timbre, α, ε or ο. As almost always, there are a number of cases that seem to be an exception to the rule, but these are not strong enough to discredit the rule.

As has been clearly stated, this conclusion applies solely to prothesis in IE inherited words. In words of Mediterranean origin, on the other hand, neither the timbre nor the prothesis as such is constant (ἀσταφίς ὀσταφίς σταφίς). It must also be remarked in this connection that in these substratum words no prothetic vowel ε is found, while in the IE 'prothesis' this occupies at least as important a place as α and ο.

This conclusion regarding the nature of the Greek prothetic vowel in IE inherited words is of eminent importance. For the fact that this prothetic vowel forms a fixed element of the root (and therefore the stem), and the fact that it corresponds exactly to a prothetic vowel in Armenian, calls for the conclusion that a separate phoneme of the basic language is reproduced here. The strict opposition of the three

[31] The examples are taken from Kuiper, Μνήμης χάριν.

timbres in Greek suggests three different phonemes. The identification of these three phonemes with the three laryngeals, which were assumed on theoretical grounds, and of which Greek has preserved the opposition elsewhere too, is practically inevitable. One could even, without further support, postulate these three phonemes on the strength of the prothetic vowel alone. For the nature of the phoneme see p. 94 f.

There is no compelling reason to assume that PIE did not have any root beginning with *r-*. Nor is there any reason to assume that PIE *r-* would have been given a prothetic vowel in Greek, as for instance Frisk (s.v. 2. ῥέζω and ῥυκάνη) seems to do.

4. Special Problems

a. Νέφος

Νέφος has acquired a certain fame in this discussion (see for instance Lejeune, *REA* 45 (1943) 133). Kuryłowicz, *Eos* 30.208, already regarded it as a drawback to his explanation of the prothetic vowel. Νέφος has many cognates with the same root form and sometimes the same stem, Skt. *nábhas-*, Av. *nabah-*, OCS *nebo*, Lith. *debesìs*, Hitt. *nepis*. But Skt. *ambhas-* 'water' is also compared with it. The ablaut **nebh-* : **embh-* (*ombh-*?) < **enbh-* is traced back according to Benveniste's scheme to **ĥn-ebh-* : **ĥen-bh-* and for **ĥnebh-* a Greek development **ἄνεφος* (perhaps ἐ- or ὀ-) is expected. However, this reasoning holds good only if one starts from the assumption that every PIE root began with a consonant, which has not been proved; see p. 90 ff. Here **n-ebh-* : **en-bh-* would be possible. Moreover, in view of the meaning, *ambhas-* 'water' : νέφος 'cloud', relationship is by no means certain. Skt. *ambu* 'water' therefore need not belong to νέφος either (Mayrhofer, I 45). Arm. *amb* 'cloud' may come from **n̥bho-*, as also Skt. *abhra-* 'cloud, rainy weather', Av. *awra-* 'cloud, rain', Lat. *imber*. The latter words are often classified with ὄμβρος; Frisk does this, for instance. And yet the sound law *mbh* > μβ is not tenable (cf. the words ἀμφί, ἀστεμφής, γόμφος, νύμφη, ὀμφαλός, ὄμφαξ, ὀμφή, πεμφρηδών, πομφόλυξ, σομφός; for νθ one would then expect νδ, but cf. ἄνθρωπος, ἄνθος, ἴονθος, κάνθαρος, μίνθος, πλίνθος, σμίνθος, σπινθήρ, τενθρηδών, ὄνθος); the examples in Schwyzer, p. 333 β, strongly convey the impression that they are non-IE; this is the case with κορυφή : κόρυμβος, σκιφία : κιμβεία (Frisk s.v. κίμβιξ), ταφεῖν : θάμβος (cf. p. 177), κιθάρα : κινδαψοί, πυθμήν : πύνδαξ; cf. σκινδαρεύεσθαι/σκινθαρίζω (σκανθ-) (for the prenasalization see Introduction, p. 13). This does not necessarily imply that ὄμβρος is non-IE (which Szemerényi assumes without further argumentation, *Syncope*, p. 249), but it does mean that it cannot be considered to be cognate with νέφος or Skt. *abhra-*.

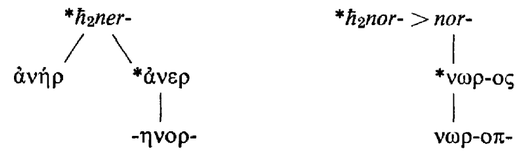
There is consequently no reason to regard νέφος as an objection to the explanation of the prothetic vowel with the aid of the laryngeal theory.

b. *Forms with and without Prothetic Vowel before* o-*Vocalism of the Stem*

In addition to the cases mentioned, ὀλίγος : λοιγός, ὀμείχω : μοιχός, ὀρεχθεῖν : ῥοχθεῖν (?), there is also ἀνήρ : νωρ-; cf. Kuiper, Νώροπι χαλκῷ. As this etymology is of importance to this phenomenon, it is necessary briefly to summarize his argumentation. It is not feasible to translate words like εὐήνωρ, ὑπερηνορέων, when one assumes that they have been composed with ἀνήρ. When comparing ὑπερηνορέων with ὑπερμενής, ὑπερμενέων one is led to assume a substantive **ἀναρ, *ἀνερ* 'vital strength'. For the meaning of the old locution εὐήνορα χαλκόν ('animated by a divine potency') compare ἴς ποταμοῖο, πυρὸς μένος, ἀνέμων μένος, μένος ἠελίοιο (Lucr. *fortis equi vis, vis violenta leonum*). This view is confirmed by Ved. *sūnára-*, Av. *hunara-*, OP *huvnara-* (the length of the *ū* being explained by the laryngeal before the *n*, **h₂ner-*; see p. 93 f.), which also cannot be connected with *nar-* 'man', but must be interpreted as 'full of vital strength'. Other cognates are Ital. *ner-* (cf. *Nerio Martis*) and Lith. *nóras* 'desire, will', which has been compared with Gr. νωρεῖ· ἐνεργεῖ Hsch. (so that therefore **ἀναρ, *ἀνερ* could be represented by ἐνέργεια). This verb has probably been derived from an adjective **νωρος*, preserved in νώροπι. The ending -οψ is evidently in accordance with αἶθοψ, the locution νώροπι χαλκῷ in accordance with (βῆ δὲ διὰ προμάχων κεκορυθμένος) αἴθοπι χαλκῷ (10×), in the first instance Η 206 Π 130 (κορύσσετο) νώροπι χαλκῷ. This therefore replaces an older **νωρον χαλκόν*, which is consequently on a par (semantically) with εὐήνορα χαλκόν. (The article gives numerous supporting details which cannot be listed here.)

It may be immediately established that, as might be conceivable in itself, νώροπι did not develop through a false word division from **ἀνωροπι*, since the gloss νωρεῖ evidently reproduces an independent tradition. Loss of laryngeal in composition (this is discussed in detail on p. 242 f.), if νωρ-οπ- may be regarded as a compound, cannot be considered here either, in view of νωρεῖ.

Comparison of the above cases with ἀνήρ : νώροπι recalls Meillet's idea (*Diall. i.e.*, pp. 68 f.) that laryngeal disappeared when the stem had *o*-vocalism. This is discussed in detail on p. 238 ff. One could adduce εὐήνωρ against this, but this is not relevant. Εὐήνωρ itself cannot go back to **h₁su-h₂nor-*, since this would have given **ἐῦνορ-*. It might be assumed that εὐήνορα is only a modernization of **ἐῦνορα* (perhaps under the influence of the compounds with ἀνήρ), but this does not seem probable, since Greek does not have a single other compound of this type (as opposed to Vedic; *sūnára-* cannot be **h₁su-h₂nor-* either, since this would have become **sūnāra-*; one must therefore start from **h₁su-h₂ner-*). It seems probable that εὐήνωρ has been composed from εὐ + **ἀνερ* (i.e. **ἀνερ* already with Greek vowel α). On the other hand, in **h₂nor-* the laryngeal must have disappeared before it was vocalized. One therefore has the following situation:



In this scheme λοῖσθος 'last' (Ψ 536) would also fit, if it were connected with ὀλισθεῖν; however, since this alternates with a stem **slidh-*, λοῖσθος can also be explained differently (pp. 84 ff.). If ἔέρση goes with Skt. *várṣati*, οὐρέω[32] can go back to **u̯ors-*. But μόλγος (·βόειος ἄσκος Poll.) has nothing to do with ἀμέλγω.

There is not much material to show that the laryngeal was preserved with *o*-vocalism of the stem. Words like ἀλοιφή ἀλοίτης ἀοιδός ὀροφή may have their prothetic vowel through analogy. There remain ἀκούω ἀγοστός ἀμολγός ἐρωή ὀδών (?).

It will be clear that this problem cannot be regarded as solved. In itself it is simple to assume that in these cases the laryngeal was not vocalized, but it should then be stated when this happened and when it did not. I see no possibility of doing so at present. However, I do not believe that the conclusion of p. 73 is affected by these facts. It is not so that in words that are further identical a frequent interchange of forms with and without prothetic vowel occurs, as in those of Mediterranean origin.

c. *Prothetic Vowel before* ϝ

So far the words with prothetic vowel before ϝ have been left out of consideration. It is obvious to expect here the same development as with the other consonants, but the possibility of another development can never be excluded *a priori*. Thus the first thing that attracts attention here is that the parallel with Armenian is broken, ἄεσα: *gom* beside *gorc* : (ϝ)ἔργον, which has no trace of prothetic vowel. Armenian has PIE *u̯* > *g-* and *v-*, but this opposition does not go back to the basic language: "La différence ... tient sans doute à des faits de phonétique syntactique", Meillet, *Esquisse*[2], p. 50 (where, however, it must be borne in mind that Meillet has also ascribed the Greek prothetic vowel to such a cause). There are clear instances of **h₂u̯-* > ἀϝ- and **h₃u̯-* > ὀϝ-. Here no difficulties occur, apart from the gloss ἴγνυντο· ἠνοίγοντο Hsch. and ἄστυ, which some have tried to connect with ἄεσα.

The situation seems more complicated with **h₁u̯-*. There are clear examples of ἐϝ-, ἕεδνα ἐέργω ἐέλδομαι ἐέρση. However, against this is the fact that in Doric ϝίκατι the prothetic vowel seems to be lacking, while the same situation apparently occurs in Dor. *ϝελα : εἵλη, -herξοντι : ἐέργω, where, however, there is a possibility that the Doric form goes back to a synonym with *s-*. If one assumes that *ἐϝῑκ- is based on **h₁u̯īk̑-* — in my opinion the possibility of another origin may not be excluded — dialectally different development should be considered here.

However, the situation becomes different if forms like ἐέρση/ἔρση stand side by side in one dialect. In our Homer text such forms do indeed alternate, but this seems to be confined to Homer. Here various possibilities occur. Firstly it is possible to

[32] And yet this connection seems in no way certain. In the first place it is striking that in ἐέρση the group ρσ has been preserved, and not in οὐρέω. Then the development ρσ > ρ with compensatory lengthening is by no means certain (Schwyzer, p. 285; Lejeune, *Traité*, p. 107; βούλομαι is in my opinion very uncertain; χείρ goes back to **ghesr-*, see for instance Schmitt, *Idg. Dichterspr.*, p. 145 ff.). Must οὐρέω be connected with Hitt. *še-e-ḫur* 'urine', as **soh₁ur-* > οὐρ-? In that case the absence of aspiration is unexplained, but the group οὐ- rarely occurs (only οὗ οὕνεκα οὗτος).

ascribe each of the separate forms to one of the dialects that have contributed their share to the epic language. It is, for instance, conceivable that the forms without prothetic vowel stem from Aeolic; compare ἶρος : ἱερός, infra p. 184 f. One must be prepared for the possibility that in all Greek literature the use of both forms on Homer's authority might be permitted, certainly in the case of words which had disappeared from the living language, so that one should be very careful about interpreting especially one single form in a literary dialect (e.g. in Aeschylus, Pindar, Theocritus). In epic language possible doublets were, of course, gratefully used, both by the original authors and later in order to solve difficulties caused by modernization. If, therefore, forms with and without prothetic vowel occur side by side in Homer, this in no way proves that they belonged to one dialect and that actual interchange therefore occurred.

However, a question which must first be considered is whether such cases are based on reality in the living language. In the discussion of the words in question it has appeared that these doublets are in part artificial ones. For instance, ἐίση is clearly an artificial form, as is ἐεισάμενος, both having developed through a false word division in old formulas. The "Leumann method" (cf. in particular *Hom. W.*, p. 48 ff.) certainly gives the solution here. It should be stressed again that this method must be employed with the greatest caution. Every case should be considered separately.[33] Other cases are less clear. However, it should be borne in mind that the process which can still be demonstrated in the case of the two words mentioned may in other cases have been completed in an earlier stage, so that the two forms in our text of the *Iliad* and *Odyssey* could already have been used interchangeably without distinction. The development of the form ἕδνα in the epic still seems apparent. It is not probable that in Homer a form ἕρση occurs beside ἐέρση.

A starting-point for these artificial doublets may have been the occurrence side by side of ἐέλδομαι and ἔλπομαι and also — later — of εἴκοσι beside ἐείκοσι (infra). It may be wondered whether the interchange of forms with and without augment (ἔειπον : εἶπον) supported this development. The feeling of uncertainty is, of course, enhanced here owing to the fact that in the course of time the ϝ disappeared, so that the ἐε-(< ἐϝε-) that now came into being could be regarded as a repetition of the ἐ- of the stem (κατὰ πλεονασμοῦ τοῦ ε). As a result it became comparable with for instance the diectasis (εει, οω) and the metrical lengthening of the first vowel (ει for ε) and in this way proceeded to form one of the specific peculiarities of the epic language. Cf. Hes. *Th.* 145 ἕεις for εἷς (see West, *ad loc.*), Emp. ἐέδμεναι, *Certamen* 140 ἐειρόμενος (Solmsen, *Unters.*, p. 254).

In my opinion ἐείκοσι/εἴκοσι again forms an entirely different case. Here the second form stems from a later linguistic stage (εἴκοσι < *ἐϝῑκοσι), not from a variant without prothetic vowel (*ϝείκοσι).

[33] For the dangers of the method see the parody given by Ruijgh, *L'élém. ach.*, p. 103: ὀφρῦς from *ὑπὸ φρυσί.

The situation with reference to ἐέργω is so complicated that the historical development can only be guessed at. Here again we have a confused situation which is a linguistic reality, not merely an artificial one from poetic language.

Although a few problems of detail remain here, it does not seem permissible to me to assume an interchange of forms with and without prothetic vowel before ϝ within one dialect.

d. *Austin's Interpretation*

A supposed interchange like ἐέρση : ἔρση has been explained by Austin, *Lg.* 17 (1941) 88-91, as a continuation of laryngeal + shwa secundum and laryngeal alone respectively (in his notation *Hь* : *H*). As a basis for all prothetic vowels he assumes the group *Hь*. For the moment this view may be left out of consideration. The solution which this theory renders possible for the problem dealt with here — assuming that such exists — seems attractive, but there are fundamental objections to it:

(1) it is methodically incorrect to reduce the origin of differing developments within one linguistic group to differences in the proto-language. This requires at least agreement between two languages or linguistic groups, while this in itself need not necessarily go back to an original difference in the basic language.

(2) there is no apparent reason for the difference in formation between **Aьu̯ers-* and **Au̯ers-*; apart from the problematic anlaut, the forms ἐέρση and ἔρση are absolutely identical. It is therefore not probable that there were two different basic forms here.

(3) it does not explain why this phenomenon occurs only before *u̯*. After all, one would also expect the same difference in basic form with the other consonants.

These considerations are enough to drop this explanation. Moreover, cf. p. 94f., where it is demonstrated that the prothetic vowel does not go back to *Hь*. The alternative *Hь* : *H* then disappears.

e. *Spiritus Asper* : *Lenis*

Another question is that of the difference between the two representations of (as it would appear) PIE *u̯*-, which sometimes gives aspiration and sometimes does not. The other languages have nothing that corresponds to this.

It should be stressed that Homer's text is not a reliable starting-point for spiritus asper : lenis; see Chantraine, *Gr. Hom.*, pp. 184-8, in particular 187f., for ἕρξα from ἔρδω, i.e. ἔρδω, where the aspiration was introduced by the grammarians to distinguish it from ἔρξα derived from ἐέργω.

In part the aspiration may have been caused by forms with *s* movable. However, this solution remains hypothetical as long as this *s* is not apparent in one of the other languages.

Nor can the idea expressed by Sommer, *Griech. Lautstud.*, p. 83ff., that spiritus asper appears when *s* stands at the end of the first or the beginning of the second

syllable, be regarded as an adequate explanation. Cf. Schwyzer, p. 226f., and Lejeune, *Traité*, p. 149f.

Attempts have also been made to ascribe the aspiration to the laryngeal, for instance by A. C. Juret, *Phonétique Grecque* (1938), p. 65 (as also Austin in the article discussed in the previous section). Juret assumes that *ḫ₁u̯*- resulted in aspiration. He mentions two cases of this, ὁράω and ἔννυμι.

For ὁράω his conclusion is **ḫ₁u̯er-* on the strength of the perfect with 'Attic reduplication', ἑώρᾱκα. This would have to be explained as **ḫ₁u̯e-ḫ₁u̯or* > *ϝη-ϝορ- > ἑωρ-. But Lejeune, *REA* 45 (1943) 131-49, in particular p. 136, posits against this that ἑόρᾱκα is the older form, ἑώρᾱκα having developed by analogy with the imperfect ἑώρων (from *ἠ-ϝορ-). Ὁράω is usually linked with OHG *wara*, Goth. *wardja*, Lat. *vereor*. For the *u̯* cf. Cypr. *tu-ra-vo-ro-se* 'θυρᾱϝορος'. However, it has not been shown that ὁράω began with *ḫ₁u̯*.

ἔννυμι, Skt. *váste*, is derived as **ḫu̯es-* from a root **ḫeu-* on account of Lith. *aũti* 'to don footwear'. In view of Hitt. *u̯es-* this ought to be *ḫ₁*. Lith. *aũti* then comes from **ou-*, and likewise Lat. *ind-uo* etc., Umbr. *anouihimu*. Arm. *aganim* does not prove *a*-vocalism (Hübschmann, *Arm. Gr.*, p. 411, from **ou-*). However, from **ḫ₁u̯es-* one would expect prothetic vowel in Greek, to which nothing points. This reasoning, like that with reference to νέφος (p. 74), is based on the idea that the IE root could begin only with consonant, an assumption that has not been proved (and in my opinion is not probable); see p. 90ff.. One can start from **eu̯-* : **u̯-es-*.

The two examples are therefore no proof.

In the article quoted above in which he discusses this theory Lejeune suggests that the interchange ἔεδνα/ἔδνα can be explained by means of the laryngeal theory. Here the questions arise that were discussed above (p. 76ff.). Forms like ἰδεῖν : ἵστωρ cannot be explained in this way.

The aspiration that is found in Heraclean (-hερξοντι : ἐέργω) proves little, since this dialect evidently had a secondary extension of aspiration. Cf. Buck, *Gr. Diall.*, p. 54 (cf. ἡισος).

In itself the development *ḫ₁u̯-* > *h-* is conceivable, but clear material would have to be given for it. However, it should be borne in mind that the forms with aspiration from PIE *u̯* are general Greek, while for *ḫ₁u̯-* a development ἐϝ- has been established in some dialects at least. The forms with ἐϝ- would then have to be explained in another way, which is improbable in the context of the problem of the prothetic vowels.

f. "*Laryngeal Reflexes in Homer*", *Austin*

Under this fascinating title Austin, *Lg.* 17 (1941) 83-92, put forward an idea which, strangely enough, found some approval. It was rejected by Messing, *HSCP* 56-7 (1947) 194-6, and Cowgill, p. 119.

Austin posits that sometimes one does not find prothetic vowel where one would expect it, as in νέφος; see p. 76ff.. However, in these cases one sometimes finds

lengthening of the preceding vowel in Homer. According to Austin this is due to the laryngeal, just as the lost *s-* sometimes still makes position. Kuryłowicz, *Eos* 30.208, had already put forward this idea, but he nevertheless did not assume that an old situation had been preserved here.

According to Austin, besides νέφος, the forms λόφος, λαπάρη, λίπος λιπαρός and μαλακός belong to this category. Nikitina, *Voprosy jazykoznanija* 9 (1962) 81-3, adds ἀπōϝέρση and ἄρᾱ ϝέρξαν.

It is difficult to prove this idea, since the phenomenon, even with *sr-*, *sl-* etc., is not constant, Chantraine, *Gr. Hom.*, p. 175-8 (ἔλαβε, ἔλιγε, ἀπολήγει; κατὰ μοῖραν ἔειπες fin.).

It is general knowledge that in the epic this phenomenon has been extended to cases in which *s* movable (and also laryngeal) is excluded (ὑπὸ μήτηρ, δύνατō ϝέπος, *op. cit.*, p. 146). There is thus a solution for the phenomenon which makes the assumption of a second cause superfluous, if not impossible. (This criticism was already made by Adrados, *Estudios*, p. 34 n. 4.)

A more serious objection is the chronological one. While the *s-* in σμ- and the ϝ have here and there still been preserved down to historical times, the disappearance of the laryngeal as independent phoneme seems to have taken place much earlier. In any case it had already assumed in Mycenaean the form later known (*a̯kere, a̯repate, e̯newopeza, e̯reutero*; *ije̯ro, ane̯mo, ere̯ta, rewo̯torokowo*; it is not clear whether *s* before sonant in Mycenaean was still spoken, since the *s-* was not written before other consonants as well (*tatomo* '*stathmos*'), which is a purely graphical matter.

However, the essential point is how we are to conceive of the subdivision of 'prothetic vowel' and 'double consonant'. Originally this is, of course, a sandhi phenomenon: prothetic vowel after consonant, lengthening of preceding vowel. It is conceivable that this relation was preserved in the oldest formulae of the epic (leaving the chronological drawbacks out of consideration), but in that case one would expect forms with and without prothetic vowel from the same stem side by side. However, this is not the case (for λαπάρη : ἀλαπάζω, ἄρᾱ ϝέρξαν : ἐέργω see below). Moreover, one does not find the examples mentioned in old formulae.

These theoretical considerations seem sufficient to me to refute the idea. As regards the examples given, I believe that original laryngeal is plausible for none of them, except perhaps ἄρᾱ ϝέρξαν.

For νέφος see p. 74.

Austin connects λόφος with ἄλφος, Lat. *albus*, which is not probable semantically speaking. Cf. below.

λίπος etc. may in my opinion not be connected with ἀλείφω; see p. 40.

λαπάρη 'side' is connected with λαπαρός 'soft, slack'. The fact that Aeschylus uses λαπάξαι (λαπάσσω 'ἔκκενοῦν' since Hp.) in the same meaning as ἀλαπάζω 'to destroy'[34] does not entitle us to regard the stem of λαπάρη and ἀλαπάζω as

[34] A. *Eu.* 562 λαπαδνόν Musgrave, codd. λέπαδνον, may, if correct, not be surprising in the same author.

identical, as Frisk s.v. ἀλαπάζω seems to do; s.v. λαπαρός he is more sceptical. One has rather the impression that ἀλαπάζω, -αδνός was linked by Aeschylus with λαπαρός and transformed after it. Cf. Ruijgh, *L'élém. ach.*, pp. 74 f. Austin connects λαπαρός with Skt. *álpa-* 'small' (which does not prove a laryngeal), but the cognate forms point in my opinion to *sl-*, see p. 84.

For μαλακός nothing suggests laryngeal.

ἀπōϝέρση, -σειε Φ 283. 329 (ἀπόϝερσε Z 348) has further nothing that points to laryngeal (ἀπ-ηύρα < -η-ϝρα proves nothing; η as augment for ϝ is general). Nikitina's connection with ἀείρω is not obligatory.

ἄρᾱ ϝέρξαν ξ 411 is one of the two aorist forms in Homer of ἐέργω; see s.v. p. 62 f. It is highly implausible that so old a phenomenon, of which it would be the sole example, would have been preserved in so loose a connection (ἄρα).

The cases of lengthening before ρ λ μ ν and a few other consonants have been collected by La Roche, *Hom. Unters.*, p. 46-67. It is striking that such lengthening occurs very often after δέ τε ἰδέ and prepositions and adverbs of two short syllables, διά ἐνί κατά ποτί ὑπό. One of the few formulae is ποσσὶ δ' ὑπὸ λιπαροῖσιν (B 44 K 132 Ξ 186 β 4 δ 309 ν 225 υ 126), while on the other hand in δεινὸν δὲ λόφος καθύπερθεν ἔνευεν (Γ 337 Λ 42 O 481 Π 138 χ 124) λόφος makes no position.

Summarizing, it may be said that there is hardly any argument in favour of this view, whereas there are serious objections and the phenomenon in question can easily be explained in a different way. (In general Austin's article does not contribute to elucidation of the problem. Compared with Kuryłowicz's treatment, it means a step backwards.)

g. *Hammerich's Interpretation*

Reference should also be made to an idea by Hammerich, *Lar. b. Son.*, p. 9-12. This runs as follows. PIE *ħn-*: *n-* : *sn-* became in Greek *ħn-* : *n-* : *hn-*, the last two coinciding, so that an opposition *ħn-* : *n-* remained. Where he finds prothetic vowel in Greek beside forms in other languages with *s* movable, ὀλισθάνω : λεῖμαξ, Russ. *slimák*, he ascribes this to a confusion between *ħl-* and *hl-* in Greek.

There are various objections to this view. Although *hn* would have coincided with *n-*, it could nevertheless be confused with *ħn-*. This is surprising, for in that case one would expect instead that *hn* coincided with *ħn* or that all three had the same reflex.

Moreover, the same question of chronology arises as in the preceding section. In my opinion the development was chronologically as follows: *ħn-* : *n-* : *sn-* > *a/e/on-* : *n-* : *sn-* etc.

Hammerich's following conclusion (p. 11) is stranger and more radical. With *r-* the situation was somewhat different. Here *sr-* > *hr-* was preserved as ῥ-. However, the combination *sr-* was so frequent "that it was necessary for the words with *r-* to keep clear of them. ... there was no choice for the words with *r-*: they had to fuse with the words with *Hr-*". It has still to be demonstrated that *sr-* was much more frequent than *sl-* etc., but even if that were the case, Hammerich's conclusion is by no means

obligatory: it cannot be seen why Charybdis is to be preferred to Scylla. On the strength of this he posits that for instance ἐρυθρός ἐρέφω ἐρέχθω ἐρείπω ὀρύσσω ὀρέγω, although from PIE *r-*, acquired a prothetic vowel.

In this way then he explains on the one hand prothetic vowel beside *s* movable and on the other hand prothetic vowel before PIE *r-*. This is entirely arbitrary. The author does not have the slightest argument for making the developments supposed by him plausible. And (p. 12) "On the other hand the transition of *r-* to *Hr-* was no sound law; there was a choice (but above "there was *no* choice") between two possibilities". This makes the argument as tenuous as that of Adrados (p. 29f).

Such vague assertions characterize Hammerich's whole article. For instance, he explains (p. 31) Lat. *augeo*, Goth. *aukan* and Gr. αὔξω from **ḫ̯u̯eg-*, which also would suggest a form **ḫ̯u̯eg-* and thus a prothetic vowel in Latin etc. too It is not feasible and also unnecessary to discuss all his considerations.

5. Laryngeal and *s* Movable

a. The Theories of Hoenigswald and Nikitina

Hoenigswald wrote an article under the title *Laryngeal and* s *Movable*, *Lg.* 28 (1952) 182-5, which may be of importance here. The hypothesis is entirely unacceptable to me. His reasoning is as follows.

If *s* movable is to be interpreted as a prefix, one would also expect it before a vowel. However, so far it has not proved possible to demonstrate this. Hoenigswald renews the attempt, starting from the idea that every root in PIE began with a consonant, and that therefore those which apparently began with a vowel originally had a laryngeal at the beginning. Now, with the alternatives *He-* : *sHe-*, after *s-* the laryngeal was already lost in PIE, without the allophones *e*, *a* and *o* becoming phonemes. This therefore implies that *sh₂e-* became *se-*, like *sh₃e-*, and not *sa-* and *so-* respectively (whilst the forms without *s* movable thus gave *h₂e-* > *a-* and *h₃e-* > *o-*).

Apart from the theoretical problem of prefixing in PIE, of which elsewhere no trace can be found, the starting-point, i.e. that PIE only had roots beginning with consonant, cannot be regarded as certain (p. 90 ff.). The further assumption *sh₂e-* > *se-* is entirely arbitrary and improbable *a priori*, if only in view of the Hittite forms with *išḫ-* (e.g. *iš-ḫa-a-i* 'to bind'; the *i-* is a prothetic vowel, cf. p. 18 n. 2). If, however, it should be proved by a number of reliable etymologies, it would have to be accepted. But the thirteen etymologies which he gives are far from reliable. He is aware of this and explains it by the fact that "the loss of laryngeal at an early period destroyed the regular relationship", after which "subsequent sound changes in the various IE dialects separated them even further". The second point is irrelevant, because it applies equally to the cases of *s* + (other) consonant, while here the forms with and without *s* are mostly entirely identical. However, the cases given here differ considerably in formation. Nor is the effect of the laryngeal in Hoenigswald's hypothesis very great; it would give *a-* : *se-*, *o-* : *se-*, *e-* : *se-*. Only the first form of vowel interchange is unusual (beside which an ablaut form *h₂o-* > *o-* : *so-* would have existed). It cannot therefore be seen that the supposed loss of laryngeal would have had such confusing consequences.

Nobody will accept the etymology ἀραρίσκω — Lat. *sero* (ἔρμα 'earring' !); Lat. *ad* — **sed-* 'to sit' (ὁδός !). Semantically unobligatory are **aḱ-* 'sharp' — **sek-* 'to cut', Skt. *āpnóti* 'to reach' — Skt. *sápati* 'worships' (ἕπω), Skt. *ṛ-* with *árṇa-* 'flowing, flood' — Skt. *sárati* 'hastens, flows', ἀμάω 'to reap' — Av. *ham* 'summer', ἄμη 'pail' — Lat. *sentina* 'bilge' (but in the first instance it means 'bilgewater'). The following seem better: ἀρκέω — ἔρκος, Lat. *anus* — *senex*, Lith. *alpstù* 'to faint' — *sìlpnas* 'weak', ἄνευ — Skt. *sanutár*, Goth. *uf* 'under' *ufar* 'over' — Lat. *sub super*. Finally Gr. ὄσσε — Goth. *saihvan*, Hitt. *ša-(a-)ku-wa* [*sakṷa*] 'eyes' (but see above for Hittite). The only case that appeals is **sup* : **up*, but here there is not the slightest indication of laryngeal, nor of disappearance and the consequences assumed for it.

The theory therefore remains improbable. However, it should be remarked that *s* movable before laryngeal is of course highly possible; there is, however, no reason to assume that the laryngeal would have developed differently in that case than in others.

Nikitina (in the article quoted on p. 80) draws attention to the connection between prothetic vowel and *s* movable, partly in imitation of Klyčkov, *Processy razvitija v jazyke* (Moscow, 1959), pp. 27 f. Like Hammerich, he explains ὀλισθάνω beside IE **sleidh-* by the fact that *sl-* and *ḫl-* developed more or less simultaneously to *l-* and *Vl-* respectively, whereby confusion occurred; see p. 81 f.

There are indeed facts here which call for an explanation. Nikitina is of the opinion that in Greek forms with prothetic vowel, without it, and with *s* movable stand side by side and gives the materal divided among six (etymological) units (the grouping within them is mine):

(1) μέλδω βλαδαρός; μαλακός βλᾶξ; μῶλυς: ἀμαλδύνω ἀβλαδέως; ἀμβλίσκω ἀβληχρός; ἀμβλύς ἀμαλός: (OE *smeltan*).

(2) λίγδην; λιπαρός; λεῖμαξ: ὀλίγος ὀλισθάνω ὀλιβρόν; ἀλείφω; ἀλίνω: (PIE **slei-g/b/dh-*; ModG. *schlecht*, Goth. *slaihts* 'smooth').

(3) —: ἀείρω ἀπὸϝέρσῃ: (OHG *schwer*, IE **sṷer-*).

(4) λαπαρός: —: (Goth. **sleps*, ModG. *schlaff*, Lith. *slabnùs*, Serb. *slabina* 'soft part of the side').

(5) μαραίνω (Skt. *mardayati*): ἀμέρδω ἀμέργω (ὀμόργνυμι) ἀμοργός: σμερδνός (ModG. *Schmerz*, Lat. *mordeo*).

(6) μοῖος· σκυθρωπός: ἄμοιος· κακός. Σικελοί: σμοῖος· χαλεπός Hsch.

This material calls for further discussion. The last etymon loses considerably in value because it consists largely of glosses. Ἄμοιος is ascribed to the Σικελοί and may therefore very well be non-Greek (and even non-IE); cf. also σμυός· σκυθρωπός Hsch. The whole is too unreliable to serve as the foundation for a new theory.

Re 4. Whether Goth. *slepan* etc. belongs here may be left out of consideration (see Feist s.v.), but it is in fact difficult to separate OIcel. *slāpr* 'sluggish person', OHG *slaf*

'weak' etc. and OCS *slabъ*, Lith. *slābnas* '*idem*' from λαπαρός '*idem*'. An interchange *p*/*b* occurs more often in these expressive words. The *p* is perhaps also found in Lith. *sìlpnas*. Serb. *slabina* is indeed a striking parallel of λαπάρη. The lengthening in Homer before λαπάρη (p. 80f) will therefore go back to *sl-*. A parallel is λαγαρός with *g*, N. *slakr* 'weak' etc. There is no reason to assume a laryngeal. It is therefore further irrelevant here. It may incidentally be wondered whether the group is in fact of IE origin.

For ἀπōϝέρσῃ see p. 81. The comparison of ἀείρω with Lith. *sveriù* 'to lift, weigh', *svarùs*, OIcel. *svārr*, OHG *swāri* 'heavy' is worthy of consideration.

In the second group the words with ὀλ- should be separated from those with ἀ-. The interpretation of ἀλίνειν (·ἀλείφειν Hsch.) presents difficulties. Skt. *linā́ti* may be an analogic form, *līyate* 'sich schmiegen an, sich andrücken, stecken bleiben, verschwinden', has nothing to do with ἀλίνειν. It also seems clear that λίναμαι λιάζομαι and ἐλῑνύω cannot be placed in this category either formally or semantically. Nor are there sufficient reasons for connecting λεῖμαξ 'snail', Russ. *slimák* '*idem*' with ἀλίνειν.

For ἀλείφω : λιπαρός see p. 40.

Λίγδην 'grazing' etc. is put beside OIr. *fo sligim* 'to smear', OHG *slīhhan*, 'schleichen (gleitend gehen)', OIcel. *slīkr* 'slippery'. The *sl-* could explain P 599 ἐπῑλίγδην (further in Homer only λίγδην χ 278 at the beginning of the verse). And yet this connection is semantically weak. It cannot be denied that this stem **sl(e)ig-* displays semantic similarity with both ἀλίνειν and ὀλισθεῖν etc. Nevertheless it seems dangerous to me to connect OIr. *fo-sligim* 'to smear' with ἀλίνειν. One could equally well envisage ἀλείφω or λιπαρός. In view of the uncertainty that prevails here — and will continue — it seems proper to draw no further conclusions. In cases like this it is best to conclude original identity only when there is precise agreement in form and meaning.

Feist hesitates to connect Goth. *slaíhts* 'smooth' with OIcel. *slīkr* etc., on account of **slek-* : **slig-*. Semantically speaking, connection of the latter with ὀλίγος is not probable, in view of the meaning of λοιγός ('ruin').

However, more clear is ὀλισθεῖν, if it is from *ὀλιϑ-, beside OE *slīdan*, Lith. *slýsti* (pret. *slýdau*), OCS *slědъ* 'track'.

Just as convincing is ὀλιβρόν (·ὀλισθηρόν, λεῖον, ἐπισφαλές Hsch.), OE *slipor*, OHG *sleffar* 'slippery, smooth' (N. *slipr*, OHG *slīfan* 'to slide'), for which PIE **slibro-* is assumed.

Group 5 is highly problematic. The forms ἀμέργω etc. have nothing in common semantically with the others. Whether σμερδνός is cognate with OHG *smerzan* etc. may be left out of consideration (in my opinion the original meaning of σμερδαλέος is not sufficiently known); semantically ('terrible to look upon, — to hear, fearful' : 'pain') the etymology is not imperative. There is no basis for putting σμερδνός or μαραίνω μάρναμαι on a par with ἀμέρδω 'to rob'. In that case all that remains is ἀμέρδω : μέρδει· κωλύει, βλάπτει and μερδεῖσα· στερηθεῖσα, ἀμερθεῖσα Hsch. But

see p. 73 on the value of glosses in this matter. The word has no convincing etymology.

The group under 1 is the most awkward one. In my opinion ἀβληχρός, ἀβλαδέως (·ἠδέως Hsch., further unknown) and ἀμβλίσκω ('to cause to miscarry'!) are too unclear for any argumentation whatsoever. For the remaining words see s. vv. (pp. 42).

For μέλδομαι '(to cause to) melt' the connection with OE *meltan* 'to dissolve, melt' is obvious. In addition there is a form with *s* in OIcel. *smelta* etc. However, what is of most importance here is the form ἀμέλδειν· τήκειν Hsch. not given by Nikitina. Here there is a clear case of *s* movable beside prothetic vowel in Greek.

b. *The Material*

To the cases mentioned so far we may perhaps add ἀλείτης, which was connected by De Saussure (*Mémoire*, p. 75) with Goth. *sleiþa* 'damage', OS *slīdi* 'bringing ruin, bad'. As *s*-less form of this Grienbergen, *Unters.*, p. 192f., sees OIcel. *leiðr*, OHG *leid* 'übel, verhasst, feindlich', which he also compares with ἀλείτης (see Frisk). We find the same phenomenon in ἀπειλή as against Latv. *pelt*, Goth. *spill* and in ἀέλιοι beside OIcel. *svilar*. Further one may also envisage ἕλη, Dor. βέλα (ϝέλα) 'heat of the sun', which probably belongs with OE *swelan*, Lith. *svilti* 'to singe' (with OE *sweltan*, but not ἐέλδομαι, see Feist s.v. *swiltan*). Ἕλη may therefore come from **sṷelā*, but it is not certain to me that εἵλη has prothetic vowel, as Frisk claims.

We therefore have the following cases:

ἀμέλδειν, μέλδομαι, OE *meltan*, OIcel. *smelta*.
ὀλισθεῖν, OE *slīdan*, Lith. *slýsti*, OCS *slědъ*.
ὀλιβρόν, OE *slipor*.
ἀείρω, Lith. *sveriù svarùs*, OIcel. *svārr*, OHG *swāri*.
ἀπειλή, Latv. *pelt*, Goth. *spill*, Arm. *aṙa-spel*.
ἀέλιοι, εἰλίονες, OIcel. *svilar*.
ἀλείτης, OIcel. *leiðr*, Goth. *sleiþa*.
? εἵλη, ἕλη, ϝέλα, Lith. *svìlti*, OE *swelan*.
? ἀμέρδω : μέρδει.

c. *Interpretation*

The interpretation of these facts — assuming that the connections established are correct — presents difficulties. It seems to me that the material given here is too slight for the phenomenon to be regarded as established.

On the other hand it is also hardly feasible to dismiss these cases as "Entgleisungen" — whatever reality may be indicated by the term. Confusion in the sense of Hammerich (p. 81 f.) cannot explain why ὀλιβρόν and ὀλισθεῖν have an ὀ- and ἀμέλδειν has an ἀ-. This applies a fortiori if ἀλείτης, ἀείρω and ἀπειλή are comparable. For as the vowel

would not in that case go back to a laryngeal, one would expect that the timbre of the vowel was determined by the (following) vocalism or consonantism.

It therefore seems probable that these forms go back to one basic form (apart from the *s* movable). Austin (*Lg.* 17 (1941)) gives for ὀλιβρόν a PIE basic form **Aь(s)leib-*. As it is not certain that **slib-* has an *s* movable, it is better to transfer this interpretation to ἀμέλδειν. This would therefore give **Aь(s)meld-*, or in the view followed here **ḫ(s)meld-*. Apart from the fact that one would expect from **ḫsmeld-* in Aeolic **ἀμμελδ-*, elsewhere **ἠμελδ-* (a type of which there is no trace), this presumes that the second (in Austin's interpretation even the third) phoneme of the word could or could not be present, which is particularly improbable. Such an interchange has not a single parallel in IE. In this way the problem of the *s* movable[35] becomes even more complicated. For it is not plausible that all cases of *s* movable go back to *ḫ(s)-*, so that in any case a distinction would have to be made between two types.

If one is not prepared to assume that the laryngeals could act in a similar fashion to *s* movable, it must be assumed that the laryngeal in these words formed part of the stem and that the *s* movable here acts in the same way as elsewhere. This therefore gives in the case stated **sḫmeld-*. It might be conceivable that in this group the laryngeal was vocalized, but there is no trace of the forms to be expected in that case (although ἁμαρτάνω might be explained in that way, see p. 109). The group μέλδομαι, *smelta* : ἀμέλδειν, *meltan* can be explained only by starting from **sḫ₂meld-* : **ḫ₂meld-* and assuming at the same time that in all languages the consonantal laryngeal has disappeared between *s* and the sonant. Compare for this ἱρός < **isḫ₁rós* (p. 184), where the laryngeal (after *s*) was not vocalized either. Juret (*Dict. etym. grec et lat.*, p. 85) assumed a similar form as the basis of ἁμαρτάνω, viz. **sḫ₂mert-*. *Pace* Polomé (*Evidence*, p. 22f., with n. 92), such a form does not seem inconceivable to me. The structure is no stranger than that of the stem of στρέφω (**strebh-*) or στρεύγομαι (**streug-*), where one therefore finds *sTRe(R)T-*, while here *sHRe(R)T-* is presumed (with *s* movable). In Hittite, where the group *sC-* acquired a prothetic vowel *i* (p. 18 n. 2) and the laryngeal after *s* was preserved as *ḫ*, one can point to *iš-ḫi-ja-an-zi* [*isḫ(i)janzi*], Skt. *syáti* 'to bind' from the root *sā-*, PIE *seḫ-*, which forms therefore go back to **sḫiéti*; further *iš-ḫa-ma-in* 'song' (acc.), *iš-ḫa-mi-ja-an-zi*, Skt. *sāman-* 'song'. Here there is therefore no *s* movable.

After the above had been written I found a form as meant here in Hitt. *išḫunau-*, which is interpreted by Laroche, *OLZ* 1962, 30f. (cf. *BSL* 57,28; Friedrich, *Erg. h.* 3, 1966), as 'Sehne (im Körper), Bogensehne' and is identified with Skt. *snāvan-*, Av. *snāvarə*, Gr. νεῦρον. A (Greek or Armenian) form with prothetic vowel is not known here, but an *s*-less one is, if OHG *nā-en* belongs in this group. For the *s-* in the Greek forms (*sḫn-* > *sn-* > ν-; *ḫn-* ought to have given prothetic vowel) see Frisk s.v. 2. νέω. The forms quoted there point in the first instance to **(s)nē-*, so that a root ending in laryngeal is expected. However, the reconstruction **(s)ḫneḫ₁-* shows that this *ḫ₁* is an

[35] The most recent publication on this is by Edgerton, *Lg* 34 (1958), 445-51; like Brugmann: 'satzphonetisch'.

enlargement[36] (after which a second one is possible, **sḫneḫ₁i-* in Skt. *snāy-ati*; cf. also *snāy-u-* 'Band, Sehne'), so that now allowance may be made for other enlargements than *ḫ₁* (see for this for instance s.v. ἄημι on p. 57), e.g. **(s)ḫner-* (see WH s.v. *nervus*; in addition **(s)ḫner-u-*?) and **(s)ḫneu-*, to which perhaps Hittite points. (The old interpretation gave for νεῦρον etc. a basic form **snē-u̯(e)r/n-*; the *u* may, however, belong to the stem and also a form without laryngeal is possible.) However, the most important thing here is that, if Laroche's interpretation of the Hittite word is correct, the group **sḫn-*, in which *s* is an *s* movable, has been demonstrated for the basic language as well as a Greek development *sḫn-* > *sn-* > ν-. Perhaps Hittite will later provide further confirmation of *s* movable before laryngeal.

The group ἀστήρ, Arm. *astł*, Skt. instr. pl. *stṛ-bhiḥ*, nom. pl. *tār-aḥ*, is, however, even more difficult. The first two forms point to *ḫst-*, but Indian indicates an *s* movable, which must originally have been the first phoneme, and so points rather to *sḫt-*. The only possibility seems to be a form **(s)ḫt(e)r-*, of which *sḫt-* then became *ḫst-* by metathesis. This metathesis will have taken place in the basic language, since both Greek and Armenian point to *ḫst-*. That metathesis took place here and not with for instance *sḫm-* (μέλδομαι etc.) will then have to be ascribed to the nature of the *t* (occlusive in general ?). (According to this analysis the root of this word would therefore be **ḫ₂et-*.)

6. The Timbre of the Armenian Prothetic Vowel

It is important to see what timbre the prothetic vowel has in Armenian. Unfortunately a clear conclusion cannot be given here. The material now follows, arranged in accordance with the Greek prothetic vowel. See Add.

α	? ἀλώπηξ	*aluēs*	ο	ὀλίγος	*alkʻat*
	ἀνήρ	*ayr*		ὄνειδος	*anicanem*
	ἀστήρ	*astł*		ὄνειρος	*anurǰ*
ε	ἔρεβος	*erek*		ὄνυξ	*elungn*
	ἐρεύγομαι	*orcam*		ὀφέλλω	*avelum*
	ἐννέα	*inn*		ὀφέλλω	*y-a̲velum*
	? ἔδοντες	*atamn*			

The cases which have had *ḫ₃* all show *a*, with the exception of *elungn*, of which the interpretation is, however, uncertain; perhaps it would therefore be as well to interpret this word differently.

The prothetic vowel that goes back to *ḫ₂* also seems to be *a*. Here, however,

[36] However, the situation is complicated still further by forms like ON *sin*, OHG *senawa* '*sinew*'. De Vries (s.v. *sin*) derives these words from **seḫ-i-* 'to tie' (Skt. *syáti*, etc.). In that case the *s* would belong to the root. The details are therefore still unclear here.

ἀλώπηξ and ἀστήρ present difficulties, so that the question is whether these words are reliable. However, another representation for $\hbar_2$ than *a* is not to be expected.

The picture that the forms with $\hbar_1$ display is very erratic. Both *erek* and *inn* seem to point to *e*. The strangest case is *orcam*, which seems to have developed from **o-ruc-am*. As a prothetic vowel *o* is found nowhere else, it may be asked whether we are in fact concerned here with a phonetic development of the laryngeal. (We might envisage a preverb, cf. Lat. *ē-rūgio*, NPers. *ā-rōγ*.) With the other forms there is no evidence of influence of the stem vocalism. Of course it might be assumed that this was only the case with the vowel that developed from $\hbar_1$, but this supposition cannot be verified. *Atamn*, too, could be explained in this way if the original form had $\hbar_1$. Here, however, it is still possible that the basic form had $\hbar_3$.

It goes without saying that the interpretation given here, $\hbar_2$ and $\hbar_3 > a$, $\hbar_1 > e$, is far from certain, in view of the scarcity of material. Nor is the reason for this development clear. If $\hbar_1$ became *e*, one would have expected $\hbar_3 > o$. It is true that PIE *o* sometimes became *a*, of which the exact conditions are not known, but this will not have been the case here, since before nasal $u < o$ was expected (*Esquisse*², p. 41); the only possibility I see is that the $o < \hbar_3$ had changed into *a* before *on* became *un*.

A study of the — more recent — Armenian prothesis before *r* might perhaps be illuminating here. The cases stated in *Esquisse*² are the following:

er	*erēç*	Lat. *priscus*	*ar*	*aṙu*	**sru-*
	erastank'	πρωκτός		*arev*	**reu-*
	erek'	Lat. *tres*		*artasuk'*	**draku-*
	erkan	Skt. *grávā*	*el*	*elbayr*	**bhrātér*
	erku	Lat. *duo*	*al*	*albiwr*	**bhréu̯*
	erkn̰im	**du̯ei-*			
	erkar	*δϝᾱρός			

Here too it is not clear why now *e*, then *a* appears. The last two forms show that no assimilation to the stem vowel took place.

7. Support for the Explanation by Means of the Laryngeal Theory

Not only is it probable on the strength of the nature of the prothetic vowel in Greek itself and the correspondence with Armenian that this prothetic vowel originated from a laryngeal; this idea is confirmed otherwise, too, namely by five phenomena:

(1) by ablaut relations;
(2) by Hittite forms;
(3) by lengthening phenomena in Vedic;
(4) by the negatives with νη-, νᾱ-, νω- in Greek;
(5) by Attic reduplication (with corresponding reduplication in Vedic).

The last two points demand a fairly detailed discussion and will be dealt with in two separate chapters. The first three are discussed here.

a. *Ablaut*

The ablaut forms of several words with prothetic vowel make the assumption of a laryngeal highly probable.

One of the clearest cases is ἀέξω. In addition to this we have Skt. *vakṣ-*, Av. *vaxš-*, Goth. *wahsjan* and the ablaut variant αὔξω, Lat. *augeo*, Goth. *aukan*, Lith. *áugti*. The zero grade is also demonstrable here, in Skt. *ukṣ-*, Av. *uxš-*, without *s* in Skt. Av. *ugrá-*. We therefore have, apart from ἀϝέξω, the forms **u̯eg-*(*s-*) : **aug-*. As an *a* in a PIE root is suspect, like ablaut *au*/*u* (*au-g-* : *u̯-eg-*/*u-g-*) it is probable that **aug-* is based on **ħ₂eug-*, and **u̯eg-* therefore on **ħ₂u̯eg-*. Ἀϝεξ- consequently goes back to **ħ₂u̯eg*(*-s*)-, so that it is obvious to regard the α as the reflex of $\hbar_2$, which also corresponds to the timbre. The zero grade *ug-*, *ukṣ-* therefore comes from **ħ₂ug*(*-s*)-.

In this way ἀηδών (**ħ₂u̯ēd-*; Skt. *vádati*) : αὐδή may be interpreted as **ħ₂u̯ēd-* : **ħ₂eud-*. The zero grade **ħ₂ud-* is perhaps found in Greek in ὐδέω (Skt. *ud-*), although this form does not occur until late (Call.). For ἀείδω see p. 56 f.

In exactly the same way ἀλέξω (Skt. *rákṣati*) : OE *ealgian* < **algōjan* may be explained, **ħ₂lek-* : **ħ₂elk-*. Of Gr. ἀλκή, which goes back to a root noun, the stem ἀλκ- will probably go back to the zero grade **ħ₂l̥k-* of the oblique cases (with a nom. **ħ₂lḗk-s* or **ħ₂lṓk-s*?). For the development **ħ₂l̥k-* > ἀλκ- cf. p. 34 s.v. ἀργός.

In the same way ἀλέγω ἄλγος must go back to **ħ₂leg-* : **ħ₂*(*e*)*lg-*; see p. 39 f. Ἀρπυια ἅρπυια (**ħ₂rep-* : **ħ₂r̥p-*, p. 35) and ὀρόγυια ὄργυια (**ħ₃roĝ-* : **ħ₃r̥ĝ-*, p. 37) also display the same ablaut.

*ἀπελος : OIcel. *afl* also fits into this scheme as **ħ₂pel-* : **ħ₂epl-*. However, here there is less certainty. *Afl* may also go back to **opl-* and is thus connected with Lat. *ops*, which, however, is much less convincing from the semantic point of view (an opinion also shared by De Vries s.v.). The form -ηπελ- could also contain *ἐπελ-. However, the combination of these words seems reliable.

The situation is somewhat different with respect to ἄεσα (Skt. *vásati*) : αὐλή, ἰαύω. For the semantic side see Kuiper, *Nasalpr.*, p. 63 n. 2. Here too the *a* vocalism of the root *au-* points to **ħ₂eu-*, as does the reduplication (see p. 129). With the suffix *es* one therefore gets **ħ₂u̯-es-*. This situation is exactly the same as that with *ago* : *gero*, **ħ₂eĝ-* : **ħ₂ĝ-es-*, where Greek, however, has no representative of **ħ₂ĝes-*.

However, this support in the ablaut is found only in connection with $\hbar_2$ (apart from a special case that will be mentioned below). To realize this it is necessary briefly to reproduce the view followed here with reference to the PIE root.

On this point one can speak of a German and a French school, of which Hirt (*Ablaut*) and Benveniste (*Origines*) are the clearest exponents. The latter enjoys considerable support because Benveniste took up the laryngeal theory after Kuryłowicz' interpretation of the Hittite *ḫ* (*Symb. Rozw.*; cf. *Origines*, p. 148 n. 1). On the other hand the German school leaves the laryngeal theory out of consideration on the authority of Brugmann and Hirt.

Since Benveniste in his *Esquisse d'une théorie de la racine* (*Origines*, pp. 47-73)

elaborated and systematized Meillet,[37] the two approaches have been sharply opposed to one another. This is the fault of Benveniste himself, since at the only place where he states an opinion on the relation of the view which he defends to that of Hirt he says (p. 152 n. 1): "le lecteur informé verra l'abîme qui sépare notre conception de celle que M. Hirt a soutenue dans son Ablaut (et qui est symbolisée par des restitutions comme «*pelā*»)". It is strange that Benveniste did not see that the two theories lie at different levels, so that they can very well be combined. When he reproduces the interchange *ters/tres* as *ter-s* : *tr-es*, that is no more than a structural analysis that is useful for practical application. But if one enquires about the *origin* of the two forms, one is obliged, having regard to the paradigmatic interchanges (one need only think of λείπειν : λιπεῖν, πατέρα : πατρός, cf. Introduction, p. 11), to assume that change of stress was the reason why these two forms came into being (i.e. for instance *teres*, with *téres* > *ters* as against *terés* > *tres*). The laryngeal theory can easily be incorporated in this: *pelā* then becomes *peleh₂* with *péleh₂* > *pélh₂* and *peléh₂* > *pléh₂* (> *plā*), or, in the case of laryngeal at the beginning of the word, *h₂élek* > *h₂élk* : *h₂elék* > *h₂lék*. Benveniste is right to point out that forms of the *teres* type no longer occur anywhere, but of course that proves nothing with respect to an earlier stage of the proto-language. On the one hand, therefore, *pelā* (*peleh₂*) has the advantage of collecting all forms of this stem in one formula, on the other hand the notation *pelh₂/pleh₂* (*pelə/plā*) has the advantage of giving only forms of which direct representatives are apparent.

A difference, but not an essential or necessary one, between the two theories, which has led to many fictitious proofs in the field of laryngeal theory, consists in the fact that Benveniste assumes that the PIE root could only begin with consonant (*Origines*, p. 170f.; the same view is stated in Kuryłowicz, *Eos*). It is evident that this idea suggested itself because a laryngeal often proved to have stood before initial vowel. However, there is no proof that this was always the case. Nothing obliges us to posit this. Nor is there any indication that the root of εὔχομαι, Lat. *voveo*, PIE *eu-g"h-/u̯-eg"h-*, contained a laryngeal. It was merely the desire to find the simplest possible formula that led to this theory. It should be stressed again here that no allowance need be made for this thesis, since it is unproven. It may never be used as an argument in solving problems of detail.

It seems out of the question to prove such a theory. One could only state that all verifiable cases which seem to begin with vowel originally had a laryngeal. However, the theory would have to be abandoned for good if the opposite could be demonstrated in a number of clear cases, which is probably easier.[38] Some points could be considered here.

[37] That these are in essence Meillet's ideas is already evident from his *Introduction*, 1903[1], pp. 145-50 (practically identical with 1934[7], pp. 173-9). Although the *Origines* are dedicated to Meillet, one seeks in vain a reference on this point. (In general it is to be regretted that French authors list so little literature.)

[38] On the assumption that *n̥-hV-* became α-(*h*)*V-*, I believed that I had found an argument in the form ἀν- of the negative prefix *n̥-*. If there were no words that began with a vowel, the form ἀν- would after all have been unable to develop anywhere and therefore could not have been introduced analogically either. I thought that I had found such forms in ἀάατος and ἄαπτος (Il.). But the idea is untenable, since sonant nasal before laryngeal does not become α: *n̥h₂* > *nah₂* > νᾱ before consonant (p. 205) and *n̥h₂* > *an*(*h₂*) > αν before vowel (p. 221). Before laryngeal too, the form ἀν- is therefore to be expected for the negative prefix. However, perhaps it can be used for other languages. In Latin one would also expect **anV-* from *n̥-hV-*; however, there is no trace of this. In Indian *an-* for *n̥hV-* is not probable (*in*(*h*)*V-* or *a*(*h*)*V* is more likely).

In Greek an interchange ε-/α- would be impossible if the word originally began with laryngeal. For, whatever ablaut form the root had, the Greek vowel would either always have been ε (in the case of *h₁*) or always α (in the case of *h₂*). Such an interchange may perhaps be found in ἐρι-/ἀρι-, which must therefore be explained as **eri-/ₑri-*. For both *h₁eri-* and *h₁ₑri-* would have given ἐρι-, just as both *h₂eri-* and *h₂ₑri-* would have become ἀρι-. (Thus the *h₁* assumed by Schmitt, *Idg. Dichtersprache* n. 220, is incorrect.) Further, when Cypriot ἔρ beside ἄρα elsewhere is a reality, to which *ar̃* and *ir̃* correspond in Lithuanian, one must assume **er/or/r̥*. More important seems to me ἔρσην/ἄρσην, which will go back to **ers-/r̥s-* (perhaps from paradigmatic ablaut; cf. OP *aršan-* : Skt. *r̥ṣa-bhá-*).

A second consideration is that the sandhi shortenings still apparent in Vedic (cf. p. 145 f.) of forms ending in laryngeal would have been impossible if there had not then been words beginning with vowel. However, here one could assume that the laryngeal at the beginning of the word had disappeared earlier than that at the end.

If our interpretation of Skt. *ínakṣati* and *anákti* (p. 236f.) is correct, an argument is also found here: Lat. *unguo* points to **ong"-*, but Skt. *anákti* must go back to **ₑneg"-* without laryngeal, since **h₁ₑneg"-* would have become **inak-*. The root **e/ong"-* cannot therefore have had a laryngeal.

For the possible argument in Lat. *ursus* see p. 133. See also p. 197 s.v. νῆσσα, where a form **ₑnh₂tis* is reconstructed without initial laryngeal.

Another consideration against the theory that every PIE root began with consonant was given by Cowgill on p. 131 of the first edition of *Evidence* (1960). If *es-* 'to be' were to begin with laryngeal, one would expect in the zero grade **h₁s-* > Gr. ἐσ-, which leaves unexplained the 3 pl. Dor. ἐντί and the part. Att. ὄντες. For Hom. ἔασι, Myc. *eesi* and non-Att. ἐόντες analogic extension of the stem **es-* is easy to understand, but the absence of the 'prothetic vowel' cannot be explained by analogy. However, in *Evidence* 1964, pp. 167ff., Cowgill states a different opinion. According to him, Dor. ἐντί was a contraction of **ehenti* < **esenti*. As regards Att. ὀντ-, the form could hardly be old on account of Myc. *apeo*(*te*) *apeasa* and might be a development of ἐοντ-, as for instance ὁρτή for ἑορτή, Schwyzer, p. 253 (cf. Lejeune, *Traité*, pp. 221f., Buck, *Gr. Diall.*, pp. 40f.). However, Cowgill himself admits that no other cases of this development are known from Attic, while the dialects for which it is demonstrable have ἐοντ-. That makes this attempt at explanation a very weak one. For the Hittite forms *e-eš-zi a-ša-an-zi* cf. *edmi adanzi* p. 55. However, Cowgill wrongly suggests (p. 169) that this case is decisive for the theory discussed here. Reference may be further made here to ἔννυμι (see p. 79), where there is no trace of

the 'prothetic vowel' to be expected if the root were **ḫ₁es-*. Finally, ὄνομα may also be mentioned. If the interpretation given here (p. 229f.) is correct, this word has a stem **en-ḫ₃-/n-eḫ₃-*.

If it is assumed that the PIE root could also begin with vowel, the ablaut forms **enk̂-* : **nek̂-* prove nothing for ἐνεγκεῖν, whether the interchange is formulated as **en-k̂-* : **n-ek̂-* or as **enek̂-*. The same applies to ὄνυξ, **ongh-* : **nogh-*. However, it is obvious in cases where Greek points to *ἐνεκ-, *ὀνοχ- to posit $ḫ_1$ and $ḫ_3$ respectively, the more so as the timbre of the prothetic vowel corresponds to that of theme I (and **engh-* does not seem to occur beside **ongh-*). However, in the case of **ombh-* : **nobh-* no Greek form with prothetic vowel is known (see p. 44 s.v. ὀμφαλός). And so there is no need either to assume a laryngeal, supposing that a form **embh-* was found beside **nebh-* : the fictitious problem of νέφος, p. 74.

Completely unfounded, for instance, is Benveniste's **ḫ₃elk-* (ὀλκ-) : **ḫ₃lek-* (ὀλέκω; *Origines*, p. 152), which is repeated ("His best examples") by Messing, *HSCP* 56/7 (1947) 193. I know of no Greek ὀλκ-. But more serious, perhaps, is the morphological impossibility: ὀλε- is a disyllabic root, PIE **ḫ₃elḫ₁-*; a PIE **ḫ₃elḫ₁-k-* is conceivable (the κ is rather a Greek present formant, Schwyzer, p. 702), but in that case the ὀ- could not be called a prothetic vowel; however, both **ḫ₃l-eḫ₁-k-* and **ḫ₃l̥ḫ₁-k-* gave *ὀληκ- (for the second development see p. 95).

Returning to our starting-point, it must therefore be concluded that ablaut forms in themselves support the explanation of the Greek prothetic vowel from laryngeal only when these begin with *a-*; that PIE *a-* goes back to *ḫ₂e-* is discussed on p. 133 ff. Roots which begin with *e* or *o* have not necessarily had a laryngeal. However, a possible exception to this is formed by the roots of which the vocalic sonant in Greek has *e-* or *o*-vocalism. In the case of ὄργυια, for instance, there is reason to assume that ὀργ- is based on a zero grade (p. 37). However, the form **r̥ĝ-* would have given **ἀργ-. If one is therefore concerned here with a purely phonetic development (and the *o*-vocalism must not be ascribed to the effect of analogy), one must posit here a form **ḫ₃r̥ĝ-*, assuming that the laryngeal determined the colour of the vowel. With $ḫ_1$ one perhaps finds this phenomenon in ἐνϝα- < **ḫ₁n̥u̯-*, p. 45f. s.v. ἐννέα. (Here again the cases with $ḫ_2$ are of course meaningless.)

b. *Support in Hittite*

In Hittite a direct representative of the consonantal laryngeal is found in some cases, represented in writing by a separate sign, transcribed *ḫ*. One may therefore expect here a confirmation of the laryngeal which is assumed on the strength of the prothetic vowel in Greek. Now in Hittite one finds this *ḫ* at the beginning of the word before consonant only before *u̯*; only *ḫa-lu-ga-aš* 'message' would have *ḫ* before *l* if it were spoken as [*ḫlugas*]. In about fifteen cases Greek has prothetic vowel before *u̯*. If these facts are taken into consideration, it need not be surprising that Hittite only has two words which are cognate with these Greek words, both with *ḫ₂u̯-*. These are:

ἄεσα — Hitt. *ḫu-i-iš-zi* [*ḫuiszi*] 'he lives'; cf. Skt. *vásati* 'to stay', Goth. *wisan* 'to be', Arm. *gom* 'I am';

ἄημι — Hitt. *ḫu-u-u̯a-an-te-eš* [*ḫuantes*] 'wind'; Lat. *ventus*.

The suggested connection of ἄεθλος with *ḫuitiazi* is incorrect, see p. 56.

There is, however, a word that must have had $ḫ_1$, but of which the Hittite cognate has no *ḫ*, ἐέρση — *u̯arša-*, Laroche *BSL* 58,62, Friedrich *Erg. h.* 3, 36. If this interpretation is correct and the word is not a loan word, as Laroche expressly states, then the conclusion seems to have to be that $ḫ_1$ at the beginning of the word before consonant in Hittite disappeared. That would be confirmed by the connection between ἐλέγχω — *linkzi* and ἐνενγκεῖν — *ninink-*, *nakkiš*. However, it must be borne in mind here that there is also no certain case known of $ḫ_2$ before *r l m n* in Hittite either. Nor is there a criterion for $ḫ_3$: ὄνομα (Hitt. *la-a-ma-an*) has no prothetic vowel, see p. 47.

In any case, Hittite words that are cognate with Greek ones that have no prothetic vowel also have no *ḫ*, e.g. *ú-ek-zi* [*u̯ekzi*] — ἑκών, *ú-e-eš-tin* [*u̯es-*] — ἔννυμι, *ú-it-ta-an* (*u̯et-*) — ἔτος. In the case of *ne-pi-iš* [*nepis*] 'cloud' — νέφος one does not find a *ḫ* either.

Although there are thus still a variety of questions of detail, above all on account of the paucity of Hittite material, in my opinion the importance of the forms *ḫu̯išzi* and *ḫu̯anteš* cannot be denied.

c. *Lengthening in Vedic*

In Vedic one sometimes finds lengthening of the last vowel of the first member of compounds. As this phenomenon partly occurs before certain roots, it is obvious to assume that this is in part a phonetic phenomenon. Kuryłowicz, *Symb. Rozw.* 104, in detail in *Roczn. Or.* 210-8, has suggested that this lengthening was caused by a laryngeal that originally preceded the second part of the compound. Per Slomann, in Pedersen, *Cinq. décl.*, p. 33 n. 1, arrived at the same idea independently of and just before Kuryłowicz. A number of these stems proved to correspond to words which in Greek have prothetic vowel. A clear case is the lengthening before *nar-*, which is cognate with ἀνήρ; one finds in the Rigveda *sūnára-*, *sūnṛ́tā-*, *abhī́nara-*, *viśvā́nara-*, *śikṣānará-*.

This forms a neat confirmation of the idea that the Greek prothetic vowel developed from a laryngeal. And yet caution is called for here, for this lengthening also occurs in words, in a large majority in fact, for which laryngeal as first phoneme is improbable, or at least not demonstrable. Nor can it be denied that here rhythmic lengthening occurred, so that great care should be taken with the interpretation of this material. A careful study of Indian material is necessary here, but this is beyond the scope of the present work. I am basing myself here on the above-mentioned articles by Kuryłowicz and shall merely point to the possibility of finding in these lengthenings a confirmation of the laryngeal. This lengthening may also occur with the augment. One finds for instance:

ἀνήρ	*nar-*	*sūnára-* etc., supra.
ἐνεγκεῖν	*naś-*	*parīṇáśe*; *ānaṭ* (augm.).
ἐλεύθερος	*rudh-/ruh-*	*upārúh-*, *anūrúdh-*, *vīrudh-* etc.
ἔέρση	*vṛṣ-*	*prā-vṛṣ-*

One may be tempted to find this lengthening in Greek as well. And yet the explanation as compositional lengthening is there always an obvious one. One is therefore solely entitled to assume the effect of a laryngeal here if the usual explanation cannot offer a solution. (Another point is, of course, to what extent compositional lengthening as such originates in lengthening after the disappearance of a laryngeal.) The explanation of Ruijgh, *L'élém. ach.*, p. 69, of ἱππᾱμολγός as **ek"o-ḫ₂molgós* is incorrect, since *oḫ₂* became *ō* and not *ā* (see p. 166f.).

8. Nature of the Laryngeal

Those who are of the opinion that the laryngeal could function solely as a consonant and could not be vocalized are obliged to explain the (apparently) vocalic representation of the laryngeal with the aid of reduced vowels.

Where the prothetic vowel is short, the reduced vowel must have stood behind the laryngeal, since *ₑḫ* would have developed into *aḫ* and thence before consonant into *ā* (in the case of *ḫ₂*). This is consequently out of the question.

Austin (see p. 78) assumes, like Sturtevant and Kuryłowicz (who notes *ə̯ₑ*) that the prothetic vowel developed from a group of laryngeal + reduced vowel, i.e. *ḫₑ* (in his notation *Aᵦ*). It is evident that this is equally impossible. For if PIE had a vowel here, one would expect in all IE languages a vowel at this place, since one cannot assume that this reduced vowel would have disappeared without apparent cause (such as the effect of stress).

It has been stated above that Austin explains the opposition ἔέρση : ἕρση by **Aᵦu̯ers-* : **Au̯ers-*. In this way it might be assumed that the forms in the other languages go back to the variant without reduced vowel. However, if one is prepared to assume this ablaut, it remains improbable that in Greek (and Armenian) the one ablaut phase was carried through, and in the other languages always the other.

The same objection as the first one to Austin's view also applies to a vocalic laryngeal (*ḫ̥*), for this is by definition reproduced by a vowel, so that in this case too corresponding vowels might be expected in the other languages.

Another consideration is that the comparison *ters-* : *tres-* = *ḫ₂eug-* : *ḫ₂u̯eg-* renders it probable that in this position solely a consonantal laryngeal could occur. For the possibility of the development of anaptyctic vowels see the criticism of Adrados on p. 29f. (The latter idea may already be found in Kuryłowicz, *Prace Fil.* 233, which, however, he abandoned in his *Etudes*, p. 28.)

A further argument seems to me the fact that Hitt. *ḫu̯iš-*, *ḫu̯ant-* (*ḫu-i-iš-zi*, *ḫu-(u-)u̯a-an-te-eš*) does not indicate a reduced vowel.

If our interpretation, according to which μέλδομαι and νευρά began respectively with *sḫm-*, *sḫn-*, (p. 85 ff.) is right, the laryngeal that disappeared here must have been a consonant; a vowel, either a vocalic laryngeal or a reduced vowel, could not have disappeared.

A final argument is the following one. All forms of ὀνίνημι (Frisk s.v.) seem to go back to a stem ὀνη-. The medial aorist seems to be one of the oldest forms of this stem in Greek. Chantraine, *Gr. Hom.*, p. 382, cannot explain the η (< ᾱ) and describes the ὀ- as "peut-être prothétique"; (the word has no clear cognates in the other languages). The difficulties disappear if βλῆτο, πλῆτο are compared. These aorists have the expected zero grade of the stem, *CR̥H-*. If it is assumed that ὀνη- goes back to **ḫ₃neḫ₂-* and that the medial aorist had the zero grade here as well, the stem had the form **ḫ₃n̥ḫ₂-*; this form became ὀνᾱ- phonetically. This development is understandable: the development from *n̥ḫ₂* to νᾱ is normal (see p. 205); afterwards the first laryngeal was vocalized. If the *n* was preceded by a vocalic element, one would expect in Greek *VnḪ₂-to* > *ὀνᾰτο (Chantraine's problem). To explain **ḫ₃n̥ḫ₂-to* > ὄνητο one must therefore assume a consonantal *ḫ₃*, as the comparison with βλῆτο confirms. This *ḫ₃* was therefore still a consonant when *n̥ḫ₂* became *naḫ₂* (> νᾱ).

The conclusion is therefore that one has here a laryngeal that was consonantal in PIE, which was secondarily vocalized in Greek and Armenian.

Kuryłowicz' idea, *Eos* 30, 206-11, that the development from laryngeal to vowel was phonetic only after words ending in a consonant, may be correct, but in that case this sandhi variant has evidently been generalized everywhere. For otherwise the agreement between Greek and Armenian cannot be explained. And yet the idea does not seem probable, since in that case this sandhi phenomenon would have been expected in Indian as well. For here there are still traces of sandhi apparent in which the laryngeal was concerned, and not in Greek.

9. Laryngeal before *i̯*

It is striking that Greek has prothetic vowel before ρ λ μ ν ϝ, but not before PIE *i̯*. One may think here of αἰονάω, αἰώρα and αἰόλος. None of these words has a reliable etymology. However, the interchange αἰόλος : αἰέλ-ουρος is reminiscent of PIE ablaut (Frisk's "vocalic harmony" — assimilation? — is not convincing). There is not the slightest objection to a structure **ḫ₂i̯el-*. However, it might be expected that the *i̯* would have disappeared, but there are exceptions to this rule (Lejeune, *Traité*, p. 145f., where the adjectives ending in -αῖος may also be mentioned). As long as no cognates are known, this naturally remains very uncertain. (The form **αἰερι-* in ἄριστον and ἦρι, having regard to the cognate forms, e.g. Av. *ayarə*, must go back to full grade **ḫ₂ei̯-*.)

It is of course conceivable that the group *ḫi̯-* did not occur in the basic language, but it is also possible that *ḫi̯-* developed in another way than *ḫu̯-* etc. in Greek. The

opposition *ḫi-* : *i-* thus to be assumed has been connected with the fact that Greek answers in two ways to the forms in the other languages that seem to go back to *i-*.

This double representation of *i-*, Skt. *yáḥ* — ὅς : Av. *yāsta-* — ζωστός, has long attracted attention. Both developments are phonetically easy to explain and have parallels in other languages, but the fact that they exist side by side — without interchange with the same stem — calls for an explanation. Cf. Lejeune, *Traité*, p. 143 f. Attempts to attach the developments to certain conditions have not succeeded so far; discussion in Lehmann, *PIEP*, p. 74 f.

Of those who have sought a connection with the other languages, G. Schulze, *Über das Verhältnis des Z zu den entsprechenden Lauten der verwandten Sprachen* (Göttingen, 1867), already pointed to:

Skt. *yastá-*	ζεστός	:	Skt. *iṣṭá-*	ἄζεται
Alem. *jesan*	ζέω	:	Alem. *enēr* 'ille'	ὅς
OHG *joch*	ζυγόν	:	Alem. *āmar* 'pain, sorrow'	ἦμερος

Cowgill (p. 161) casts doubt on the last two etymologies. He further points out that ὥρα is cognate with Alem. *jār*, so that there is no correlation Gr. ζ- — Germ. *j-* as against Gr. ˓ — Germ. zero, as meant by Schulze (and Lehmann ? Cf. Brugmann, *Grundr.*² 1, p. 282).[39] For the second argument see below.

After this Sapir, *Lg.* 14 (1938) 248-78, tried to give a solution with the aid of the laryngeal theory. He supposed that the voiceless laryngeal + *i* resulted in aspiration; on the other hand a *i-* alone became ζ-. He believed that an argument could be found in ὅς, Skt. *yáḥ*, of which the stem *io-* is claimed to be an ablaut form of *eio-* in Skt. *ayam*, Lat. *ea*. The latter form requires, if one assumes that every root began originally with consonant, **ḫ₁ei-/ḫ₁i-*, from which **ḫ₁ios* (Sapir **yos*) therefore gives ὅς. As, however, the theory that the basic language only had words which began with consonant is not proven, this reasoning fails to apply and the problem remains.

I do not understand the apparent simplicity of Cowgill's reasoning (p. 163) that "plain" *i-* > ζ- is "perfectly acceptable, so that there is nothing here that laryngeals need to be imported to explain". This fails to appreciate the problem of the double representation of *i-* in Greek, or, viewed from PIE, does not answer the question of how *i-*, *ḫ₁i-*, *ḫ₂i-*, *ḫ₃i-* developed in Greek.

Hammerich, *Lar. b. Son.*, p. 12-5, assumed, on the strength of the fact that ζ developed from *di gi g"i*, that the ζ which seems to go back to PIE *i-* in fact also developed from a cluster with *i*, the first element of which could be a laryngeal. However, he did not give any material by way of proof. Lehmann, *PIEP*, pp. 74-9, attempted to do so, concluding from Hammerich's consideration that only voiced laryngeal, that is *ḫ₃* (in his notation γ), followed by *i-*, became ζ-. His argument that ζ- in Homer always makes position except in a number of proper names (which begin iambically, as Hoenigswald, *Lg.* 30 (1954) 468-74, remarks) seems to me not to prove

[39] In *Evidence*, p. 218, Lehmann repeats these facts without commenting on Cowgill's criticism (which was previously published in *Evidence*, 1960, p. 121).

that ζ- in all cases must have developed from a cluster. The development into ζ was already completed in Mycenaean: *zeukeusi zesomeno* (ζέω).

In addition to this the question therefore remains of what the development of *ḫ₁i- ḫ₂i-* was. Ὑσμίνη might be a case of this development; before the Vedic root *yudh-* 'to fight' lengthening occurs (*vṛṣā-*, *amitrā-yudh-*), which might point to laryngeal, but is not in itself sufficient confirmation.

However, the material with which Lehmann seeks to support the hypothesis is not strong.

ζωστός, Lith. *júostas*, Av. *yāsta-*. Sturtevant, *Indo-Hittite Laryngeals*, p. 51, tries to connect this with Hitt. *iš-ḫa-a-i* [*iśḫai*] 'to bind', which in view of Luw. *ḫi-iš-ḫi-ja-an-ti* would be based on a stem **ḫiḫs-*. In both Anatolian languages metathesis of *ḫs-* would in that case have occurred, and in Hittite the first *ḫ* would moreover have disappeared (by dissimilation?). The form **ḫ₁oḫs-* (**ḫ₃ieḫ₃s-* ?) would have given ζωσ-. (For the structure of this stem one could compare **ḫ₂ueg-s-*, Gr. ἀϝεξ-.) Cowgill (p. 163) maintains the connection of the Anatolian words with Skt. *syáti* 'to bind', with *ḫi-* as reduplication of the *tiṣṭhati* type. This therefore implies a root **seḫ-*. In my opinion Sturtevant's reconstruction is too unreliable to qualify as an argument here.

For ζυγόν Ved. *āyuk-* (with long augment) and *abhīyuj-* could point to laryngeal. Cowgill (*loc. cit.*) doubts the value of these forms. The opinion is that Hitt. *i̯ugan* refutes the reconstruction of a form **ḫi̯ug-*. Lehmann regards the word as a borrowing from an Indo-Iranian language, just as Hittite has borrowed various terms in the field of the training of horses from this source. This supposition may be correct, but there is no compelling argument in favour of it. However, it is not certain that PIE *ḫi̯ug-* would have become in Hittite **ḫi̯ug-* (or **ai̯ug-* ?), the more so since an anlaut *ḫi-* does not occur in that language; compare further *u̯arša-*, p. 92f. Here too in my opinion compelling proof has therefore not been supplied.

For ζειαί, Lith. *javaĩ* (pl.), Av. *yava-*, Ved. *sūyáva-* may point to laryngeal. (Lehmann's connection with ἧϊα has been adequately refuted by Cowgill, p. 165.)

ζῦμη. Lehmann's connection with ζεύγνυμι ζυγόν is of course completely untenable from the semantic point of view.

ζέω. Cowgill, p. 165, has demonstrated with sufficient clarity that Skt. *yastá-* (as against *iṣṭá-*) is no argument for laryngeal at the beginning of the word.

The best case is Ζέφυρος, to which Ambrosini, *Ann. di Pisa* 25 (1956) 142-7, has drawn attention. Hirt connects Gr. οἴφω, Skt. *yábhati* 'futuere', as **oi̯ebh-*. It is therefore obvious to assume **ḫ₃eibh-/ḫ₃i̯ebh-* here. But if οἴφω goes back to an athematic present that may have had *o*-vocalism, it is not necessary to assume a laryngeal (**eibh-/oibh-* : *i̯ebh/i̯obh-*); or else it need not be *ḫ₃*. However, the Sogdian form *"y'npt* 'futuit' points to a nasal present, for which one is prepared to accept **ḫi-n-ébh-mi*. According to the theory under discussion here, a possible **ḫ₃i̯ebh-* would have become ζεφ-, which is said to be found in Ζέφυρος (according to Uhlenbeck, *Etym. Wb.*, p. 235). For according to Greek popular belief this wind was

capable of fertilizing women. The difficulty is of course that the meaning of Ζέφυρος is not known, which is why Cowgill rightly remains sceptical.

In other words, there is not a single case that demonstrates $\hbar_3\underline{i}$- > ζ- with reasonable certainty. In this way the theory does not find enough support from the facts, which, however, having regard to the small number of words with ζ- having a reliable etymology and the special forms which are required to demonstrate $\hbar_3$, is not surprising. Compare the small number of words for which ablaut forms confirm the explanation of the prothetic vowel from laryngeal (p. 89ff.).

Reference may be made here to the recent theory of Ruijgh (*Het Myceense Dialect*, Leyden, 1966, pp. 16ff.; *Etudes*, pp. 65 f.) that the words with ζ- are taken from another IE language. For the words usually represent things or proceedings that form part of material civilization. However, it seems to be improbable that (as was likewise assumed for Hittite !) the general IE word for 'yoke' should have been borrowed, although in that case one could point to for instance Lat. *bos*. The idea naturally remains a gratuitous one, as long as it cannot be demonstrated with reference to other words too that they have been taken over from another IE language and as long as it cannot be demonstrated on other grounds too that they must have been borrowed. Since nothing indicates this, this solution does not seem correct to me. He makes an important remark when he says that, while this ζ- already had such a sound in Mycenaean (supra), the transition $\underline{i}$ >ʿ was still going on (*ote* ὅτε as against *jo*-ὡ(ς)), if the latter interpretation is correct.

B. THE NEGATIVE ADJECTIVES WITH NH-, NA-, NΩ-

The negative adjectives with νη-, νᾱ-, νω- must in my opinion be explained by means of the laryngeal theory. As the development assumed here, which has been incidentally proposed by Sturtevant and Austin (*infra*), forms a strong argument for the view defended here of the development of the prothetic vowel and the disyllabic roots (in Greek), it calls for careful discussion.[40] First a discussion of the material follows.

1. The Material

A list is given below of the words concerned in alphabetical order, with the name of the author in whose work each one was first found. In the case of the words preceded by a question-mark, it is uncertain that they belong to this group. Those preceded by a dagger occur only at the place(s) stated. The list is based on LSJ (and Moorhouse, *Gr. Negatives*, pp. 51-4).

[40] After this chapter had been written I saw that B. Forssman, *Unt. z. Spr. Pindars*, pp. 145-9, had discussed the same subject. Our conclusions agree almost entirely.

? νηγάτεος (?) '?' Hom. (B 43 Ξ 185).
νήγρετος (ἐγείρω) 'unwaking' Hom. (ν 74. 80).
† νηδεές (δέος) 'without fear' Alcm. (26,4 Page).[41]
νῆϊς (οἶδα) 'ignorant' Hom. (H 198 ϑ 179).
† νηκερδής (κέρδος) 'unprofitable' Hom. (P 469 ξ 509).
† νηκέρως (κέρας) 'not horned' Hes. (*Op.* 529).
† νήκεστος (ἀκέομαι) 'incurable' Hes. (*Op.* 283).
νηκουστέω (ἀκούω) 'not to hear' Hom. (Y 14).
νηλεγής (ἀλέγω)· ἀφρόντιστος, ἀϑρήνητος Hsch.[42]
νηλεής (ἔλεος) 'pitiless' Hom. (*passim*).
  νηλεής (ἀλέομαι) 'unavoidable' Hom.
† νήλευστος (λεύσσω) 'not seen' [Theocr.] *Syr.* 20.
? νήλιπος (ἦλιψ) 'shoeless' S.
† νηλίτιδες (ἀλιταίνω) 'guiltless' Hom. (π 317 = τ 498 = χ 418).
νημερτής (ἁμαρτάνω) 'unerring' Hom. (*passim*); Dor. νᾱμ. Tragg.
† νημηϑής (-μηϑής) 'thoughtless' Inscr. Phrygia (Ramsay, *Stud. East. Rom. Prov.*, p. 123).
νηνεμίη etc. (ἄνεμος) 'windlessness' Hom. (E 523 Θ 556 ε 392 μ 169).
† νηπαϑής (πάϑος) 'free from suffering' Opp. Apam. (*C.* 2.417).
† νήπαυστος (παύω) 'unceasing' Lyc. 972.
? νηπεδανός (ἠπεδανός) 'weakly, light' Opp. Apam. (*C.* 3.409).
† νηπεκτής (πέκω) Hsch. νηπεκτέας· ἀκτενίστους.
  † νήπεκτος Epic. Alex. Adesp. (2.30).
νηπελέω (*ἄπελος) 'be without power' Hp. (ap. Gal. 19.124).
νηπενϑής (πένϑος) 'banishing pain and sorrow' Hom. (δ 221).
† νηπευϑής (πευϑ-) 'unsearchable' Orac. ap. Macr. (*Sat.* 1.18.20).
  † νηπυϑές· ἄπευστον Hsch.
  † νήπυστος 'not heard' Nonn. (*D.* 11.199).
? νήπιος (?) 'infant' Hom.
† νήπλεκτος (πλέκω) 'with unbraided hair' Bion (1.21).
νήποινος (ποινή) 'without compensation, penalty' Hom. (*Od.* α β ξ σ).
  νᾱ́ποινος· μάταιος Hsch.
νήριτος (ἀρι-) 'countless' Hes. (*Op.* 511).
  νήριϑμος [Theocr.] 25. 57, Lyc.
νῆστις (ἔδω) 'not eating' Hom. (T 156.207 σ 370).
† νήτιτος (τίνω) 'unavenged' Inscr. IG 14. 1389 ii 33.
† νητρεκής (-τρεκής) 'sure' Lyc.

[41] See following note.
[42] Forssman (n. 40), p. 147, n. 3: "Die zweite Bedeutung bei Hesych deutet auf (sekundäre) Beziehung zu ἔλεγος; vgl. die benachbarten Glossen νηλεγές· ἄνοικτον, ἀϑρήνητον; νηλεγέως· ἀνοίκτως." At the place in Alcman (26,4 Page) cited in LSJ s.v. νηλεγής the text gives νηλεές, which must probably be changed into νηδεές (Boissonade) (cf. ἀδεές Phot.).

† νήυτμος (ἀϋτμή) 'breathless' Hes. (*Th.* 795).
† νήφρων (φρήν) 'senseless' Claudian. (*Gig.* 2. 23).
νωδός (ὀδών) 'toothless' Ar., Arist.
νώδυνος (ὀδύνη) 'painless' Pi.
νωθής (ὄθομαι) 'sluggish' Hom. (Λ 559).
νωθρός Hp. (Pl., Arist.)
νωλεμής (?) 'unceasingly' Hom. (*passim*).
νώνυμ(ν)ος (ὄνομα) 'nameless' Hom. (M 70 = N 227 = Ξ 70; α 22 ν 239 ξ 182).
noperea$_2$ (*nōpheleha*) (ὄφελος) 'useless' Myc. PY Sa 682 + (*Docs.* p. 374).
νωχελίη (?) 'laziness, sluggishness' Hom. (T 411).
† νώψ· ἀσθενὴς τῇ ὄψει Hsch.

2. Interpretation

a. *Chronology*

The first question that must be dealt with here is that concerning the relation between νη-, νω- of words that begin with vowel and those of words that begin with consonant. For this question the words whose derivation is uncertain and those whose first occurrence cannot be dated should be left out of consideration. The following are unclear: νηγάτεος νήλιπος (probably derived from ἅλιψ; this word is in that case the only one derived from a word beginning with a long vowel) νηπεδανός νήπιος νήϋτμος (where the origin of ἀϋτμή is not known) νωλεμής νωχελίη.

The following words cannot be dated: from Hesychius νηλεγής[43] νηπεκτής νηπυθής νώψ and further νημηθής νηπευθής νήτιτος.

If we arrange the remaining words in chronological order we get the following picture for νη- of words with consonant.

Hom.	Hes.	older poetry	Hellen. and later
† νηκερδής	† νηκέρως	† νηδεές Alcm.	† νήπαυστος Lyc. III B.C.
νηπενθής			† νητρεκής Lyc.
νήποινος			† νήπλεκτος Bion II B.C.
νῆϊς			† νήλευστος [Theocr.]
			† νήπεκτος Epic. Alex. Adesp.
			† νηπαθής Opp. Apam. III A.D.
			† νήπυστος Nonn. IV/V A.D.
			† νήφρων Claudian. IV/V A.D.

In my opinion the picture thus obtained is not susceptible to a dual explanation. Some of these forms are already found in Homer. In the case of νῆϊς it should be

[43] Ἀνηλεγής (Q.S., Hsch.) is also assumed with great probability in Hom. τανηλεγής; cf. Leumann, *Hom. W.*, p. 45. Division into -τα νηλεγέος (θανάτοιο) is less probable, since in that case the formula would not coincide with a caesura.

remarked that forms of the stem ϝειδ- with a long augment are also found in Homer (ἠείδη(ς)). Of νηκερδής (P 469 ξ 509) ἔπος νηκερδὲς ἔειπες (ξ 509) seems to have been created on the pattern of Γ 204 ἔπος νημερτὲς ἔειπες;[44] one is inclined to derive νηκερδέα βουλήν (P 469) from νημερτέα βουλήν, which is found in α 86 = ε 30. Besides ποινή ἄποινα (Il.) occurs as substantive, which may have facilitated the formation of νήποινος. Νηπενθής occurs in Homer only in δ 221.

After Homer (and Hesiod) this formation occurs only in Hellenistic authors, the first being the notorious Lycophron. All these words are ἅπαξ λεγόμενα, which of course may be coincidental, but more probably suggests that these are only literary nonce-words. For νήπαυστος cf. νωλεμής, with the same meaning ('unceasingly'). Νηπαθής is probably after the example of Hom. νηπενθής.

It is also striking that νω- of words beginning with consonant is not demonstrable.

The forms with νη-, νω- of words with vowel give an entirely different picture.

Myc.	Hom.	Hes.	older poetry	class. language	Hellen.
noperea$_2$	νήγρετος	νήκεστος	νώδυνος (Pi., S.)	νηπελέω Hp.	
	νηκουστέω	νήριτος		νωδός Ar.	
	νηλεής				
	† νηλίτιδες				
	νημερτής				
	νηνεμίη				
	νῆστις				
	νωθής				
	νώνυμ(ν)ος				

This survey suggests that this type was old, widely represented in Homer, and even demonstrable in Mycenaean, while some do not occur for the first time until later. It is improbable that νηπελέω was a late creation, since *ἄπελος is no longer demonstrable anywhere. With regard to νήριτος Leumann, *Hom. W.*, pp. 243 ff., assumes that it goes back to ι 22 ναιετάω δ' Ἰθάκην εὐδείελον· ἐν δ' ὄρος αὐτῇ | Νήριτον εἰνοσίφυλλον ἀριπρεπές, with numerous arguments. In that case νήριτος belongs in the Homer column. For νήκεστος see below.

Another argument may be that beside νη- of words with vowel mostly more recent forms with ἀνη- occur, while beside νη- before consonant only older forms with ἀ- are found. In my opinion this indicates that νη- before consonant is recent and takes the place of ἀ-, whereas νη- of words with vowel is old and was gradually transformed into ἀνη-, not directly replaced by ἀν- (+ *short* vowel), which also happened.

Beside νη- before consonants one finds:

νῆϊς Hom. H 9	ἄϊδρις ἀϊδρείη Γκλμ
νηκερδής Hom.	ἀκερδής S. (ἀκέρδεια Pi.)
νηπενθής Hom.	ἀπενθής A.

[44] For ξ 509 see Hoekstra, *Modifications*, p. 59.

νήποινος Hom.	(ἀνάποινος Hom. A 99)
νηκέρως Hes.	ἀκέρως Pl.
νηδεής Alcm.	ἀδεής Il.
νηπαθής Opp.	ἀπαθής A.
νήπαυστος Lyc.	ἄπαυστος Parm., A.
νήπεκτος Epic. Alex. Adesp.	ἄπεκτος Androt. (IV B.C.)
νηπευθής Orac. ap. Macr.	ἀπευθής Hom.
νήπλεκτος Bion (II B.C.)	ἄπλεκτος *A.P.* 7. 412 (Alc. Mess. III/II B.C.)
νήπυστος Nonn.	ἄπυστος Hom.
νήτιτος[45] inscr.	ἄτιτος Hom.
νητρεκής Lyc.	ἀτρεκής Hom.
νήφρων Claudian.	ἄφρων Hom.
νήλευστος [Theocr.]	(ἄλευστος Hsch.)

Beside νη- of words beginning with vowel the following forms are found (to be distinguished into four groups: I. ἀνη-, ἀνω- more recent;
II. ἀνη- older;
III. ἀνε-, ἀνο- more recent;
IV. no other form.)

I.	νηκουστέω Hom. (Y 14)	ἀνηκουστέω Hom. (O 236 = Π 676)
	νηλεής Hom.	ἀνηλεής Men. -έως Hp. -έητος Aeschin. -εήτως Ar., Pl. ἀνελεής pap. (IV A.D.) -έητος Arist.
	νηνεμίη Hom.	ἀνήνεμος S.
	νῆστις Hom.	ἄνηστις A.
	νώδυνος Pi., S.	ἀνώδυνος S., Hp.
	νώνυμ(ν)ος Hom. (ΜΝΞ ανξ)	ἀνώνυμος Hom. (ϑ)
	nopereaⱬ Myc.	ἀνωφελής A.
II.	νήκεστος Hes.	ἀνήκεστος Hom., ἀνακ. Hp.
III.	νήγρετος Hom.	ἀνέγερτος Arist.
	νημερτής Hom.	ἀναμάρτητος Hdt.
	νωδός Ar., Arist.	ἀνόδων Arist.
	νωθής Hom.	ἀνόθηρος Hsch.
IV.	νηλίτιδες Hom.	—
	νώψ Hsch.	—

The last group (IV) is irrelevant here. Of the third, a form ἀνη-, ἀνω- is not known. The forms with ἀν- differ here in formation from those with νη-, νω- and are more recent. The first group demonstrates that ἀνη- (ἀνε-), ἀνω- is more recent than νη-, νω-. Nor was anything else to be expected: it would be incomprehensible if ἀνη-

[45] The form νήτιτος is probably made after Hom. νήποινος.

were replaced by νη-, if an old νη- did not exist. This replacement can, we see, already be observed in Homer.

It is striking that Hesiod has νήκεστος as against Hom. ἀνήκεστος. However, it is improbable that νήκεστος is a form resulting from phonetic development; see p. 110.

b. *Conclusion*

The conclusions from the preceding examination are then as follows.

(1) The negatives with νη-, νω- are old; they are present in a large number in Homer.

(2) They disappear from the language. They are replaced by ἀνη-, ἀνω- or by entirely new formations with ἀν- followed by short vowel. This replacement already began with Homer: ἀνηκουστέω (? ἀνήκεστος, ἀνώνυμος) as against sixteen with νη-, νω- (including νηγάτεος νωλεμής νωχελία).

(3) Νη-, νω- is old in words that began with vowel. The form spread to words that began with consonant, but exclusively in the artificial language of Homer, Hesiod, (Alcman) and Hellenistic poetry. The first development can be outlined in Homer: (? νῆϊς), νήποινος (Od.) beside ἄποινα (Il.), νηκερδέα after νημερτέα; νηπενθής (δ).

c. *Attempts at an Explanation*

PIE used **ne* as sentence negation, and in compounds **n̥*; in general it is assumed that these two are related (latterly Moorhouse, *op. cit.*, pp. 41-6), although some reject this idea (Puhvel, *Lg.* 29 (1953) 14-25). Gray, *Lg.* 1 (1925) 119-29, operates with a basis **anē*, for which there is, however, no ground: Gr. Skt. *a-* before consonant cannot be so explained, nor, come to that, *ne*. Thus Kuryłowicz, *Etudes*, p. 243, works with **ĥne* (as form II of **ĥen*), because *ne/n* is not a normal type of ablaut. However, I do not see how this simplifies the problem: is **ĥn-e* so much more comprehensible than **n-e*? Puhvel (*loc. cit.*) also works with **ĥn-*, of which the *n* was always vocalic, since every word would have originally commenced with consonant. As stated (p. 90ff.), the latter assumption is unfounded and the form *ĥn-* explains nothing and is suggested by nothing. The article by Puhvel makes matters particularly complicated[46] (in his own special fashion) by bringing into the discussion all conceivable sandhi variants (nine), of which, however, nothing — outside what was already long known — has any basis in fact; cf. p. 108. See the criticism of Moorhouse, pp. 44-6 and 59 n. 1.

Moorhouse rightly also disclaims that the form ἀνα- is of importance to this discussion. Its development can be followed step by step: Hom. ἀνάεδνος (I 146. 288 N 366)[47] and ἀνάποινος (only A 99; based on ἄποινα?). Hesiod has ἀνάελπτος (*Th.* 660), which looks like an imitation of ἀνάεδνος (cf. ἐέλπομαι/ἔλπομαι beside ἔεδνα/ἔδνα), and ἀνάπνευστος (*Th.* 797). Solmsen, *Unters.*, pp. 264-6, has pointed out that

[46] Cf. his explanation of νόϑος from **Hn̥-Hμodh-*. In my opinion this form, with double h_2, would have become *ἀνᾱϝοϑ-.

[47] One expects here a form *νήεδνος. Cf. also p. 59.

this place, ἀλλά τε κεῖται ἀνάπνευστος καὶ ἄναυδος, is an imitation of ε 456 f., ὁ δ' ἄρ' ἄπνευστος καὶ ἄναυδος | κεῖτ' ὀλιγηπελέων, and evidently is based on an incorrect interpretation of this place or still others (or is it instead deliberate 'embellishment'? For ε 456 there is a *varia lectio* ἀνάπνευστος). Ἀνακηδής (Democr.), ἀνάγνωστος (Call.?) and ἀνάπταιστος (Suid.) then follow. It is clear that this is an artificial form that is of no importance to PIE. Gray (*loc. cit.*, p. 121) recalls the New Greek forms ἀνάβακτος ἀνακέφαλος ἀνάκακος, where ἀνα- is equivalent to ἀ-. Moorhouse rightly points out that these forms "could have arisen *at any stage* in the language".

Wackernagel, *Vorl. üb. Syntax* 2., p. 284, who explains the form ἀνη- as ἀν- (< *n̥*) with compositional lengthening of the first syllable of the following word, which in principle is highly feasible and may be correct for some cases, has suggested that νη- be explained in this way from ν-η- (νήνεμος < ν-ᾱνεμος), with *n-* as a variant of *ne/n̥-*. Frisk (s.v. νη-) combines this in what is probably deliberately a not entirely clear manner with the most widespread explanation, that from *ne-* (with contraction; *infra*): "Durch Analogie nach νηλεής, νήνεμος u.a. gebildet, die zunächst für ν-ηλεής ν-ήνεμος mit gedehntem Anlaut des Hintergliedes stehen (können), aber letzten Endes wohl die Satznegation **ne* enthalten". It seems to me that Frisk is of the opinion that νη- of words that begin with vowel does not have the same origin in all cases, but has been formed partly on the analogy of νη- < **ne* + *e/a-* as ν + *ē/ā-*. This is a valuable idea. It is probable that νη- has been secondarily extended, also in the case of words beginning with *vowel*, since it was *later* likewise used before consonant. However, he does not regard *n-ē/ā-* as the origin. I tend to share this view, because otherwise there is not the slightest indication of PIE *n-* (beside *n̥-*). Moreover, in this case compositional lengthening is not self-evident, since after all nothing is changed in the syllabic structure of the word by the addition of *n-*. (The latter is an argument only if the succession of short and long syllables is regarded as decisive for the compositional lengthening and is not interpreted as a mechanical extension of IE contraction of vowels. Cf. also p. 94).

As Schwyzer, p. 431 n. 6, remarks, νη- could in itself be PIE **nē*, Skt. *nā*, Lat. *nē*, but, as has been demonstrated above, νη- before consonant is secondary and the origin in words that begin with vowel points rather to something like contraction. Moreover, νᾱ- (νᾱμερτής Tragg.) testifies against **nē* (Schwyzer, *ibid.*).

There remains the generally accepted supposition (Schwyzer, p. 431, Lejeune, *Traité*, p. 179 n. 2, Moorhouse, p. 57, Frisk, *supra*) that νη- goes back to the sentence negation **ne*, contracted with the following vowel. However, there are insurmountable objections to this.

As stated, PIE **ne* is sentence negation and it is not used in compounds. It is, however, found in combination with **-kʷe*, Skt. *naca*, Lat. *neque*, Osc. *nep*, Goth. *nih* (cf. Myc. *ouqe*) and **-u̯e*, Skt. *navā*, Lat. *neu*, W. *neu*, which can be immediately explained by its original function. One cannot speak of compounds here. It is also combined with pronouns and adverbs, Skt. *nákiṣ*, 'no one, none', Av. *naēčiš*, Lith. *niẽkas*, W. *nep*, OIr. *nech* and above all in Latin, *nemo*, *nihil* (cf. OHG *neo-wihts*), *non* < **ne-oinom*, *nullus*, *neuter* and *numquam nusquam* (*nequam nequaquam*). *Ne* is also found in a number of other combinations, which can be immediately explained by the original function: Lith. *nėsti*, Goth. *nist* and above all in Latin *nefas*, *nego*, *nescio*, *nolo* (cf. OE *nylle* < **ne-wille*). Sanskrit has a few compounds, *namura* 'immortality', *na-ciram* 'not for long', *na-puṃsaka-* 'unmanned, neutral'. See Moorhouse, pp. 32 ff. (For Latin recently Leumann, *Glotta* 42 (1964) 110.)

Only in Balto-Slavic is *ne-* generally used instead of **n̥-*, OCS *ne-bogъ* 'poor', *ne-gasimъ* 'unauslöslich', *ne-cistъ* 'impure'; Lith. *ne-lãbas* 'not good', *ne-pigùs* 'not moderate'. And yet OCS *-ję-* perhaps displays a trace of the old *n̥*, *ne-ję-věrъ* 'unbelieving', *ne-ję-sytъ* 'pelican' ('the insatiable'?). However, it is striking that *ne* is very rare in bahuvrihis (Moorhouse, pp. 36 and 57), while a large number of the words with νη-, νω- are bahuvrihis. (See below for the conclusion from these data.)

It is clear that we are concerned here with extensions that took place in the individual languages.

A second objection is that there is not a trace left in Greek of *ne* as sentence negation. Even in the combinations **ne-kʷe*, **ne-kʷis* Greek has οὐ instead of *ne*. This argument would weigh all the more heavily if the connection of οὐ with Arm. *oč* were correct. See for this Moorhouse, pp. 15-8, and Cowgill, *Lg.* 36 (1960) 347-50, who traces it back to **(ne) h₂oi̯u* (*kʷid*),[48] of which **h₂oi̯u* is found in Skt. *āyu* (*h₂eiu̯-* in αἰεί), and for which locution he gives parallels in Germanic. For this would suggest great age for οὐ and would imply that **ne* was displaced at an early stage, while the theory discussed here supposes a secondary extension of **ne*.

A further very considerable objection is that one would expect **ne-*, νε- before consonant too, of which there is no evidence. Compare for this the above-mentioned extension of **ne-*, especially in Balto-Slavic, which took place principally before consonant. The Greek words suggested, νέκταρ and νέποδες, cannot be used as proof of the existence of such forms.

The word νέποδες occurs only once in Homer, δ 404: φῶκαι, νέποδες καλῆς Ἁλοσύδνης. Later it does not occur again until the Hellenistic period, in the meaning of 'children' (Theocr. 17.25, Call. fr. 77), to which not much value may be attached, since this meaning has probably been concluded from the Homeric instance. The word is later explained (Apion ap. Apollon. *Lex.*) as νηξίποδες from νέω or as ἄποδες with νε- = νη-. Compare for this νήποδες· ἰχθύες Hsch. The first explanation is certainly incorrect, and the second is no more than an attempt to explain νε- by identifying it with a word that resembles it; this has of course only the value of a grammarians' construction, and does not represent an old tradition.

The *varia lectio* of h.Ap. 78 does not have any separate value. Delos, giving expression to her fear that Apollo will despise her and cause her to disappear under water, says there: "πουλύποδες δ' ἐν ἐμοὶ θαλάμας φῶκαί τε μέλαιναι οἰκία ποιήσον-

[48] For *oju* > ου cf. **poh₁u* > Skt. *pāyú*, Gr. πῶυ (see p. 173; cf. Lejeune, *Traité*, p. 145). One would, however, expect traces of hiatus. Mycenaean is not written with a *j* (*o-u*).

ται ἀκηδέα χήτεϊ λαῶν" where ἕκαστά τε φῦλα νεπούδων has also been handed down for the last three words. One has the impression that the word νέποδες has only been used for the sake of the contrast with πουλύποδες 'many-footers'. One reason for this was probably that ἀκηδέα χήτεϊ λαῶν was not understood ("their dwellings... that remain undisturbed, because there will of course then be nobody who could trouble them"). One cannot otherwise imagine that this not particularly troublesome text would have been changed so radically. In any case it seems certain — in view of φῶκαι — that δ 404 is the basis of it. This is also the only place with νεπουδ- (or νεπόδ-).

The only authoritative place is therefore Homer, in which connection it should be borne in mind that it is not certain that the word still has its original form and meaning here. For Halosydne see Frisk. The connection with *nepōtes* is incorrect, since ἀνεψιός corresponds to it; see p. 45. The meaning 'cousin' does not fit properly into Homer either. Νέποδες could also mean something quite different, e.g. 'escorts'.

The explanation of νέκταρ by means of an element νε- is entirely unprovable; this view is shared by Frisk s.v. Cf. p. 160f.

There is thus no trace of a Gr. νε- from PIE **ne* and a Greek contraction *ne-a-* > *nā-*, *ne-o-* > *nō-* has still to be demonstrated. If the contraction is to be placed in PIE, the drawback is that *nē- nā- nō-* would also be expected in the other languages, of which there is no evidence, and above all that, as discussed above, **ne* is not used in compounds in PIE.

This explanation, too, therefore proves untenable and another will have to be sought.

d. *Explanation by Means of the Laryngeal Theory*

If it is assumed that in compounds only *n̥-* is old, which in Greek gave ἀ- before consonant, and ἀν- before vowel, it is clear that here *n̥-* was followed by another element than the consonants and vowels assumed of old for PIE, namely a phoneme that in Greek became a vowel, since νη-, νω- originates in words with vowel. These considerations suggest a laryngeal.

If the cases which have a chance of being old are put together, i.e. omitting forms with νη- before consonant, as well as that which seems to be derived from a word with long vowel and those whose etymology (νηγάτεος νήπιος νήϋτμος νωλεμής νωχελία) or age (νώψ) is unknown, the result is as follows:

ε-	α-	ο-
νήγρετος	νήκεστος	νωδός
νηλεής	νηκουστέω	νώδυνος
νῆστις	νηλεής	νωθής
	νηλίτιδες	νώνυμ(ν)ος
	νημερτής	*noperea*$_2$
	νήνεμος	
	νηπελέω	
	νήριτος	

It is striking that in many cases, at least nine out of the sixteen, the first vowel of the word from which they are formed is a 'prothetic vowel' (the words spaced). This is also pointed to by the prevailing structure, νηCVC- of words with VCVC-, much more rarely νηC-, from VC- (i.e. coalesced with the stem vowel, νῆστις νωδός νωθής).

As it is probable that the prothetic vowel has developed from laryngeal and the only PIE form of the negative 'prefix' that is used in compounds is *n̥-*, a starting-point **n̥-hCVC-* is most self-evident. The initial group amounts to *n̄*, from which it is generally assumed that νᾱ developed. The origin in *n̥hC-* makes a development into the three different timbres possible. Assuming the existence of three laryngeals, which were separately preserved in Greek (which is also indicated by the prothetic vowel), *n̥h*$_1$-, *n̥h*$_2$-, *n̥h*$_3$- may be expected. The development from this to *n* + long vowel can be explained solely by assuming that a vowel developed between *n* and *h*. It is conceivable that the timbre of this vowel was determined by the following laryngeal, so that *n̥h* > *n*$_o$*h* > *neh*$_1$/*nah*$_2$/*noh*$_3$ was obtained, which became *nē nā nō* respectively.

A parallel elsewhere makes it highly probable that we are in fact concerned here with a phonetic development. In the zero grade of the disyllabic roots one gets the same group *R̥H* in the middle of the word. Uncertainty prevailed about the phonetic representation of this group (ρᾱ and ρω were mentioned). However, in my opinion the material points to ρᾱ ρη and ρω, as is explained at length in chapter XI. This development becomes understandable with the aid of the laryngeal theory. The agreement between these two phenomena is so striking that in my opinion the development *n̥h*$_1$ > νη, *n̥h*$_3$ > νω beside *n̥h*$_2$ > νᾱ can no longer be doubted. This confirms that the three laryngeals in Greek preserved their original opposition, which is the most important proposition that is defended in this study.

The idea that νη- goes back to *n̄-* is already found in Brugmann-Thumb, *Gr. Gr.* 1913[4], p. 102, where it is given without further argumentation. Only ἀμ- in ἀμφασίη is regarded as a variant beside νη- from *n̄-*. The view that this ἀμ- is a phonetic form has now been generally abandoned, cf. Frisk s.v. and Chantraine, *Gr. Hom.*, p. 99. Moreover, αν cannot come from *n̄* before consonant. Nor can ἀνα- beside νη- be the phonetic representation of *n̄*; it has been demonstrated above that this form is not old.

The explanation of νη- from *n̄* + laryngeal was first given by Sturtevant, *Lg.* 16 (1940) 85, for νῆις. It is, however, improbable that the stem **n̥eid-* had a laryngeal despite the long augment of ἠείδει. In any case there is no evidence of a prothetic vowel. The connection with Hitt. *ḫu-u-i-tar* 'fauna, the animals' (still made in *Comp. Gr.*, pp. 50f.) is not convincing from the semantic point of view. The γ assumed by Sturtevant (that is *h*$_3$) would have given *νῶις. (However, the formation of this word suggests great age; must one assume **nē-n̥id-* ?)

In this way Austin, *Lg.* 17 (1941) 83-93, also explains νηκουστέω νημερτής νήγρετος. However, he does not seem to have considered the consequences of this explanation, because he mentions it *en passant*, without going more deeply into it.

The same is true of Cowgill (p. 152), who states with reference to νώνυμ(ν)ος: "certainly representing a pattern that began in roots with initial laryngeal, where **ŗ̥-HC-* became **ŗ̄C-*", referring to Puhvel. Puhvel's formulas, *Lg.* 29 (1953) 14-25, display the combination $ŗ̥ + h > ŗ̄$, but although he also notes the connection with the prothetic vowel and assumes that this developed from laryngeal, he rejects the explanation defended here. A first element of the following word could not be contained in νη- (etc. and ἀνη-, ἀνα- which he all regards as original sandhi variants), since the same lengthening is found in the εὐώνυμος, ἠνεμόεις types. These objections do not hold water. The first is a case of compositional lengthening, for the second see Leumann, *Hom. W.*, pp. 109 f., *IF* 61 (1952) 1-16 = *Kl. Schr.*, p. 365 n. 7; cf. Chantraine, *Gr. Hom.*, p. 98. I do not see to what extent these forms refute the explanation defended here. As demonstrated above, *n* + compositional lengthening is not possible.

An objection that might be adduced is that there is no representative of this form that can be pointed to in the other languages. For one would expect Skt. *ŗ̥-hC-* > *aHC-* > *āC-*, and in Latin and Celtic *nāC-*. The only form that might point to this is Skt. *ásat-* (RV IV 5.14 VII 104.8) beside *ásat-*, which might go back to **ŗ̥-h₁s-ŗ̥t-*.[49] However, it is by no means certain that the root of 'to be' commenced with a laryngeal; Greek rather suggests the opposite, p. 91. For the rest it is understandable that this small group of strange forms was soon replaced in the various languages.[50]

e. *The separate Forms*

There are still various problems of detail.

The form νήγρετος must go back to **n̥-h₁gr-etos*. For *-etos* cf. ἄ-σχ-ετος (Av. *a-zg-ata-*), ἄ-σπ-ετος etc., likewise with zero grade of the stem; Schwyzer, p. 502.

With νήριτος (cf. Arc. ἐπάριτοι) it is difficult to make out whether we are concerned with a stem form **h₂eri-* or **h₂ri-*. However, the zero grade is normal here, cf. Myc. *akitito* (ἄκτιτος), ἄφθιτος — Skt. *ákṣita-*, ἄκριτος (cf. ἀκριτόφυλλον — νηριτόφυλλον ap. Hsch.) and in particular ῥυτός from the stem **ϝερυ-*.

νηλίτιδες occurs solely in π 317 = τ 498 = χ 418. The length of the first ι is striking, because this is historically inexplicable (ἀλειτ-/ἀλοιτ-/ἀλιτ-). In view of the parallel forms one would expect full grade (νηλεής νημερτής νηπελέω νηλεγής νωλεμής *noperea₂* νωχελία). It is therefore obvious that the original form was *νηλειτ- (as also read by Schwyzer, p. 464). The ending -ις -ιδος beside the predominating -ης is also strange. It appears that most manuscripts have νηλιτεῖς

[49] As already suggested by Kuryłowicz, *Etudes*, p. 30.

[50] Phr. *nadrotos* is interpreted by Haas, *Phr. Spr.*, p. 97 f., as 'entmannt'. However, as demonstrated, an element *ne-* is improbable. The form *n̥-* to be expected cannot be contained in the word, for *n̥* before vowel becomes *an* (*knoumanei* < *-mn̥-ei*). The sole possibility would be that Phr. *na-* corresponds to Gr. νᾱ- and goes back to *n̥h₂-*. One might assume that the substantive (Haas starts from **ādro* 'Kern, Hode') was cognate with **h₂nēr* 'man', which suggests a basic form **n̥-h₂nr-o-to-*. However, there is nothing to indicate *nr* > *dr*, while the group *mr*, for which one would then expect *br*, is maintained (*Temroge*).

(-ητεῖς), which gives a versus spondiacus. This was perhaps one of the reasons why the form ending in -ειτεῖς (-ιτεις ?) was replaced by the more frequent -τιδες (beside ἀλείτης Γ 28 υ 121, cf. ἱκέτης — ἱκέτις). It therefore seems to me that the original text had νηλειτέες (νηλιτέες ms. J in π 317; cf. νηλιτέες· ἀναμάρτητοι, ἀναίτιοι, [ἄχρηστοι] Hsch.) See Add.

νηλεής is from **h₁leu̯-es*; cf. Lejeune, *Traité*, p. 222; for νηλέϊ etc. *ibid.* and Chantraine, *Gr. Hom.*, pp. 73 f.

νημερτής. With reference to ἁμαρτάνω Frisk says "Bildung und Herleitung unklar". The Aeolian form ἤμβροτον gives an aorist stem **amr̥t-*, which in structure, apart from the first vowel, is similar to **dr̥k̂-* in ἔδρακον, **dr̥p-* in Aeol. δρόπωσι (con.), Pi. δράπων. Parallels with two initial consonants are ἔκτυπον ἔστυγον ἔστιχον,[51] with vowel as first phoneme ἤριπε ἤρυγε ἤλυθε (ἐριπ- ἐρυγ- ἐλυθ-) and, the closest parallel, ἀλιτεῖν (ἀλιτ-; pres. *ἀλιτ-αν-jω, cf. ἁμαρτ-άν-ω). In the latter cases the first vowel is, as we saw, a prothetic vowel, i.e. in origin a laryngeal, so that these stems originally had the form *HRe(R)C-* (ἀλιτ- < **h₂lit-* etc.), which meant that **amr̥t-* was probably **h₂mr̥t-*. Schwyzer, pp. 704 and 748, thinks of a present formant τ, but ὀλισθ- < **h₃lidh-t-* is not an exact parallel of **h₂mr̥t-*; ἀλιτ- beside ἁμαρτ- and the form νημερτής point much more strongly to a PIE enlargement *t*.

If this analysis is correct, νημερτής (νᾱμ. Dor.) may therefore be based on **n̥-h₂mert-*. The fact that the full grade does not occur again anywhere else points to the great age of the form. It is very frequent in Homer, where it is striking that the word occurs much more frequently in the *Odyssey* that in the *Iliad*: 27 times as against 4 (A 514 Γ 204 Z 376 Ξ 470, and further as the name of a Nereid, Σ 46).

As a cognate Froehde (*BB* 20.215 f.) mentions Lith. *miršti̇̀*, 'to forget', Skt. *mr̥ṣyati* '*idem*'. The difference in meaning does not seem an insurmountable objection. In that case ἁμαρτ- would go back to **h₂mr̥st-*. The aspiration can then be ascribed to the *s* (Lejeune, *Traité*, pp. 118 and 102). An objection that has been adduced to this is that ρστ became στ, not ρτ (Solmsen, *Beitr.*, pp. 1 ff., Lejeune, *Traité*, p. 118). Another objection is that Arm. *moṙanam* 'to forget' (*ṙ* < *rs*) has no prothetic vowel, as **h₂merst-* would suggest. These two objections, plus the fact that the meaning 'to forget' has been preserved everywhere except in Greek and the fact that the aspiration from *s* cannot be demonstrated in identical cases (Lejeune, *loc. cit.*), seem to me to weigh too heavily to maintain the etymology.

Some would like to explain the form from **sh₂mr̥t-*, as Juret did (*Dict. grec et latin*, p. 85), but in my opinion this form would have given **smr̥t-* > *μαρτ- (*μρατ- > *βρατ-); see p. 85 ff. Moreover, νημερτής calls for an *s*-less form. In my view the basic form cannot therefore have been other than **h₂m(e)rt-* (for the structure compare **h₂m(e)ld-* in ἀμέλδειν etc.). The aspiration remains a difficulty. I see no basis for analogy.

For νωχελίη (T 411) one may therefore posit **h₃ghel-* (**h₃eghl-* > **oghl-*), which, however, is not further known. Connection with ὄχλος, however, is neither formally

[51] Note that this group is very small; only *sC* and *hC* besides κτ.

nor semantically (if the idea of 'movement' is the most ancient; v. Frisk s.v.) impossible.

For νωλεμής Frisk (with Fick) assumes a substantive *ὄλεμος, which might be **h₃lem-* (beside **h₃elm-* > **olm-*); cognate with Lith. *limti* 'zerbrechen' as 'uninterrupted' ? One might also think of the root ὀλε- (of ὄλλυμι), with a development **n̥-h₃lh₁-m-* > νωλεμ-; it cannot be demonstrated that this was in fact the development of such a basic form (rather than *νωλημ-).

If ἄκος goes back to **h₂ek-os* (see p. 129), νήκεστος (Hes.) cannot be old, for **n̥-h₂ek-* would have given *ἀνακ-. Or do we have here a trace of original ablaut: **h₂ék-os/*h₂k-es-*, cf. ἄφενος/ἀφν-ειός < **h₂bhen-os/*h₂bhn-es-*, p. 52)? The same problem occurs with νηνεμίη, where ἄνεμος (Lat. *animus*) is based on **h₂enh₁-mos*. It is easy to understand that here (cf. ἠνεμόεις) a form with νη- was created.

In cases where νη- was phonetic it cannot be made out whether the variants with ἀνη- go back to a new formation ἀν-ᾱ- or to a transformation of νη- on the analogy of ἀν + vowel (i.e. ἀ-νη- instead of νη-). In fact it cannot be determined at all whether compositional lengthening occurred with *n̥-* > ἀν- before vowel, but this seems probable; see below p. 111. If this were so there were therefore also old forms with ἀνη-. It will be clear that these then exerted influence on the small group with νη-. It is also probable in this situation that forms which originally had ἀνη- sometimes acquired variants with νη- in epic language (in particular). Such a case could be Hom. ἀνήκεστος: Hes. νήκεστος. One also has this impression with ἀνώνυμος : νώνυμ(ν)ος.

νῆστις, νωδός and νωθής can only be phonetic if they are based on the zero grade of the stem, *n̥-HC-*. However, each presents separate problems. It is not certain that ἔδω began with laryngeal. The only possible basic form for νῆστις would be **n̥-h₁d-ti-s*. For the formation cf. Av. *asruštiš* as against *sraoša-* (Meillet, *BSL* 25.123 ff.). However, the forms Lith. *nêsti*, Goth. *nist* suggest a starting-point **nēsti* 'he does not eat'; cf. Frisk s.v. The etymology of νωθής is unknown, even if it belongs to ὄθομαι. Νωδός (Ar.) beside ὀδών is very awkward. As the interpretation of ὀδών is not certain, it is difficult to determine whether νωδός is an old phonetic development of **n̥-h₃d-*, or a recent form (although in the latter case one would rather expect ἀνόδων, which occurs in Aristotle). For ὀδών : νωδός cf. λείμων : (βαθύ-) λειμος (Il.).

νώδυνος cannot be phonetic if the interpretation of ὀδύνη (from **ed-un-*) given above (p. 54 f.) is correct.

νώνυμνος occurs in the verse νωνύμνους ἀπολέσθαι ἀπ' Ἄργεος ἐνθάδ' Ἀχαιούς M 70 = N 227 = Ξ 70 and in α 222; the form νώνυμος occurs in ν 239 and ξ 182 (the latter verse ὅπως ἀπὸ φῦλον ὄληται | νώνυμον ἐξ Ἰθάκης Ἀρκεισίου ἀντιθέοιο cognate with the Iliad verse ?). It may be remarked in this connection that (ἀ)νωνύμους cannot be used metrically. If the analysis given on p. 47 is correct, ὄνομα did not have a laryngeal and the form must therefore be analogic.

Returning to the list of pp. 99f., the following may be added.

For νώψ see s.v. νῆστις etc. *supra*. The form seems recent. For the range of meaning cf. νωδός.

The etymology of νήπιος is unknown. As this is not a specific word from the language of poetry, an analysis with νη- before consonant seems improbable. For instance, this is the case with the connection with **μek"-* 'to speak' ('infans'), i.e. *νη-Fεπ-; the same applies to *νη-πF-ιος with νη-πύ-τιος (e.g. Lejeune, *Traité*, p. 70 n. 2). Pisani (*AGIt.* 31 (1939) 49-51) assumes on the strength of Epicurus, fr. 113,11 Arrighetti, [ν]απία original *a*-vocalism, which is now also found in Myc. *naputijo* (personal name). He connects it with Lat. *apiscor*, Skt. *āpnóti*, with the meaning 'ineptus'. This could therefore point to **n̥-h₂p-*, but *a*-vocalism is not certain for *āpnóti* (**hₑh₂p-*, on account of *ípsati* < **hi-hₑh₂p-*): if it is cognate with Hitt. *epmi* (*apanzi*), this points to *ē*. Lat. *ap-* < **hₑh₂p-* allows of no conclusion, any more than *co-ēpi*, on account of *ēgi* beside *ago* (cf. p. 130).

νήλιπος, which comes from ἦλιψ, cannot be old, since the long vowel cannot go back to a laryngeal; the word ἦλιψ itself is not clear.

νήϋτμος is derived from ἀϋτμή, the form of which is not clear; see p. 57 s.v. ἄημι.

f. *Vanished Forms*

It should also be pointed out that it is not impossible that some forms with ἀνη-, ἀνω- go back to νη-, νω-, as emerges for ἀνωφελής (A.) from Myc. *noperea₂*. These words are, from Homer:

† ἀνήμελκτος ι 439;
ἀνήνυστος π 111 (ἀνύω) 'of no effect';
† ἀνήνωρ κ 301.341, Hes. *Op.* 751;
ἀνήροτος ι 109.123 (cf. ἀρηρομένη Σ 548; see p. 119);
ἀνώϊστος Φ 39, -τί δ 92,
and more recent:
ἀνηρεφής A.R., ἀνώροφος Lyc.
ἀνωμοτί Hdt., -τος E.
and from Hesychius ἀνήμυκτος ἀνήρεστον ἀνωλόφυκτος.

These words can of course also have ἀν- with lengthened vowel (partly through the influence of ἀνη- for νη- ?), which is certain for ἀνήμετος (beside ἀνέμετος) Hp. (originally F-, Skt. *vámiti*), ἀνήνιος 'without pain' Hp. (ἀνάνιος Hsch.; ἀνίη < **an-is-i̯ā*, Kuiper, *AION* 1 (1959) 157-65), ἀνώροφος (since the ὀ- is probably based on assimilation in *ἐροφ-), ἀνώμαλος E., Pl. (*s*-), ἀνώχυρος X. (*s*-), ἀνήνυστος (*s*-). With ἀνήροτος and ἀνωμοτί a phonetic development **n̥-h₂rh₃-tos* > **nārotos* is conceivable (but see p. 110 s.v. νωλεμής). Beside ἀνώλεθρος (Parm.) Homer has ἀνόλεθρος (N 761). For ἀνήνωρ cf. νῶροψ p. 75 f.

3. Nature of the Laryngeal

As the development found here is also of great importance to the interpretation of the disyllabic roots, it is useful here to underline the necessity of a basic form **n̥-ĥC-*.

Theoretically, consideration could be given to explaining *nē-* etc. otherwise with the aid of a laryngeal. For instance, one could postulate a sound group **n-ₑĥC-*. This is impossible because *n-* (in this form) is not a PIE form (see above) and because the prothetic vowel (or in general the first vowel of the simplex) cannot have developed from *ₑĥC-* (p. 94 f.).

The group *n-ĥₑC-* (for the *n-* see above) would have given *nāC-*, since the laryngeal disappears before vowel (with colouring); for *ĥₑ* see p. 94 f.

One should start from an element *n̥-*. If one wants to combine this with the theory of reduced vowels, one gets from *n̥-ₑĥC-* (for a refutation of *ₑĥ- supra*) > *anāC-*. If, as Austin does, one wishes to start from *ĥₑ-*, then the result would be *n̥-ĥₑC-*, which would have given *anĥₑC-* > *an(ĥ)aC-* > *anaC-*. This development would (of course) be the same as that of *n̥-ĥeC-* (p. 110 s.v. νήκεστος).

With vocalic laryngeal *n̥-ḭ̯C-* (an otherwise inconceivable structure) would in my opinion have led to *anaC-*.

The only possibility that thus remains is *n̥-ĥC-*, which for the consonantal laryngeal is in agreement with the conclusion regarding the prothetic vowel (p. 95), and for the *n̥-* presupposes the only form of the negative element that PIE seems to have had in compounds.

4. Summary

If one summarizes the above one can give the following sketch of the problem of the forms with νη- and νω-.

There is no indication that PIE knew other forms of the negative than *n̥-*, *ne* and *nē*. *Nē* cannot explain νᾱ-, νω-. The length may be explained by contraction of *ne* with following vowel, which forms can be demonstrated to be the oldest. However, there are the following objections to this explanation:

(1) *ne* is sentence negation and is not used in compounds. The extension of *ne* in Latin and Balto-Slavic is clearly secondary.

(2) Greek has no trace of *ne*. As οὐ is probably cognate with Arm. *oč̌*, this replacement took place at a very early stage.

(3) One would also expect *ne* before consonant, as in Latin and Balto-Slavic.

(4) The forms with νη-, νω- appear very frequently in words with prothetic vowel, which did not yet exist as a vowel in PIE.

(5) An early Greek contraction *ne-a* > *nā*, *ne-o* > *nō* has not been demonstrated.

These considerations lead to the origin being sought in *n̥-*. If this is combined with the fact that among the oldest forms many words with prothetic vowel occur, of which

it is plausible on other grounds too that it developed from a PIE laryngeal, one arrives at a basic form *n̥-ĥC-*. It is obvious to assume a development *n̥ĥ₁C-* > *nēC-*, *n̥ĥ₂C-* > *nāC-*, *n̥ĥ₃C-* > *nōC-*, to which the disyllabic roots also point.

The secondary development of this type may be outlined as follows.

In Homer the type has already been extended to forms with vowel of another origin (also *ĥe-*, where one would expect *n̥-ĥe-* > *an(ĥ)e-*: νηνεμίη from ἄνεμος < **ĥ₂enĥ₁-mos*). Even in Homer these forms are replaced by ἀνη-, ἀνω- (ἀνηκουστέω), a development which is continued in the living language. In Homer one finds on the other hand extension to words beginning with consonant (νῆϊς νηκερδής νήποινος νηπενθής). This extension was not continued again until the Hellenistic authors and probably belongs to artificial language, notably that of the epic. Not only were these forms regarded as typically epic, but they also had great expressive force (νητρεκής, νήφρων). Νω- is never found from words that begin with consonant. Some of these words escaped the general tendency and still live on in New Greek. This will be due to the fact that they are no longer sensed as negatives. One finds νηνεμία νῆστις νωδός νωθρός νωχέλεια (-ής).

C. ATTIC REDUPLICATION

1. The Problem

Attic reduplication is the name given to that form of reduplication in Greek in which the reduplicating syllable consists of the first vowel + consonant and in which the vowel of the second syllable is lengthened: ἐλήλουθα from the stem **ἐλευθ-*. Until relationship of other forms has been demonstrated, the term should be reserved for this phenomenon. The name 'Attic' comes from the frequent occurrence of this form in Attic prose, but it is general in Greek, being for instance common in Homer.

Before the interpretation with the aid of the laryngeal theory, there was hardly an attempt to explain this form of reduplication in existence. Schwyzer (p. 766) regards some as transformed from the type with lengthening, ὄρωρα for **ὤρα*, cf. Skt. *āra*, ὄδωδα cf. Lith. *úodęs* (here, however, the present too has a long *o*, *úodžiu úosti* from **ōdi̯ō*). Mention may also be made here of Goth. *ōg*, OIr. *ad-āgor* (cognate with Gr. ἄχομαι); ἦχα, Skt. *āja* (although this form is confined to grammarians), Lat. *ēgi*, OIcel. *ók*. It should be noted that we are concerned here solely with monosyllables, for which this explanation is in my opinion correct (*infra*, p. 121); however, the type ἐλήλουθα can hardly have been created entirely on the pattern of ὄρωρα; ὀρ- (: **ōr-*) : ὀρωρ- = ἐλυθ- (: **ē-ludh-*) : x ought then to have given ἐληλ(ο)υθ-. But the replacement of **ōr-* by **orōr-* is not understandable in itself and calls for elucidation.

By way of explanation Schwyzer has therefore assumed (p. 766 n. 8) that for instance **rip-* was reduplicated into **rērip-* and then became ἐρηριπ- with prothesis.

However, there are serious objections to these two assumptions. There is nothing to show that the Greek prothesis was added to the separate forms. The so-called 'prothesis' forms a fixed component of the stem. Compare the criticism of Kuryłowicz' second explanation, p. 122f.

A second objection is that there is no evidence of intensive reduplication with *ē* in Greek; it would after all be inexplicable if this occurred or was preserved only in combination with prothesis. Two cases of such reduplication are mentioned, ἐγρήγορα and δηδέχαται. To regard ἐγρήγορα, which in the first instance stands for *ἐγήγορα, as *γήγορα + prothesis ἐ- and then to use it as an argument for the theory stated here of the origin of Attic reduplication is a *petitio principii*. For the relation to Skt. *jāgára* see pp. 117f. and 121. There remains δηδέχαται, which is a very unclear form, calling for more detailed discussion.

The spelling δηδέχαται is based on a suggestion by Wackernagel (*infra*); the manuscripts everywhere give δειδ-. The word seems more or less to mean 'to greet, welcome' and is generally considered to be cognate with δειδίσκομαι, δεικανάομαι and δείκνυμαι with the same meaning. L. Meyer (*KZ* 7.201) suggested on the basis of the comparison with Ved. *dāśnoti* 'offers, honours a god, grants' that δεικνύμενος should be changed into *δηκνύμενος. Wackernagel (*BB* 4 (1878) 268ff.) was of the opinion that δειδέχατ' also derived from *δηκ- and that δει- stands for δη-. How he sees this is evidenced by the following (p. 269): 'Allerdings zeigt sich der alte *ā*-laut in δείδεκτο zu ε, in δειδίσκομαι sogar weiterhin zu ι verkürzt; allein durch die Vergleichung des Vedischen *bābadhe* aus *bādh-* werden wir berechtigt δηδέχατ' ... zu schreiben, so dass wir den *ā*-Laut wenigstens in der Reduplikationssilbe erhalten finden". Therefore he believes that δηκ- was shortened to δεκ- and that δη- in the reduplicating syllable was the repetition of the original root δηκ-, i.e. *δη-δηκ- > *δη-δεκ- (as with *bā-badh-*). Others interpreted the δη- reconstructed in this way as intensive reduplication (as *bā-* in Vedic), without mentioning Wackernagel's δεκ- < δηκ-. In this form the theory is accepted by Bechtel, *Lex.*, p. 96, Schwyzer (e.g. p. 648), Chantraine, *Gr. Hom.*, pp. 317f., 433f., Frisk s.v. δηδέχαται. In my opinion it has no foundation. There is nothing in Greek that points to a root form δηκ-. The reduplication type δηκ- : δη-δεκ-, which Wackernagel reconstructs on the strength of *bādh-* : *bā-badh-*, does not exist. Ved. *bābadhe* is secondary, since one would expect **bābidhe*; it has been formed on the example of roots with short stem vowel *a* and intensive reduplication (in active forms), the type *dā-dharti* of the root *dhar-*. Thus, as Wackernagel himself says, the only basis for the reconstruction δηκ- disappears, and *a fortiori* for the reduplicating syllable δη-. There is thus nothing in favour of changing δει- into δη-, apart from the existence of intensive reduplication in Indian. However, there is no evidence in Greek of such reduplication, so that it is not permissible to construct one such form by conjecture, the more so since a simple explanation can be found in Greek itself. Δει- may be based on metrical lengthening in *δεδεχαται, as in δεικανόωντο if δεκανᾶται (· ἀσπάζεται Hsch.) has the original stem δεκ-.

Both suppositions on which Schwyzer's explanation is based are therefore improbable, so that the latter does not have a sufficient basis in fact.

As against the explanation by De Saussure, *Mél. Graux*, p. 743, by rhythmic lengthening of a group ⏑ ⏑ ⏑ to ⏑ – ⏑, it may be adduced that the third syllable in the type *ἐλελουθ- is long in the singular. Nor can the opposition ἀραρεῖν : ἄρηρα, ὀρορεῖν : ὄρωρα be explained in this way. Moreover, this presupposes a reduplication of the type **el-eloudh-*, which is not plausibly of PIE origin. Roots of the structure *VCV(R)C-* (i.e. like ἐλευθ-) are not PIE. For then one would have to assume a root **el-*, which with enlargement would have given **l-eu-(dh-)*, not **el-eu-*. This type is therefore first of Greek origin, i.e. it first acquired this form in Greek. There is little support in Greek for a reduplication type *ἐλ-ελουθ-. The forms that are regarded as such are (Schwyzer, p. 766): ἐρέριπτο (Ξ 15), ἀκάχημαι (Hom.), ἀκαχμένος (Hom.), ἀλάλημαι (Ψ 74; -ήμενος (accent) *Od.*), ἀλαλύκτημαι (only K 94). Ἐρέριπτο is an unexplained form. L. Meyer suggested reading *ἔϝριπτο, which seems to me an unwarranted interference with the text. Schwyzer's suggestion (p. 766) that ἐρεριπ-/ἐρηριπ- (in κατερήριπε Ξ 55) developed on the example of ἔριπε/ἤριπε does not seem to be an adequate explanation, since one would then expect such interchanges more frequently. After all, forms with and without augment occur very often side by side and there is nothing to show that this led to confusion. I regard ἐρεριπ- as an artificial form from epic language which is based on incorrect interpretation of other forms, although I cannot state which (ἀκαχ- beside ἀκηχ-?). For ἀκάχημαι beside ἀκηχ- see p. 119. I there regard the second form as a transformation of the first for metrical reasons, and the first as based on the aorist. Ἀκαχμένος is regarded as *ak-ak̑-s-menos* (Frisk s.v.), and is therefore a case of total reduplication. It has been presumed that ἀλάομαι and ἀλύω have the same root, in my opinion without sufficient reason. Beside ἀλαλύκτημαι Hesychius gives ἀλαλύσθαι· φοβεῖσθαι, ἀλύειν. I assume that these forms go back to reduplication of the whole root and regard ἐρέριπτο and ἀλαλύκτημαι as anomalies, the latter possibly under the influence of ἀλάλημαι. In this way Myc. *araromotemena* '*ararmotmena*' will have derived its reduplication from *araruja* (*infra*). It does not seem certain to me that these forms are in origin perfect forms; cf. ἀλαλύσθαι, ἀλαλήμενος (accent) and what has been said about ἀκάχημαι, p. 119. The conclusion is, I think, that we have here a very small group of strange forms which do not offer sufficient support for the presumed reduplication type (*ἐλ-ελουθ-).

In *Eos* 30.206-11 Kuryłowicz[52] has suggested an explanation by means of the laryngeal theory. The stem *ἐλευθ- goes back to PIE **ḫ₁leudh-* and the reduplication syllable consists of the first two consonants + the reduplicative vowel *e*, i.e. **ḫ₁le-ḫ₁loudh-* > ἐληλουθ-; or from the root **ḫ₁nek̑-* in ἐνεγκεῖν, **ḫ₁ne-ḫ₁nok̑-* > ἐνηνοκ-.

[52] W. Winter, who says in *Lg* 26 (1950) 533: "*Sturtevant* has shown (*Indo-Hittite Laryngeals* (1942) 68) that the lengthening of the reduplication syllable in the Sanscrit perfect type *vāvāsa* [v. infra] is often caused by the original presence of an initial laryngeal in the root; *I* have identified such forms with the so-called Attic reduplication perfects in Greek" was therefore, even if independent, certainly not the first.

The length of the second syllable was therefore caused by compensatory lengthening after the fall of the laryngeal in *-eHCV-*. He claims that the first vowel is an originally consonantal laryngeal vocalized in Greek, i.e. a phenomenon identical with that of the prothetic vowel. This therefore implies that this manifestation of Attic reduplication could occur only in Greek (and Armenian). It is therefore all the more advisable first to study the Greek material, to see whether and to what extent this explanation is tenable.

2. The Material

A survey first follows of the forms with Attic reduplication, classified according to the time in which they are first demonstrable and to their formation. However, the forms are not included which evidently go back to older cognates (ἐρήρεικα Dsc., (προσ-) Plu. going back to ἐρήρεισμαι Hdt. Hp.; ἀλήλεκα *A.P.* (Nicarch., I A.D.), going back to ἀλήλε(σ)μαι Hdt., Hp.) and forms which did not appear until after the beginning of the Christian era (ἀρήρεκα from ἀρέσκω Corn. (I A.D.), ἐρήριμμαι from ἐρείπω Arr., ἐμήμεκα Luc., ἐγήγερκα Philostr.). The latter may not be expected to be of importance to the origin of the reduplication. For instance, ἐμέω originally began with ϝ- in view of Skt. *vámiti*. Ἐμήμεκα must therefore be a recent form, which probably developed on the analogy of forms like ὦμοσα : ὀμώμοκα (= ἤμεσα : x). The same applies to ὁράω (ἔωρων < *ἠ-ϝορ-), so that ὁρώρηκα Herod. cannot be old; Attic has here ἑόρᾱκα Ar., from ϝε-ϝορ- (see LSJ s.v. ὁράω). From the same stem there appears in Ψ 112 ὀρώρει, which belongs to ὄρομαι (however, in Mycenaean this does not have a *w-*: *oromeno* '*oromenos*').

The survey is followed by a short discussion of the individual forms insofar as there is anything to say about them.

stem	Homer (Myc.)	V, IV B.C.	Hellen.
o	ἐγρήγορθα	ἐγρήγορα Ar.	
	εἰλήλουθα	ἀκήκοειν Hdt.	
	? ἀ-, ἐνήνοθε	ἐνήνοχα D., μετ- Pl.	
		ἐνήνεγμαι Pl., εἰσ- E.	
zero	-ερήριπε (Ξ 55)	ἐρήριγμαι Hp.	
	ὀδώδυσται (ε 423)	ἀλήλιμμαι Th.	
		ἀλήλιφα D.	
		ὀρώρυχα Pherecr.	
		ὀρώρυγμαι Hdt.	
		ἐρήρισται Hes.	
e Med.	ἀγηγέρατο	ἐλήλεγμαι Pl.	
	ἐρηρέδαται	(ἐνήνεγμαι Pl., εἰσ- E.)	

	ἠρήρειστο		
	ὀρωρέχαται		
	ἀκηχέ(δ)αται		
disyll.	ἐλήλαται	ὀμώμοται A.	
	ὅλωλα	ὀμώμοκα Ar., E.	
	ἀρηρομένη (Σ 548)	ἀλήλε(σ)μαι Hdt., Hp.	
monos.	ἄρηρα (*araruja*)		
	ἐδηδώς (P 542)		
	ἐδήδοται (χ 56)		
	ὀδώδει (ε, ι)		
	ὄπωπα		
	ὄρωρα		
	ὀρώρει (Ψ 112)		
anomalous	*araromotemena*	(ἀραίρηκα Hdt.)	ἀγήγοχα inscr.
	ὑπεμνήμυκε (X 491)		ὁρώρηκα Herod.
	συνοχωκότε (B 218)		
	? συναρήρακται· συγκέκοπται Hsch.		

When assessing these forms allowance should be made for the original apophonic relations, *o*-vocalism in the indicative singular, zero in the indicative plural, the feminine participle and the entire middle (insofar as that is old), *e*-vocalism in the masculine participle and the conjunctive and optative. This situation has only seldom been preserved. Usually extension of one of the apophonic phases has taken place, usually of the zero grade or the *o*-phase, rarely of the full grade with *e*; after all, conjunctive and optative perfect are very uncommon. The perfects with *e* are usually recent forms, although the participle may have stimulated this development. Cf. Schwyzer, p. 771. Middle perfects are in general recent; *idem*, p. 765 n. 4.

ἐγρηγόρθασι. For the ϑ, only in Homer, see Chantraine, *Gr. Hom.*, p. 429; Att. ἐγρήγορα (Ar.) is therefore probably the form to be taken as a starting-point for further examination. It is generally assumed that the first ρ developed by anticipation, partly under the influence of the aorist ἔγρετο. On the strength of the comparison with Skt. *jāgára* (perf. of the root *gṛ-*, pres. *járate*), one starts from an original *γηγορα (Schwyzer, p. 648 with n. 3, Chantraine, *Morph.*², p. 186), so that the ἐ- from ἔγρετο must also have been taken over (Chantraine; better than interpreting ἐ- as prothesis, as Schwyzer does). It seems to me that one is too quick to compare with the other languages here. In Greek, apart from *δηδέχαται discussed above, there is not a single case of a reduplication vowel *ē*, so that it is not advisable to make *γήγορα into an independent category. Viewed from Greek, *ἐγήγορα differs in no way structurally from ἐλήλουθα, ἐνήνοχα, ἀκήκοα, so that the most obvious thing

is to leave *ἐγήγορα with the other cases of Attic reduplication until the untenability has been demonstrated.

εἰλήλουθα Il. Od. *passim*. Εἰ- is metrical lengthening. Att. ἐλήλυθα has generalized the zero grade.

?ἀ-, ἐνήνοθε. It is difficult here to determine the original form. Homer has ἐπενήνοθε (B 219 ~ K 134, ψεδνὴ (K οὖλη) δ' ἐπενήνοθε λάχνη; ϑ 365) and ἀνήνοθεν (Λ 266, αἷμα; ρ 270 (v.l. ἐν-), κνίση). Aitchinson, *Glotta* 41 (1963) 271-8, hesitantly defends the connection with ἄνθος, which would therefore presuppose *$\hbar_2$*endh-*/*$\hbar_2$*nedh-*. The connection between ἄνθος and Skt. *andhas-* may be abandoned, also because this means 'juice of the soma plant', Burrow, *Arch. Ling.* 6 (1954) 61. It is probable and understandable that the forms discussed here were connected at an early stage with ἄνθος. Compare beside B 219 ~ K 134 (*supra*) λ 319 f.: πρίν σφωϊν ὑπὸ κροτάφοισιν ἰούλους | ἀνθῆσαι πυκάσαι τε γένυς εὐανθέι λάχνῃ. In ἀνήνοθε too the influence of ἀν(α)- may be envisaged. It therefore seems somewhat more probable that ἐνήνοθε is the original form, since its development from ἀνήνοθε is not explicable. In that case the connection with ἐνθεῖν (cf. Frisk) is possible, with as Greek stem forms ἐνθ-/ἐνεθ-, i.e. PIE *$\hbar_1$*endh-* (*$\hbar_1$*n̥dh-* ?)/*$\hbar_1$*nedh-* (so that in the other languages **nedh-* is expected for the latter form; Frisk's notation ἐνεθ- : ἐνοθ- : ἐνθ- may give an incorrect picture). 'Ενήνοθε then has Attic reduplication (which would also be obvious even if ἀνήνοθε were original, rather than ἀν(α) + ηνοθ-, since old perfects of this structure are rare). It is not clear to me how one must picture ἐν- and ἀν- "als verschiedene Reduplikationsformen" (Frisk).

ἐνήνοχα Pl., has the expected *o*-vocalism; ἐνήνεγμαι on the other hand, with *e* in the middle, is a more recent form.

-ερήριπε, only Ξ 55 τεῖχος μὲν γὰρ δὴ κατερήριπεν, has the zero grade of ἐρειπ- generalized from the plural. (Chantraine, *Gr. Hom.*, p. 426 with n. 3, unnecessarily sees a problem here.) The intransitive meaning (which incidentally is not certain) might confirm the age of the form. 'Ερέριπτο Ξ 15 is unclear; the middle form seems to suggest that this is a later form; see p. 115.

ὀδώδυσται ε 423 belongs to the aorist ὀδύσσασθαι; further analysis is uncertain, see Frisk.

ἐρήριγμαι, middle form of ἐρείκω.

ἀλήλιφα D., either under the influence of ἀλήλιμμαι and then a later formation or, if old, with extension of the zero grade of the plural.

ὀρώρυχα Pherecr. As ὀρυχ- no longer has a trace of ablaut in Greek, formation within Greek is more probable than that the zero grade of an old perfect has been generalized.

ἐρήρισται Hes. fr. 308 MW, from ἐρίζω. Although there are no formal objections, this seems to me a form constructed by Hesiod.

ἀγηγέρατο Δ 211 Υ 13 λ 388 ω 21. The middle form with *e*-vocalism must be a recent formation, like ὀρωρέχαται, ἐλήλεγμαι, ἐνήνεγμαι and the following form.

ἐρηρέδαται Ψ 284. 329 η 95 has been the subject of an attempted replacement by ἐρηρίδαται with the zero grade to be expected in the middle; cf. Chantraine, *Gr. Hom.*, p. 170 (Aeol. ρι > ρε?). The form ἠρήρειστο Γ 358 = Δ 136 = Η 252 = Λ 436 καὶ διὰ ϑώρηκος πολυδαιδάλου ἠρήρειστο has full grade; ἐρήρεισμαι Hdt., Hp.

ἀκηχέ(δ)αται P 637 as against ἀκάχημαι is regarded as an instance of the occurrence of the long second syllable beside the original short one. The first form further occurs only in ἀκηχεμένη (E 364) and ἀκηχεμέναι (Σ 29). Elsewhere (Il. Od.) ἀκάχημαι (-ται, -σθαι) ἀκαχήμενος[53] is the rule. As *ἀκαχη-μένη cannot be used in the hexameter, it seems to me probable that this is a metrical question; the η had to be shortened (*ακαχε-μένη) and the second of the (then) four short initial syllables had to be long, which is why ἀκαχη- was replaced by ἀκηχε-, which may be regarded as a metathesis (ordinary metrical lengthening would have given *ἀκᾶχε-). The same applies to the form ἀκηχέ(δ)αται. See further Chantraine, *Gr. Hom.*, p. 435. The stem ἀκαχ- comes from the aorist (ἀκαχεῖν Hom.), where total reduplication is normal (ἀγαγεῖν, ἀραρεῖν, ὀρορεῖν), on which the present ἀκαχίζομαι (Hom.) has also been built.

ἐλήλαται is from the disyllabic root ἐλα-. For the ablaut forms of these roots see below. One further finds ὅλωλα from the root ὀλε-, ἀρηρομένη from ἀρο-, only in Σ 548, ὁμώμοται from ὀμο- and ἀλήλε(σ)μαι from ἀλε-.

ἄρηρα. For the participle ἀρηρώς ἀραρυῖα see p. 121 f. Ἄρηρε only in ε 248 as *varia lectio* for ἄρασσεν; ppf. ἀρήρει *Il.* (5 times) and ρ 4.

ἐδηδώς P 542; ἐδήδοται χ 56 after the example of πέποται: ὅσσα τοι ἐκπέποται καὶ ἐδήδοται ἐν μεγάροισι (but the form may of course be older than this verse).

ὀδώδει ε 60 and ι 219 (ὀδμὴ ... ὀδώδει).

ὀρώρει see above p. 116.

araromotemena '*ararmotmenā*'; the length of the second *a* is not known. Attic has ἠρμοσμέναι.

ὑπεμνήμυκε (X 491) of ἠμύω with long first vowel stands alone in the whole group; see Bechtel, *Lex.*, p. 159.

συνοχωκότε B 218. An unclear form, see Chantraine, *Gr. Hom.*, p. 424. Old Attic reduplication is improbable, since the root was PIE **segh-*.

ἀραίρηκα Hdt. (from αἱρέω) has an entirely different form of reduplication.

ἀγήγοχα (inscr. III B.C.) for older ἦχα (inscr. VII/VI B.C.) will have been constructed on the analogy of ἐνήνοχα, in view of the fact that ἄγω and φέρω supplement each other semantically ('bring of living creatures' and of 'things'; cf. the expression ἄγειν καὶ φέρειν).

ὀρώρηκα see above p. 116. The form does not appear until late; the old perfect is ὄπωπα.

συναρήρακται Hsch. is undatable.

[53] The accent is perhaps Aeolic, cf. Hes. *Th.* 868 ἀκάχων (mss.; -ών, -ῶν papp.); M. L. West, *Hesiod, Theogony*, p. 82.

3. Conclusions and Interpretation

A glance at the survey shows that a large percentage of these forms are already known from the oldest Greek, that a smaller group, some of which may be old, does not appear until later, while another part consists of more recent formations, and that in the Hellenistic period too and even later new forms are still added. On the strength of the above I believe that we need only further take into account the following forms if we wish to investigate the origin of Attic reduplication. The middle perfects have been put separately.

stem:	*VCV(R)C-*		disyll. roots	monos. roots
o-grade	*zero grade*	*e-grade*		
ἐγρήγορα	-ερήριπε		ὅλωλα	ἄρηρα
εἰλήλουθα	? ἀλήλιφα		? δμώμοκα	ἐδηδώς
ἐνήνοθε				ὀδώδει
ἐνήνοχα				ὄπωπα
ἀκήκοα				ὄρωρα
Med.	ἐρήριγμαι	ἀγηγέρατο	ἐλήλαται	
	ὀδώδυσται	ἠρήρειστο	ἀρηρομένη	
	ὀρώρυγμαι	ὀρωρέχαται	ἀλήλε(σ)μαι	
		ἐλήλεγμαι		

If this list is studied, these forms, viewed from Greek, can be divided into three groups: (1) stems of the type ἐλευθ- (*VCV(R)C*), (2) disyllabic roots (ἐλα-, *VCV*) and (3) monosyllabic roots (ἀρ-, *VC*). In PIE the second group had the structure *VCH* (**elh₂*-), while, with the possible exception of ἐλα-, the first phoneme of these words will likewise have been a laryngeal, having regard to their vocalism (ὅλε- < **h₃elh₁*-); see pp. 129, 131. The first vowel of the first group is a 'prothetic vowel', i.e. the first phoneme was likewise a laryngeal (ἐλευθ- < **h₁leudh*-). The first two groups therefore had in PIE an identical structure *HCe(R)C*- (2. *HCeH*, e.g. **h₃leh₁*-/*h₃elh₁*-). The last group, on the other hand, has the structure *VC*-. With the possible exception of ἔδω it is probable, having regard to their vocalism, that they began with laryngeal, ἀρ- < **h₂er*-, ὀπ- < **h₃ek*^{u}-.

It therefore follows from this that practically all roots of the old forms that have Attic reduplication started with laryngeal. In itself this does not convey much. As these stems began in Greek with vowel, it is probable that most of them began with laryngeal in the proto-language. But what is striking is that the majority of the forms consist of the type *VCVC*-, which in the proto-language must have been *HCVC*-, and therefore had laryngeal before consonant. This leads to the supposition that it is in this type that the origin of this form of reduplication must be sought. The same type

proved responsible for the forms with prothetic vowel and for the negatives with νη-, νω-. However, one would expect from for instance **h₁loudh*- in accordance with the normal pattern **h₁e-h₁loudh*- > *ἠλουθ-. The form studied here may be explained by assuming that the first two consonants were repeated, the second laryngeal causing the length of the vowel of the reduplicative syllable and the first (in Greek) becoming a short vowel just like the prothetic vowel: **h₁le-h₁loudh*- > ἐληλουθ-. That the first vowel corresponds to the prothetic vowel is evidenced by Skt. *jāgárа*, which may be explained from the same basic form as *ἐγήγορα (in ἐγρήγορα), i.e. **h₁ge-h₁gor*-. In this way the Indian form is a neat confirmation of Kuryłowicz' explanation. At the same time it proves that *ἐγήγορα is not an independent case of intensive reduplication in Greek but is in complete accordance with the other forms of Attic reduplication.

The disyllabic roots may have had the same forms. With ὀλε- (**h₃elh₁*-) one would in that case have to start from the form **h₃loh₁*-, so that **h₃le-h₃l(o)h₁*- > ὀλωλ(ο)- was obtained.

The situation is more difficult with the roots of the type *HeC*-. In the case of the forms with *o*-vocalism there is in my opinion nothing more to be expected there than the normal type of reduplication, e.g. **h₃e-h₃or*- > * ὠρ-; these forms are consequently found in Skt. *ára* etc. (see p. 113). It therefore does not seem probable that in this case the forms with Attic reduplication go back to PIE. Perhaps this is also indicated by Skt. *íkṣate* 'to see', from the same root as ὄπωπα. There is no reason why this reduplication should not also occur with the vowel *i*, so that one would then expect **h₃k*^{u}*i-h₃k*^{u}-, Skt. **cīkṣate*, but the form *íkṣate* must go back to **h₃i-h₃k*^{u}- (see p. 129). However, it is difficult to make out when and in what way these forms did develop. As they too begin largely if not exclusively with laryngeal, it might be thought that these forms arose at a time when the laryngeal still existed as an independent phoneme. The transition could then have taken place in the zero grade:

**h₁ne-h₁neĥ*- **h₂e-h₂er*-
**h₁ne-h₁nk*- **h₂e-h₂r*- → **h₂re-h₂r*-

As stated, however, the fact that these roots also began with laryngeal need not be of any special significance. We are necessarily concerned with forms that began with vowel in Greek, and most of them doubtless had a laryngeal in the basic language. Perhaps the following consideration indicates that these forms are of recent date.

The form ἀραρυῖα presents a problem. Leumann, *Celtica* 3 (1955) 241-8 = *Kl. Schr.* 251-8, discusses this type. He is of the opinion that only in εἰδώς ἰδυῖα is the apophonic difference old and explains ἀρηρώς as against ἀραρυῖα by *ἀραρϝως, which became *ἀρᾱρως and was transformed into ἀρηρώς after the example of ἄρηρα. However, this would be the only case in which this interchange *u̯/u* had left traces; see Lejeune, *Traité*, p. 70. And in my opinion it presents the difficulty that the existence of ἄρηρα presupposes Attic reduplication. For one would expect the same reduplication in the other forms of this perfect and therefore also in *all* forms of the participle. The comparison with εἰδώς ἰδυῖα does not apply here, since this does not

have any reduplication. If the explanation of Attic reduplication defended here is correct, ἀραρυῖα cannot go back to an old form with laryngeal: both **h₂re-h₂er-us-ih₂* and **h₂re-h₂r-us-ih₂* had without a doubt to lead to *ἀρᾱρυια. Unfortunately the Mycenaean forms *araruwoa araruja* are useless, since nothing is known about the length of the vowels. The conclusion is therefore that either ἄρηρα is old and ἀραρυῖα secondary, or vice versa. Now it does not seem probable to me that ἀραρυῖα is secondary, for in historical Greek it could be formed solely after the example of μεμακυῖα (Δ 435), τεθαλυῖα (I 208), λελακυῖα (μ 85), but — whatever the origin of these forms may be — there is no indication that they are older than ἀραρυῖα. It therefore seems that this participle has been built on the stem ἀρ-αρ-, which is found in the aorist. In ἀραρυῖα the form ἀραρ- is therefore not perfect reduplication in origin; cf. the forms ἄγυια, ἄρπυια/ἀρεπυια, ὄργυια/ὀρόγυια, which have the same suffix on a stem that is not reduplicated. Total reduplication with the suffix -μενος is found in ἀκαχμένος (**aǩ-aǩ-s-menos*) and probably in Myc. *ajameno* ? '*aiai(s)menos*'. In that case the form ἄρηρα will be more recent. This is perhaps indicated by the fact that the finite forms in Homer are very rare: ἄρηρα etc. does not occur, ppf. ἀρήρει Γ 338 ~ Π 139 ~ ρ 4 (not in Gehring), Κ 265, (ἐπ-) Μ 456, (ἠρήρει) Μ 56; further only the conjunctive ἀρήρῃ ε 361 (in ε 248 ἄρηρεν as *varia lectio* of ἄρασσεν). If ἄρηρα is secondary, that will also apply to the other forms of this category, although ὄρωρα and ὄπωπα, which are very frequent in Homer, might be older. Are these formed after ὅλωλα (if the explanation given above of this form is correct)?

a. *Criticism; Kuryłowicz' second Explanation*

An essential difficulty is of course that this explanation of Attic reduplication presupposes the repetition of the two initial consonants in the reduplicative syllable. This difficulty induced Kuryłowicz himself later to refute his explanation and to suggest another, *Apophonie*, pp. 269-72. This explanation, which I consider to be untenable, may be discussed here.

In the explanation Attic reduplication started from stems with prothetic vowel which had not developed from laryngeal. Of the stem **leudh-*, for instance, the perfect was normally **le-loudh-*, both of which forms acquired a prothetic vowel, **e-leudh-*, **e-le-loudh-*. Afterwards, on the strength of the present **eleudh-*, the perfect was reanalysed as **el-eloudh-*. Finally, the second syllable was lengthened on the analogy of the lengthening in compounds, e.g. ἔπ-ηλυς, ποδ-ηνεκής.

Kuryłowicz himself already points out that this explanation applies only to roots with prothetic vowel *e*; in the case of *o*, for instance, an auxiliary hypothesis must additionally be assumed. For the perfect *ὀ-ρε-ρογ- of ὀρέγω could hardly be interpreted as *ὀρ-ερογ-, with ὀρ- as reduplication of ἐρογ- (also in view of the present stem ὀρεγ-). Here *ὀρερ-, *ὀρηρ- would by analogy have to be replaced by ὀροῤ-, ὀρωρ-.

Apart from the latter difficulty, there are various insurmountable objections to this attempt at an explanation.

In the first place this view ignores the existence of the laryngeals. In the case of the root ἐνεκ- beside the forms **enǩ-/neǩ-*, to which the other languages point, **h₁neǩ-* is after all highly self-evident, while the laryngeal is confirmed by the long augment in Skt. *ānaṭ*.

In the second place this explanation presupposes the existence of prothetic vowels — in the literal sense of the word — of a different origin than from vocalization of a laryngeal. After the above their existence in Greek words of PIE origin must be gravely doubted.

A following point is that prothesis for the separate verbal forms is highly improbable and in my opinion is not demonstrable in Greek. The prothetic vowel forms an indissoluble part of the root. Cf. the criticism of Schwyzer, p. 113f.

It is extremely improbable that a prothetic vowel upset the old system of reduplication.

Finally — and this is an essential point in the theory — influence of the nominal compositional lengthening on verbal forms is most improbable. It is unacceptable that this could have influenced a reduplication form and have been the cause of an entirely new type.

This explanation is therefore based on a series of hypotheses which are all highly improbable.[54]

b. *Consonantism of the Reduplicative Syllable*

Although Kuryłowicz' second attempt at an explanation has not been successful, this does not alter the fact that the repetition of both initial consonants remains a problem in his first explanation, that by means of the laryngeal theory.

There is one other case of repetition of the two initial consonants in the reduplicative syllable. This is found in the stems that begin with *s* + occlusive. For here Iranian, Greek, Italic and Celtic have *s-sT*, but Latin has *sT-T*[55], Indian *T-sT* and Gothic *sT-sT*; this is also pointed out by for instance Schwyzer, p. 649 n. 1. Cf.

s-sT	*sT-T*	*T-sT*	*sT-sT*
Lat. *si-sto*	Lat. *ste-ti*	Skt. *tí-ṣṭhati*	Goth. *staí-stald*
Gr. ῑ-στημι	(*spo-pondi*, *sci-cidi*)		(*skai-skaiþ*)
Av. *hi-štaiti*			

[54] In the same way Kuryłowicz explains the forms ἐνεγκεῖν (**e-ne-nǩ-*), ἀλαλκεῖν. One can start here, as Puhvel, *Lg* 30 (1954) 457, does, from Attic reduplication **h₁ne-h₁nǩ-* > *ἐνηγκ- > ἐνεγκ- (probably via **h₁ne-h₁n̥ǩ-* > **h₁ne(h₁)enǩ-* on account of ἰάλλω < **h₂i-h₂l̥-i̯ō* (p. 129) and ὄνητο < **h₃n̥h₂-to*). Incidentally, one would expect this form in the plural of the perfect, but there is no trace of it. Further, **h₁n̥-h₁n̥ǩ-* is also possible. Finally, in view of the type ἀραρεῖν ἀγαγεῖν ἀπαφεῖν one might also consider **h₁en-h₁enǩ-* (unless these forms with total reduplication have zero grade; cf. ἠνίπαπον < **eni-h₂kʷ-h₂kʷ-om*, p. 129, n. 59).

[55] If Phr. *ttetikmenos* is based on **ste-tig-menos* (from the root **stig-*), as Haas, *Phr. Spr.*, p. 88, assumes, one has here too the type *sT - T*.

On the other hand, of the group *s* + sonant, only the *s* is repeated (here, therefore, only Indian, Latin and Gothic are of importance):

Skt. *sa-smāra*	Goth. *saí-slep*	Lat. no instance
sa-svāna		

One therefore finds this form of reduplication with *s* before occlusive and with laryngeal before all consonants. Perhaps the phonetic properties of *s* and the laryngeals are the cause of this difference and of the phenomenon in itself. I do not see any other explanation within the system of PIE reduplication, and further investigation of this point would take us too far here.

If, then, this problem remains further unelucidated, this drawback is not in my opinion serious enough to discredit the explanation by means of the laryngeal theory. Apart from this point, it is entirely adequate and no further assumptions are required.

4. Indian Parallel

A parallel for the Greek forms is found only in Indian. A form *HCe-HC-* must appear everywhere else than in Greek (and Armenian) as *C V̄C-*. The *jāgā́ra* already mentioned responds to this. There are some thirty of these forms, Macdonell, *Ved. Gr.*, pp. 352 f. One third of these more or less corresponds to forms with indication of laryngeal (in the form of prothetic vowel) in Greek; Kuryłowicz has pointed to this in *Rocznik Or.* 4 (1928) 196-218. For instance we have:

vāvr̥ṣ-	ἐέρση
māmr̥j-	ὀμόργνυμι
rārak-	ἀλέξω

However, it is not probable that all these forms or even the majority of them find their origin in 'Attic' reduplication. The greatest caution is thus called for here, as may emerge from the comparison of the following forms:

vas- 'to stay'	perf. *vāvas-*	ἄ(ϝ)εσα
vas- 'to dress'	*vāvas-*	(ϝ)έσται
vaś- 'to wish, want'	*vāvaś-*	(ϝ)έκων

The last two forms therefore certainly do not go back to Attic reduplication.

For an explanation of the Indian forms in quite a different way see Kuryłowicz, *Apophonie*, p. 342 ff.

5. Summary

Summarizing one may say that 'Attic' reduplication is a very archaic formation,

comparable with the negative adjectives with νη-, νω-. That this type goes back to PIE is proved by the fact that traces of it are also still found in Indian. Preserved in an originally very small group of forms, the procedure underwent minor expansion at various times. The phenomenon gives a neat confirmation of the explanation of the 'prothetic vowel'.

6. Appendix: Nominal Forms

There are a few nominal forms which are sometimes connected with Attic reduplication. These are the substantives ἀκωκή, ἐδωδή, ὀπωπή, ἀγωγός, -οκωχή and ὀδωδή and the adjective ἐτήτυμος.

Of these, ὀδωδή is evidently very recent, *AP* 9.619, Plu. 2.648a. It was almost inevitable that this word was formed beside ὄδωδα ὄπωπα ὀπωπή (ἐδωδή).

-οκωχή will also be recent, since in this case the root originally began with *s* (**segh-*); one finds συνοκωχή 'joining' Hp., ἀν-, διοκωχή 'stay, cessation' Th. (ἀνοκωχεύω Hdt.), κατοκωχή Pl. A theory on the origin of these words is given by Wackernagel, *Gött. Nachr.* (*Phil.-hist. Kl.*) 1902, 738-40: in composition after preceding -α, an original -αοχη became -ωχη, e.g. *ἀναοχή > *ἀνωχή (beside συνοχή Ψ 330); these forms were later clarified by the insertion of -οχ-, *ἀν-οχ-ωχή > ἀνοκωχή. It is indeed striking that this word occurs solely as a compound (ὀκωχή only with grammarians).

ἀγωγός 'leading, guiding' Hdt., Th., -εύς 'haulier' Hdt.

The other words are known from Homer.

ὀπωπή 'sight' (both 'view' and 'power of seeing') only in the *Odyssey*, at the end of the verse, in the genitive, ι 512 and γ 97 = δ 327 ~ ρ 44.

ἐδωδή also occurs only at the end of the verse (Il. Od. *passim*).

ἀκωκή also at the end of the verse (except Φ 60) is restricted to two formulas: ἤλυθ' ἀκωκή (6 times) and δουρὸς ἀκωκή (7 times).

Schwyzer (p. 423) compares the type ἀπαφός (·ἔποψ; Lat. *upupa*; but is this PIE?), ὄλολυς (Lat. *ulula*): "dieser Typus ist, im Anschluss an die Perfektbildung, produktiv geworden". However, the comparison with the cases mentioned here seems incorrect to me; these are onomatopoeic (as Schwyzer also posits), while in my opinion a sound-imitating element is entirely absent from ἀκωκή etc. Nor can *ak̂-ak̂-* for instance have been the starting-point of ἀκωκή. Influence of the perfect cannot explain the ω. Attic reduplication does have a long second syllable, but of the same timbre as the first. This explanation would therefore be possible only for ὀπωπή. However, there is no indication that ὀπωπή is older than ἀκωκή or ἐδωδή, while further there is nothing either formal or semantic that makes influence of ὀπωπή comprehensible. The explanation by means of the perfect with Attic reduplication must therefore lapse. True, ἐτήτυμος answers to this scheme, but it is not certain that this word has been formed in the same way as ἀκωκή.

What the origin of this type is remains unclear at present. I see no explanation from Greek. If a PIE type forms the basis, one could start from two forms, *$\hbar_2 e\hat{k}$-$\hbar_2 o\hat{k}$ -or *$\hbar_2(e)\hat{k}o$-$\hbar_2\hat{k}$-; however, I know parallels for neither of the two formations. (For the type Skt. *tāt̥rpi-* see Kuryłowicz, *Apophonie*, p. 344.) Chantraine's notation (*Morph.*², p. 6) *$\hbar_2\hat{g}$-$o\hbar_2\hat{g}$- does not explain the formation either.

II. BEFORE VOWEL

The laryngeal that stood at the beginning of the word before vowel disappeared after $\hbar_2$ and $\hbar_3$ had coloured following *e*, $\hbar_2 e$- > *a*-, $\hbar_3 e$- > *o*-; $\hbar_1 e$- may be found represented as *e*-. Following *o* is not changed, i.e. $\hbar_1 o$- > *o*-, $\hbar_2 o$ > *o*- ($\hbar_3 o$- > *o*- is self-evident). Since the result of this colouring is found in all languages, it may be assumed that this took place in the common language.

Owing to the fact that this colouring was completed in the proto-language, it is difficult to demonstrate the laryngeal in this position. The most important facts on which the proof is based here are: the data of Hittite, apophonic phenomena and the improbability of a PIE phoneme *a* elsewhere than in a very limited group of words (see below for this). We shall successively discuss the material for the three phonemes.

1. The Material

a. H_2

Hittite has only one or two forms that are important here.

ἀντί. The *ḫ* of Hitt. *ḫanti* points here to laryngeal, which is confirmed by Lyc. *χñtawata* 'army-leader' (Hitt. *ḫa-an-te-iz-zi-iš* 'first'). Here PIE **ĥanti* is conceivable but, also having regard to Hitt. *ḫanza* 'front', from which *ḫanti* is derived, **$\hbar_2$enti* is more probable. This reconstruction is therefore based in the main on the third principle stated above.

ἄργυρος belongs with ἀργός, Hitt. *ḫarkis*, so that laryngeal is certain; see p. 34. On account of Skt. *árju-na-*, Lat. *argentum*, ἄργυρος will be based on full grade **$\hbar_2 er\hat{g}$-*.

ἀτύζομαι (ἀτυχθείς) 'to be distraught from fear' could be cognate with Hitt. *ḫatugi-* 'terrible, dreadful'. However, a structure **$\hbar_2$et-ug-* is strange; one would expect **$\hbar_2$tug-*.

Ablaut may give an indication here in various ways. A first group consists of the following words.

αὐδή as against Skt. *vádati* 'to speak' could go back to **au-d-* : **u̯-ed-*, but ἀείδω, which probably must be analysed as **$\hbar_2 u$-ei-d-* (see p. 56 f.), shows the presence of a laryngeal, so that **$\hbar_2 u$-ed-* and **$\hbar_2$eu-d-* (αὐδ-ή) are self-evident. Cf. p. 89.

αὐλή, Arm. *aw-tʿ* 'place to spend the night', belongs with ἄεσα (**$\hbar_2 u$-es-*) and ἰαύω (**$\hbar_2$i-$\hbar_2$eu-*), so that here **$\hbar_2$eu-* must have been the basis.

αὔξω. Lat. *augeo* etc. beside Skt. *vakṣáyati* is based on **ḫ₂eu-g-/ḫ₂u̯-eg-*, in view of the prothetic vowel in ἀ(ϝ)έξω. See further p. 89.

Another ablaut indication is the occurrence of forms without vowel at the beginning of the word in other languages. This is therefore the same principle as that of the preceding group, only here the Greek form with prothetic vowel cannot be distinguished from that with old full grade.

ἀπό. Skt. *ápa*, Lat. *ab*, Goth. *af* etc. as against **pŏ-* in Av. *pa-*, Lith. *pa-*, OPr. *pa- po-*, OCS *po-*, Alb. *pa-*, Lat. *po-(situs)*, OS *fan*, point to **ḫ₂épo* (for the accent Skt. *ápa*, Goth. *af*): **ḫ₂pó*. Both forms would have given ἀπό in Greek, so that it is difficult to make out which form is the basis here, if the two have not coincided.

αἰετός. If it is cognate with Lat. *avis* and Ved. *víḥ* (gen. *véḥ*) 'bird', then the existence side by side of the last two forms points to an original declension **ḫ₂éu̯i-s*, gen. **ḫ₂u̯-éi-s*; Kuiper, *Notes*, pp. 61 f. As W. *hwyad* seems to come from **au̯i̯etos*, **ḫ₂eu-* is probably the basis of αἰετός. Cf. Arm. *hav* 'bird'.

Another form of ablaut which is of importance here is the interchange *a/o*. Anyone who is not prepared to accept its existence in this form in PIE can explain this interchange as **ḫ₂e-/ḫ₂o-*. If this is correct, it emerges from these cases that *ḫ₂o* became *o-*, not *a-*. Cf. the problem of the development of *oḫ₂*, discussed on p. 166 f.

With the stem ἀ γ κ- (Frisk s.v.) there may belong ὄγκος 'barb of an arrow'.

With ἄκρος ἄκρις ('hill-top, mountain-peak' Od.), Skt. *aśri-* 'corner, sharp point', OLith. *aštras* 'sharp' etc. there probably belong ὄκρις 'jagged point or prominence', Lat. *ocris*, Umbr. *ukar*, gen. *ocrer* 'arx, mons' (cf. ἀκρόπολις) as **ḫ₂eḱ-/ḫ₂oḱ-*.

For ἄγω the laryngeal is demonstrated by Lat. *ago* : *gero*, which is explained as **ḫ₂eĝ-* : *ḫ₂ĝ-es-* (cf. αὐλή : ἄεσα, *vásati* from **ḫ₂eu-* : *ḫ₂u̯-es-*). With ἄγω there perhaps belongs ὄγμος 'furrow, swathe, strip of cultivated land' (i.e. **ḫ₂oĝ-*). Lejeune, *Traité*, p. 175 n. 1, concludes on the strength of ἀγός < **ḫ₂ogós* the development **ḫ₂o- > a-*. It is clear that in that case an interchange *a/o* becomes inexplicable; ἀγός may be analogic.

αἰεί etc. is based on **aiu̯-*. However, Skt. *áyu* 'lifetime' presupposes **oi̯u-*, a form that is perhaps also found in Gr. οὐ (see p. 105). PIE **ḫ₂oi̯-u-/ḫ₂ei̯-u-* (before vowel **ḫ₂eiu̯-* etc.). Cf. Kuiper, *Notes*, p. 31 f.

Of a similar nature is the question of a PIE ablaut *ai/i*. This question too ultimately amounts to the problem of PIE *a*, which is dealt with below. As *ḫ₂ei-/ḫ₂i-* the supposed ablaut *ai-/i-* fits entirely into the well-known pattern.

αἴξ 'goat', Arm. *ayc* '*idem*' is considered cognate with Av. *ɫzaēna-* 'of leather'.

αἰχμή, Myc. *aikasama* (OPr. *aysmis* 'roasting spit') is connected as **aiḱ-s-mā* with Cypr. ικμαμένος and ικτέα· ἀκόντιον.

αἶσα (αἰτία) may very well be cognate with ἴσσασθαι· κληροῦσθαι. Λέσβιοι Hsch. and ἴσσης, which some have tried to read for ἴσης in ι 42 = 549; yet one can easily supplement δαιτός, cf. the formula δαιτὸς ἐίσης, p. 65 f. One could also consider deriving οἶτος 'fate, doom' from the same root (**ḫ₂eit-/ḫ₂oit-/ḫ₂it-*).

With αἴθω belong ἰθαρός and ἰθαίνεσθαι· θερμαίνεσθαι Hsch. The root form **idh-* is also found in Skt. *idhmá-* and *inddhé* 'he lights' (< **ḫ₂i-n-dh-toi*).

Unexpected *a* is encountered in the root of *s*-stems, where *e*-vocalism is normal (cf. Schwyzer, p. 511 f.).

For instance ἄχος, Goth. *agis*; **ḫ₂egh-os*.

In the same way also ἄκος, ἄγος (Skt. *āgas-* does not belong with this).

Another case is formed by the disyllabic roots, where *e*-vocalism is expected in the aorist.

ἀρέσαι therefore points to **ḫ₂erḫ₁-*; cf. p. 235.

ἀλέσαι points to **ḫ₂elḫ₁-*;

ἀρόσαι points to **ḫ₂erḫ₃-*. Here the Attic reduplication of ἀρηρομένη may give further confirmation (p. 119), as also Hitt. *ḫar-aš-zi* 'he harrows', if cognate.

An indication of laryngeal is perhaps the reduplication with vowel *i* of roots that begin with vowel in Greek. For a 'reduplication' type *i-VC* does not seem probable. In two cases this explanation finds support elsewhere. For ἰαύω the prothetic vowel of ἄεσα beside Hitt. *ḫu̯iš-*, the ablaut ἀεσ-, Skt. *vas-* : **au-* (see p. 89) and the fact that **au-* begins with *a* (*infra*) point to laryngeal, so that ἰαυ- will go back to **ḫ₂i-ḫ₂eu-*. For ἰάπτω not only the *a* of the root **akᵘ-*,[56] but also **ἴπτομαι points to laryngeal: **ḫ₂i-ḫ₂kᵘ-* as against **ḫ₂i-ḫ₂ekᵘ-*. Such forms also occur side by side in Indian, *íyarti* : *írte* (PIE **ḫ₃i-ḫ₃er-* : *ḫ₃i-ḫ₃r-*). In this way ἰάλλω may be based on **ḫ₂i-ḫ₂l̥-i̯ō*, if not connected with ἄλλομαι, as stated in Leumann, *Hom. W.*, p. 80 n. 45, and thus from **si-sl̥-i̯ō*. In this way ἰχανάω will be based on **ḫi-ḫgh-*, but as the ᾱ of ἀχήν points to **eḫ₂gh-*, one will have to start from **ḫi-ḫḫ₂gh-* from the stem **ḫeḫ₂gh-*; see p. 168. Skt. *íkṣate* 'sees' is of the type **ἴπτομαι*. Cognate with this is the group ὀπῖπεύω, which must have been derived from a stem ὀπῖπ- (see Frisk s.v.). Attic reduplication (**ḫ₃kᵘi-ḫ₃kᵘ-*) is improbable with a monosyllabic stem (for ὄπωπα see p. 121),[57] while the Indian form does not point to this either (*íkṣate* < **ḫ₃i-ḫ₃kᵘ-s-*); I do not know of any case of Attic reduplication with *i* as vowel. The comparison with Skt. *śvitīcí* 'whitish' < **kᵘiti-ḫ₃kᵘ-iḫ₂*, *pratīc-* < **proti-ḫ₃kᵘ-* and perhaps also ἐνῑπή < **eni-ḫ₃kᵘ-* (but see footnote 59)[58] points here to **opi-ḫ₃kᵘ-*. Ablaut with ὀπωπή is impossible, since an interchange ω/ι is unknown (of course we are not concerned here with a root with 'long diphthong' of the type **pōi-/pī-*). For ὀπωπή, of which the formation is unclear to me, see p. 125.[59]

[56] I am following here the interpretation to be found in Kuiper, *Glotta*, 21 (1933), 282 ff. If Heubeck's interpretation (*IF*, 68 (1963), 13-21) of Myc. *a₃kipata* 'goatherd' as '*aig-iptas*' is correct, the root would not have a labio-velar (for then the Mycenaean form would have been **a₃kiqata*).

[57] An entirely different explanation is given by Winter, *Lg*, 26 (1950), 532: **ḫ₃ekᵘi-ḫ₃kᵘ-*, comparing Skt. *bharibhrati*/*bharibharti*. However, Greek does not have another single case of such a reduplication; Winter's parallels μελίβδεσθαι < **mel-i-ml-*, μέδιμνος < **med-i-md-* and μέριμνα < **mer-i-mr-* are, of course, unreliable. (For μέδιμνος the form ϝεδιμνος (Gortyn.) points in my opinion to non-IE origin; cf. for instance κύ(ϝ)-αμος : κύμ-ηχα, Kuiper, Μνήμης χάριν, p. 215.)

[58] For the structure of this cf. ἐνι-σπ-εῖν, OIr. *insce* < **en(i)-skᵘ-iā*.

[59] Also difficult are the aorists ἐνένῑπε ἠνίπαπε, which must perhaps be regarded in connection with

With this reduplication one can compare Lat. *emi*, if Benveniste's analysis (*Arch. Ling.* 1 (1949) 16ff.) **ħ₁e-ħ₁m-i* is correct. This structure is of course possible, cf. **de-dh₃- > de-d-ī*. However, Benveniste's explanation tacitly assumes that every PIE root began with consonant, which has not been proved (see p. 90ff.). Moreover, if a certain root really did have a laryngeal, this does not necessarily mean that where this explanation is possible it is also correct. Benveniste himself already points out that **ħ₂e-ħ₂ĝ-* cannot explain Lat. *egi*, though it might perhaps be the basic form of OIcel. *ók* (< **āga*); this does not demonstrate that this is in fact the case. Benveniste's assumption would therefore have to be worked out further.

b. H_3

The possibilities of demonstrating $ħ_3$ in this position are fewer, since for instance the ablaut *oi/i* (such as οἴχομαι: Arm. *iǰanem* 'to come down') proves nothing here about the presence of a laryngeal (cf. p. 92). Further, *o* can often be interpreted as ablaut form of *e*, so that the absence of forms with *e* can rarely be taken as proof. Nevertheless there are a number of clear cases.

With support in Hittite:

ὀστέον, Lat. *os*, Hitt. *ḫa-aš-ta-(a-)i* [*ḫaštai*].

ὄϊς, Arg. ὄϝις, Lat. *ovis*, Luw. *ḫawi-*, Hitt. *ḫawa-*; cf. Arm. *hoviv* 'shepherd' if from **ou̯i-pā-*.

ὄρνις, Hitt. *ḫaraš-* 'eagle' (for the meaning cf. αἰετός 'eagle': Lat. *avis* etc. 'bird'). A difficulty which, however, also occurs elsewhere (e.g. with ὄρνυμι etc.), is presented here by the forms with *er-*, Lith. *erẽlis* (beside *arẽlis*, OCS *orьlъ*), Latv. *èrglis* (OPr. **arelis*, handed down as *arelie*), W. *eryr* OIr. *ilar* < **eriro* (Pedersen, *VKG*, I, p. 491).

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the Indian forms; cf. Schwyzer, p. 648. Of the Greek forms, ἐρύκακον seems to have been formed on the example of ἠνίπαπε. Chantraine, *Gr. Hom.*, p. 398 (the present formative κ repeated; the interchange ŭ/ū, of which the ŭ may be due to the length of the ι of ἠνίπαπε as well as to metrical lengthening). 'Ενένιπε seems a more recent form to replace ἠνίπαπε, of which the structure had become unclear; compare ἐκάθισα for καθῖσα etc. The form ἠνίπαπε could be based on **eni-ħ₃k"-ħ₃k"-*, but from this one would expect **ἠνίποπε*. Perhaps for that reason the connection with ἰάπτω **ἴπτομαι* is to be preferred (**eni-ħ₂k"-ħ₂k"-*). Total reduplication is known in the aorist (ἀραρεῖν ἀπαφεῖν etc.) and for the preverb and the zero grade cf. ἐνι-σπ-εῖν. If this explanation is correct, we are concerned here with 'inner reduplication' in appearance only; as far as I am aware, such a process is foreign to the IE languages; cf. the problem of infixation in the nasal presents. (The Indian form *arpipat* (from *arpáyati*) could be analogic, like ἐρύκακον; according to a reduplicated root *-ph-ph-e/o-* > Ind. *-pipa-*?).

The form ὀνίνημι cannot be based on Attic reduplication either, on account of the short ι; **ħ₃ni-ħ₃neh₂-mi* would have given long ι. Cowgill's explanation, p. 153, from **ni-neh₂-* with "later accretion of prothetic vowel", is improbable, since it postulates a prothetic vowel in the strict sense, and fails to appreciate the fact that all other forms point to a stem ὀνᾱ-. The form suggests a nasal present with the then expected structure **ħ₃n-n-eh₂-mi*, which would, however, have given **ὄννημι*; a nasal present of a root ending in *n* (*ħ₃en-*) is, moreover, improbable, cf. p. 236. It therefore seems to be a Greek formation, of which the example is not clear, however. Compare a form like ὀριγνάομαι (as against Skt. *ṛ-ñ-játi*, which points to original **ħ₃ṛ-n-eĝ-mi*), where the ι also cannot go back to a PIE formation.

ὄζος, Arm. *ost*, can hardly be separated from Hitt. *ḫa-aš-du-(e-)ir* [*ḫašd̯ueir*] 'twigs, branches' (not in Frisk; for his view see p. 24).

ὀρφανός, Arm. *orb*, Lat. *orbus*, if Hitt. *ḫarp-zi* 'to separate' is cognate with it.

In this case ablaut gives fewer indications. Interchange *oi/i* says nothing, and there is nothing that corresponds to *a/o*. The following may be stated.

ὄναρ. The form ὄνειρος (Arm. *anurǰ* < **ħ₃nōr-i̯o-*) presupposes **ħ₃ner-i̯o-*. As -αρ goes back to *-r̥* in ὄναρ, a full grade of the root is probable here, **ħ₃enr̥*. This is also suggested by Albanian, Geg. *ândërr*, of which the *d* will have developed in the group *-nr-* and the first vowel must go back to full grade, since Albanian does not have any 'prothetic vowel', i.e. does not vocalize a consonantal laryngeal as initial phoneme; see pp. 19f. and 46.

ὀμφαλός. Here we have **ombh-* beside **nebh-*. One need only conclude laryngeal here if it is desired to explain the absence of **embh-* (i.e. possibly **ħ₃en-bh-* : **ħ₃n-ebh-*). See p. 92.

A quite different case is formed by the presumed development *ħ₃i̯-* > ζ-.

οἴφω: Skt. *yábhati* may be **oi-bh-* : *i̯-ebh-*. Ζέφυρος would demonstrate that **ħ₃eibh-* : *ħ₃i̯ebh-* was the starting-point here if this connection is correct; see p. 97f.

Mention should be made here of two cases where Indian points to laryngeal.

ὀπ-, Skt. *íkṣate* < **ħ₃i-ħ₃k"-*; for ὀπῑπεύω see p. 129.

ὀρ-, Skt. *iyarti* : *írte* from **ħ₃i-ħ₃er-* : *ħ₃i-ħ₃r-*.

In the aorist of disyllabic roots *o* is unexpected:

ὀμόσαι < **ħ₃emħ₃-*. Cf. ὀμώμοκα, p. 119.

ὀλέσαι < **ħ₃elħ₁-*. Cf. ὄλωλα, p. 121.

With the *s*-stems one finds *o* instead of *e* in:

ὄρος, which is explained as **ħ₃er-os*. Cf. ὀρ- *supra*.

In some other words too the occurrence of *o* only is striking.

ὄζω, Lat. *odor*, Arm. *hot* 'smell, odour' (pres. *hototim*); Lith. *úodžiu* with long *o*. However, these words point to an old athematic present that might have had *o*-vocalism.[60]

c. H_1

It is even more difficult to demonstrate $ħ_1$. Ablaut *ei/i* and *e/o* is of course not important here. Nor can the presence of *e* where other vocalism would be expected ever be explained by laryngeal (since $ħ_1o$ became *o*).

ἐνεγκεῖν. If this form goes back to **en-enk̂-*, we have here a case of $ħ_1e$- (**ħ₁en-ħ₁enk̂-*), for $ħ_1$ is demonstrated here among other things by ἐνήνοχα, p. 118; cf.

[60] That the athematic present could have *o*-vocalism has been demonstrated by Meillet, *MSL*, 19 (1916), 181-92. The theory was elaborated for Slavic by Adriana Buning, *Ath. Conj.*, in particular pp. 28ff., 40ff. and 58f. A recent article is that by Hiersche, *IF* 68 (1963) 149-59 (who does not seem to know Buning). His attempt at semantic determination, even if justified in principle, seems to me premature with such little material.

pp. 45, 92, 94. However, the form can also be explained otherwise; see p. 123 n. 54. If ὄγκος 'bulk, size, mass' belongs with this, as is probable, then that is a case of *ħ₁o- > o-.

ἐνθεῖν. If ἐνήνοθα (p. 118f.) belongs with ἐνθεῖν, this form may go back to *ħ₁endh-. However, if ἐνθεῖν is an old thematic aorist, one would expect zero grade (cf. p. 224ff.). For *ħ₁n̥dh- > ἐνθ- see below.

ἐλάω. If the Attic reduplication of ἐλήλαμαι is old and is based on *ħ₁leħ₁lħ₂-, ἐλάσαι will have had full grade *ħ₁elħ₂-.

ἐρέτης. Skt. *ari-tár-* as against Lat. *rēmus* points to *ħ₁erħ₁- : ħ₁reh₁-.

ἔδω. For ἔδω a laryngeal could be evident only from νῆστις, but see p. 110.

2. *HRC-*

A special problem is formed by the group *HRC-*. For here the sonant would have vocalic function, of which *r̥* and *l̥* developed elsewhere into vowel + consonant (or consonant + vowel), while *m̥* and *n̥* became a vowel (α). The question arises whether the laryngeal affected this development.

An example of this is ἀργός discussed elsewhere (p. 34), which must have developed from *ħ₂r̥gʷró-. It cannot be derived from this case whether the laryngeal exerted influence on the timbre of the vowel that arose (in Aeolic one would expect ὀρ- from ħ₂r̥- instead of ἀρ-, but I know no case of a development of this kind). What is important is the development to *VC* (as at the beginning of the word without preceding laryngeal); for a development *ħ₂r̥C- > ἀραC- was conceivable. This development also emerges from ἀλκ-ή, which goes back to *ħ₂l̥k- (p. 89). The same is true of *ἀρπυιᾶς < *ħ₂r̥pusi̯éħ₂s, as against the full grade ἁρεπυια (p. 35). Perhaps mention may also be made here of ἀνδρός, which must go back to *ħ₂n̥r-ós; here allowance must of course be made for the other forms of the paradigm, but *ħ₂nérm̥ > ἀνέρα would have more probably supported the possible development *ἀναρός. One could even expect *ħ₂n̥rós > *(h)αρος here; this form would of course have been replaced, but then by *ἀνερός (cf. ἀνέρος and Skt. *náras*). It therefore seems that ἀνδρός must go back direct to an old form.

For the question of colouring, the gen. sing. *ὀργυιᾶς < *ħ₃r̥gusi̯éħ₂s might be important; see p. 37. Here, therefore, the ħ₃ would have coloured the vowel to *o*, but it should be borne in mind that the *o* here may have been introduced from the other forms, e.g. nom. sing. *ħ₃rógusiħ₂ > ὀρόγυια, with 'prothetic vowel' ὀ- < ħ₃-. The same applies to ὄρνυμι < *ħ₃r̥-n-eu-mi, where the o may for instance have been taken over from the aorist stem ὀρ- < *ħ₃er- (ὦρσε). One may further envisage here *ἐνϝα, which could be based on *ħ₁n̥u̯n̥ (p. 46) and the aorist ἐνθεῖν, for which *ħ₁n̥dh- is probable.

On theoretical grounds colouring is to be expected, in my opinion. As we shall see, in for instance *r̥ħ₃C- > *roħC > ρωC and *r̥ħ₃V > *orħV > ὀρV the timbre of the vowel was determined by the laryngeal (pp. 210-26), so that this is also probable here. Just as in n̥h the vowel develops after the nasal (while otherwise n̥ itself became a vowel), with ħn̥ a development to *VC* is probable.

N.B. 1. In Latin one would expect ħr̥- > ar- instead of *or-*. If this is correct, then ἄρκτος — *ursus* had no laryngeal; it is therefore uncertain that Hitt. *ḫartagga* belongs here.

N.B. 2. I know of no case of the group *-HR̥C-* in the middle of the word.

3. PIE *a*

It has been asked whether PIE had a phoneme *a* beside *e* and *o*, the first to do so being De Saussure (*Mémoire*, in particular p. 127). Brugmann has no doubt about PIE *a*. He gives correspondences for *a* (*Grundr.*, I², p. 158ff.), *ai* (p. 178ff.), *au* (p. 192ff.) and posits an ablaut *a/o* and *ai/i*, *au/u* (p. 485ff.); this point of view may also be found in *KVG*, pp. 77 and 146f.

However, it proves that the occurrence of *a* is very limited. Meillet gives a short survey of it (*Introd.*[8], pp. 99, 166), which may be summarized as follows. One finds PIE *a*:

(1) in a small group of words with a special semantic range;
(2) as the first phoneme of the word;
(3) in a few endings.

The last group comprises
(1) a. the middle ending 3 sg. *-tai*;
    b. the middle ending 1 sg. *-ai*;
(2) the ending 1 sg. perf. *-a*.

Of these, the first (1a) ceases to apply, since Myc. *euketo* ('*eukhetoi*') confirms Ruiperez' theory (*Emerita* 20 (1952) 8-32) that this ending was originally *-toi*.

As regards the last one (2), Kuryłowicz (*Symb. Rozw.*) has demonstrated that it arose from *-ħ₂e*; cf. Hitt. *-ḫa*, Lyc. *-χa*. For in this way the opposition Skt. 1 sg. *cakara*: 3 sg. *cakāra* can be understood; see Introduction, p. 10. Here too one is therefore not concerned with PIE *a*.

The middle ending 1 sg. seems to have been *-ai* (Skt. *-e*, Gr. -(μ)αι, under the influence of which *-soi*, *-toi* (except in Arcadian) became -σαι, -ται). This can be traced back to *-ħ₂ei*, as Kuryłowicz proposed in the above-mentioned article, identifying the nucleus with the perfect ending *-ħ₂e*.[61] There is no reason to start from *-ħ₂oi*, as Ruijgh does (*L'élém. ach.*, p. 14); this is evidently based on the forms

[61] He believed that this could be further found in 1 sg. of the thematic presents *-ô* < *-o-ħ₂*, an idea which he later abandoned, since he then assumed that *oħ₂* became *ā*.

(*-soi*) *-toi*. However, this fails to appreciate the fact that the ending (1 sg.) with *ḫ* and that with *s* and *t* (2 and 3 sg.) belong to two series differing from of old, which for instance have still been preserved separately in Hittite (*-ḫi*, *-ti*, *-i* as against *-mi*, *-si*, *-ti*). Moreover, this would postulate a development *ḫ₂o* > *a*. It is very difficult to furnish proof of Kuryłowicz' interpretation, and discussion of it here would take us too far; I may refer to Kuryłowicz, *BSL* 33 (1932) 1-4, and *Apophonie*, p. 41 f.; Stang, *NTS* 6 (1932) 29-39; Safarewicz, *Bull. internat. de l'Acad. Polon. d. Sciences et d. Lettres* (Cracow, 1938), pp. 149-56.

Group 3 therefore disappears entirely, i.e. *a* does not occur in a single ending.

Hirt (*Idg. Gr.*, 2, p. 24), rightly points to the importance of the ablaut phenomena in this context. He finds an interchange *ai*/*i*, *au*/*u*, *ar*/*ṛ* etc., and concludes that *a* was a "fundamental vowel", just like *e*. If his material is considered, it is seen that here too (naturally) a large amount is confined to the beginning of the word (type αἴθω : ἰθαρός), and some of the etymologies are outdated (such as the explanation of λαγχάνω : λαχεῖν from **langh-*/*lṇgh-*). Only a very small portion remains (e.g. δαίομαι: Skt. *dití-* 'the dividing'; *infra*). Hirt also assumes an interchange *a*/zero (p. 27; ἀπό : **pŏ-*, *ago* : *gero*), parallel *e*/zero.

Recently the problem has been dealt with in more detail by Kuryłowicz, *Apophonie*, pp. 174-195, who has assembled the material.

Kuryłowicz disclaims an ablaut *a*/*o*. He explains the interchange *ai*/*oi* by assuming that *oi* has been based on *i*, the zero grade of *ai*, after the connection between *ai* and *i* was broken (pp. 185, 187). This seems inadequate to me. For instance, it may be asked why *ei* was not formed on *i*, but only *oi*. In part this idea is a necessary consequence of the fact that he assumes that *ḫ₂o* became *a* and *oḫ₂ ā*. For as a result the possible explanation *ḫ₂ei* > *ai*, *ḫ₂oi* > *oi* ceases to apply. Consequently for him the type ἄκρις : ὄκρις (in general, therefore, *a*/*o*) remains unexplained (p. 186).

Kuryłowicz gives a list of words (in Indo-Iranian and the European languages) beginning with *a* and arrives at a total of 25. It may of course be asked whether this list is exhaustive, but an examination of this lies beyond the scope of this book. As regards the words with *a* in the middle of the word, he rightly makes a distinction between those occurring in both the European languages and Indo-Iranian, and those that are confined to the European group. Of course the possibility can in no way be excluded that a number are not known in Indo-Iranian only by chance or were displaced from this linguistic group by other words. The latter group comprises 22 words, which relate to fauna (κάπρος, ταῦρος, *cattus*), flora (*salix*), husbandry (*faba*, *far*, *napurae*), nature of the soil, etc. (*lacus*, *saxum*, ἅλς[62]), expressive words (*carinare*, καυνός· κακός, λαιός, *faber* (OCS *dobrъ*)), two more 'personal' (*barba*, δάκρυ)[63] and a few others (κάμπτω, *mālus* etc.). As Meillet (*op. cit.*, p. 167) and Kuryłowicz (p. 194) remark, these are "mots isolés", "termes concrets et immotivés", i.e. words that

[62] However, this word is also found in Armenian (*alt(i)*) and Tocharian (B *sālyiye*).
[63] But in many respects this word is an anomaly; see for instance Frisk s.v.

cannot be connected with other IE words (i.e. that have no IE etymology as etymon, as for instance ἐρετμόν, *remus* — ἐρέσαι, ποιμήν — πῶυ, ἄνεμος — *ániti*), "et, par là même, suspects d'être des emprunts". Nor does one find any trace of ablaut here. The idea that a large number of these words have been borrowed from a European substratum language becomes all the more probable when it is borne in mind that in the names of European rivers studied by Krahe the *a* is by far the most common vowel. See merely the list in *Sprache und Vorzeit*, p. 58. The conclusion is therefore rather that we are concerned here with non-IE words. See for instance the criticism given by Scherer, *Kratylos* 1 (1956) 8 f.

Of the words with *a* not at the beginning of the word occurring in both the European languages and Indo-Iranian, Kuryłowicz does not include onomatopoieas, expressive words (καχάζω, γαγγαίνω, βάρβαρος, λαλέω) and words from children's language (τάτα, ἄττα, μάμμα) in his list (p. 190 ff.). There then remain some thirty (of which various etymologies are disputable). In general this list displays the same picture as the preceding one: no words occur in it that belong to the "vocabulaire fondamental", no prepositions, pronouns, numerals, names of parts of the body; there is, however, one name for a relative, **daiu̯er-* (δᾶήρ). For the "mots d'infirmité" (like *caecus*), see Haar, *Lingua Posnaniensis* 3 (1951) 68 ff. with lit. This is all the more evident when these words are compared with those of which *a* is the first phoneme, including ἀπό ἀντί αὖ (ἀνά?) and widely ramified roots like **anĝh-* (ἄγχω), **ank-* (ἀγκών), **aĝ-* (ἄγω), **anə-* (ἄνεμος), **ar-* (ἀραρεῖν), **arĝ-* (ἄργυρος), **aḱ-* (ἄκρος), **aug-* (αὔξω). A further point is the small number in comparison with *a* as initial phoneme, 30 compared to 25, while it might be expected that the first figure would be a multiple of the second. Besides **daiu̯er-* **saus-* is the most convincing case, because it displays ablaut, αὖος, Lith. *saũsas*, Skt. *śúṣka-* 'dry'.

Here one must bring in the results of the laryngeal theory, which so far has been used only to demonstrate that the endings stated have no PIE *a*. If it is assumed that PIE had a phoneme *ḫ₂* that coloured following (and preceding) *e* to *a*, it is probable a priori that a number of cases of *a* at the beginning of the word go back to *ḫ₂e*. If one is not prepared to regard ablaut *ai*/*i* etc., *a*/*o* and *a*/zero as an argument for laryngeal, there still remain the cases ἀντί (Hitt. *ḫanti*, although **ḫanti* cannot yet be excluded here), αὐδή, αὐλή, αὔξω, ἀλκή, ἄχος and ἀλέσαι, ἀρέσαι, ἀρόσαι (the latter moreover with Attic reduplication). It may therefore be regarded as certain that *ḫ₂e-* > *a-* occurred. But in the middle of the word, too, *a* can be explained by *ḫ₂*: Lat. *caedo*, Skt. *khidati* would point to **kh₂(e)id-*, Kuryłowicz, *ibid.*, p. 189, and *Etudes*, p. 65 (**dḫ₂-ei-* etc.). The timbre *a* in the word may also have been caused by *ḫ₂* in quite a different way. Gr. δαίομαι, Skt. *dáyate*, *dā́ti-*, *dití-* gives the stem forms **dai-*, *dā-*, *də-*. The root here was therefore **deḫ₂-* (> *dā-*; zero *dḫ₂* > Skt. *di-*), with enlargement *i* **deḫ₂-i-*; the form *dai-* must have developed anteconsonantally (cf. δαίς δαιτός) from **deḫ₂iC-*. The laryngeal remains a consonant in this position of the group *eHR*, while the sonant has vocalic function (*eHṚ*); the laryngeal then falls intervocalically (i.e. without lengthening; the explanation of **dai-* from **dḫ₂i-* is

incorrect; this form would have given *di-*, Skt. *dhi-*). This is not the place further to investigate the correctness of these explanations for the various forms; what is important is that in principle two explanations of *a* in the middle of the word are possible (i.e. *Cḫ₂eC-* and *Ceḫ₂RC-*).

The laryngeal theory therefore makes it probable that, at least in a number of words, *a* at the beginning of the word developed from *ḫ₂e-*, while in the middle of the word too the timbre *a* may have been caused by *ḫ₂*.

Summarizing, one therefore concludes that PIE *a* occurs in a number of expressive words, some from children's language, in words which look like loan words, and in the remaining cases has partly come into being through a laryngeal. Now that we have arrived at this point the question is no longer whether one may expunge the *a* as PIE phoneme on the strength of these facts, but rather whether one has the right to posit such a phoneme. For this question the following considerations are in my opinion decisive:

(1) the *a* has not the slightest morphological function in PIE; it does not occur in a single suffix or ending. (Here, for instance, one can compare the European substratum language, where the suffixes *-ar*, *-ant*, *-an*, *-am* are very frequent; this seems a better interpretation than that of Krahe, who frequently works with roots like *al(a)*, *ar(a)*, *av(a)* and sees in the suffixes IE *-ro-/rā*, *-nt-* etc..)

(2) The ablaut *a/o* is found at the beginning of the word, never in the middle. Not only is an ablaut *a/o* a new, separate assumption (beside the existence of the phoneme *a*); in addition this does not explain why it does not occur in the middle of the word. (If, on the other hand, one assumes that *a-* is based on *ḫ₂e-*, then no new assumption is required for the ablaut, because *ḫ₂o-* becomes *o-*.) The same applies to the interchange *ai/i* (i.e. *ḫ₂ei-/ḫ₂i-*) etc. and *a*/zero (*ḫ₂e-/ḫ₂-*; the latter not in Greek).

(3) The fact that *a* occurs at the beginning of the word just as much as in the middle, while one might expect that the latter was much more frequently the case: *a* at the beginning of the word is therefore unexpectedly frequent.

(4) The fact that the words with *a* in the middle of the word do not belong to the "vocabulaire fondamental" (unlike, for instance, those with *a* at the beginning of the word), which renders it probable that these are loan words. (Here one can adduce **daiu̯er-* and **saus-* as counter-arguments. For **saus-* the explanation **sḫ₂-eu-s* (zero **sḫ₂us-* in Skt. *śúṣka-*) is possible.)

(5) The fact that for various cases it can be demonstrated than the timbre *a* came into being through *ḫ₂*.

In my opinion the conclusion is that *a* was admittedly present in the oldest phase of PIE accessible to us, but with a very minor functional load. From the fact that this sound has no morphological function in the linguistic system, one may further conclude that there was a phase during which this phoneme did not occur at all (except perhaps in special strata, such as children's language, affective language, etc.). An original ablaut *a/o*, *a*/zero or *ai/i* etc. never existed (except when *a* came into being through laryngeal). This book will proceed on these assumptions in the following.

As allophone of *e*, *a* existed in the direct vicinity of *ḫ₂*. When the laryngeal disappeared this *a*-colouring was preserved in opposition to the original *e*, so that the allophone became an independent phoneme (which coincided with the *a* in a small number of loan words, words from children's language, etc.). As this *a* corresponds exactly in various European languages and is distinguished from *e* and *o*, this colouring was probably already present in the proto-language. However, the disappearance of the laryngeal at the beginning of the word cannot have taken place until the independent languages, since Hittite *ḫ* postulates its survival.

Protests have been uttered against the picture that forms in this way of the oldest PIE, for instance by Leumann, *Kratylos* 1 (1956) 29: "Wenn sich hierbei der frühidg. Vokalbestand auf den einzigen Vokal *e* reduziert, dem eine Grosszahl von Konsonanten gegenübersteht, so wird man wohl kaum andere Parallelen finden als solche von rekonstruierten Sprachen; hier überall ist eigentlich nicht eine Grundsprache gesucht, sondern eine mathematische Ordnung von höchster Einfachheit".

The objection to the mathematical procedure is in my opinion not a fair one. At this level, where an attempt is being made to reconstruct pieces of a vanished language, a systematic approach which may seem mathematical (algebraic) is the only possible one. It may be argued that this is not reliable enough to allow of conclusions, but that is no argument for defending an opposite point of view (i.e. the existence of the phoneme *a*). There is, of course, the danger that, through the continuous elimination peculiar to historical linguistic reconstruction, an over-simplified picture results. For instance, in the field of phonetics merger of phonemes in the basic language can never be demonstrated now. However, this objection holds good for historical linguistic comparison as such. The only conclusion that may be drawn from this is in my opinion that it is not possible to establish the phonemic system of the basic language, at least for a period preceding the last phase before the division. But here we are not going further back than this last phase. In my view the procedure in no way differs from that in other fields of IE linguistic comparison.

The key point is of course the unusual picture of a language with one vowel. However, languages with a similar phonemic system are found in Caucasian. In Kabardian, for instance, A. H. Kuipers (*Phoneme and Morpheme in Kabardian*) finds 48 consonants, while he disclaims the existence of a vocalic phoneme. Ignoring the question of whether there was one or no vocalic phoneme, this is still a striking parallel of the system constructed for PIE. The bizarre aspect cannot therefore form an argument.

Incidentally, it is incorrect to speak of one vowel. The PIE phonetic system can well be compared with old Indian.

(N.B. The following scheme therefore gives a comparison of phonetic systems, not a survey of the historical development from PIE to Indian.)

PIE						SKT						
		e		o[1]				a			ā	
							e		o			
		i/i̯		u/u̯			i/y		u/v		ī	ū
r/ṛ		l/ḷ		m/m̥	n/n̥	r/ṛ		l/ḷ[2]	m	n	r̄[3]	
	ħ1/ħ̥1		ħ2/ħ̥2		ħ3/ħ̥3			ḥ				
			s				ś	ṣ[4]	s			
	k	g	gh					k	kh	g	gh	ṅ[5]
	k̂	ĝ	ĝh					c	ch	j	jh	[ñ]
	kᵘ	gᵘ	gᵘh					ṭ	ṭh	ḍ	ḍh	ṇ[5]
	t	d	dh					t	th	d	dh	
	p	b	bh					p	ph	b	bh	

[ ] allophones.

[1] It is possible that the ablaut *o* developed in certain circumstances from *e* and thus was originally an allophone of *e*. However, in the stage attainable by comparison *e* and *o* were phonemes. (For a supposed non-ablaut *o* see below.)

[2] This allophone occurs only in four forms of the root *kl̥p-* (*AiGr.*, p. 34). The *l̥* is simply a grammarians' construction.

[3] For the functional burden of *r̄* see *AiGr.*, p. 34.

[4] Largely an allophone of *ś*, *j* and *s*.

[5] Largely an allophone of *n*.

As the phonetic systems are not entirely parallel, such a systematic comparison presents difficulties. For instance, it seemed more logical to put the consonantal sonants on a par, which, however, disturbed the traditional picture of the Indian phonetic pattern (through the occurrence of the gap in the nasal series). It may be wondered also with what right the Indian *h* has been put on a par with the laryngeals.

In my opinion it may not be stated that PIE — according to the laryngealistic reconstruction without *a* — had fewer vowels than Indian.[64] PIE thus finds its vowels beside the *e* and the *o* in the vocalic sonants. (One wonders, of course, just what the historical development was here. If *r̥* etc. originally occurred only in the zero grade and all zero grades came into being as the result of the action of stress (from original full grade), it is obvious to conclude that there was a stage in which *r̥* etc. did not exist and *e* was in fact the only vowel (assuming that the *o* also came into being as an allophone of *e*). But this stage lies beyond what is attainable by reconstruction and must therefore remain out of consideration.) PIE thus had eleven phonemes that could have a vocalic function, and the same number is found for Indian (seven vowels

[64] Cf. Hirt, *Idg. Gr.*, 2, p. 23: "Es ist also die Lehre von dem einheitlichen indischen *a* sozusagen beibehalten, nur dass man für *a* jetzt *e* sagte." However, the view of the historical development is an entirely different one.

Pedersen, *Linguistic Science in the Nineteenth Century* (1931), p. 284, n. 2, also remarks that the one vowel can be just as well indicated by *a*, and that the allophones (i.e. *e/o*) could then suitably be indicated as *ä/å*. However, in view of the trend of the research, this is not to be recommended, since it could give rise to confusion. The representation *e* in the historical languages also advocates *e* as symbol for the reconstructed phoneme.

and four sonants). Moreover, the reduced vowel, which was an independent phoneme of PIE, has not been included.

If one considers the history of the research, one may say that the discovery of the laryngeals sealed the fate of the *a*. However, the place of the *a* and the *ə* was taken by three other phonemes that could have a vocalic function.

It thus seems probable to me that *a* is based on *ħ2e-* as an initial phoneme of PIE roots. In this way ἀρ- (ἀραρεῖν), ἀφ- (ἁπαφεῖν), ἀχ- (ἀκαχεῖν) would be based on **ħ2er-*, **ħ2ebh-*, **ħ2egh-*, ἀγρός (Skt. *ájra-*, Lat. *ager*, Goth. *akrs*, Arm. *art*) on **ħ2eĝro-*, ἄξων (Skt. *ákṣa-*, Lat. *axis*, Lith. *ašìs*, Goth. *ahsa*) on **ħ2ek-s-*, ἄνεμος (Lat. *animus*, Skt. *ániti*) on **ħ2enħ1mos*. However, there is no point in adding to the number of examples of this, since no further arguments can be adduced.

4. PIE Non-Apophonic *o*

On the strength of the fact that certain roots with *o* never display a form with *e*, even where *e*-vocalism is normal in the *e/o* series, it has been postulated that PIE had a separate *o* that did not interchange with *e*. This is done for instance by Brugmann, *Grundr.*, I², p. 153 (with the symbol *å*), where he states as examples ὅσσε πόσις ὄις ὄνειρος ὀξύη ὄζω ὄμνυμι ὄκρις. Hirt, *Idg. Gr.*, 2 p. 29f., adds οἰδέω ποιμήν οἰνή οἶος οὖς. In *KVG*, p. 74, Brugmann withdraws this idea: "Die Ansicht dass es im Uridg. zwei qualitativ verschiedene *o*-Vokale gegeben habe, steht auf schwachen Füssen". For one can argue that in these cases the *e*-phase is not known by chance or that, for the forms where one would expect *e*, the *o*-vocalism of certain roots has been extended secondarily. This objection is in general irrefutable and will certainly be correct in a number of cases.

The laryngeal theory can clarify matters here. For the objection stated does not seem enough to explain all cases. And moreover, if one considers the examples, it is striking that most of them (11 out of the 13 mentioned above) have *o* at the beginning of the word, which recalls the situation with PIE *a*, as Martinet remarked in *Word* 9 (1953) 254 (where he also remarks that an interchange *e/o* may have been secondarily introduced in roots with originally non-apophonic *o*). For a few of the cases given (ὄις, ὄκρις, ὀπ-, ὀμο- and further for ὀστέον ὄρνις and ὀρ-) laryngeal could be demonstrated; ὄνειρος has a prothetic vowel, see p. 46. Together with what was said about PIE *a*, this leads to the conclusion that in many cases PIE *o-* came into being from *ħ3e-*. Here both *ħ3e-* and *ħ3o-* became *o-* (probably, as with *a*, both coincided in PIE *ħ3o-*, after which the laryngeal disappeared in the individual languages, in view of Hitt. *ḫastai* etc.). The term 'non-apophonic' is therefore correct for this group in as much as the *o* < *ħ3e* could not interchange with *e*, but the term is meaningless.

The form ποιμήν can be explained from **peħ3i-C-* > **poħ3iC-* > **poiC-*, but **poħ2i-* is perhaps more self-evident; cf. p. 168.

For ὄκρις – ἄκρος Brugmann postulated in *Grundr.*, I², p. 485, a separate ablaut *å/a*,

which is rather improbable. As *a* was not a PIE phoneme, it is obvious to assume *ħ₂o-/ħ₂e-* here. The same applies to οὖς— Lat. *auris*, **ħ₂ŏus-/ħ₂eus-/ħ₂us-* (or **ŏħ₂us-* etc.?).

Further interpretation of πόσις is uncertain. We are concerned here with a single form, so that the absence of ablaut variants is meaningless. There is nothing to prevent us starting from **pot-(i-)*.

To assume beside the ablaut-*o* and the *o* that emerged in the immediate vicinity of *ħ₃* a third (non-ablaut) *o* does not seem justifiable. The basis for the first non-ablaut *o* was weak enough in itself, and the forms adduced prove to go back largely to *ħ₃e*, so that there is insufficient ground for assuming a third *o*. This seems to solve this matter as far as I am concerned.

The problem, therefore, with which we were confronted above was the disturbance of the ablaut *e/o* by the presence of a laryngeal. The situation may be sketched as follows:

without laryngeal	*after laryngeal*
e/o	*ħ₁e/o* > *e/o*
	ħ₂e/o > *a/o*
	ħ₃e/o > *o/o*

5. Armenian

Armenian presents two questions which must be touched on. The first is whether non-apophonic *o*, i.e. *ħ₃e*, became *a* in Armenian. This idea was put forward by De Saussure, *Mémoire*, p. 96 f. The material was discussed by Bartholomae, *BB* 17.91-103. After critical sifting (for instance not automatically putting *amb* 'cloud' on a par with ὄμβρος) he retains ten cases. Of these, the connection *haikʿ* 'Armenians' —πόσις may probably be abandoned (Boisacq s.v.), that of *jaunem* 'to consecrate' with χόανος is very uncertain, that of *(y)esan* with ἀκόνη is meaningless, since -ονη is a Greek suffix that may be secondary (forms of ἀκ- also occur with suffix -αν-, ἄκαινα ἄκανος ἄκανθα, which, however, seem non-IE); *arawr* —ἄροτρον is based on **ħ₂erħ₃trom*, see p. 231; *atamn* and *anurǰ* have 'prothetic vowel', see pp. 55 and 46; as Bartholomae himself states, *y-areay* 'I rise up' (ὄρνυμι) may be explained by the zero grade in pres. *yaṙnem*. We then still have *akn* 'eye' (ὀπ-), *ateam* 'to hate' (*odium*) and *aytnum* 'to swell' (οἰδέω), to which one could add *haçi* — ὀξύα. Thought has been given to assuming *ai/oi* (*ħ₂ei/ħ₂oi*) in *aytumn* — οἰδέω, on the strength of the comparison with Lat. *aemidus*; *o*-vocalism may be expected for οἰδέω itself, but the connection with *aemidus* is of course not sufficiently reliable.

However, as against these examples there are *hoviv* < **oṷi-pā-* (?), *oskr* 'bone' (ὀστέον), *ori* 'hawk' (if connected with ὄρνις), *ost* (ὄζος). In my opinion these show that the Armenian interchange *a/o* does not go back to PIE. The cause will have to be sought inside Armenian (cf. Meillet, *Esquisse*², p. 41).

The second question is whether the Armenian *h* at the beginning of the word represents an original laryngeal, as Austin suspected; see Winter, *Evidence*, p. 29 f., with literature. I do not believe that much value may be attached to the absence of Arm. *he-* < *ħ₁e-*, in view of the fact that *ħ₁* is very difficult to demonstrate. In my opinion a glance at the examples stated above shows that the whole idea is untenable. A recent discussion of the Armenian *h* may be found in Jerejian, *Word* 9 (1953) 146-51.

LARYNGEAL AT THE END OF THE WORD

In general the difficulty in this section on laryngeal at the end of the word is that there is little material here. Whilst in the first section on laryngeal at the beginning of the word the difficulty is demonstrating the laryngeal, and in the third section — laryngeal in the middle of the word — the problem is interpretation of the confusing data (especially in Greek), the proof adduced here is necessarily austere, owing to this shortage of material. This is understandable, because we are concerned here with the cases in which the laryngeal was the last phoneme, i.e. (the last phoneme of) the ending. In the third chapter, moreover, the problem is intensified by the possibility of an explanation with the aid of analogy.

III. AFTER VOWEL

First of all we shall consider the development of laryngeal after vowel, i.e. after *e/o* (for PIE *a* see p. 133 ff.). The cases with sonant (*i, u; r̥* etc.) followed by laryngeal will be discussed in chapter V.

One of the starting-points of the laryngeal theory is that the long vowels of the basic language which did not arise from lengthening or contraction go back to short vowel plus laryngeal. Various long vowels at the end of the word must also be so explained, e.g. the feminines ending in *-ā* (cf. p. 170) and (Skt.) *-ī*, *-ū* from *-eh₂*, *-ih₂*, *-uh₂* respectively. Kuryłowicz' explanation of the ending of 1 sg. act. of the thematic presents *-ō* from *-o-h₂* may also be recalled; see p. 133 n. 61.

A phenomenon that is explained by this assumption is the rule *vocalis ante vocalem corripitur*. For if a word ending in vowel plus laryngeal stood before a word beginning with vowel, in the context the laryngeal would come to stand between vowels and would disappear, *-VH V- > -VHV- > -VV-* (*-eh₂ o- > ah₂o- > -ao-*). The long vowel at the end of the word thus occurred at first only before a word that began with consonant (*-ah₂C- > -āC-*).

Kuiper has demonstrated that the Rigveda still displays traces of these sandhi phenomena (*India Antiqua*, p. 208 ff., *Shortening*, *Die Sprache* 7.16-20). It thus emerges from this that the laryngeals were preserved in this position down to the separate languages, for it is improbable that these sandhi rules were preserved for centuries (from the phase in the proto-language in which the laryngeals were thought to have disappeared here to the time when the Vedas were composed). It proved that in pause too the forms ending in short vowel occur. The origin of the long vowels is based on compensatory lengthening, as a result of which the length of the syllable was preserved, whereas on the other hand a closed syllable in pause was short. The latter shortening (for it was as such that the phenomenon was regarded in the later linguistic system, in which the forms with long vowel were generalized) is found for example in the vocative, which after all is by nature followed by a pause; cf. Kuiper, *India Antiqua*, p. 210, and *Shortening*, p. 253 n. 1: "In Sanskrit the vocative often remains unaffected by the rules of sandhi and the verb which follows a vocative at the beginning of a sentence is accented as though it were the first word". Thus in the Rigveda shortening can be demonstrated for the instr. sg. ending in *-tī*, the gerunds in *-yā*, *-tyā*, the neuter pl. in *-ī*, *-ū*, (*-ā*) and the nom. acc. dual in *-ī*, *-ū*; shortening

in the vocative is found in words ending in *-ī*, *-ū* and in the dual of the *a-* and *i*-stems (no example is known of the *u*-stems).

In the oldest Greek, i.e. in Homer, no trace can be found any longer of these sandhi phenomena. The more frequent form has already been generalized here, i.e. the anteconsonantal form. However, the shortening in the vocative can still be shown; it is discussed below.

The *ā*-stems therefore have *-ā* from *-aℏ₂* < *-eℏ₂*. Indications of the laryngeal are the form of the vocative (*infra*), the declension (p. 170) and the parallelism with the Sanskrit forms ending in *-ī*, *-ū*, which have to be explained as *-i-ℏ₂*, *-u-ℏ₂*.

The endings which we find for the instrumental — if we ignore here the forms with *bh* and *m* — point to a laryngeal. The endings Ved. *-ā* (with stems ending in consonant, *-a* and *-ā*) and *-ī*, *-ū* (with *i-* and *u*-stems) (other forms are more recent, taken over in part from the pronominal declension, *AiGr.* 3, pp. 34-6, 90-2, 115-9, 145-8) suggest an analysis *-i-ℏ*, *-u-ℏ*, and *-e/oℏ* for the *o*-stems. This interpretation is now confirmed by the above-mentioned shortening in pause and before vowel in the Rigveda of *-tī*, *-tyā* and *śámī* (Kuiper, *Shortening*, p. 253-64). In this way the acute of Lith. *-ù* < *-ó* (*vilkù* 'with the wolf') also becomes clear, indicating that no contraction has taken place here (unlike the ablative ending in *-ēd/-ōd*, see *AiGr.* 3, p. 94f.). In Greek one still finds the acute in ἁμαρτή (E 656 Σ 571 Φ162 χ 81; reading of Aristarchus, codd. -ῆ) and ἐπισχερώ Λ 668 Σ 68 Ψ 125).

The situation is more complicated with the *ā*-stems, where κρυφᾶ (Pi.) and the like (Schwyzer, p. 550) have circumflex, insofar as value may be attached to this, because -η, -ω also were often given circumflex. Nor is it clear whether the ending Skt. *-ā* is original with the consonant stems. If this is the case, both questions can be solved (for in origin *ā*-stems are also consonant stems, *-ā* < *-eℏ₂*) by assuming an ending *-eℏ*, beside *-ℏ* with the stems ending in vowel; for the *ā*-stems this gives *-éℏ₂-eℏ* > *-áℏ₂aℏ* > *-áaℏ* > *-ā(ℏ)*. However, in that case one would expect traces of hiatus (*-aa*) in Vedic, of which there is no evidence.

That Ved. *-ā* of the *o*-stems stands for IE *-ē* emerges from forms like Skt. *paścā*, Av. *pascā* 'behind' < **poskē* (where the palatal points to *ē*) as against the abl. Av. *paskāṯ* < **poskōd* and from the comparison with the other languages (*AiGr.* 3, p. 91f., Schwyzer, p. 548). The long *ē* is found in Goth. *þē* 'all the more', *hwē* 'with which' (OS *hwō* with *ō*) and perhaps Latin adverbs ending in *-ē*, *certē*, etc. From elsewhere we know only *-ō*, Lith. *vilkù*, OHG *wolfu*. That the -η of some Greek forms does in fact represent *ē* is demonstrated by the Doric forms. Laconian πέ(ποκα) cannot be **k*ʷ*eℏ₂-ℏ* (with the second *ℏ* as instrumental ending), because the η instead of the ᾱ then to be expected could not be explained. It is evident that the opposition η : ᾱ here has been sharply preserved from the context of Lac. πέποκα, *IG* IV 1.213, 3-5, (Buck *Gr. Diall.*, p. 268), Sparta V B.C.: νικάhας | ταυτᾶ hᾶτ' οὐδὲς | πέποκα τὸν νῦν, 'having won victories in such a manner as never anyone of those now living'. Here, then, ταυτᾶ and hᾶ-τ' are likewise instrumental forms, of an *ā*-stem (*supra*). Cf. further for instance El. ταύτε̄, Cret. τῆ 'where' (the π in πέποκα must therefore be analogic, cf. hόπε̄, where the π was perhaps caused by the preceding o). For the

corresponding forms with -ω (e.g. πώποτε), compare ὅς ὧδε with Myc. *jo-* (*o-*; for instance *jodososi* '*jō dōsonsi*') and see Schwyzer, p. 550.

This interchange *-ē/-ō* can only be explained by *-e-ℏ₁/-o-ℏ₁*. It therefore follows from this that the instrumental ending was *ℏ₁*.

The shortening in the Rigveda shows that the ending of the nom. voc. acc. dual of *o-*, *i-* and *u*-stems was a laryngeal too. The acute of Lith. *-ù* also suggests this. It is difficult further to determine this laryngeal. The consonant stems point to an ending *-e*, the *ā*-stems to an *-i*, contracted to *-ai* < *-eℏ₂-i*, and the neuters to *-i*. These cannot be linked with laryngeal and therefore do not give any support here. The occurrence of *-ō* only (Gr. -ω, Lith. *-ù*; Skt. *-ā*, OCS *-a*) suggests *ℏ₃*, but if the stem vowel was *o*, each of the three laryngeals is possible. However, δύω (ἄμφω) and ὀκτώ, which probably have a dual ending, would confirm the *ℏ₃*. One could then regard δύο as shortening before vowel and in pause, but this cannot be demonstrated (one would expect the same interchange with ὀκτώ, but this perhaps is less frequent). Then there are the forms with *-u*, **dṷōu*, Skt. *dváu* and Myc. *duwoupi* (not **dṷoiunphi* with *Docs.* No. 148, since -φι was used only after the stem, Chantraine, *Gr. Hom.*, pp. 234-41 and 499-51). This question therefore remains open.

In **prð* too a *ℏ₃* cannot be further demonstrated. Martinet's theory, *Word* 9 (1953) 253-67 (*eℏ₃C* > *ōC* as against *eℏ₃V* > *āṷV*) is unacceptable.

a. *The Vocative Ending in* -ă

Besides the vocatives of the feminines ending in *-ĭ* and *-ŭ* demonstrated in Vedic one would expect an ending *-ă* (< *-aℏ₂*) of the *ā*-stems. However, there is no evidence at all of this in Indian. It is true that forms are found like *amba* which, however, corresponding to Greek ἀμμά, ἄττα, are entirely outside the ordinary declension system as words from children's language. Moreover, it is supposed that *ambā akkā attā* ('mother') were borrowed from a Dravidian language; see Mayrhofer s.vv. The vocative ending in Indo-Iranian is *-ai*, which has not yet been adequately explained.[65]

However, the expected ending *-ă* in the vocative is found in other languages, including Greek, and further in OCS *-o* (*ženo*, nom. sg. *žena*) and Umbr. *-a* (in proper names, e.g. *Prestota*) as against a nom. ending in *-o*, *-a*, *-u*.[66]

In Greek (Schwyzer, p. 560 and Chantraine, *Gr. Hom.*, p. 199f.) one finds only traces of the vocative ending in *-ă* in the feminines, in Homer νύμφα (Γ 130 δ 743) and a few forms in Sappho, which are also said to be used as nominative. Here one quotes (Schwyzer, p. 558 Zus. 1.; recently Chantraine, *Morph.*,² p. 49) Δίκα Εἴρανα ἔραννα. According to the index of Lobel-Page the last form occurs only in the

[65] The connection with γύναι is untenable. Viewed from Greek, this is the normal vocative consisting of the stem *γυναικ. It is highly improbable that the vocative would function as stem; the use of vocatives as nominatives to be discussed later is not at variance with this, since we are concerned here with specific artificialities of the epic (and perhaps religious) language; Lat. *Iovis* etc. does not give sufficient support for this assumption either. Incidentally, in that case the same would have had to have happened in Armenian (*kanay-*). This is already mentioned in Brugmann, *Grundr.*, II², p. 135.

[66] Bold face indicates transcription of Umbrian script.

accusative (ἔρανναν *Fr.* 132). The forms Δίκα, *Fr.* 81(b), cf. 82(a), Εἴρανα *Fr.* 91, 135 occur only as vocative. Hamm's grammar, p. 147 § 223, also gives them simply as such; the nominative of the *ā*-stems is not stated there separately. Consequently in my opinion there is no ground for the assertion that these vocatives are used by Sappho as nominatives.

In the case of the masculine *ā*-stems (which acquired an *-s* secondarily in the nominative in Greek) the vocative ending in -ᾰ is frequent, e.g. τοξότα (Λ 385), συβῶτα (ξ 55). This is very widespread in Homer, Chantraine, *Gr. Hom.*, p. 200; for Attic see Kühner-Blass, I², p. 387.

Inscriptions give nominatives ending in -α, Boeot. ὀλυμπιονικα, El. τελεστα (Schwyzer, p. 560 β), but it cannot be made out whether the -α here is long or short (Chantraine, *Morph.*², p. 54). It is therefore not clear whether these forms must be linked with what is under discussion here.

A special problem is formed by a small group of these words in Homer, a specific problem of Homeric language.

This group consists of ten forms that are used as nominatives. Only three are also found as vocatives, and in the case of two of them the nominative ending in -ης also occurs; three are ἅπαξ λεγόμενα (to which one may probably add ἀκάκητα; *infra*). The forms are the following:

εὐρύοπα	voc. Π 241; nom. Il. 9 times, Od. 7 times; acc. Il. 6 times.
μητίετα	voc. A 508; nom. Il. 14 times, Od. 3 times.
κυανοχαῖτα	voc. O twice, ι; nom. N Ξ; (-ης Υ ι; -η Υ γ).
νεφεληγερέτα	nom. Il. 22 times, Od. 8 times (gen. -αο Il. 6 times).
ἱππηλάτα	nom. Il. 9 times, γ twice [-ᾱς A.]
ἱππότα	nom. Il. 26 times, γ 9 times, δ [-ης S.]
ἀκάκητα	nom. Π 185 ω 10
στεροπηγερέτα	nom. Π 298
αἰχμητά	nom. Ε 197 (-ης Γ Ρ β; -η, -ην, -ᾱ (du.), -αι, -αων)
ἠπύτα	nom. Η 384.

All are epithets of gods and heroes, except ἠπύτα κῆρυξ (fin.). Εὐρύοπα, μητίετα, νεφεληγερέτα, στεροπηγερέτα are connected only with Zeus, κυανοχαῖτα with Poseidon (or γαιήοχε or independently to designate Poseidon), ἀκάκητα with Hermes. This suggests that this usage has its starting-point with the names of gods. With regard to heroes one finds αἰχμητά, a ἅπαξ, but a very ordinary word that occurs in many other forms; further only ἱππηλάτα and ἱππότα, in themselves very frequent words, of which, however, the nominative ending in -ης was metrically impossible; ἠπύτα κῆρυξ is the last step in the "profaning" of this use of the forms ending in -ᾱ (derived directly from ἠπύω). On the other hand, the epithets for gods are all words that are otherwise not known, mostly compounds, whose meaning is often not known to us exactly. Risch, *Sprachgesch. u. Wortbed.*, pp. 389-97, assumes that Γερήνιος ἱππότα Νέστωρ (30 times) is older than the metrical variant γέρων

ἱππηλάτα Πηλεύς (4 times): where Γερήνιος was not applicable it was replaced by γέρων and therefore ἱππότα by ἱππηλάτα on behalf of the metrical structure. Further, αἰχμητά would go back to this formula, having regard to the resemblance of E 197 and I 179, and ἠπύτα on account of that between H 383 f. and I 52 (cf. the phonetic structure ἠπύτα — ἱππότα and Hes. *Op.* 582 ἠχέτα τέττιξ; κήρυκι Ἠπυτίδῃ P 324 would be based on ἠπύτα).

It has been postulated that this was an old nominative ending in -τα (see the lit. in Schwyzer, p. 560 α). In that case the -α would have to go back to PIE *-ə* and was compared with Skt. *már-īc-i* 'ray of light', which is said to have *-i* from *-ə*. But, as *-īc-* developed from *-i-ĥ₃kʷ-* (with the same root as ὀπ- 'to see'), the ending must be an old *i*, because *i* < *ə*(*ĥ*) did not palatize; see the Introduction, p. 9.

Meillet believed it to be an interchange *ā*/*ə* (*eĥ₂*/*ĥ₂*) (*Introd.*⁸, p. 319). However, this is improbable, because there is no trace of ablaut in *ā*-stems (with the apparent sole exception of μέγα, see p. 153).

The hypothesis of the nominative ending in -(τ)α also does not explain why this was preserved precisely in the case of a few epithets of gods, while it is understandable that the form in which they were invoked became a noun. This idea was latterly defended by Risch (*loc. cit.*). That old forms were preserved in the invocation of gods is evident from Russ. *bože*, Gr. Ζεῦ ἄνα (Γ 351 Π 233 ρ 354; cf. Leumann, *Hom. W.*, p. 39 f.). Lat. *Iuppiter* is not only the sole vocative without ending of the third declension (Sommer, *Hb.*, p. 374; **Di̯eu ph₂ter* = Ζεῦ πάτερ as against nom. **Di̯ēus ph₂tḗr*), but was also used as nominative[67] and formed the starting-point for a new declension (*Iovis* etc., from **Dieu̯-es*, instead of PIE **Di̯ós* etc.). It becomes probable that we are concerned with a vocative in these forms by the use of κυανοχαῖτα. It is found in the following places:

O	174	ἀγγελίη τινά τοι, γαιήοχε κυανοχαῖτα
	201	οὕτω γὰρ δή τοι, γαιήοχε κυανοχαῖτα
ι	528	κλῦθι, Ποσείδαον γαιήοχε, κυανοχαῖτα
N	563	κυανοχαῖτα Ποσειδάων, βιότοιο μεγήρας
Ξ	390	κυαναχαῖτα Ποσειδάων καὶ φαίδιμος Ἕκτωρ
ι	536	ὣς ἔφατ' εὐχόμενος, τοῦ δ' ἔκλυε κυανοχαίτης
Υ	144	ὣς ἄρα φωνήσας ἡγήσατο κυανοχαίτης
γ	6	ταύρους παμμέλανας, ἐνοσίχθονι κυανοχαίτῃ
Υ	224	ἵππῳ δ' εἰσάμενος παρελέξατο κυανοχαίτῃ

It seems that the formula of ι 528 is the oldest one, from which on the one hand that of O is derived, and on the other hand, with the vocative as nominative before Ποσειδάων, that in N and Ξ (both γαιήοχε and the name Ποσειδάων are found together in self-evident fashion in ι 528, and in ι too one finds the nominative with the normal ending -ης; ἵππῳ in Υ displays the continuing "profaning").

[67] An older nominative is *Diespiter*; *diēs* has the *ē* from the accusative **diēm* (for this form see p. 174.) and *i* from the weak cases (**di̯ós*), and possibly also from sandhi, after consonant in accordance with Sievers' Law.

Εὐρύοπα is a special case, which has to be considered separately. If we compare the places, we find that εὐρύοπα Ζεύς occurs nine times in the *Iliad* and seven times in the *Odyssey*, always at the end of the verse. Six times it is found as accusative in the *Iliad*, namely Θ 206 Ξ 265 Ω 331 with εὐρύοπα Ζῆν at the end of the verse and A 498 O 152 Ω 98, which verses began with εὖρεν (-ον) δ' εὐρύοπα Κρονίδην. Besides εὐρύοπα Κρονίδην, the form εὐρύοπα therefore occurs exclusively at the end of the verse, followed by a form of Ζεύς (20 times). We are thus concerned here with a formulaic group of words that originally stood at the end of the verse (the most conservative part). The placing at the beginning of the verse was therefore an innovation. Coupled with this was the replacement of Ζῆν by Κρονίδην, evidently to avoid the strange form Ζῆν; with Ζῆν word end would also fall at a forbidden place (after the sixth element).

Although it is possible to assume here too that an old vocative is the startingpoint, the interpretation generally accepted (see the lit. in Frisk and Risch, *loc. cit.*) that εὐρύοπα Ζῆν is the older formula is nevertheless more probable. In that case Ζῆν is the direct continuation of PIE **Dii̯ēm*; after all, it cannot be assumed that the form Ζῆν was created for the sake of the metre. The form is thus further irrelevant here. (As regards the vexed question of whether the word contains the root ὀπ- 'voice' or 'to see', the following may be said. In my opinion εὐρυ- points more to 'to see' than 'to speak'. The form cited in this context, βαρυόπαν (Pi. *P.* 6. 24), where ὀπ- clearly means 'voice', exactly does not have εὐρυ-. Incidentally, it is the question whether much value can be attached to this word for the original meaning of εὐρύοπα. The same concept 'widely surveying' is found in Ved. *uru-ćakṣas-* (of Varuna, Mitra and Agni) and Av. *vouru-caśāni-* (of Ahuramazda), in which *uru-*, *vouru-* is etymologically cognate with εὐρυ-; see R. Schmitt, *Idg. Dichterspr.*, p. 128 f.)

Everything therefore suggests that the derivation given by Brugmann (*MU* 2, p. 199 f.; *Grundr.*, II² 1, pp. 416 f.) of these forms ending in -α from the vocative is correct. This impression is confirmed if a number of other similar words are compared that occur as vocative:

E 31 = 455	Ἄρες Ἄρες, βροτολοῖγε, μιαιφόνε, τειχεσιπλῆτα
Γ 3 = N 768	Δύσπαρι, εἶδος ἄριστε, γυναιμανές, ἠπεροπευτά
Λ 385	τοξότα, λωβητήρ, κέρᾳ ἀγλαέ, παρθενοπῖπα
A 159	τιμὴν ἀρνύμενοι Μενελάῳ σοί τε, κυνῶπα

For Π 31 αἰναρέτᾰ (?) see Chantraine, *Gr. Hom.*, p. 200.

These forms also show that they stood in pause, often at the end of the verse too, not before the word to which they related, as also appeared with κυανοχαῖτα. Compare for the placing Π 233 Ζεῦ ἄνα, Δωδωναῖε, Πελασγικέ.

Comparing these Homeric forms with the vocative ending in *-ă* in Old Bulgarian and Umbrian, one arrives at the conclusion that an old vocative is concerned here, for which the pause shortening in Vedic and the laryngeal theory give the explanation: *-eh₂* > [*-ah₂* >] *-ă*. This is also in accordance with the fact that the vocative consists

of the stem without ending and that the *ā*-stems do not have another stem form than *-ā* (*-eh₂*).

For the relative chronology it is important to establish that the laryngeal did not disappear here until the separate languages (on account of the sandhi in the Rigveda), but that the general *a*-colouring indicates that this still took place in the common language; one therefore has PIE *-eh₂* realized as *-ah₂*, and Gr. (OCS and Umbr.) *-eh₂* ([*-ah₂*]) > *-ă*.

It is understandable that the nominative always has *-ā*, and the vocative (also) *-ă*, although both are sandhi variants of the same form, owing to the fact that the vocative by nature (i.e. *always*) stood in pause, and the nominative only occasionally before vowel (or in pause). The use of the vocative ending in -ᾰ as nominative was probably not a development of the living language, although it is possible that it did not belong exclusively to the artificial language of the epic, but also to religious language. The fact that the vocative ending in -ᾰ was better preserved in masculines than in feminines will be a consequence of the fact that the nominative here differed more clearly from the vocative (masc. -ᾱς : -ᾰ, fem. -ᾱ : -ᾰ).

(The objections of J. T. Hooker, *Glotta* 45 (1967) 14-22, to the theory of the old vocative are in my opinion not decisive.)

IV. AFTER CONSONANT

The comparison of the 1 pl. midd. ending -μεθα with Indo-Ir. *-madhi* leads to the reconstruction **medhħ* (**-medhə*). It cannot be made out whether this laryngeal was vocalic or consonantal in PIE. On the strength of the comparison with the following (the ending of the neuter plural), where secondary vocalization in the separate languages of an originally consonantal laryngeal is certain, one is inclined to assume that here too the laryngeal was consonantal. As in my opinion the vocalization of $ħ_1$ and $ħ_3$ in Greek gave ε and ο respectively, we have here the *a*-colouring laryngeal, i.e. **-medhħ₂*.

As the ending of the neuter plural *ə* is assumed, i.e. within the laryngeal theory a laryngeal. This conclusion is based on the correspondence of Skt. *-ā* (of the *a*-stems), *-ī*, *-ū* (with the *i*-, *u*-stems) and *-i* (with the consonant stems) with the ending *-ă* in other languages, including Greek. It is evident that we are concerned here with a consonantal laryngeal from the interchange *-ĭ/-ī* and *-ŭ/-ū* in Vedic (Kuiper, *Shortening*, pp. 264-78; see the preceding section). H_2 is demonstrated by the α of Greek. In accordance with this is the identification of this laryngeal with the ending of the feminines, which, as emerges from the Sanskrit endings *-ā*, *-ī*, *-ū*, was a laryngeal, and in view of Gr. etc. *-ā* was an *a*-colouring one. Cf. Schwyzer, p. 581 Zus.

After consonant one finds this ending for instance in φέροντα (Skt. *bháranti*), μέζω < -οσα < *-osħ₂*, cf. Myc. *mezoa₂* '*mezoha*', γένεα (Lat. *genera*, Skt. *mánāṁsi*, Av. */manāh/*, written *manå*). For the last group the Avestan form points for Indo-Iranian to **manās-ħ*, with consonantal laryngeal.[68] Cf. the Introduction, p. 8.

This exhausts the material. Only one group may still be of importance here, that of the Greek adverbs ending in -α, κατά ἀνά διά etc., Schwyzer, p. 622,8.

Benveniste, *Origines*, p. 89 ff., attempts to derive -α from *-r̥*, the zero ending of stems in *-r/n*; in that case the adverbs ending in -αρ < *-r̥* would therefore form a parallel. However, adverbs ending in -αρ are very rare in Greek; one finds only three, ἄφαρ, εἴθαρ and ἴκταρ, to which one could possibly add the forms ἦμαρ and ὄναρ. One does not find a single case of a form ending in -αρ beside one ending in -α. Nor would one expect the ending *-r/n* after sonants (παρά μάλα θαμά ἅμα ἀνά) or after vowel (διά), even though there are examples of this with the substantives (Schwyzer,

[68] Burrow's idea, *Sanskrit Lg.*, p. 236, that Sanskrit had a PIE ending *-i* is based on the Hittite *-i*. However, Brosman, *JAOS*, 82 (1962), 63-5, demonstrated that the latter is a Hittite innovation.

p. 519,5): **ἔναρ θέναρ ἦμαρ ὄναρ*. I therefore do not believe that this is the right solution.

The view that an instrumental ending *-a* forms the basis here also seems untenable (this is the view expressed for instance in Meillet, *Introd.*[8], p. 295, besides the literature stated by Schwyzer). It has been shown above that it is improbable that PIE had a phoneme *a*, or at least that it occurred in any essential part of the linguistic system, while in the last chapter it was moreover demonstrated that the old instrumental ending was $ħ_1$. As in my opinion $ħ_1$ in Greek became ε, not α, the explanation of the -α of the adverbs as the ending of the PIE instrumental cannot be correct.[69]

On the strength of ἄνω κάτω Von Blankenstein, *IF* 21 (1907) 99-115, derives -α from *-ə*. But if the ending -ω is an instrumental, as he assumes (as does Schwyzer, p. 550), then this arose from *-oħ₁* and -α would have to stem from *-ħ₁*. Compare with these forms Myc. *paro* (παρά).

Perhaps of importance here are the forms ending in -αι, παραί καταί (unless the latter developed on the analogy of παραί). This ending could go back to *-eh₂i*, but *-ħ₂-ei* could also be considered. Beside -α (and -αι) forms ending in -ι occur, in κατι- (Thess. κατιγνειτος, Hom. κασίγνητος), **meti* (OE *mid(i)*, OHG *mit(i)*). If -(τ)α (κατά μετά) goes back to *-(t)ħ₂*, -(τ)ι may come from *-(t)ħ₂i*. In my opinion *-tħi* is suggested by Hitt. *ḫanti*, where one would have expected *-zi* if there had been no laryngeal between the *t* and the *i*. For Gr. ἀντί (as against κασι- in κασίγνητος) see Lejeune, *Traité*, p. 54.

It is not self-evident that all the cases stated in Schwyzer (p. 622,8) have the same origin. Allowance must also be made for marked mutual influence. A careful study of the Greek dialect forms is a prerequisite here. Consequently it is not possible to go into this set of questions further. It can only be stated that if a laryngeal must be assumed here, this must have been $ħ_2$ (> α), so that the instrumental ending cannot have been the origin here.

In one case it can be shown that *-ħ₂* served as a neuter ending with a stem ending in *eħ₂*. It may be wondered whether this ending may be connected with the preceding one. The form in question is μέγα, of which the laryngeal is demonstrated by Skt. *máhi*.[70] OIcel. *miok* < Germ. **meǩu* may also be derived from **meĝħ₂*; the *-u* is not analogic (Frisk, II, p. 190), but phonetic, cf. Kuiper, *Act. Or.* 20 (1948) 28. The declension which, on the basis of Pedersen, *Cinq. décl.*, p. 47 ff., is reconstructed as follows, guarantees the laryngeal by the explanation of Skt. *h* < *ĝ-ħ* before vowel, which has spread from there to the other forms:

sg. nom.	**meĝ-éħ₂*	(Skt. *mahā-*)
acc.	**meĝ-éħ₂-m*	(Ved. *mahấm*)

[69] One could assume ε < $ħ_1$ in τῆλ-ε ὄψ-ε and the particles -δε -θε -σε -τε (Schwyzer, p. 631:10). However, for -δε this is impossible on account of Av. *-da*. For -τε cf. Lesb. -τα Dor. -κα. The cases mentioned need not, of course, all be of the same origin.

[70] That Skt. *máhi* is immediately identical with μέγα and does not go back to an *i*-stem (**meĝh₂-i*), as Burrow (*TPhS*, 1949, 45, *Sanskrit Lg.*, p. 228) assumes, is confirmed by the formula μέγα κλέος — *máhi śravas* (Mayrhofer, II, p. 610, R. Schmitt, *Idg. Dichterspr.*, n. 484).

gen. **meĝ-ḫ₂-ós* Ved. *mahás*

Only for one of the forms cited above it can be made probable that the -α developed from a laryngeal. As is shown below (p. 208) the forms connected with ἅμα must have had a laryngeal, e.g. ἀμο-, Skt. *simá-* < **sₑmḫo-*, ὁμός, Skt. *samá-* < **somḫo-* (**somo-* would have given Skt. **sāma-*). It is then a reasonable assumption that ἅμα developed from **sₑmḫ₂*. (For ἀνά see p. 208 n. 103.)

For κατά see p. 209.

V. AFTER *i*, *u*

Laryngeal at the end of the word after *i* or *u* presents a special problem. In practice we are concerned here with the neuter plural of the *i*- and *u*-stems and the feminines that are based on PIE *-iḫ₂* (*-uḫ₂*). Greek forms a problem here, since here one finds -ια/-ϳα, -υα/-ϝα as against *-ī*, *-ū* in many other languages. The question here is whether the Greek forms are based on a phonetic development or whether they developed through analogy.

The first group that matters here is that of the feminines ending in -ια. These occur in the oldest Greek. One finds πότνια, Skt. *pátnī*, in Myc. *potinija*. The words ending in -τειρα, γενέτειρα, Skt. *jánitrī*, Lat. *gene-trī-c-*, perhaps go back to older -τρια[71]: Ἐρέτρια (**ḫ₁erḫ₁-tr-iḫ₂*), δέκτρια (Archil.), of which various forms are found in Mycenaean, *aketirija*, *meretirija*, *pekitira₂* (*ra₂* = *rja*), *rapitira₂* (*Docs.*, Vocabulary s.vv.; a representative of -τειρα is not known); finally another Mycenaean form is *topeza* ('*torpeza*') 'τράπεζα' < *-ped-i̯a*. The forms are found in very archaic words and often have exact counterparts in Indian: Πλάταια (B 504) — *pṛthivī́*, πίειρα — *pī́varī*, τέκταινα — *takṣṇī́* (**tekˢniḫ₂*),[72] Arc. Dor. ἔασσα — *satī́* (**sn̥t-iḫ₂*), Cyren. ἑκασσα — *uśatī́* (**u̯eḱ-* and **uḱ-n̥t-iḫ₂* respectively), φέρουσα — *bharantī* (Lith. *vežanti*, OCS *vezǫšti*, Goth. *frijondi*), (ϝ)ιδυῖα — *vidúṣī*. In view of the ablaut in the stem ὀρόγυια *ὀργυιᾶς, ἀρεπυια *αρπυιᾶς are also old and perhaps αἶσα ἴσ(σ)ης (cf. p. 128; **hₓéit-iḫ₂* **hₓit-i̯éḫ₂-s*).

That the end of the word is particularly concerned here is evident from γλῶσσα : γλωχίς, if both are derived with the element *-iḫ₂* from the stem of γλῶχ-ες (and -ῑς thus is based on *-iḫ₂s*). It is much less certain that πέδῑλον goes back to **ped-iḫ₂-lom*, from **ped-iḫ₂* in πέζα, Germ. **fet-ī*, OIcel. *fit*.

The first question is what the inherited form was. It has been postulated (see for instance *AiGr.* 3, p. 167) that the basic language already had *-ī* (*-ū*), on the strength of the agreement in representation (*-ī*, *-ū*) in various languages; cf. beside Indo-Iranian (*supra*) Lith. *patì* (gen. *pačiõs*), OCS *bogynji* (with secondary *j*), Goth. *mawi* (gen. *maujōs*). The sandhi phenomena of these endings, notably the vocative *devǐ* (nom. *devī*, gen. *devyáḥ*) in the Rigveda, however, prove that *-iḫ₂ -uḫ₂* was preserved

[71] The interrelation of these and similar forms should be further examined; cf. Skt. *pī́varī* infra.
[72] The distribution of -ϳα and -ια (*i̯a*) and — partly connected with these — that of the forms -ειρα -ρια -αιρα and -νια -αινα should be submitted to a close examination.

down to the separate languages (p. 145). It is therefore possible that -ια/-ϳα is a phonetic development of *-iH₂*.

The form *πότνι, Schulze's conjecture for the vocative πότνα (ε 215 ν 391 υ 61), which is based on Ved. *pátni*, could therefore, like *pátni*, be explained as a pause form of **potnih₂*, as also the Greek vocatives ending in -ᾰ of the *ā*-stems from *-eH₂*> [*-aH₂*>]*-ᾰ* (p. 147ff.). However, there is no support in Greek for *πότνι (certainly not the vocative βοῶπῑ, cf. Chantraine, *Gr. Hom.*, p. 208), while the form πότνα can in my opinion be explained. Wackernagel (*Gött. Nachr.*, 1914, p. 25 n. 1) supposed a connection with πρέσβᾰ, but thought that the latter went back to the example of πότνα. However, an argument against this is that πρέσβα is historically explicable as a phonetic form (*infra*) and πότνα is not, while πότνα occurs in the *Odyssey* and πρέσβα in the *Iliad*. In the *Iliad* the vocative is πότνια, πότνια μῆτερ Z 264 (fin.), (βοῶπι(ς)) πότνια Ἥρη[73] Θ 471 Ο 49 Σ 357 (fin.). Πρέσβα occurs in a solemn invocation of Hera Ξ 194 = 243; in E 721 = Θ 383 as nominative (with θυγάτηρ): Ἥρη, πρέσβα θεά, θύγατερ μεγάλοιο Κρόνοιο. Τ 91 (πρέσβα Διὸς θυγάτηρ Ἄτη ...) and γ 452 (... Εὐρυδίκη, πρέσβα Κλυμένοιο θυγάτρων) probably go back to this formula. In my opinion, on the formula in Ξ that of υ 61 is based: Ἄρτεμι, πότνα θεά, θύγατερ Διός, αἴθε μοι ἤδη. The change could still have taken place in the verse of Ξ (i.e. Ἥρη, πότνα θεά); πότνια is also an old epithet of Hera, as we have seen (n. 73). In ν 391 and ε 215 too one finds the formula πότνα θεά (Athena and Calypso — a minor deity — respectively, cf. Τ 91 *supra*), in ν at the same place in the verse, in ε at the beginning. (For πρέσβα see p. 158). The form πότνα is therefore an artificial one and must further be left out of consideration.

The declension of these feminines may be reconstructed as follows:

	PIE	GR	VED	
sg. nom.	*-iH₂*	-ια, -ϳα	*-ī*	*-īs*
acc.	*-iH₂-m*	-ιαν, -ϳαν	*-īm*	*-iam*
gen.	*-i̯éH₂-s*	-ϳᾶς	*-yāḥ*	(*-iaḥ* < **iH₂-ós*)

The genitive cannot have given anything else but *-i̯ās* (in all languages), but the development of the accusative is unclear. As the accusative of *pánthāḥ* (*-ām*), which goes back to **ponteH-m*, must be read in the Rigveda as *-ᾰ́m* (Kuryłowicz, *Etudes*, p. 35), the development here must have been *-eH-m̥* > *-a(H)am* > *-ām*. In the same way one would therefore have expected *-iH₂-m̥* > *-iham* > *-iam* in Indian. This ending is in fact found, but in addition *-īm*, which Avestan also has, while Old Irish also points to that (Schwyzer, p. 473). Within Greek forms like γλωχῖνα might suggest an accusative *-īm*. Of course, the difference could be a sandhi phenomenon (*iHm V-* > *-īm V-* as against *-ihm C-* > *-ihm̥ C-*), but there is nothing to show this and the distribution in Vedic does not point in that direction. This problem cannot be further discussed here. For Greek allowance must therefore be made for two possibilities:

[73] Ruijgh, *Het Myceense dialect*, Leyden 1966, pp. 14 and 22, points to the great age of this formula. It seems to date from a time when the *h* was still pronounced and prevented hiatus as in Mycenaean (*opia₂ra* '*opihala*' as against Hom. ἔφαλος).

-iH₂	-ια/*-ī
-iH₂-m	-ια(ν)/*-ῑν(α)
-i̯eH₂-s	-ϳᾶς

It is therefore conceivable that the nominative -ια developed under the influence of the oblique cases.[74] However, in that case one would expect -ιᾱ/-ϳᾱ instead. If the accusative was -ῑν, it would be irrelevant here, but if -ια (with -ν added later) was phonetic, the nominative -ια may have been formed after this accusative -ια(ν). Phonetically, *-iH₂m̥* > -ια seems to me the most probable for Greek, but — as stated above — the cognate languages seem to point to *-īm*.

The idea that a paradigm -ᾰ -ᾱς (*-H₂ -eH₂-s*) would have exerted influence is untenable, since such a declension did not exist (Schwyzer, p. 476:6). Come to that, in such a case influence of -ᾱ -ᾱς would be more obvious (Pedersen, *Cinq. décl.*, p. 32, n. 1).

As stated above, the neuter plural of the *i*- and the *u*-stems in Greek also has -ϳα, -ϝα as against *-ī*, *-ū* elsewhere, e.g. τρία, Ved. *trí*, OCS *trī*, Ir. *tri*, Alb. *trī* (fem.); δάκρυα, Ir. *dēr* < **daḱrū*. Gr. τριᾶκοντα as against Lat. *trīginta* must be analogic (as also the length of the α, after τετρώκοντα πεντήκοντα). In this way the -α may be analogic in τρία itself and the whole type, just as these forms were transformed in Latin (into *-ia*, *-ua*). That Greek had extension of the -α of the consonant stems is demonstrated by the ending -ᾰ of the *o*-stems, as against *-ā* in Ved. *yugá*, OCS *iga*, Goth. *juka*, although here these can be explained in part as the ending of an original consonant stem (Schwyzer, p. 581). (It is not probable that this short -α developed from *-eH₂* before vowel and in pause, since only -ᾱ is known in the nominative of the feminines ending in *-eH₂*.)

Cret. ατι 'ᾶτινα' has been put on a par with Av. *čī* (Schwyzer, p. 581) and is said to prove *τῑ < **kʷiH₂*, but this may be an indeclinable particle -τι, the more so on account of ὅτι' οὕτινος '(a view stated by Buck, *Gr. Diall.*, p. 102). In that case Megar. σα, Ion. ἄσσα (from -α σσα) is old (σσα should not be reconstructed in τ 218, Chantraine, *Gr. Hom.*, p. 280). Latin has *quia*, which is analogic; compare for this the instrumental *quī*, Av. *čī*, which will go back to **kʷi-H₁* (see p. 146f.).

To suppose that πολλάκις (Il.) replaces an older *πολῦκις, parallel to Ved. *purúcid*, (Schwyzer, p. 299:4; and also Frisk s.v. -κις) to explain the κ does not in my view have enough of a basis: one is too quick to compare with the other languages here. The development of the labio-velar in **kʷi-*, *kʷo-* gives a series of problems (Schwyzer *loc. cit.*; cf. the scepticism of Lejeune, *Traité*, p. 37f.), which in my opinion must be regarded as a whole. It seems that -κις was added behind existing forms (in this case, therefore, πολλά). Even if a *πολῦκις should form the basis here, one cannot draw any conclusions from this regarding the development of *-uH₂* at the *end* of the word.

[74] As recently stated by Szemerényi, *Kratylos*, II (1966), 213, n. 29, without argumentation.

Perhaps comparable is the dual ὄσσε, PIE *$ok^{u}i\hbar$, Skt. *akṣí*, Av. *aši*, OCS *oči*, Lith. *akì*, Arm. *aç-k'*. It is assumed that the ε of the consonant stems has been taken over and added to the original *$ok^{u}ī$. However, I do not see that *$ok^{u}ī$-*e* could have become *$ok^{u}i̯e$ > ὄσσε (Lejeune, *Traité*, p. 38) and did not become *οτιε, even if the -*e* was added when the laryngeal was still present, *$ok^{u}i\hbar$-*e* > *οτιε. It therefore seems to me that *$ok^{u}i\hbar$ in Greek became *$ok^{u}i̯e/a/o$ (the colour of the laryngeal is unknown, p. 147) > *ὄσσε/α/ο, after which the ε was introduced, if this was not already phonetic (if h_1). However, allowance must be made for the possibility that *i̯* stems from the oblique cases. Cf. Winter, *Evidence*, p. 201, and Cowgill, *ib.*, p. 150 n. 12.

A parallel of the feminines ending in -ϳα < -ih_2 with -ϝα < -uh_2 is perhaps πρέσβα. As remarked above, πρέσβα seems an old form. The explanation by *$presg^{u}u$-ih_2 > *πρεσγϝϳα (which in my opinion would have become *πρεσγϳα > *πρεσζα) is not convincing: one would expect (*$presg^{u}eu$-ih_2 >) *πρεσβεια (which does not occur as an old feminine), such as ἡδεῖα as against Skt. *svādvī́*. Consequently Schmidt, *Pluralbildungen*, pp. 57 f., among others, has explained it as a parallel of -ϳα with the *u*-stems, i.e. πρέσβα < *$presg^{u}uh_2$.[75] This form would explain the β < g^{u} (Cret. πρειγυς, Boeot. πρισγειες, Skt. *agre-gū́ḥ*) (Schmidt, Boisacq s.v.), but this probably comes from the oblique cases. As πρέσβυς is hysterodynamic (Kuiper, *Notes*, p. 49 f.), i.e. is flected -$g^{u}é̯us$ -$g^{u}é̯u$-$ŋ̥$ -$g^{u}u̯$-*ós* etc., the β may stem from the antevocalic zero grade of the stem (with -$g^{u}u̯$-*V*); elsewhere, therefore, the γ was generalized from the anteconsonantal stem (with -$g^{u}u$-*C*); cf. Boeot. πρισγουτερος: Hom. πρεσβύτερος.

The form πρέσβα is of great importance here, since an explanation of this form by analogy starting from *$presg^{u}uh_2$ *$presg^{u}u̯eh_2s$ > *πρεσγῦ *πρεσβᾶς is improbable.

The development -uh_2 > -ϝα is perhaps also found in a few forms of αἰπύς in Homer. Here one finds the forms αἰπά (n. pl.) and αἰπήν, which seem to point to *αἰπός. Chantraine, *Gr. Hom.*, p. 252, points out that αἰπήν occurs only in the more recent parts, N 625 γ 130 ϑ 516 λ 533 ν 316. However, this does not offer any explanation for the origin of these forms, since thematization (as in ἐτεός, κεν(ε)ός, μονός, see Frisk s.vv. and Schwyzer, p. 472) does not seem probable to me in this case, since the word *αἰπός does not occur any more (Hes. *Fr.* 150.23 MW has the Homeric αἰπὰ ῥέεθρα), whilst αἰπύς itself is found only in poets (Hes., Pi., B., S.). In Homer too the use of αἰπύς is limited: only nom. and acc., 25 times (out of 53) with ὄλεθρος[76]. The feminine forms are -εῖα B 811 ~ Λ 711 and -εῖαν I 668.

[75] For the structure of this word cf. *$sy̯eh_2d$-(*e*)*u*- (ἡδύς), *$bheh_2gh$-(*e*)*u*- (πῆχυς), *$pleh_1dh$-$u̯$-(*e*)h_1- (πληθῦς).

[76] With few exceptions it occurs in the sixth or at the beginning of the fifth foot. Αἰπὺς ὄλεθρος nom. (Λ 174. 441 Μ 345. 358 Ν 773 Ρ 155. 244 ε 305 χ 28; non-fin. Ξ 99) and acc. (Ζ 57 Κ 371 Ξ 507 Π 283. 859 Σ 129 α 11 ι 286. 303 μ 287. 446 ρ 47 χ 43. 67; non-fin. α 37); αἰπὺν Ὄλυμπον (Ε 367.868; non-fin. Ο 84), αἰπύ τε τεῖχος (Ζ 327 Λ 181 ξ 472); on the boundary of the fourth and fifth foot αἰπὺ πτολίεθρον (Β 538 γ 485 κ 81 ο 193). Πόνον αἰπύν (Π 651; non-fin. Λ 601), φόνον αἰπύν (Ρ 365, non-fin. δ 843 π 379), χόλον αἰπύν (Ο 223), βρόχον αἰπύν (non-fin. λ 278), ὄρος αἰπύ (Β 603.829 γ 287 δ 514, non-fin. τ 431). Entirely isolated cases are Ν 317 (first foot) and Ο 71 (Ἴλιον αἰπὺ init.).

On the two occasions that αἰπά occurs (Θ 369 Φ 9) one finds αἰπὰ ῥέεθρα at the end of the verse, preceded in Θ by Στυγὸς ὕδατος. If we are concerned here with an old formula, which is suggested by the use at the end of the verse and perhaps the connection with the Styx,[77] αἰπά could be based on *αἰπϝα < -uh_2, i.e. have the old neuter plural of an *u*-stem. However, it is possible that αἰπά is a form determined by the metre, since αἰπὰ ῥέεθρα corresponds in metrical structure to αἰπὺς ὄλεθρος. One might assume an *αἰπὺ ῥέεθρον. In Homer only the plural ῥέεθρα occurs (12 times in Φ, 10 times elsewhere).

The form αἰπήν appears in five related verses: γ 130 = ν 316 αὐτὰρ ἐπεὶ Πριάμοιο πόλιν διεπέρσαμεν αἰπήν, λ 533 (ἀλλ' ὅτε δὴ etc.), ϑ 516 (... πόλιν κεραΐζεμεν αἰπήν), Ν 625 (... διαφθέρσει πόλιν αἰπήν). Here too the form may have developed under pressure from the metre: if the word must form the sixth foot, as in φόνον (etc.) αἰπύν, it must be disyllabic. However, none of these locutions conveys the impression of being older than that with αἰπήν. A second possibility is that αἰπήν is based on αἰπά, but the place in the verse does not suggest this. It therefore seems probable to me that this form is an analogic transformation of the feminine *αἰπϝα with -ϝα < -uh_2. Great age of this form (or the one it represents) is suggested by the use at the end of the verse — and perhaps the meaning of γ 130.

In this way the adverbs ending in -α of adjectives ending in -ύς could also be explained, such as κάρτα, τάχα; see Schwyzer, p. 622. Thus ῥίμφα could be based on *(ϝ)ρεμφα < *ϝρεγχϝα < *(*u̯*)*renghuh*$_2$, having regard to Lith. *rángstus* etc.; see Frisk s.v. With ϑαμά, however, one would expect lengthening of the stem vowel in Ionic (*ϑαμρα > *ϑᾶμα); however, analogically this could again have been done away with. But I see no possibility of further verifying the correctness of this assumption.

An explanation by analogy is therefore possible for various categories of -ϳα -ϝα from -ih_2 -uh_2. However, if one considers the whole, it seems more obvious to assume a phonetic development than to accept that everywhere an analogy, and each case a different one, operated to give an (again) identical result ultimately (everywhere -ϳα -ϝα).

If this is true, Greek — unlike all other languages — would have vocalized a consonantal laryngeal here. This recalls the fact that Greek (with Armenian) is the only language that vocalizes the consonantal laryngeal at the beginning of the word (before consonant). These facts must evidently be considered together: Greek thus has a greater tendency towards vocalization of the laryngeal than the other languages, which is evidenced by the treatment of the laryngeal at the beginning and end of the word. However, the differences between these two cases must be recognized: at the beginning of the word only laryngeal before consonant (*HCV*-, *HRV*-) is vocalized; laryngeal after consonant at the end of the word is vocalized in several languages (but not for instance in Avestan, cf. *manå*, *supra*, p. 152). At the end of the word the laryngeal is, as we saw, also vocalized in -ih_2, uh_2 after consonant; at the beginning of

[77] The qualification αἰπύς is very suitable for the waterfall that has been identified as the Styx, which falls from a height of 60 m.

the word *iħ₂C-*, *uħ₂C-* does not become ϳα*C-*, ϝα*C-* (nor does *ħ₁iC-* become αἰ*C-*). I do not see any connection with other phenomena at the beginning or end of the word in Greek (Lejeune, *Traité*, pp. 239-55).

It would be interesting to investigate how Armenian deals with these forms (cf. *eresun* 'thirty' from **eri-a-sun* according to Meillet, *Esquisse*², p. 164).

The inevitable conclusion is that *-iħ₂* was preserved down to Greek and had not become *-ī* in PIE. This is also postulated by the sandhi phenomena in Vedic (p. 145). It is not clear to me how Lehmann, *PIEP*, p. 91, can deny this: "The presence in Greek of such uncontracted forms does not contradict the assumption that /*i*·/ and /*u*·/ were phonemic in PIE. Gk. merely preserved and generalized some infrequent case forms". For it is not conceivable that some forms were preserved uncontracted. Lehmann believes that the same development may be found in the middle of the word in πρίαμαι (sic) etc. These forms are discussed on p. 247ff. It seems to me that they have to be explained differently.

a. *Adverbs ending in* -τι

It may be wondered whether the adverbs ending in -τι, which in Homer have partly a short -ι and partly a long one, form a parallel of the sandhi phenomenon found in the Rigveda. The length of ἀμαχητί Φ 437 and ἀμογητί Λ 637 cannot be determined. Of all these words the penultimate syllable is long. Five of them have in the two preceding syllables the structure ∪ —, so that here the last syllable must necessarily be long if the word is to be used in the hexameter (the structure ∪ — — ∪ being excluded): ἀνιδρωτί O 228, ἀνουτητί X 371, ἀνωιστί δ 92, ἀναιμωτί P 363. 497 σ 149 ω 532, ἐγρηγορτί K 182. Of the others (with the structure (∪) ∪ — ∪) -ι is short: μελεϊστί μεγαλωστί ἑκητί ἀεκητί. The words are not limited to fixed formulae; one finds only (διὰ) μελεϊστὶ ταμ- (3 times) and μέγας μεγαλωστί (twice), of which the first does not point to the phenomenon discussed here (before consonant one would expect long -ι). It therefore seems most probable that the long ι is a lengthening for the sake of the metre, and that there is no reason to assume a laryngeal here.

b. *The Group -(t)rħ*

Separate mention should be made of νέκταρ, of which the second part has been identified as the stem **terħ₂-* 'überqueren, überwinden', which is found in Vedic compounds ending in *-tur-* (nom. *-tū́r*, acc. *-túram*). R. Schmitt, *Idg. Dichterspr.* n. 12, pp. 38f. and pp. 155-8, both with notes, recently discussed this matter in detail. He rejects Thieme's attempt (*Stud. z. Idg. Wortkunde u. Religionsgesch.*, pp. 5-15) to explain the representation -ταρ of PIE *-trħ₂* as a neuter ending in *-tr̥* beside a masculine ending in *-tr̥ħ₂*, which in fact would still have to be explained itself. Pisani's explanation (*OLZ* 48 (1953) 121 n. 2) of the nominative from the declension (gen. *-tr̥ħ₂-os* > -ταρος) is rejected by Schmitt because the nom.-acc. is much more frequent than other cases, *Il.* 5 : 0, *Od.* 2 : 1 (gen., ι 359). Schmitt himself assumes that -ταρ

is phonetic, owing to the fact that the laryngeal disappeared, either in sandhi before vowel or like all final consonants (**ébheret* > ἔφερε). I do not believe — assuming the correctness of the whole etymology — that the latter explanation is the right one. There is no evidence of disappearance of the final laryngeal in Greek (cf. for instance μέγα < **meǧħ₂*, γένεα < *-esħ₂*, *-ā̆* < *-eħ₂*); the disappearance in the vocative is another case, because this form *always* stood by nature in a position in which it had to disappear. In Indian the *-ħ₂* has also been preserved in the nom. *-tū́r*. The conceivable developments are in my opinion 1. *-tr̥ħ₂* > -τρᾱ as in the middle of the word; 2. *-trħ₂* > -τρᾰ́ (cf. -ϳᾰ́); 3. *-tr̥ħ₂* > -ταρα. Now, whichever of these three may have been the phonetic development, it seems to me evident that this form was replaced by -ταρ after the example of the words ending in -αρ and under influence of the paradigm (as Pisani believed), since otherwise this neuter nominative would have been entirely isolated in Greek. This would be quite obvious, especially if the third assumption was the right one.

LARYNGEAL IN THE MIDDLE OF THE WORD

Compared with the position at the beginning or the end of the word, the possible surroundings for the laryngeal in the middle of the word are of course greater. They will all be considered separately in the following chapters.

An explanation, as in the preceding section, is hampered by the sonants which, depending on the further structure of the word, may function either as consonants or as vowels. In one case they display a special development that must be discussed separately. To make the treatment clearer, a survey will be given of the following chapters:

after vowel	Ch. VI.	*VHC*
	Ch. VII.	*VHV*
	Ch. VIII.	*Hi/i̯, Hu/u̯*
after consonant	Ch. IX.	*CHV*
	Ch. X.	*CHC*
	Ch. XI.	*RH* (the disyllabic roots)

Chapter VIII can of course be divided among VI, VII, IX and X, but as these cases occur of one stem, it seemed more desirable to take them quite separately. Chapter XI, too, may be divided among the four chapters mentioned, but here the same applies as for VIII, while moreover in this case *r̥ l̥ m̥ n̥* followed by laryngeal display a special development.

At the end in a separate chapter (XII) the material is presented where an inter-consonantal laryngeal seems to be lost.

VI. AFTER VOWEL BEFORE CONSONANT

As the vocalic sonants *r̥ l̥ m̥ n̥* followed by laryngeal display special developments, they will be discussed in a separate chapter (XI). Here therefore only *e*, *o* and *i*, *u* plus laryngeal are to be discussed.

One of the fundamental ideas of the laryngeal theory is that the long vowels assumed for the proto-language which are not based on contraction or on lengthening developed from short vowel followed by laryngeal; see the Introduction, p. 8. This process may best be described as follows: when the laryngeal disappeared after short vowel before consonant, the length of the syllable originally closed by the laryngeal was maintained by lengthening of the vowel; before then *e* had been coloured to *a* and *o* by $\hbar_2$ and $\hbar_3$ respectively. After the disappearance of the laryngeals these sounds were preserved and thus became independent phonemes; the timbre of the (ablaut) *o* was not changed by the laryngeals. One therefore finds:

$e\hbar_1 > \bar{e}$	$e\hbar_2 > \bar{a}$	$e\hbar_3 > \bar{o}$
$o\hbar_1 > \bar{o}$	$o\hbar_2 > \bar{o}$	$o\hbar_3 > \bar{o}$[78]

The colouring by $\hbar_2$ and $\hbar_3$ evidently took place in the proto-language, since the opposition between the three long vowels ($\bar{e} : \bar{a} : \bar{o}$) in different languages (Armenian, Greek, Latin, Albanian, Lithuanian) corresponds exactly.

More difficult is the question when the laryngeal disappeared from this position. It seems to me that the laryngeal was preserved down to the separate languages, for two reasons.

Firstly, the development of vocalic sonant (*r̥ l̥ m̥ n̥*) plus laryngeal (Skt. *īr, ā*, Lat. *rā, nā*) is best explained by assuming that in this case the laryngeal was preserved down to the separate languages, an assumption that is also necessary for an explanation of the Greek development (ρη, ρᾱ, ρω etc.; Chapter XI). True, in the above the vocalic sonant was expressly exempted from this discussion, and it is conceivable that the laryngeal was preserved here for a longer period of time, but this cannot be rendered

[78] Even when the preceding vowel was already long (*ēh*) a long vowel naturally developed. As regards the colouring, *ōh* could hardly become anything but *ō*, and *ēh*$_1$ had to become *ē*. In the case of *ēh*$_2$ and *ēh*$_3$ one could doubt whether *ā* and *ō* also developed here. The cases will have been few. The only possible case that I know is the basic form of ἠώς, *aurora*; these point in the first instance to **āusōs*, which could go back to **ēh*$_2$*usōs* or **h*$_2$*ēusōs*, for it is difficult to assume that **eh*$_2$*us-* would have given **āus-*.

probable. In PIE *r̥ n̥* were vowels like *e* and *i* and it cannot be seen why the laryngeal in *eHC*, *iHC* should have disappeared before that in *r̥HC*.

Secondly, the compositional shortening in Sanskrit indicates that in that language the laryngeal was still present in this position: *súṣuti-* 'easy birth' as against *sútave*, which could be interpreted as vocalic shortening, but *carkṛ̥ti-* : *kīrtí-*, which with vocalic shortening would have given **carkirtí-*, can be understood only as *-kr̥ħti-* > *-kr̥ti-*, so that *súṣuti* will also have to be explained in this way (Kuiper, *Die Sprache* 7.14-31; for further details of this shortening see p. 204 and p. 242 ff.).

This conclusion seems to be confirmed by Hitt. *pa-aḫ-ḫa-aš-mi* [*paḫḫšmi*] 'to protect', root **pā-* < **peħ₂-*, with *ḫḫ* from *ħ₂*. If **peħ₂-* > **paħ₂-* had already become *pā-* in PIE, Hitt. *ḫḫ* would not be explicable. See Hendriksen, *Unters.*, p. 31.

Here too it may be asked whether there are indications of a third, *o*-colouring laryngeal. More important arguments for this can be found elsewhere (see Conclusions, p. 265 f.). Here the following may be remarked.

Just as it has been wondered whether a non-apophonic *ŏ* existed, the same may be done for *ō̆*. For it is striking that some widespread roots, such as **pō̆-* 'to drink' and **dō̆-* 'to give', never display an *e*-phase (i.e. either *ē* (*eħ₁*), or *ā* (*eħ₂*)). This consideration has of course the weakness of every argument *e silentio*. For it is possible to explain any *ō̆* by *o* + *ħ* (cf. Introduction, p. 4, on Pedersen). Thus for instance **ĝnō̆-* in γιγνώσκω γνωτός, Lat. *(g)nōsco (g)nōtus*, Skt. *jñātá-*, OCS *znati*, where OE *cnāwan* (*cnēow*), OHG *knāu* point to **ĝnē-*, so that one must start from *ĝneħ₁-/ĝnoħ₁-*. The zero grade of this root is found in Lith. *pa-žintas* 'known', Lat. *gnārus* < **ĝn̥ħ₁-ro-* (instead of assuming **ĝnā-* as apophonic form of **ĝnē-*, like WH s.v.), the full grade I in Lith. *žénklas* 'sign' < **ĝenħ₁-tlo-*. The form **ĝnoħ₁-* was therefore probably separated at an early stage from the original whole; hence *(g)nōtus jñātá-* <**ĝnō̆-tó* with full grade instead of **(g)nātus *jātá-* < **ĝn̥ħ₁-tó-*, with the zero grade normal for this form. It must also be admitted that the number of forms with 'non-apophonic' *ō̆* is only small.

One also finds *ō̆* in forms where one would expect *e*-vocalism. For instance δίδωμι beside τίθημι ἵστᾱμι. The *e*-phase is also normal in Lat. *pōculum*, Skt. *pā́tram* < **pō̆-tlom/-trom*.

A good argument in my opinion is found in Attic reduplication. But the difficulty in practice is that there are few cases with ο-ω : ὀμώμοται and ὀρωρέχαται (p. 119). Here the 'prothetic vowel' in ὀρέγω demonstrates a *ħ₃*, and the second syllable displays the lengthening discussed here after the disappearance of the laryngeal, ω < *e-ħ₃*, **ħ₃me-ħ₃m-* > ὀμωμ-. However, it is the question whether these forms are old. (The Attic reduplication of monosyllabic roots like ὄπωπα I consider to be analogic; p. 121.)

Whilst for *oħ₃* another result than *ō̆* is not to be expected and *oħ₁* > *ō̆* is, as far as I know, undisputed (e.g. θωμός A., Ar. from **dheħ₁* -in τίθημι), the situation with

oħ₂ is different. True, here — as so frequently — indisputable examples are rare, but in my opinion there are sufficient indications to allow of a conclusion. Everything suggests that here too the timbre of the *o* was not affected, any more than in the group *ħ₂o*, see p. 128. Consequently I do not see on what Kuryłowicz bases his supposition that *oħ₂* became *ā* (*Apophonie*, p. 173 *et passim*). For it is clear that in this supposition the ablaut *ā*/*ō̆* cannot be explained (cf. the parallel problem of *ă*/*ŏ* if one assumes *ħ₂o* > *a*, p. 128). He therefore assumes (*ibid.*, p. 186) that here the zero grade *ə* > *a* of *ĕ*, *ā* and *ō̆* was the starting-point for new forms with *ō̆*, φημί → φᾰμέν φᾰτός φᾰ́σις → φωνή. However, this is impossible. In PIE *ħ₁ ħ₂ ħ₃* were at first the zero grade of *eħ₁ eħ₂ eħ₃* respectively. In Greek, as has been demonstrated above (p. 70 ff.) and as will be shown on p. 182 ff, these became ε α ο (which Kuryłowicz rejects). It follows from this that in the zero grade the opposition between the three laryngeals was preserved down to the separate languages and was never lost in Greek. Here, in Greek, a secondary *ō̆* (ω) based on *a* < *ə*, as meant by Kuryłowicz, is therefore excluded. The relation ω-ᾰ (φωνή-φᾰ́σις) does exist, but only as *oħ₂* > ω : *ħ₂* > ᾰ. In Kuryłowicz' reasoning one therefore has

PIE *eħ₁/oħ₁/ə eħ₂/oħ₂/ə eħ₃/oħ₃/ə* — Gr. η/ω/ᾰ ᾱ/ᾱ/ᾰ ω/ω/ᾰ.

Here we twice find ω/ᾰ. In my opinion this is incorrect, since *ħ₁* became ε and *ħ₃* > *o*, so that — if one adheres to Kuryłowicz' *oħ₂* > ᾱ — the result is:

PIE *eħ₁/oħ₁/ħ₁ eħ₂/oħ₂/ħ₂ eħ₃/oħ₃/ħ₃* — Gr. η/ω/ε ᾱ/ᾱ/ᾰ ω/ω/ο,

in which ω/ᾰ does not occur.

Apart from these considerations, such a series of analogic formations is improbable. (This objection applies to the whole — more recent — view held by Kuryłowicz, who postulates so extensive a system of analogic transformations that these can no longer be accepted; cf. p. 206, 212.)

The following may be mentioned as indications of *oħ₂* > *ō̆*:

With the stem βᾱ- of ἔβην belongs βωμός, **gʷoħ₂-mos*; for the *o*-vocalism cf. θωμός *supra* and for instance ὄγμος from **ħ₂oĝmos*, p. 128.

Mention was already made above of φωνή from φᾱμί, **bhoħ₂-nā*. For the old *o*-vocalism cf. ποινή, Av. *kaēnā*, OCS *cěna* from PIE **kʷoi-nā*. However, a different analysis was defended by Cuny, *Mélanges Boisacq* 1 (1937) 227-331: it contains the suffix *-onā* and **bheħ₂-ona* became **bha(ħ₂)onā* > φωνή. However, this suffix (Schwyzer, p. 490) occurs in the names of implements (ὀθόνη, σφενδόνη, βελόνη, περόνη) and in abstracts (ἡδονή, αὐονή; Skt. *svádana-* does not contain an element *-on-*, since this would have given *-ān-*). Φωνή could belong to the first group, although these seem to be words of non-IE origin (cf. the difference in accent with the second group and with φωνή). However, if one starts from **bheħ₂-ona*, the evidence remains practically the same, for, if it is assumed that *ħ₂* coloured an adjoining *o* to *a*, one gets **bhaħ₂anā* > **φᾱνᾱ*. (As stated above, the problem of the development of *ħ₂o* is in principle the same as that of *oħ₂*.) In that case one could postulate a recent formation; as **φᾱ-ονᾱ* in Doric would have given **φᾱνᾱ* (Lejeune, *Traité*, p. 235), only **φᾰ-ονᾱ* could then still be considered. Consequently, of greater importance here than φωνή

is φωνέω, which is not derived from φωνή (cf. Schwyzer, p. 720 n. 10). It will be a denominative, but then derived from a stem φωνε/ο-, which was lost in later Greek; this points to great age for the stem φων-, and makes it improbable that it contains an element *-on-* (*-one/o-* beside *-onā* is very rare: only the in my opinion dubious cases θρόνος κλόνος χρόνος, Schwyzer, p. 490,5). (**Bhoh₂-nā* is now also given by Chantraine, *Morph.*², p. 6.)

The word for 'ear', which in part has *o*-vocalism (οὖς, ὦς) and in part *a*-vocalism (Lat. *auris*), seems to me to be a clear case. If the interchange *ou/au* is not automatically accepted for the proto-language one has to start from basic forms like **oh₂us-* (nom.), *eh₂us-* (or **h₂ous-*, *h₂eus-*; perhaps with long *o*; for *e/o* in a neutral word cf. γόνυ: Lat., Hitt. *genu*) and assume that the *h₂* did not change the timbre of the *o*. Ruijgh, who does not do the latter, is obliged to consider the existence of two different roots, **h₂eu-* and **h₃eu-* (*Etudes*, p. 58 n. 54).

Ἀκωκή may also contain *oh₂*; see p. 125f.

Another case in which one cannot accept Kuryłowicz' explanation by means of analogy is the root **pā-/pō-* 'to protect': Lat. *pāsco pāstor pābulum*, Hitt. *pa-aḫ-ḫa-aš-mi* [*paḫḫšmi*], Goth. *fodjan* — πῶυ ποιμήν (cf. πατέομαι, Frisk s.v.).

Other forms cited from Greek are θήγω (θᾱγω) — τέθωκται· τεθύμωται and τεθωγμένοι beside τεθαγμένοι. (If these forms are old, the ω must have been introduced from elsewhere, since in the middle one expects zero grade.) Cf. Frisk s.v. **θώσσω.

The analysis of the ending 1 sg. pres. of the thematic verbs *-ō* as *-o-h₂*, with *h₂* identical with that in 1 sg. perf. *-a* < *-h₂-e* and 1 sg. midd. *-ai* < *-h₂ei* also fits into this picture; see p. 133. See Add.

To demonstrate laryngeal after vowel by means of Greek material on other grounds than the compensatory lengthening discussed here is possible in only a few cases, if we leave the type **dheh₁-/dhh₁-* out of consideration. For Indian the explanation of the *(t)h* in *tí-ṣṭh-ati* by the laryngeal from the root **steh₂-* in **sti-sth₂-eti* may be recalled here.

In the present reduplication one finds lengthening of the *i*, Skt. *íyarti* : *írte* from **h₃í-h₃erti* : **h₃i-h₃rtoi*,[79] *ájati* : *íjati*. An example of this is found in Greek in ἰάπτω : *ἴπτομαι. More of a problem is formed by ἴχανάω (Hom.), Skt. *íhate* 'to crave, yearn'; the cognate ἄχήν (Theocr., ἀχηνία A.) 'poor', Av. *āzi* 'craving' will go back to **heh₂ĝh-* and therefore *íhate* will go back to **hihh₂ĝh-*. See p. 129.

The stem ὀπῖπ- seems to go back to **opi-h₃kᵘ-*, ἐνῖπή to **eni-h₂kᵘ-* (p. 129).

The lengthening in Attic reduplication was already mentioned above (**ἐληλουθ- < **h₁le-h₁loudh-*).

A category that was not yet discussed earlier is the augment in words that have 'prothetic vowel', such as ἤειδε ἤριπε from *e-HC-*. The fact that a PIE basic form

[79] This form would perhaps have given **hihṛtoi* > **iyṛte*. In that case the *ī* will stem from the 3 pl., **hihṛṛtoi* > *īrate* (for the structure cf. **dhuǵhtós* > θνητός, not **dhunḫtós*).

is concerned here is demonstrated by Sanskrit, e.g. *ānaṭ*, from the root *naś-*, from **e-h₁neḱ-t*.

From the stem **bhū-* one finds du. ἔφῦτον, Skt. *ábhūtam*, where the laryngeal is evident from the disyllabic root in Skt. *bhávitum*, **bheuḫ-/bhuḫ-*.

In this way disyllabic root is demonstrated for θῡμός by Skt. *do-dhavī-ti*, *dhavítram*. See p. 186. Hitt. *tuḫḫuwai-* 'smoke' etc. probably belongs with this (Friedrich, *Erg.h.*, p. 2 s.v.).

Πῖαρ, πτειρα, Skt. *pīvarī* seems to go back to **piḫ-u̯-er-*, of which the full grade **pei-ḫ-* is perhaps found in Skt. *páyate* 'to be blown up', and the stem II **pi̯-eḫ-* in *pyáyate*. The zero grade *pipyúṣī* < **pi-piḫ-us-ih₂* would have had to have lost the laryngeal in compounds.

In the latter cases one is therefore concerned with the zero grade of disyllabic roots with *i*, *u* as second consonant; those with *r̥ l̥ m̥ n̥* (zero *CR̥HC*) are discussed in Chapter XI.

An example from declension is the genitive of the ɹa-stems. This is the type ὀρόγυια *ὀργυιᾶς (p. 37), Skt. *devī́ devyáḥ*, of which the ending must have been nom. *-i-h₂*, gen. *-i̯-éh₂-s*.[80]

Another case of lengthening is the nominative of the type γλωχῖς, of which the ending -ῖς will go back to *-ih₂-s*.

Reference should also be made here to all stem II forms of the disyllabic roots (*TReH*), for which I refer to Chapter XI.

Finally, attention should be drawn to the fact that the development of *-e/oḫ* at the end of the word to long vowel is based on the principle discussed here; see for this p. 145f.

[80] The genitive here must therefore originally have had an acute accent, -ᾱ́ς, unlike the circumflex of the *ā*-stems, see p. 170; usually one reconstructs a circumflex here, e.g. Pedersen, *Cinq. décl.*, p. 30.

VII. BETWEEN VOWELS

Intervocalically the laryngeal was lost, as everywhere else. Indo-Iranian forms in which the hiatus has been preserved demonstrate that this did not happen until the separate languages; see the Introduction, p. 9f.

As regards the colouring by the laryngeals, the same rules apply as stated in the previous chapter. Cf. δαιτ- < **deh₂i-t-*, p. 175, ποιμήν < **poh₂imḗn*, p. 168.

The most frequent and clearest cases of intervocalic laryngeal are those where the laryngeal stands before *i* or *u*, which are dealt with separately in the following chapter.

It may also be asked here what happened to the group *-eh₂,₃e-*. It has been demonstrated above that the laryngeal colours both preceding and following *e*. It is therefore plausible that here both were coloured, but it is equally possible that the colouring was confined to the tautosyllabic, i.e. following *e*. A case where this situation occurs is the declension of the *ā*-stems. The development of the genitive here may be imagined as follows:

(a) *-éh₂-es* > *-áh₂as* > *-áas* > *-ās*

But allowance must also be made for the following possibilities:

(b) *-éh₂-es* > *-áh₂es* > *-áes* > *-ās*

(c) *-éh₂-es* > *-éh₂as* > *-éas* > *-ās*

However, it should be borne in mind that, as the laryngeal was preserved intervocalically until after the division of the proto-language, the development from the second to the third phase (in each of the lines of development stated) took place in the separate languages. Now, since in all cases the result of the contraction is the same (*-ās*), it is more probable that *-ah₂as* was the starting-point, since *ae* or *ea* did not necessarily become *ā* everywhere. (This may be doubted for Greek, for instance; cf. Lejeune, *Traité*, pp. 233-6, although these contractions are probably more recent.)

The question of the so-called temporal augment should also be raised here. In the case of verbs that began with *a*, this goes back to *h₂e-* (p. 133ff.), so that the augment form here (for instance) was **é-h₂eĝ-om*. On the strength of the consideration stated above, one may therefore assume PIE **áh₂aĝom* > Gr. *áagon* > ἄγον. In present stem forms and aorists *o-* will be mostly based on *h₃e-*, so that for instance ὤμοσα, Skt. *āmīt*, PIE **é-h₃ɛmh₃-* > **oh₃omh₃-* may be reconstructed. (Verbs with *h₁e-* or *e-* present no problems, since something other than *ē-* < *é(h₁)e-* is not imaginable.) In Indian one would expect traces of *ăă-*, which are not frequent, however.

Where *i-* is present reduplication, this probably developed from *hi-h-*, e.g. ἰαύω < **h₂i-h₂eu-*. There is no trace of the forms **é-h₂i-h₂eu-* > **ah₂ih₂au-* > (Gr.) **aiau-* (with *h₁* and *h₃ ei* and *oi-*) to be expected. Greek has ī- here, as in forms with ι- of a different origin as well as ῡ- from υ-, ἴαίνετο (**is-*?), ὕφηνα. This ī ῡ must therefore have arisen on the analogy of the above-mentioned forms with long vowel from contraction (Schwyzer, p. 654f.). Here Indian has *ai au* (*áicchat* from *iccháti*, *áunat* from *unátti*, *árdhnot* from *ṛdhnóti*), of which the origin is not entirely clear; it would have to be further investigated whether the laryngeal is responsible for these forms of augment.

A rather complicated case is the genitive of πληθύς. On the strength of the comparison with Lat. *plēbēs* (Pedersen, *Cinq. décl.*, p. 62f.), the original paradigm may be reconstructed as follows (Kuiper, *Notes*, p. 12-9):

sg. nom.	**pleh₁dh-u̯-éh₁-s*
acc.	*u̯-éh₁-m*
gen.	*u-h₁-ós*
pl. loc.	*u-h₁-sú*
instr.	*u-h₁-bhís*.

In the genitive the laryngeal therefore fell intervocalically. In the nominative the weak stem before consonant, *-u-h₁-C* > *-ūC*, was introduced in Greek; in Latin the full grade stem, *-u̯-eh₁-C* > *-(u̯)ēC*, was generalized.

Another example from declension is the genitive of ὀφρύς, of which the declension was **h₃bhréuhs *h₃bhréuhm *h₃bhruhós *h₃bhruhsú* (Kuiper, *Notes*, p. 9).

Cowgill (p. 147) states as example πλεῖστος < **pleh₁-istos*. However, in that case this would have the full grade from the comparative, instead of the expected zero, **pl̥h₁-istos*, which would have given *πελιστος. See p. 174.

It is not clear whether λύω originally had a laryngeal: βουλῡτός, Lat. *solūtus* (Skt. *lunáti*, 'to cut off, destroy', *lavítra-*?). The short vowel in present and imperfect may have developed antevocalically, but the forms ἐλῦμην λῦτο seem old. Although the term appears old, the υ may be long in βουλυτόνδε (Π 779 = ι 58) for the sake of the metre.

Cowgill is of the opinion that the adjectives ending in -αῖος from substantives ending in *-ā* may be explained as *-eh₂-i̯o-* > *-ai̯o-*. But after *eh₂* one would expect *i̯o* (and not *i̯o*). It is also the question whether the origin of this form must be sought in PIE. I do not see that the laryngeal theory offers new possibilities here. (For the problem see Schwyzer, p. 467, Lejeune, *Traité*, p. 145f., Buck-Petersen, *Reverse Index*, p. 44f., with lit.).[81]

There are two further special groups that belong to this category, viz. those with vocalic sonant *r̥ l̥ m̥ n̥* before or after the laryngeal.

A case of *VHR̥* could be the imperfect of ὄρνυμι, **é-h₃r̥-n-u-to*. However, here no

[81] Ruijgh, *Etudes*, p. 212, assumes *-eh₂i̯o-* > *-ayyo-* > -αιο-, but does not explain the development *-eh₂i̯o-* > *-ayyo-* for the expected *-āi̯o-*.

conclusion may be drawn from ὤρνυτο with regard to the phonetic development, for this augment form may have been taken over from the aorist (**e-ḫ₃er-*). In my opinion one might expect *eḫ₃r̥* > *oḫ₃r̥* > Gr. *oḫ₃or* > *oor* > *ōr*, ωρ. I do not know another case with this sequence. In Indian one has **ḫ₃i-ḫ₃rtoi* > *írte*, where one could also expect **ḫ₃i-ḫ₃r̥-toi* > **iyr̥te*; however, here too an explanation by analogy is possible (see p. 168).

If the preceding vowel was *r̥ l̥ m̥ n̥*, a special development took place, which will be discussed under the disyllabic roots in Chapter XI.

Double laryngeal disappeared intervocalically without trace. This formation may be supposed for the perfect of stems ending in laryngeal, e.g. **ḫ₃me-ḫ₃moḫ₃-ḫ₂e*, a form that would have given *ὀμωμοα (> *ὀμωμω, cf. δείδω < *δε-δϝο-μα) and was replaced by a κ- perfect. Sturtevant's idea that the κ developed from *ḫḫ₂* is untenable; cf. Cowgill, p. 175 ff.

VIII. BEFORE *i*/*i̯*, *u*/*u̯*

If a laryngeal was followed by *i* or *u*, it depended on the further structure of the word whether that *i*, *u* functioned as a vowel or as a consonant. The same may occur in principle with *r l m n*, but I know no cases of this except those mentioned at the end of chapter VII, while *i* and *u* often occurred as enlargement of roots, also of roots ending in laryngeal.

This possibility of two different developments has been mentioned by Kuryłowicz, *Etudes*, p. 36 ff., e.g. Skt. *stāyú-* : *stená-* from PIE **steḫ₂i̯u-* : **steḫ₂i-no-*.

The clearest case is presented by the root **pā-*/*pō-* 'to protect', **peḫ₂-*/*poḫ₂-*, from which one has ποιμήν < **poḫ₂i-mḗn* as against Skt. *pāyú-* 'guard, protector', πῶϋ < **poḫ₂i̯-u*. The non-enlarged root is found in Hitt. *pa-aḫ-ḫa-aš-zi* [*paḫḫšzi*] 'to protect' and Lat. *pāsco pāstor pābulum*. True, Gr. ποιμήν could also have developed from *πωιμήν, but the *ō*(ω) could only be explained by the improbable structure **poḫ₂i̯mḗn*.

If *āi* in Skt. *stāyú- pāyú-* is to be regarded as a long diphthong,[82] this should be strictly differentiated from the two other forms of long diphthong (as does Kuryłowicz, *Etudes*, p. 40), viz. that from lengthening and that from contraction. An example of the latter is the dative singular of the *o*-stems ending probably in *-o-ei* > *-ōi*. A lengthened diphthong may be seen for instance in the nominative singular **Di̯ḗus*. One therefore has long diphthong:

(1) from contraction — e.g. dat. sg. *o*-st., *-o-ei* > *-ōi*;
(2) by lengthening — e.g. nom. sg. **Di̯ḗus*;
sigm. aor. **é-lēikᵘ-s-m̥* > Skt. *árāikṣam*;
(3) through laryngeal — e.g. *eḫ₂i̯-V* > (in sep. languages) *āi̯-V*.

It is in this light that the rule that long diphthong before consonant, i.e. phonetically, loses its diphthongal element in PIE and becomes a long vowel must be seen. The last group of 'long diphthongs', which were the result of laryngeal, therefore do not occur before consonant as such, for they become — phonetically — short diphthongs (ποιμήν). And yet the rule is based for a part on these roots, owing to the fact that the enlarged roots before vowel (*eḫ₂i̯-V* > *āi̯V*) were compared with the non-enlarged roots before consonant (*-eḫ₂C* > *-āC*). Strangely enough, this again is not found sharply enough in Kuryłowicz, *Apophonie*, p. 257, where he states that it is 'plutôt

[82] The definition of diphthong is not very clear-cut. See for the whole problem Meillet, *Introd.*[8], pp. 105-25, in particular p. 110.

probable' that πῶμα is the full grade without *i*-enlargement. For Gr. πῶμα cannot come from **pōi-*, **peh₃i-*, since this would have become **ποιμα*. PIE loss of the *i* in **peh₃-i-m-* is refuted by the type ποιμήν.

That the second category of long diphthongs was preserved down to the separate languages is demonstrated by the examples given, Skt. *Dyáuḥ* (Ζεύς shortened from **Ζηυς* in accordance with Osthoff's Law, Lejeune, *Traité*, pp. 188 f.). The accusative of this same word, Skt. *Dyám*, Lat. *diem*, Ζῆν (see p. 150)[83] suggests PIE **Di̯ēm*, which will have arisen from **Di̯ém* (with dissimilation in *-ēum*); **Di̯ém* itself stands, after the nominative, for the **Di̯éum* that would be expected.[84]

The first group usually retains the diphthongal element too. The rule therefore has no general validity, but relates only to a few special cases.

The following forms are known of these roots (with for instance h_2):

($eh_2 > \bar{a}C$	$\check{a}V$	h_2	$C - C$: $= ə$	$C - V$: zero)
$eh_2i > \bar{a}_i̯V$	$\check{a}iC$	h_2i	$C - C$: ī	$C - V$: $i̯$

Reference has already been made (p. 170) to the cognates of δαίομαι: Skt. *dāti-*, *ditíˉ* < **dh̥ti-*, *dyáti* < **dh̥-i̯o-* or **dh̥i̯-o-*; for δαίομαι itself see below. It is the question whether **dī-* in Arm. *ti*, ON *tíme* 'hour, time' belongs here; this might be based on **dh̥i-C* > *dih̥-C*, see below.

Πλέων πλέον is based on **pleh₁-is-on* (like πλεῖστος < **pleh₁-is-to-*, of which the ει stems from πλείων πλεῖον, see p. 171). Cf. Skt. *prāyas-* < **pleh₁i̯os-*, and *déṣṭha-* with disyllabic *e* from **deh₃is-*; cf. the Introduction, p. 10. In Hom. πλεῖος (for πλῆος), Att. πλέως, Arm. *li*, Skt. *prāyaḥ* 'mostly' we have **pleh₁-i̯o-*. The stem is that of **pelh₁-/pleh₁-* 'to fill' (πλῆτο, πληθύς, Lat. *plēbēs*, *plētus* etc.).

Beside θῶσθαι etc. (Frisk; formation unclear) θοίνη may go back to **dheh₃i-*.

A separate problem is formed by the zero grade of these roots with *i*-enlargement, where one finds *ī*. As one would expect that in *ChiC* the laryngeal would disappear without lengthening (see the following section), metathesis of *h* and *i* has been assumed here, as by Hammerich, *Lar. b. Son.*, p. 35. This solution is a dangerous one: the explanation given by Hammerich of Skt. *pūrṇá-* (from **pl̥hrna-* < **pr̥hna-* < **pl̥hno-*) and *ásṛk*, *yákṛt* (p. 37 ff.) already takes this principle too far. Even less happy seems to me the idea of Frei (*Cahiers Ferd. de Saussure* 16 (1958-9) 9 n. 35) that (for instance) **pī-* (from **pō-*, **peh₃-* 'to drink') does not go back to **ph̥i-* but to the non-enlarged root **ph̥₃-*, after which an '*i* de liaison' appeared between the laryngeal and following consonant (**ph̥₃-i-C*), which with metathesis gave **pih̥₃-* > **pī-*. Apart from the fact that one would also expect such an *i* elsewhere, one would in that case have to explain the *ū* as zero grade of *ēu*, *eh̥u* by an '*u* de liaison'. Here too metathesis is assumed.

This metathesis is not immediately convincing. It is not clear why before *e*/*o* the laryngeal would fall, but before *i* (and *u*) metathesis would occur. The difference in articulation could therefore be the sole cause of this, but one would like to find indications of such a phenomenon elsewhere. It can only be stated that the lengthening (in the *ī*) and the fact that *ī* does not seem to occur before vowel point to a group *-ih̥-C*. For the moment another solution is not known. It cannot be denied that there is a difficulty here, but I do not see that the old solution (Schulze's *əi* > *ī*) is better, as for instance Leumann (*Mus. Helv.* 14 (1957) 75 = *Kl. Schr.*, p. 260 n. 2) suggests. For, according to the old shwa theory, *ə* would in all situations have become *a*, also in *əi* before vowel (even in Indian, where *ə* normally became *i*; see below). There is no reason why *ə* in *əi* before consonant would have become *i*. Here too an auxiliary hypothesis is therefore necessary, which finds no support elsewhere. (Moreover, the idea would fit straightaway into the laryngeal theory: *Ch̥iC* > *CiiC* > *CīC*.) However, the essential thing is that the laryngeal theory has pointed to the predominantly consonantal character of the *ə*; it is therefore improbable that the laryngeal, which even interconsonantally did not always become a vowel, was vocalic in these surroundings (*ChiC*).

A clear case is the root **dhē-* 'to suck, give suck', **dheh₁-(i-)*; **dheh₁-C*: Gr. θῆλυς θηλή, Skt. *dhārú-*, Lat. *fēlare* (*fīlius*), Lith. *dėlė̃* 'bloodsucker' etc.; **dheh₁-i-C*: Skt. *dhenú-* 'milking', *dhenā* 'milch cow'; **dhī-*: Skt. *dhītá-*, Latv. *dīle* 'sucking calf'. Apart from the last one the following forms also present problems here: **dhi-* OHG *tila* 'woman's breast', MIr. *del* 'nipple'. This could continue **dhh₁-i-* > **dhī-*, but that would be in contradiction of the explanation given above of **dhī-*. Finally there is **dhăi-* (?) in Skt. *dháyati*, OCS *dojǫ*, Goth. *daddjan*. The δαίομαι mentioned above belongs to the same category. The form **dai-* of this can be explained in two ways: as **deh₂i-* (but in that case only before consonant, from which it could then have spread further) and as **dh₂ei-* (Kuryłowicz, *Etudes*, p. 65). A form **dhăi-* of **dheh₁-*, however, cannot be explained in that way, but *dojǫ daddjan* may go back to **dhh₁oi-i̯e-*; the vocalism of *dháyati* is unknown (so that **dhh₁ei-* is possible). Such problems must be considered morphologically from case to case. The old explanation **dhəi-* > **dhāi-* (in terms of the laryngeal theory **dh̥i-*) should be rejected, since in this position the laryngeal was probably not vocalic. This emerges from forms such as Skt. *dyáti* 'to share', *syáti* 'to tie', from **dh₁-i̯e-*, **sh-i̯e-*, Kuryłowicz, *op. cit.*, p. 64; cf. for the latter form Hitt. *ish̥i̯anzi* (p. 86).[85] Moreover, this would also presuppose *h̥* (*ə*) > *a* for Indian, which does not have much support.

The long *i* is also found in the root of οἰρών 'ploughed furrow' (**seh₃ir-*): Skt. *sī́ra-* 'plough', *sī́tā* 'furrow' (**sih₃i-* > **sih₃-* ?).

The best-known case is the root **pō-(i-)* 'to drink', **peh₃-(i-)*. This form occurs only in Skt. *pāy-áyati* ('to cause to drink'). In addition one finds the non-enlarged root **peh₃-*, πῶμα, Lith. *puotà* 'drinking-bout', Lat. *pōtus*, *pōculum*, Skt. *pā́tram pā́tār-*. As the zero grade we find **pī-*, Skt. *pītá- pītí-*, OCS *piti*. The Greek forms have been

[83] The original accent of **Di̯éum* will, as in the nominative **Di̯éus*, have been an acute one. The circumflex in Greek is a result of the addition of the -α: **Ζήν* > Ζῆνα.

[84] Cf. the discussion in Kuiper, *Notes*, pp. 38 f. and 68-70.

[85] Thus for Av. *xvāng* 'of the sun', having regard to ἠέλιος < **seh₂u̯-el-*, I would be more inclined to assume **sh̥u̯-ens* than **suh-ens*, as Kuiper does, *Notes*, p. 34, n. 2.

interpreted by Leumann (*loc. cit.*). Comparing the ablaut δω-/δο- from δίδωμι, he starts from an interchange **pō-/pī-*, e.g. in the athematic aorist **e-pō-m* (Skt. *apām*) : **e-pī-mes*. It is assumed that these two stems can still be seen in Aeolic πῶθι : πῖθι. The thematic aorist ἔπιον is said to have had its starting-point in 3 pl. **e-pī-ent* > *ἔπιεν. However, the reconstruction of this aorist seems to me to be based on too weak grounds. After all, parallel to δω-/δο- one cannot expect anything but (Gr.) πω-/πο- (**peh₃-/ph₃-*; or, as **pō-/pə-*, possibly πω-/πᾰ-). The interchange **pō-/pī-* can only be explained by an original system **pōi-(pŏi-)/pī-*, but there is no indication of **pōi-* in the aorist. Thus, if πῶθι/πῖθι does indicate such an aorist, the latter must itself already be secondary. The same problem occurs in the present forms. Parallel to δίδωμι, Leumann assumes **pipōmi *pipīmes*, of which he asserts that Skt. *pibati* is the thematic transformation. However, this transformation usually proceeds from the 3 pl., which in this view would therefore have been **pi-pəi̯-enti*, which in all languages would have become **pipai̯enti* (possibly **pi-pəi̯-n̥ti* > *pipai̯ati). It is clear that one must start from the root without *i*: **pi-peh₃-mi *pi-ph₃-mes* 3 pl. **pi-ph₃-n̥ti* > *pibati*. In this way the *b* < *ph₃* is also explained. The correctness of this explanation is rendered probable by the Vedic forms:

	act.	midd.
3 sg.	*pāti* (< *pipāti?)	*pipīte*
3 pl.	*pibati*	*pibate/pipate*

The 3 sg. midd. must have been **pi-ph₃-toi* > *pipĭte; the long *i* is based on Indian lengthening, as in *punīte*. Here, therefore, the *p* did not become voiced, since *h₃* here did not stand before vowel but itself became vocalic.

The Sanskrit present forms thus point to **peh₃-/ph₃-*, from which the transition to the thematic declension also becomes demonstrable. However, forms like *pītá-*, πῖθι must ultimately go back to **ph₃i-*.

As stated, the original zero grade in **pō-*, **peh₃-* must have been **ph₃-* i.e. in the European languages **pă-*. There is no trace of this (for OCS *pojǫ* 'to cause to drink' cf. *dojǫ supra*). One therefore hesitates to take Gr. πο- for **ph₃-* (e.g. Leuman, *loc. cit.*). And yet it would be easy to understand that an original European **pă-* (< **ph₃-*, **pə-*) was replaced by **pō-* (or **pī-*), and Indian **pu-* (< **ph₃-*) by **pī-* (< **pih₃-* < **ph₃i-*), and that **peh₃-/ph₃-* was preserved only in Greek, where πω-/πο- (like δω-/δο-) conformed to the same ablaut scheme as ᾱ/ᾰ, η/ε. The forms with πο admit very well of this interpretation: ποτόν 'that which one drinks, drink' (ποτός 'drunk, for drinking', A., E.), πόσις 'drinking', ποτής 'drink' Il.; more recent πότος 'carousal' Cratin., X., πότιμος Hdt., Hp., ποτήριον inscr. ?700, Alc., Sapph., πότηρ 'drinking cup' E., πότις (πότης) 'drinker' Phryn. (Ar.); πόμα Pi. *N.* 3.79, Hdt., Hp. for πῶμα A., S., E. For the oldest stage πῖνον 'liquor' Arist. and πίστρᾱ 'drinking trough' E. are not of importance in my opinion. These data indicate that ποτός (ποτόν) was the starting-point of a number of derivations and that ποτός and πόσις were the oldest forms of this group (still including οἰνοποτάζω Il.); πο- became

characteristic of the nominal forms and even πῶμα, the only Greek word with πω- as against Skt. *pātár- pā́tram pānam*, was replaced by πόμα. In these two forms zero grade is normal and if ποτός (πόσις) is compared with *pītá-* (*pītí-*), Lat. *pōtus*, Lith. *puotà*, it seems probable that ποτός continues an original **ph₃tó-*, which was replaced elsewhere by *ī* (for *ĭ*, or *u*) and *ō* (for *ă*) respectively. There is little to be said about the age of forms like ἐπόθην A., πεπόσθαι Thgn. (and πέπωκα A.). They could have been built on ποτός. In this form πέπωκα is a Greek creation, having regard to the κ.

Πῖθι Cratin. is in any case older than Aeol. πῶθι, since here zero grade is normal. However, there is no certainty about the age of the long *i* (Sanskrit has *pāhi*). The question is therefore in which forms **pī-* was original. It should also be pointed out that the 3 pl. of an athematic aorist would have been **e-ph₃-ent* (> *ἔπεν with analogic ε for *ἔπον), a form that was not very clear and could easily be replaced.[86]

An isolated case of laryngeal before *u* is βοῦς < **g"oh₂us* (**g"éh₃us*?); see Kuiper, *Notes*, pp. 32 ff.

Perhaps γυναι-, Arm. *kanai-kʿ*, has *ai* from *eh₂-i*.

We should also discuss here the words with αυ, αι, Schwyzer, p. 347b. On the one hand borrowing is possible here (ταῦρος, p. 134), on the other hand, however, *-eh₂-u-* or *-h₂eu-* may have been the origin.

In the first place there is the interchange with ω(υ) in τραῦμα A.: τρῶ(υ)μα Hdt., Hp. and θαῦμα Il.: θῶμα Hdt. Θαῦμα has no cognates outside Greek. The supposition that θαῦμα/θῶ(υ)μα goes back to two different basic forms (**dhəu-/dhōu-*, Frisk s.v.) does not inspire confidence. If the connection with θάμβος is correct, one finds the following stem forms side by side: θαφ-? (τάφος ταφεῖν) : θαβ- (with prenasalization in θάμβος): θαπ-? (τέθηπα) : θᾱϝ-/θω(ϝ)- (θῆβος = θηϝος?, **θᾱϝᾱ* see Frisk s.v. θεά, θαῦμα, θῶ(υ)μα).[87] This points to a non-IE word; see Kuiper, Μνήμης χάριν, I, p. 225.

[86] Recently Frei (*Cahiers De Saussure*, 16 (1958-9), 1-22, 17 (1960) 47-53 and 19 (1962), 87-91) has repeated the attempt to connect **pō-* with **ăp-* 'water' on the strength of a reconstruction of a meaning 'to flow' for **pō-*. He now posits a root **h₂ep-* 'couler' > 'courant d'eau, riviére, eau' and connects this with **pō-*, **peh₃-* as **h₂ep-h₃-/h₂p-eh₃-*. This seems to me impossible, since the second form in Greek would have been **ἀπω-*. Skt. *páyate* is also taken here as **h₂pei-*, though semantically speaking it should preferably be left as **pei̯h-* connected with πῖαρ etc., see p. 169. The connection with *ab-* in European names of rivers (Ἄβος ποταμός, OBrit. *Abonā*, OIr. *abann* 'river') as **h₂eph₃-* (with *ph₃ > b*) with Skt. *ápi* 'water' is an unfortunate one, since in that very case Sanskrit does not have a *b* (for the European names of rivers see p. 135). Finally, as Frei remarks, one would expect not *pibati* but **ibhati* (**h₂i-h₂ph₃-*; possibly **h₂pi-h₂p(e)h₃- > *pib-*). His attempt at an explanation, which assumes that the laryngeal had already vanished or had disappeared by dissimilation with the following one, is not convincing: the first is at variance with *irte ījate* etc., and the second is an arbitrary assumption. The conclusion from this that the first laryngeal was *h₃* again prohibits the connection with European *ab-*.

[87] The long article by Szemerényi, *Glotta*, 33 (1954), 238-65, in which he defends **dhm̥bh-/dhm̥sy-* as PIE basic forms, is not a happy one. It consists of a series of improbabilities, of which the following may be mentioned. The phonetic law *mbh* > Gr. μβ is (further) based on θρόμβος, of which, however, the μ is unexplained if it belongs with τρέφω; if it does not, it loses its value; the same applies to πύνδαξ as against πυθμήν. The law is refuted by words like ὀμφαλός, see p. 74. The idea of foreign origin of these words is an obvious one, certainly in comparison with words like κόρυφος — κόρυμβος (with which κόρινθος is probably connected), where the *m* cannot possibly be interpreted as PIE

If τραῦμα is the original form, τρῶμα can be understood by the association with τιτρώσκω. In view of τορεῖν, the form τιτρώσκω seems to have a root **terh₃-* (p. 233), so that τραῦμα cannot have been derived from it. Boisacq places s.v. τείρω the following forms together: τρᾱ-(νής), τρη-(τός) τέρε-(τρον), τρω-, τρῑ́-(βω) and τρῦ-(ω, -χω, -πάω). This would lead to **ter-ħ₁/ħ₂/ħ₃* (with **tr-ħ-i/u > tr-i/u-ħ-*?), so that **treħ₂u-mn̥ >* τραῦμα is possible, but such an interchange of enlargements is not willingly accepted.

If the analysis of these two words is correct, this shows how misleadingly loan words can be fitted into the framework of one's own language.

The old derivation of for instance τραῦμα from **trəu-* seems possible in itself, but contradicts the development *əi > ī*, *əu > ū* assumed by Schulze. However, in the light of the laryngeal theory, having regard to the phonetic properties of the laryngeal (that is to say of the *ə*), a form **trn̥u-* is not probable: one expects here the laryngeal in consonantal function. For the development of **tn̥ħ₂u-* (> *ταρυ-) see p. 216.

For φάος <*φά-ϝος, cf. Skt. *bháti* 'to illuminate', a structure **bhn̥ħ₂u-* is conceivable (since here the laryngeal is preceded by an occlusive and not a sonant), but it is more probable that the laryngeal was consonantal in this position too; *v. supra*. As a result φαυ- (πιφαύσκω Il.) will be based on **bhħ₂-eu-*.

A difficulty is formed by the connection of χάος χάσκω with OHG *giumo*, which points to *e*-vocalism, **ĝhħ₁-eu-*; **ĝhē(u)-* in OHG *gëwon*.

A laryngealistic explanation for αὖος, Lith. *saũsas* (**seħ₂us*) would imply that in **sħ₂us-*, Skt. *śúṣka*, a development *ħu > uħ > ū* did not take place.

There are consequently various possibilities with these words with αυ αι. In a few cases this element may have developed from *eħ₂u* etc., but only before consonant, otherwise one must start from *ħ₂-eu*, but only after occlusive (*CRħeu-* would have given *CVReu-* in Greek). However, in both cases the *a*-colouring laryngeal must be demonstrated; in the other cases a phonetic αυ αι could not occur (τραῦμα not from τιτρώσκω, χάος not from **ĝhēu-*). Many of these words have no convincing IE etymology, so that borrowing may be envisaged, even if cognate forms are found in a few European languages (γλαινοί, χραισμέω, πταίω (<*πταϝ-jω?), ῥαιβός, θαῦμα, καυλός (probably cognate with αὐλός; see Add.), παῦρος, ταῦρος, τραυλός, χαῦνος; χάος too?).

(an opinion shared by Frisk). The *m* of **dhembh-* is based on θάμβος; the fact that this has no *e*-vocalism has its parallels, but with zero grade one would expect *ταφος. Szemerényi explains it as a derivative of θαμβέω, but this could only be explained as transformation of the intensive *θομβέω (according to ταφών). However, there is no parallel of such a transformation, so that in my opinion θάμβος cannot be explained from **dh(e)mbh-*. The perfect τέθηπα instead of the expected *τέτηφα (the analogic η being accepted), is explained by aspiration interchanges like κιθών/χιτών, φάτνη/πάθνη, βάτραχος/βάθρακος, ἄκανθος/ἄχαντος (Lejeune, *Traité*, p. 50). However, these words all convey the impression of being of non-IE origin. It is highly improbable that the last form of a system ταφών — *τέτηφα would have disappeared without trace, given the abundance of perfects with a stem ending in φ. Szemerényi's explanation of θωῦμα as a personal venture by Herodotus on the (sole!) example of Ion. τωὐτό as against Att. ταὐτό is, of course, entirely unacceptable. It may incidentally be remarked that there is no compelling reason to interpret the β in θῆβος as ϝ.

IX. AFTER CONSONANT BEFORE VOWEL

Laryngeal after consonant before vowel disappeared without trace in Greek, apart from possible colouring of following *e*. This development is evidenced by among others the Greek cognates of the two words celebrated in the history of the laryngeal theory, Skt. *pṛthúḥ* and *pánthāḥ*, of which the former was explained in 1891 by De Saussure.

The comparison of Lith. *platùs* with Skt. *pṛthú-*, Gr. πλατύς leads to the following reconstruction of the PIE paradigm:

sg. nom.	**plóth₂-u-s*
gen.	**pl̥th₂-éu-s*

This is given for instance by Kuiper, *Notes*, p. 55. In Sanskrit and Greek, therefore, the zero grade of the stem was generalized, and in Lithuanian the full grade. The *th* of Sanskrit was ascribed by De Saussure to the laryngeal in antevocalic position (*BSL* 35 (1891) 118). The corresponding feminine **pl̥th₂-u̯-ih₂* gave in Greek *πλατα(ϝ)ια (Πλαταιαί), a form which was later replaced by πλατεῖα, with the full grade of the suffix normal in Greek (ἡδεῖα — *svādvī́*). True, the phonetic development of **pl̥th₂-eu̯-ih₂* would probably also have been *πλατα(ϝ)ια, but the ending -ια would probably have been analogically restored in this form, so that the form seems to go back to zero grade. Kuiper, *IIJ* 9 (1966) 224, recently published on the Indian forms. Greek has no trace of aspiration (for πλάθανον see below).

In the same way Pedersen (*KZ* 32 (1893) 269; *Cinq. décl.*, p. 54) explained *pánthāḥ* (Lat. *pons*):

sg. nom.	**pont-éħ₁-s*	(Skt. *pánthāḥ*)
gen.	**pn̥t-ħ₁-ós*	Skt. *pathás*
pl. instr.	**pn̥t-ħ₁-bhis*	Av. *padəbīš* (Skt. *pathíbhis*)

In Greek one finds traces of this paradigm in the words πόντος πάτος (the latter form could be the phonetic representation of the genitive). Here too there is no trace of the (antevocalic) laryngeal in Greek. (Cf. the Introduction, p. 9.)

None of the forms of **stā-*, **steh₂-* has aspiration in Greek, while this has become general in Indian. Σταυρός is of particular importance here if it goes back to **stħ₂-eu-*, rather than to **steħ₂u-*; cf. p. 177f.

The same may be found in ὀστέον as against Skt. *ásthi*, but here the original declension is less clear: **h₂ósth-ħ-i *h₂sth-ħ-éi-s* Kuiper, *Notes*, p. 63, comparing

ὄστρακον : ἀστράγαλος, but these words, having regard to their suffix, seem more likely not to be IE; cf. p. 51; in that case there is no indication of $\hbar_2$. Hamp, *Word* 9 (1953) 135-41, thinks differently.

If Kuiper's connection (*Glotta* 21 (1933) 287 ff.) of κλοτοπεύω (only T 148, approximately 'to dawdle') with Skt. *śrathnáti śṛnthati* 'to become soft, etc.' is correct, κλοτ- goes back to **k̂loth-*. However, the structure of **k̂l̥-n-eth-mi* would be exceptional. For οπ see p. 194.

Also of importance here is μέγα. Pedersen, *Cinq. décl.*, p. 47 ff., has reconstructed the paradigm as follows:

sg. nom.	**meĝ-éh₂*	(Skt. *mahā-*)
gen.	**meĝ-h₂-ós*	Ved. *mahás*

In Gr. μεγα-(λο-) nothing shows the influence of the laryngeal.

'Εγώ, Skt. *ahám* is unclear. There is no indication of a suffix *-hom* (Kuryłowicz, *Etudes*, p. 53). The origin of the -ω is not known. One might suppose **eĝ-oh/eĝ-h-om*. There is no proof of aspiration by $\hbar_3$ in Indian, which makes **eĝ-eh₃/eĝ-h₃-om* uncertain. Only if one were to start from **eĝh-ō/eĝh-om* does ἐγώ show that the laryngeal disappeared without aspiration in Greek.

Skt. *hánuḥ* as against γένυς presupposes a laryngeal, **gh₁-en-*, of which, however, there is no further indication.

Θυγάτηρ as against Skt. *duhitá* is a somewhat different case. As evidenced by the Indo-Iranian forms, we have here a paradigmatic interchange **dhugh₂-t-/dhugh₂-t-* (Kuiper, *Notes*, p. 21 ff.), i.e. interconsonantal laryngeal: in Greek, θυγα- in any case does not have the aspiration of Indian. See the Introduction, p. 8.

In the 3 pl. of athematic presents the laryngeal disappeared before the ending *-onti*, Skt. *punánti* < **pu-n-h-onti* as against *punáti punīhí*. Corresponding to this are κάμνουσι < **k̂m̥-n-h₂-onti*, τάμνουσι < **tm̥-n-h₁-onti*, forms which facilitated the transition to the thematic declension.

Kuryłowicz has pointed out (*Pr. Fil.*, in particular pp. 209-14) that the apparent exceptions to Brugmann's Law are explained by the original presence of laryngeals. For instance *jána-* from **ĝonh₁o-* (not **ĝon-o-*, which would have become **jāna-*). Consequently a laryngeal will also have disappeared in Greek γόνος. In this category there are also a number of compounds of which the second component displays the same phenomenon, e.g. *aja-gará-* 'goat-swallowing', with which the following comply in Greek:

δημο-βόρος (A 231; < **-g"orh₃o-*, connected with βιβρώσκω),
εἰροκ-όμος (Γ 387), ἱπποκόμος (Hdt.; **-k̂omh₂o-*),
δρυ-τόμος (Π 633 etc.; **-tomh₁o-*).

A laryngeal has also been lost from γένος βέλος (as against βέλε-μνον). Admittedly, apparent aniṭ forms of **ĝenh₁-* also occur (γέγαμεν), but these can easily be explained as analogic formations; see p. 244. The possibility that seṭ and aniṭ roots, i.e. roots with and without laryngeal as enlargement (**ĝen-* : **ĝenh₁-*), existed side by side

cannot be entirely excluded, but one may not avail oneself of it unnecessarily. It is a methodical requirement, in those cases in which the non-enlarged root cannot be imperatively demonstrated, to try to explain the existing forms on the basis of the disyllabic root before taking refuge in the *ultima ratio* of root variants in the proto-language.

Three cases are stated which are claimed to demonstrate that the laryngeal caused aspiration in Greek too in this position, viz. πλάθανον, and the endings of the 2 sg. aor. pass. in -θης and the 2 sg. perf. (act.) in -θα.

It is by no means certain that πλάθανον 'kneading board or tray' (LSJ Suppl.) belongs with πλατύς (and therefore has θ < $t\hbar_2$). WP II 63 connects it with **pelā-*, which is hardly more convincing phonetically (πλᾰ-θ- < **plh₂-dh-* is impossible; see p. 245). Cf. πλακοῦς 'flat cake' and πλακερός 'πλατύς, broad'. Non-IE origin must be considered: firstly many words for kitchen utensils are Mediterranean and secondly many words ending in -ανον are non-IE (Schwyzer, pp. 489 f.).

There remain the two endings. The connection of 2 sg. aor. pass. -θης with Skt. *-thās* is probably incorrect. Within Indo-Iranian *-thās* stands alone as against Iranian *-ha, -sa* < * *-so*, so that Indian innovation (though probably building on an ending with *t(ḥ)*) seems self-evident. In Greek there is no indication that -θης is older than the remaining forms of this series (-θην, -θη etc.). One finds θη beside an older η-series in intransitive-passive verb forms. The θ occurs as present formant. Cf. Meillet-Vendryes, *Gramm. comp.*, p. 215, Prévot, *L'aoriste passif en* -θην, Benveniste, *Origines*, pp. 188-210, in particular pp. 196 ff.

On the other hand, the comparison of 2 sg. perf. act. -θα with Skt. *-tha* is indisputable. Hitt. 2 sg. pret. *-ta* will, in view of the parallel form *-ti* in the present (which must go back to **-thi* (*-thei*?), since PIE *-ti* would have become *-zi*), have a laryngeal. PIE *-thₑ* gives Skt. *-tha*, but Gr. -θα would be at variance with the foregoing. Kuryłowicz explains -θα by *-τα after φθχ, comparing the generalization in Gothic of *-t*, which was phonetic after spirant (*s, f, h*). This is not a convincing explanation, since -θα is found exclusively after σ (starting from οἶσθα and ἦσθα). According to Frisk, "Suffixales *-th-* im Idg." (*GHÅ* 42 (1936) 2.42 f.), the θ is on the analogy of -θι. The latest to write on this was Cowgill, pp. 172 f. (-στα after labial and velar became -σθα).

The question of the *tenues aspiratae* in general or of the correspondence of Gr. φθχ with Indian *ph th kh* cannot be discussed here.[88] For *s* + *tenuis aspirata* at the beginning of the word see Hiersche, *Unters.*; for Greek pp. 176-231.[89] But, whatever the explanation of -θα may be, the cases mentioned leave no doubt that the laryngeal after consonant before vowel disappeared without trace in Greek, possibly after colouring following *e*.

[88] Κόγχος, which has been connected with Skt. *śaṅkhá-*, will be non-IE, in view of κόχλος, Kuiper, *IIJ*, 4 (1960), 245, n. 45. The form ὀνυχ-, Skt. *nakhá-*, mentioned by Schwyzer, p. 298, in this connection belongs to another category, since here the other languages point to *gh*, OHG *nagal*.

[89] It is striking that a very large part of the Greek material discussed by Hiersche seems to be of non-IE origin.

X. BETWEEN CONSONANTS

The majority of the cases of laryngeal between consonants are found in the so-called disyllabic roots (*TeRH-C*). Here the preceding consonant is usually a sonant, as a result of which complications occur in the zero grade (*TRH-C*). It therefore seemed best to discuss the disyllabic roots as a whole in a separate chapter (Chapter XI). The result is that most of the cases that belong in this chapter will be dealt with in the next one, so that the problem discussed here must be viewed in its relation to the following one. Consequently no conclusion can be given here; this may be found in the final conclusions, p. 265.

Here, then, we shall confine ourselves to those cases forming no part of a disyllabic root; usually an occlusive precedes them. The laryngeal in the position stated is usually represented by a vowel in Greek. The question that must be asked here is whether one must start from consonantal or vocalic laryngeal in the basic language. Thus Iranian points to a paradigmatic interchange of $\hbar_2$ and $\underset{\circ}{\hbar}_2$ in the basic word for πατήρ; Introduction, p. 8. It must therefore be asked whether the Greek α is based on generalization of $\underset{\circ}{\hbar}_2$ or whether the $\hbar_2$ was vocalized phonetically. That the latter was the case is evidenced by the disyllabic roots (*TeRH-C*; see p. 227ff.) and for instance ἱερός < **isḫ₁rós* (*infra*). However, there are indications that the consonantal laryngeal was not always vocalized in Greek (ἱρός). It goes without saying that $\underset{\circ}{\hbar}$, which was a vowel in the proto-language, was a vowel in all languages.

The vowel that represents the laryngeal is an *i* in Indo-Iranian and an *a* in the other languages;[90] Greek, however, retained the original opposition between the three laryngeals and has $\hbar_1 > \varepsilon$, $\hbar_2 > \alpha$, $\hbar_3 > o$. To demonstrate this is one of the principal objectives of this chapter and the next one, while the question should also be considered of whether all dialects display the same development here.

The material that contradicts this view is very scanty (Schwyzer, pp. 340f.). The connection between ματεύω μαίομαι (μαιμάω?) and μῶμαι is too uncertain to be able to serve as an argument. (Moreover, μᾰ- cannot go back to **mḫ₂-*; see p. 245.) The connection between σαχνός (Gal.) 'tender' (κρέα) and κατασώχω (Hdt.) 'to rub to pieces, pound' cannot offer any argument. For in general ω/α is no proof, since ω can be an apophonic form of ᾱ which may not be known (in this case **sḫ₂gh-*/**soḫ₂gh-* is therefore possible); but the word does not have any etymology at all. For χατέω

[90] In Germanic *u* (see p. 187) sometimes appears, which is left out of consideration here.

χατίζω (Hom.; χάτις χάτος Boisacq, Schwyzer do not occur, only χατίς· ἐπιθυμία, χρῆσις Hsch.) a connection with *χῆτος (χήτεϊ Hom.) χῆρος is, however, self-evident. But it is impossible to connect these words with χάος, since this seems to have a stem χαϝ-/χαυ-. In that case the origin of the η of *χῆτος is also unknown (unless it is assumed that these words have the root in common). The connection of ἀβρός with ἥβη is semantically possible but formally difficult: Lith. *jegà* would suggest **i̯eḫ₁-gʷ-*, but in that case one would expect **iḫ₁gʷ-* > *ῑβ- rather than **i̯e̯gʷ-* in the zero grade. It therefore seems more probable that one has to start from **i̯ēgʷ-*/**i̯egʷ-*. Cf. p. 246. For γλῶσσα γλάσσα see p. 246.

Some aorist forms with α in the root, also where the full grade has *ē*, seem to present a difficulty here. Of the type πήγνυμι ἐπάγην (σήπω, τήκω), πτήσσω ἔπτακον only μηκάομαι μακών could go back to **mē-*. But here and in the case of ῥήγνυμι ἐρράγην and τμήγω τμάγεν with η < *ē*/ᾰ after sonant, the zero with ᾰ does not go back to **u̯ŗḫ₁g-* (etc.), since these forms would have acquired a long vowel phonetically (and in this way would have become equal to the full grade); see p. 245. The forms with ᾰ must therefore be analogic and it is easy to understand that here a zero grade distinguished from the full grade was created secondarily. Most of these forms do not seem to go back direct to a PIE basic type.

The material showing $\hbar_1 > \varepsilon$, $\hbar_3 > o$ is likewise scanty.

The reading ἀσκεθής is too disputed to be reliable (see Frisk).

The interpretation of εὐθενέω (A.)/εὐθηνέω (h.Hom., Hdt.) is too uncertain to offer an argument here; see Frisk, I, p. 586f.

μέτρον from **mē-*, Skt. *máti*, cannot go back to **mḫ₁trom*, since this would have given *μη-. A form **mḫ₁trom*, with vocalic laryngeal after sonant, is not probable. One must therefore start from **mḫ₁-etrom*; cf. Ved. *dátra-* < **dḫ₃-etro-*, *dhána-* < **dhḫ₁-eno-*.

μακρός is difficult; μῆκος may represent **meḫ₂ḱos*, but **mḫ₂ḱ-* would also have been μᾱ-(μη-). Lat. *mācer* cannot go back to **mḫ₂ḱ-* either (one would expect **māc-*). Av. *masah-* 'length', comp. *masyå*, superl. *masišta-*, cannot go back to **mḫḱ-* (this would have given **mis-*). Phonetically speaking the only possibility seems to be **mḫ₂eḱ-* > **maḱ-* (in all languages), **mḫ₂ḱ-* > μηκ-ιστος. In that case Avestan would have generalized the full grade. However, the adjectives ending in *-ro-* usually have zero grade (ἐρυθρός, ἀργός — Skt. *ṛjrá-*), and the neuters ending in *-os* full grade. The whole remains unclear.

It has already been pointed out that πο- in ποτός πόσις may go back direct to **pḫ₃-*; p. 175ff.

δοχμός (Il.) 'aslant' is connected with Skt. *jihmá-* '*idem*', despite the difficulty of the anlaut (< **žižhma-* < **dižhma-*?).[91] The stem vowel must then go back to a laryngeal, **dḫ₃ĝh-mo-* (or **d̯ĥĝhmo-*?). Assimilation from *δαχμός is an arbitrary assumption: there are dozens of words with such vocalism and the same structure (Schwyzer, p. 492).

[91] Is the laryngeal responsible for this unusual development?

A case of exceptional importance is ἱερός. The distribution of the various forms of this word in the inscriptions was investigated by Locher, *Unters.*, pp. 5-8. It was found that ἱερός occurs in Mycenaean (*ijero(jo)*, *ijereu*, *ijereja*, *ijerowoko*), Arcadian, Cypriot, Attic and Ionic (Western, Central, and Southern East Ionic — Miletus before 500 —); ἰαρός in Doric, NW Greek and Boeotian (probably from NW Greek) and Pamphylian (possibly under Doric influence); ἶρος on Lesbos and (ἰρός) in Northern East Ionic (Abdera, Thasos, Chios). Thessalian has ἰαρ- once, and for the rest ιερο-.

The conclusion imposes itself that we are concerned here with a dialectically different development, in which ἰαρός belongs in West Greek, ἶρος in Aeolic (going from there to Northern East Ionic?) and ἱερός elsewhere. It must, however, be admitted that ἶρος cannot be shown in Boeotian and Thessalian and that Thessalian has ιερο-, which would have to be ascribed to Ionic-Attic influence. Anticipating what follows, I believe that this material indicates that the dialects still had the form **isH₁rós*, that this developed to ἰαρός in West Greek and to ἱερός in East Greek, whilst ἶρος might be Aeolic, from where it spread to Northern East Ionic.

The aspiration, which is absent only in areas with early psilosis, shows *s*. The immediately preceding stage was therefore **iseros isaros isros*. Such an interchange of forms is very rare. However, one does find -αρος and -ερος side by side in μιαρός Hom.: -ερός Call.; βριαρός Hom.: -ερός inscr. of Rom. period; σκιαρός Pi., Pl.: -ερός Hom.; χλιαρός Epich., Hdt.: -ερός Alcm.; πιαρός Hp.: -ερός Hp. (forms after Locher, *op. cit.*, p. 13f.). The ratio for this interchange is not known. It is striking that all have -ια/ερος. This suggests influence of ἱερός/ἰαρός (so Schwyzer thinks, p. 482; cf. especially p. 243f.). Schwyzer traces the forms of ἱερός back to an old neuter, as with ὕδερος Hp.: ὑδαρής Hp.: ὕδρος Il. from ὕδωρ etc. In itself this is of course possible, but the geographical-dialectal distribution is not explained in this way. This points to dialectally different development of one and the same basic form. That is confirmed by Ved. *iṣirá-* 'vigorous, lively'. The semantic side now forms no further problem. The Greek word, divided by W. Schulze, *Quaest.*, pp. 207ff., into four etyma, is now interpreted as "worin sich eine besondere, über dem Menschen stehende 'Macht' wirksam erweist" (Locher, p. 64, with specifications such as "ausserordentlich stark" (of a town), "— bewegt" (of a river), "von unvergleichlicher Impulskraft"). This meaning is consistent with that of *iṣirá-*, which has a cognate in *iṣṇáti* 'to bring into violent motion'. The connection is established beyond any doubt by the corresponding connection in ἱερὸν μένος and Ved. *iṣiréṇā mánasā* (instr.); for a recent view of this syntagm see Schmitt, *Idg. Dichterspr.*, pp. 88-90. The connection with *iṣṇáti* points to a disyllabic root **isH-*. This leads to the reconstruction **isHrós*, from which ἱερός can also be derived, provided that **isH₁rós* is assumed. The Aeolic form, which must go back to **isros*, has therefore lost the consonantal laryngeal. The same phenomenon is found in the Thracian river name[92] Ἴστρος[93]

[92] For the connection with rivers cf. ἱερὸν ῥόον Ἀλφειοῖο Λ 726, cf. Hes. *Op.* 566 and the use in connection with ποταμός κ 351 and Hes. *Th.* 788.

[93] Būga, *Rev. ét. slav.*, 6, 9f., derives *Istr-* from **Instr-*.

(Hes. *Th.* 339); for *sr-* > *str-* in Thracian (?) cf. Στρῦμων, which will stem from the root **sreu-* 'to flow'. Perhaps the river name *Isara* (Celtic?) also belongs here, though it may also belong to the European substratum (in view of the suffixes of the type *ar(a)*, *al(a)*, *am(a)*).

The Doric form ἰαρός thus presupposes $h_1 > \alpha$. It will have to be examined to what extent Doric thus had a different development from the other dialects. It is conceivable that the α here came into being under the influence of the ρ.[94]

ἄνεμος, which is entirely isolated in Greek and therefore may be mentioned here, is dealt with under the disyllabic roots.

The zero grade stem forms θε- ἑ- δε- δο- are usually explained as replacements of *θα- etc. on the analogy of the full grade θη- etc. However, there is no trace of the supposed forms (θέμις, θεσμός; ἐννέσιαι, ἐξεσίη, ἐνετή; δεσμός, δετήρ; δόσις, δοτήρ; all in Homer); it is uncertain that δάνος 'gift' Euph. belongs with δίδωμι (see Frisk). In itself this question cannot be answered. It should be seen against the overall picture: that the original opposition between the three laryngeals in Greek — perhaps with the exception of Doric — was preserved emerges from the 'prothetic vowel', Attic reduplication, the disyllabic roots and the cases mentioned above. In this situation it is quite certain that also in θε- etc., δο- the ε and the ο are the direct continuation of the vocalized laryngeal and do not take the place of *θα- etc. *δα-, of which developments there are no indications.

I see no phonetic basis for Cowgill's idea (p. 154) that h_1 and h_3 became ε and ο respectively only in the vicinity of sonants. As a counter-argument one can point to ἐγείρω etc., see the list on p. 68f., and the above ποτός δοχμός (and ἱερός, where at least the preceding consonant is not a sonant).

Needless to say, this conclusion will not be used in Chapter XI, since it is itself based on that chapter.

[94] The connection with Celt. **isarno-* 'iron' (Gall. *Isarno-*, OIr. *iarn* etc.), from which the Germanic words have been borrowed, Goth. *eisarn* etc., encounters the difficulty of the long *i*. This could be explained only as Illyrian development of **ei-*, Pokorny, *KZ*, 46 (1914), 292. However, this remains an unverifiable hypothesis. Semantically speaking, Kuiper's interpretation of νώροπι and εὐήνορα (see p. 75f. of this book), epithets of χαλκός, as 'full of vital energy', would be a neat parallel, for the meaning of ἱερός seems to have been about the same (*supra*).

XI. AFTER SONANT: THE DISYLLABIC ROOTS

In the sequence consonant — sonant — laryngeal special developments occur. Such a group is found most frequently in the so-called disyllabic roots. The problems that these forms present can best be discussed in their interrelation.

Attention was first drawn to the importance of these roots by De Saussure, *Mémoire*, p. 239 ff. A term of Indian grammarians is used to describe them: seṭ roots, as against the aniṭ roots ('with' and 'without *i*') on the strength of the comparison of Skt. *tári-tum* : *dhár-tum*, *bhavi-tum* : *śro-tum* (*śro-* < **kleu-*).

Here the same pointless controversy prevails as referred to in a preceding chapter (p. 89ff.). Hirt reconstructs for these roots basic forms of the type **pelā-*; Benveniste (*Origines*, pp. 147-73), building on De Saussure's hypothesis of the consonantal *ə* (the laryngeal), operates solely with the historically demonstrable forms **pel-ḫ₂-* : **pl-eḫ₂-*, parallel to **ter-s-* :**tr-es-*, which he regards as a biconsonantal root **pel-* with enlargement (*ḫ*, *s*) or suffix (*eḫ*, *es*).[95] Thus, according to this view, the 'disyllabic' roots in PIE in no way differed from other three-consonantal roots, but the special development displayed by this group justifies a separate name; consequently the current nomenclature will be maintained, although it is therefore meaningless.

One of the main aims of this book is to demonstrate that the distinction between the three PIE laryngeals was preserved in Greek. Consequently it will be investigated in the following to what extent the disyllabic roots are of importance to this problem. They will therefore be classified on a basis of the nature of the laryngeal. There is the greatest agreement on the development of those with $ḫ_2$, while these also form the largest group, so that it seems appropriate to begin with them.

A. DISYLLABIC ROOTS WITH $ḫ_2$

As the first consonant of the disyllabic roots is usually an occlusive, and the second a sonant, they may be suitably symbolized by *TeRH*.

As stated, there is a large degree of agreement on the development of the disyllabic roots with $ḫ_2$. For Greek one assumes:

[95] It is of course entirely pointless to say that there is an essential difference between these two (with suffix interchange *ek/k*, *en/n* etc. is possible, with enlargement (*k*, *n*, *t*) it is not), since the assertion can neither be proved nor refuted; cf. Kuiper, *Notes*, p. 6, n. 1.

full grade I	full grade II
$TeRḫ_2 > TεRα$	$TReḫ_2 > TRᾱ$

and with *o*-vocalism:

$ToRḫ_2 > ToRα$	$TRoḫ_2 > TRω$

In addition one finds $TRᾱ$ at places where one would expect a zero grade, i.e. *TRH*, while moreover a form *TαRα* is frequent. The last two forms will be discussed after the survey of the material (p. 189 ff.), but for clarity's sake the form which is regarded here as the original one ($TR̥ḫ_2$ and $T_eRḫ_2$ respectively) has already been stated here and there.

A short survey of the representations found in the other languages is useful for what follows.

In INDIAN the full grade I appears as *TaRi*.[96] The *i* of this is sometimes long, but this is based on an innovation which is unimportant to PIE. The zero grade has *īr*, *ūr* < *r̥ḫ l̥ḫ*, *ā* < *m̥ḫ n̥ḫ*. The distinction between *i* and *u* in *īr/ūr* does not go back to PIE (at the beginning of the word only *īr*, after labials only *ūr*, *AiGr.* 1, p. 28 and Kuiper, *Die Sprache*, 7, p. 15 with n. 4). The forms *ām ān* have their *m n* possibly through analogy.[97] For forms corresponding to *TαRα* see p. 208.

IRANIAN has *TaR* for both the full grade I and for the zero grade (in Avestan this is written *arə*; the representation of PIE *r̥* is written here as *ərə*).

In BALTO-SLAVIC a trace of the laryngeal after sonant may sometimes be found in the stress. Lithuanian has here an acute, *ér* < *erḫ*, *ár* < *orḫ*, *ír/úr* < *r̥ḫ*, while PIE *r̥* became *iř*. The representation *ír/úr* does not point to historical connection with Indian *īr/ūr*, as emerges from the fact that Iranian has an entirely different development (*supra*).

Serbian has in the zero grade *r̂* < *r̥ḫ*, *ŭ* < *l̥ḫ*, *ê* < *m̥ḫ n̥ḫ* (as against *r̂ û ê* < *r̥* etc.).

In GERMANIC the laryngeal was usually lost without trace (*ur* < *r̥* and *r̥ḫ*), but sometimes appears as *u* (in circumstances to be further determined, see p. 153, 202).

CELTIC has in the zero grade *rā lā mā nā*, but also *ar al am an* (Lewis-Pedersen, pp. 4 ff.; the representation of the sonants is very complicated: one finds in part *ri li*, and in part *ar* (*ra*) *al* (*la*) and partly *em en*, partly *am an*, but not in all dialects in the same way). The type *ara* also occurs. (Cf. Watkins, *Eriu* 18 (1958) 85-101. Hamp, *Evidence*, p. 227 n. 2, doubts that *ar* etc. can be a phonetic representation of *r̥ḫ*.)

LATIN has in the zero grade *rā lā mā nā*. The reduced grade seems to have had *ara*, and the full grade *era* (*ora*), but the second vowel has in most cases either been weakened or entirely eliminated.

[96] For *ToRḫ* one would expect *TāRi*, but no case of this is known to me.

[97] Burrow's view, *Skt. Lg.*, p. 86, that *n̥h* became *ā*, but *m̥h* becomes *ān*, is in my opinion refuted by *dhvāntá-*.

1. Material for the Disyllabic Roots Ending in $\hbar_2$

This survey is based on the material in Brugmann, *Grundr.*, I² 1, pp. 417-23 and 473-81, Hirt, *Idg. Gramm.*, 2, pp. 103-47, and Schwyzer, pp. 359-63, and more recent literature. It makes no claim to be exhaustive, although most of the material has probably been collected in this way.

There are only very few cases in which the second consonant of the root is not a sonant but an occlusive.

Whether σφαδάζω 'to toss the body about, be excited' (A.) belongs here (Schwyzer, p. 341) is highly uncertain. Connection with σφεδανός and σφοδρός 'violent, vehement' is obvious, but attempts have also been made to involve σφενδόνη 'sling'. One could further compare σφένδαμνος 'maple' and σφόνδυλος (σπ-) 'vertebra', σφονδύλη (σπ-) 'an insect, a kind of weasel and (-ιον) a plant'. Both the form (prenasalization δ : νδ, σφ : σπ) and the meaning (σφενδόνη, σφονδύλη) then suggest a non-IE word; cf. Ernout-Meillet s.v. *funda*.

πετάννυμι Hom. has the forms πίτνημι (Hes. πίτνω), πέτασε, πέπταμαι, πετάσθησαν. The present πίτνημι corresponds to the Indian ninth class (De Saussure, *Mémoire*, p. 240, Benveniste, *Origines*, pp. 159 ff.), cf.

pavi-tum	*pu-n-ā-ti*	from	**peu̯h-*	**pu-n-eh-ti*
πέτα-σε	πίτ-ν-η-μι	from	**peth₂-s-*	**pₑt-n-eh₂-mi*

(The question of the ι remains out of consideration here.) On the aorist πέτασσε, incorrectly analysed as πέτασ-σε (Chantraine, *Gr. Hom.*, pp. 409 f.), πετάννυμι was formed. The origin of the present forms may therefore be sketched as follows:

πίτνημι Hom. (aor. πέτασσεν Hom.) → πετάω Luc.
↓ ↓
πίτνω Hes. πετάννυμι Ar. → πεταννύω X.

(The original system is interspaced.) The perfect πέπτᾰμαι (Il.) has the expected zero grade **pth₂-*. There is no reason why this form should be secondary (Schwyzer, p. 770,6, and recently Frisk, II, p. 520; πέπλημαι etc. do not of course furnish proof, since here the second consonant is a sonant; the exceptional form therefore points much more towards great age, since its origin can in my opinion hardly be explained by analogy; one would then expect the stem form πετα(σ)- instead, which one consequently finds in πεπέτακα (D.S.), πεπέτασμαι (E.)). A derivative is πέταλον 'leaf'. Πατάνη 'a flat dish' (Sophr.) could be based on **pₑth₂-*, like Lat. *pateo*, if the connection with this root is correct: one may envisage a loan word here, cf. πλάθανον, p. 181. Assimilation from *πετάνη (Schmidt, *KZ* 32.355 f.) is not probable, since words with *TεTα* are frequent (πέταλον, σφεδανός).

Entirely parallel is σκεδάννυμι (Thphr.). One finds (δια-)σκίδνημι, σκίδνᾰμαι

(Il.), σκεδάσω (Thgn.), σκεδῶ (Att.), σκέδασα (Il.), ἐσκέδασμαι (X.), ἐσκεδάσθην (Il.). Forms without initial σ- also occur. Derivative σκέδασις (Od.); it is not surprising that one does not find the normal zero grade here (*σκδᾰ-?). And yet there is no indication of **skedh₂-* in the related languages; these point rather to a present **sk(h₁)-n-ed-mi*, con. **sk(h₁)-en-d-ō* (Av. *sčandayeiti*).

To this group also belongs ἔπτατο 'to fly' (aor.; Il.; πτᾰμένη *ibid.*). Coni. πτῆται O 170. The present πέτομαι will go back to **peth₂-o-*. However, in that case one must assume that the thematic vowel *e* has been restored analogically, for *h₂-e* would have given α (in Homer the forms with ε predominate; with o only πέτονται and (ἐ)πέτοντο). The form πίτνω (A.) = πίπτω 'to fall' is perhaps a remnant of the original nasal present. The latter form may have the long ι on the analogy of ῥῖπτω, and further be based on **pi-pth₂-e/o-*. For πότμος ποταμός see p. 240.[98]

However, the great majority of the disyllabic roots have a sonant as the second consonant, representing a type *TeRH-*.

It cannot always be made out for certain whether one is concerned with a set or with an anit root. This is particularly difficult in the case of words isolated in Greek without convincing etymology. The material encountered in the literature will therefore have to be divided among a number of groups on the strength of the reliability of the interpretation, viz. as follows:

(a) Non-IE words;
(b) Words that have no disyllabic root;
(c) Words of which the interpretation is very uncertain;
(d) Words of which the disyllabic root cannot be demonstrated for certain;
(e) Words practically isolated in Greek for which the other languages indicate disyllabic root;
(f) Words of which various apophonic forms occur in Greek which indicate disyllabic root.

It follows from the nature of this classification that the division between these groups is not a sharp one. It will be clear that for the further discussion only the last two groups are of importance.

a. *Non-IE Words*

A number of words that are involved in the discussion do not have a convincing IE etymology and by their structure suggest that they have been borrowed from a non-IE language.

ἄμαθος (beside ψάμαθος Il.; ψάμμος μ 243 (Aeol. ψόμμος, LSJ Suppl.), ἄμμος Pl.). Although cognate with MHG *sampt* (OHG *sant*) a form PIE **samədho-* is not probable on account of the *a* in the stem, while ψάμαθος also cannot be so explained. The word seems more likely to be non-IE, cf. Kuiper, Μνήμης χάριν, I, p. 218

[98] For the semantic side of this connection see R. Schmitt, *Idg. Dichterspr.*, n. 301: the meaning 'to fly' originally in the present (imperfective aspect), 'to fall' in the aorist (perfective aspect).

with n. 34: *(*p*)*sam-*/*sab(h*?) (cf. ψῆφος ψαφαρός, Lat. *sabulum*); Central European? Cf. in Krahe, *Spr. u. Vorz.*, p. 58, the elements *sal(a)-*, *albh-*, *am(a)-*, *-ma-*, with which a form *sabh(a)-ma-* corresponds in structure.

In this way θάλασσα beside δαλάγχαν· θάλασσαν Hsch. with interchange θ/δ and χ/γχ also points to non-IE origin (cf. Kuiper, Μνήμης χάριν, I, p. 225). (For an entirely different interpretation see p. 209).

γνάθος (Ion.-Att.; γναθμός Hom.) is connected by some with Lith. *žándas* < **ĝonh₂dh-*, but the form γνάθος cannot be explained by **ĝnh₂dh-* (see p. 245). Analogously κναδάλλεται· κνήθεται Hsch. is connected with Lith. *kándu* 'bite, sting' positing a stem **konh₂d-*. But the comparison of γνάθος with κναθ- (cf. also κάναδοι· σιαγόνες, γνάθοι Hsch.) points with γ/κ and θ/δ to a non-IE language. Other members of this group are κνώδαλον (ρ 317) 'wild creature', κνώδων 'teeth on a hunting spear'. Κνώδαλον recalls κνώψ (Nic.), κινώπετον (Call., Nic.; cf. ἑρπετόν) 'venomous beast', κνωπεύς· ἄρκτος. ἔνιοι κνουπεύς Hsch., κυνοῦπες· ἄρκτος (sic). Μακεδόνες Hsch. Further members of this group are perhaps κνάπτω 'to card, comb (wool), full, mangle, tear', κνέφαλλον γνάφαλλον γνόφαλλον with κ/γ and interchange ε/α/ο, which can hardly be based on IE ablaut. For the further connection with -κναίω κνῆν cf. ψαίω ψῆν (with which ψάμαθος is connected, *supra* s.v. ἄμαθος).

For the same reason the following group of words, which appear to have been derived from the same root, seem non-IE:

κέραφος — σκέραφος — σχέραφος
κερβολοῦσα — σκέρβολος
κέρτομος

Of the same kind is the interchange κόναβος : κόμπος 'din, clash'.

κνῆκος 'safflower, Carthamus tinctorius' cannot be connected with Skt. *kāñcana-* as **kn̥ĥ-k-*, since this would have given **kāk/c-* in Indian. Furthermore, OHG *honag* etc. can hardly be connected with this root. The meaning (the name of a plant) suggests borrowing.

κάλαθος 'basket' is connected with κλώθω 'to spin', which is not very convincing from the semantic point of view. Cf. for the suffix γύργαθος κύαθος λήκυθος and further κάνασθον κάναστρον 'basket'.

b. *No Disyllabic Root*

For a few words that are sometimes mentioned in this connection the related languages demonstrate that we are not concerned with a disyllabic root.

It is improbable that ταναός is based on a disyllabic root, in view of Skt. *tanvī́*, not **tāvī* < **tn̥ĥu-ih₂*. The word occurs in Homer only in Π 589 and in ταναήκης (only in ταναήκεϊ χαλκῷ) beside τανυήκης and (μῆλα) ταναύποδα ι 464. Outside Homer its occurrence is also very limited, although a few other compounds with τανα- are found. The formation of the word is not clear. The comparison with Lith. *tìnti* 'to swell, breathe heavily' should be abandoned in view of the meaning. However, the similarity to Corn. *tanow* < **tanawo-* is striking. One is reminded of the

incidentally also unclear Lat. *gravis* < **g*ʷr̥ₑu̯i-* (as against **g*ʷₑru-* > βαρύς, *infra*); ταναϝός thus from **tₑnₑu̯-o-*? According to Szemerényi, *Syncope*, pp. 157 ff., ταναϝός is built on **ταναϝϳα*, the feminine of **τανύς*. But in that case the masculine here would have been derived from the feminine at an earlier stage than κραταιός from **κραταια* (cf. p. 249 n. 122), since otherwise one would expect **ταναιός*. The demonstrable forms do in fact suggest this; besides the fact that the Celtic forms seem to go back in part to **tanawyo-* (OIr. *tanae* etc.), and in part to **tanawo-*, ταναϝός also occurs in Mycenaean, *tanawa* 'slender' (description of wheels; see Chadwick-Baumbach, *Glotta* 41 (1963) 157-270 s.v.).

Nor are βαρύς and Skt. *gurú-* based on a disyllabic root, in view of Skt. fem. *gurvī́*. Lat. *gravis* is unclear (**g*ʷr̥ₑu̯i-*?), but in any case not from **g*ʷrĥ-u̯i-* (**g*ʷrəu̯i-*; this would have given **grāvi*). Skt. *gariman-* 'weight' is meaningless, since *-iman* was secondarily extended at an early stage.

γάλα γάλακτος (Il.) beside γλάγος (Il.), κλάγος· γάλα. Κρῆτες Hsch., γλακῶντες· μεστοὶ γάλακτος Hsch., γλακτοφάγος and Lat. *lac* point to **glak(t)-*. A disyllabic root is therefore out of the question. It may be doubted whether this word is of IE origin.

c. *Words of which the Interpretation is highly uncertain*

The interpretation of a few words is so uncertain that they must be left out of consideration further.

That δάμαρ (Il.) goes back to the root **demh₂-* 'to build' (Benveniste, *Origines*, p. 30) is not semantically convincing; moreover, **dₑmĥ₂r̥t-* (**dn̥ĥ₂r̥t-*?) may perhaps have given δάμαρ, but Aeol. δόμορτις· γυνή Hsch. presupposes **dₑmr̥-t-* instead. See Add. to p. 202.

Fraenkel, *Etym. Wb.*, disclaims any relation between δρᾱ- (δράω δρᾶμα) and Lith. *darýti* 'to make, do' (causative of *derėti* 'to serve') or *dárbas* 'work', *dìrbti* 'to work'. There is no further indication of disyllabic root for the Greek word.

For δαρθάνω (Hom. only ἔδραθον) Skt. *drāti* on the one hand and OCS *drěmati*, Lat. *dormio* on the other hand could suggest **dr-eĥ-* : *dr-em-* (OCS **drēm-*, Lat. **dr̥m-*). In that case ἔδραθον supposes a third enlargement of this root, **dr-edh-* (**dr̥-dh-*). There is consequently no reason to assume that this form ever had a laryngeal.

κέραμος 'potter's earth' has no etymology; the connection with κεράσαι is semantically weak.

The connection of τέραμνον (usually pl.) 'chamber, house' (the reading τέρεμνον is uncertain) with Lat. *trabs*, *trabes* 'beam, timber', Osc. *tríibúm* [*trēbom*] 'domum, aedificium' (with *ē*), Lith. *trobà* 'building, house' (with *ā*) cannot be explained by IE ablaut. Celtic, OW *treb* 'habitation' and Germanic, OE *-þrep* have **treb-* Cf. OBrit. *treb* 'division of the people', ON *þorp* 'small enclosure, crowd'. The possible connection between these words is, within PIE, unclear from the formal point of view.

ἀτέραμνος 'merciless (Od.), hard' (τέραμνον· ἁπαλόν, ἑψανόν Hsch.; τεράμων 'becoming soft by boiling' Thphr.) can hardly be connected semantically with τρᾱνής 'clear, distinct' (S.). The suffix -αμνο- may suggest non-IE origin, but analysis **terh₂-mno-* remains possible; further connection with Skt. *taruṇa-* 'tender' should then be considered.

d. *Words for which Disyllabic Root cannot be demonstrated*

For the following words allowance must be made for the possibility of disyllabic root.

χαλάζα 'hail' may be cognate with OCS *žlědica*, Slov. *zlẽd* 'glazed frost' as **ĝhₑlh₂d-*, **ĝhelh₂d-*.

χέραδος 'silt, gravel and rubbish (brought down by torrents)' has been compared with Lith. *grúodas* 'frozen rubbish in the street'. Within Greek it may be connected with χαράδρα 'torrent' (= Heracl. χάραδος, Buck, *Gr. Diall.*, p. 373).

κέλαδος 'loud noise, din' has -(α)δος, like many other words indicating a noise, χρόμαδος (*infra*), ὅμαδος, ἄραδος, ῥοῖβδος, ὀρυμαγδός. Connection with καλέω (see p. 235) is possible only as **kelh₁-* + -αδος. The gloss κέλωρ· φωνή Hsch. and κελαρύζειν do not stand in the way of the supposition of a disyllabic root (**kelh₁-ōr/ kelh₁-r̥*, see p. 202; however, from **kelh₁-r̥* one would expect *κελερ).

χρόμαδος (γενύων Ψ 688) 'crashing sound', χρεμετίζω (Il.) 'to neigh, whinny', χρέμπτομαι (E.) 'to cough' does not suggest disyllabic root if the last form belongs with the others. Χρεμετίζω may have a formative *et*, like *ed* in OE *grymettan*, *gremettan*, OHG *gremizzōn* 'to roar' (here, therefore, **gremh-et-* remains possible). For -αδος see s.v. κέλαδος.

στενάχω στοναχή (cf. καναχή) finds support for disyllabic root in Skt. *stani-hi*, *stanáyati* (< **stonhéi̯eti*), *abhi-ṣṭaná-* (< **stonho-*, cf. ἀγάστονος μ 97). Whether the Gallic river name *Tanaros* belongs here is very dubious.

If the original meaning of φάλαγξ is 'round piece of wood, trunk, log' it could be cognate with Lat. (*suf-*)*flāmen* 'clog, break', from **bhl̥h₂g-s-*; Lith. *balžíena*, OHG *balko*, OE *bealca*, ON *bǫlkr* from Germ. **balk-* < PIE **bholh₂g-*? For Lat. *fulcio* < **bholh₂-k-* one should, however, bear in mind the objection of Ernout-Meillet that PIE did not have any roots with aspirate — voiceless consonant (*bh* — *k*). However, it is the question whether this also applies to a second enlargement. And yet one must consider non-IE origin for the Greek word, especially in view of the nasal in φαλαγγ-.

For τέναγος 'shoal water, shallows, lagoon' cf. Latv. *tîgas* (< **tingas*) 'depression between two shallows', Lith. *stìngti* 'to congeal' (for the meaning cf. Skt. *styā́yate* 'to congeal', *stiyā* 'stagnant water'). However, it is not certain that *stìngti* goes back to **stn̥hg-*.

A disyllabic root is suggested by ἐχάλασσα (h.Ap. 6; χαλάω 'to slacken, loose; become slack, loose'). Beside χαλαρός 'slack, loose' one may perhaps place Sch. Pi. *P.* 9.38 χλᾱρὸν γελᾶν· προσηνὲς καὶ ἡδύ (as **ghl̥h₂-* beside **ghₑlh₂-*). Cf. Lesb. χόλαισι (Alc., = χαλῶσι) ἄχολος 'without rest'; for the o see p. 223.

ἠρέμα 'gently, softly' (Pl., Ar.) perhaps belongs with Lith. *rìmti* 'to be quiet'. The ἠ- then remains unexplained; if lengthened 'prothesis', one would have to assume **h₁remh₂-*. For an entirely different interpretation see p. 262.

βάραθρον, Arc. ζέρεθρον (with ζ < δ; δ in Hsch.), Aeol. βέρεθρον. The different development of the labio-velar (βα : δε) points to an original opposition between reduced grade and full grade, **gᵘ̯ₑrh-* : **gᵘ̯erh-*. One would prefer to ascribe the different forms to dialectal development (cf. p. 183 on ἱερός) (i.e. for instance **gᵘ̯ₑrh₁-* > δερε-/βαρα-), but there is insufficient support for this (see p. 259 ff.). If the laryngeal was *h₂*, then ζέρεθρον βέρεθρον must have been assimilated from *βερα-. But it is also possible that βάραθρον stands for *βαρε- < **gᵘ̯ₑrh₁-* if *ₑrh₁* became αρε and not ερε: cf. p. 227 ff. The difficulty remains the same if one tries to attach a formative -εθρον to the disyllabic root: both *-h₁edhrom* and *-h₁dhrom* give -εθρον, both *-h₂edhrom* and *-h₂dhrom* give -αθρον. For the supposed connection with βιβρώσκω see p. 234. The connection with δέρη (Frisk) should be abandoned, on account of both the difference in meaning (δέρη in the first place 'neck') and the form (Aeol. δερα as against βέρεθρον); this word in any case does not have a disyllabic root, as emerges from Arc. δερϝα.

It does not seem impossible, partly in view of the meaning, that the word is non-IE. For the structure of the word and the suffix cf. μάραθρον, Schwyzer, p. 533.1, κάναθρον, *ibid.*, p. 532.3, κμέλεθρον/μέλαθρον (p. 215 n. 107 of this book) and σπάλαθρον, *infra*. However, for β/δ(ζ) one would have to assume a kind of labio-velar in the substratum language. There are in fact various indications of this. These divide into three groups.

(1) Interchanges of labials, gutturals and dentals in substratum words.

(a) Interchange of labial and guttural: σπάλαθρον σπαύλαθρον σπάλαυθρον: σκάλαυθρον σκάλευθρον (v.l. σκάλεθρον); for α/αυ cf. o/ου in ὀλόπτω : ὀλούφω (: λέπω) p. 42, and s.v. ἄλοξ, p. 40; the word — 'oven-rake' — has of course nothing to do with σπάλαξ 'mole' or σπάλαθρον 'a thorn bush'. Further (ἀ)σπάλαξ (ἀ)σφάλαξ : σκάλοψ (or metathesis?); Πυανεψιών Πανόψια : Κυανόψια; Πύδνα : Κύδνα, Πιερόν : Κιερόν; πόρνοψ πάρνοψ : κόρνοψ (a kind of locust), ?βράκαλον· ῥόπαλον Hsch. For βλέπω/γλέπω, βλέφαρον/γλέφαρον (if these last two groups are cognate, they moreover display interchange π/φ), βλήχων/γλήχων dissimilatory loss of the labial element of the labio-velar is assumed (Schwyzer, pp. 298 f., Buck, *Gr. Diall.*, p. 75). For the last pair, however, this is out of the question, so that another explanation must also be considered for the other words; cf. the counter-arguments of Lejeune, *Traité*, p. 38 n. 2. Foreign origin seems obvious (for instance through the meaning of βληχών: the name of a plant). In that case there is a good chance that βλωθρός/γλωθρός (despite West, see p. 215 f.) also belongs to this series. In my opinion an other instance is ὀφθαλμός, Boeot. ὄκταλλος, Dor. ὀπτίλ(λ)ος. Frisk's "mit altem κτ, analogischem πτ und expressivem φθ" does not seem to be the right explanation.

Note the accumulation of difficulties for IE origin in these words: λμ/λλ, λ/λλ, α/ι. For -αλμος cf. σχινδαλμός (for which the variants point to a substratum word: σχινδάλαμος, σκινδαλ(α)μός, σχιδαλαμός, σκιδαλ-εύω, σκινδυλεύω; see Hiersche, *Unters.*, pp. 215 f.); for α/ι cf. α/υ in the word just mentioned; the suffix υλ(λ) (beside which ιλ(λ) is to be expected, in view of ι/υ in these words, cf. -ι/υνθ-, p. 71) is frequent in substratum words (Schwyzer, p. 485).

(b) Interchange of labial and dental in substratum words: ἄμπυξ : ἄντυξ, σάμβαλον : σάνδαλον, πεμφρηδών : τενθρηδών, ὀβελός ὀβολός : ὀδελός ὀδολκαί, Περμησσός (Πάρμησσος) : Τερμησσός, Παρνασσός : Τερνεσός (the same as the preceding item?), Πευμάττιος : Τευμήσσιος (M. L. West, *Hesiod, Theogony*, pp. 153 f.), ?Βριτόμαρπις (LSJ Suppl. s.v.): -μαρτις.

(c) Interchange labial/guttural/dental in γέφυρα/βέφυρα/δέφυρα, for which Arm. *kamur-ǰ* points to a substratum word on account of the interchange *bh*/*m* (Kuiper, Μνήμης χάριν, p. 213).

(2) The labio-velar that forms the basis of these substratum words may still be pointed to in Mycenaean: *qasireu* : βασιλεύς, *atoroqo* : ἄνθρωπος (Kuiper, *loc. cit.*), *qeto* : πίθος. The form *qaratoro* is perhaps the above-mentioned σπάλαθρον. However, *karako* '*glākhōn*' : βλήχων is striking. Cf. also the place-name *sukirita* '*Sugrita*' : Σύβριτα: see the footnote in Chadwick-Baumbach, p. 245. Myc. *apuke* (etc.) '*ampuk-*' also does not have the *q* expected from ἄμπυξ : ἄντυξ (for ἄμπυξ in relation to horses LSJ Suppl. now gives the meaning 'bit').

The suffix οπ (Schwyzer, p. 496,3; p. 426 Zus. with n. 4) seems to me also to be an element of the substratum language; it will have developed from *ok*^{u}. It is found in the names of animals, which certainly belong to the substratum (σκάλοψ, πόρνοψ/πάρνοψ/κόρνοψ(/ἀκορνός), πηνέλοψ) and in the name of peoples that do not have an IE etymology ('Αέροπες, Ἔλλοπες, Δόλοπες), and further in a number of words of which the meaning is unknown (ἠνοψ, μέροψ, ?νῶροψ) and perhaps in a few other non-IE words (ἀστεροπή (cf. p. 51), ?καλαῦροψ). Chantraine, *Mél. Cumont*, pp. 121-8, draws attention to the fact that some names of peoples correspond to those of birds: 'Αέροπες, Μέροπες, Δρύοπες. His idea that the former were derived from the latter seems correct to me; cf. in Italy the *Piceni* (*picus* 'woodpecker' = δρύοψ), *Hirpini*, ? *Lucani*.

In my opinion Αἰθίοπες also belongs here, which therefore does not mean 'with burnt face' (as is still believed by Frisk s.v. αἴθω). This also emerges from the following consideration. The Thessalian name for a people Αἰθῖκες is evidently a formal variant of Αἰθίοπες with the same meaning. Apart from the fact that here the meaning 'with burnt face' is much less obvious, this form is not explicable as a compound with PIE *ok*^{u}- (*h*$_3$*ek*^{u}-) 'face', for **h*$_2$*eidh-i-h*$_3$*k*^{u} — would have given *Αἰθῖπες, certainly in an Aeolic dialect. Here one must either assume a non-IE element *ok*^{u}, which was able to give Thess. κ, or another suffix (ῑκ); in the latter case too it is probable that οπ is a suffix with about the same function and not PIE *ok*^{u}- 'face'. That in this word οπ developed from *ok*^{u} emerges from Myc. *aitijoqo*. Further one finds here *pokiroqo* ('*poikilok*^{u}*s*'), which in my opinion contains the same suffix (cf. αἰθός : αἰθοψ). Cf. also *moroqoro* '?*molog*^{u}*roi*' : ?Μολοβροί.

It may be this same suffix that is also found with a few perhaps IE stems, e.g. ἠπεροπεύω, κλοτοπεύω (p. 180).

(3) On the strength of the so-called complex signs in the Linear B syllabary (*twe two dwe dwo nwa, tja rja rjo*) Palmer (e.g. *Interpretation*, pp. 38 ff.) assumed that the substratum language had labialized and palatalized consonants beside neutral ones, e.g. *k*^{u} : *k*^{i} : *k*. The most recent to publish on this was Lejeune, *Proceedings Cambr. Coll. Myc. Stud.*, pp. 135-49. See Add.

Many details of the original forms and their development (evidently differing dialectally or regionally) still call for an explanation. However, this requires a much more detailed examination of the material.

Finally, for the interchange ε/α in βαρα-/ζερε- which can hardly be explained from IE, compare κμέλεθρον : μέλαθρον, σκάλευθρον : σκάλαυθρον, εὐλάκα : αὐλάχα (p. 40 s.v. ἄλοξ), Περμησσός : Πάρμησος, Τερνεσός : Παρνασσός, ϝεκεδαμος : Ἀκάδημος (ϝηεκάδαμος).

βάλανος may be based on **g*^{u}$_{e}$*lh*$_2$*-n-*, but there is no clear indication of disyllabic root. Lat. *glans gland-is* could represent **g*^{u}$_{e}$*lh̥nd-*. The Armenian form, which is the closest to Greek, *kalin kalnoy*, must have had a vowel *e* after the *l* and therefore cannot go back direct to **g*^{u}$_{e}$*lh*$_2$*-en-*, since this would have become **g*^{u}$_{e}$*lh*$_2$*an-* as early as the proto-language. However, without *h*$_2$ the suffix *-an*(*-d*)- can hardly be explained by PIE. Striking is the *d*-suffix in Latin, Slavic (RussCS *želudъ* < *-ǫdъ* < *-andi*) and Albanian (*lênd*), while Lithuanian has *gile*, without *n* and *d*. One must consider non-IE origin (for *n*/*nd* cf. for instance Kuiper, Μνήμης χάριν, p. 215 (-αμος/-αμβος), p. 216 (-ιν-/-ινθ-) and p. 221 f. (θρῶναξ/**trond*/*t*- in Slavic): for the semantic range cf. ἐρέβινθος, κύαμος, Lat. *faba*).

πρᾶϋς (Pi.) will in the first instance go back to **prāi̯ú-* (the hiatus from loss of *h* (cf. σῶς, p. 249) or *s* would already have disappeared). The root syllable may represent full or zero grade (cf. γραῦς, s.v. γέρας, p. 201), i.e. **pr*(*e*)*h*$_2$*i̯-* (**k*^{u}*r*(*e*)*h*$_2$*i̯-*?).

e. *Words for which Disyllabic Root can be rendered probable*

λῆνος, Skt. *ū́rṇā*, Av. *varənā*, Lith. *vìlna*, Serb. *vũna*, Lat. *lāna* all point to **u̯lh*$_2$*-n-*. If Arm. *gelmn* is based on **u̯elh-mn-*, the laryngeal must have disappeared. Strange is W. *gwlan*, explained as **u̯lana*; this form, however, is identical with **u̯lhn-*, for which one would expect the development *lā* in Celtic. MIr. *olann* has unexplained *o*. Kuryłowicz, *Apophonie*, p. 198, presupposes a compound form of **u̯lhnā*, i.e. **-u̯lnā*; cf. p. 242 ff.

εἰνάτερες 'wives of brothers' (Il.; εἰ- m.c.; ἐνατηρ inscr.), OLith. *jentė* EastLith. *intė*, Phryg. ιανατερα,[99] Lat. *ianitrīces*, Skt. *yātar-* suggest a disyllabic root **i̯enh*$_2$*-*. Greek and Lithuanian would continue **i̯enh*$_2$*-*, Phrygian and Latin **i̯*$_{e}$*nh*$_2$*-*, Indian, **i̯nh*$_2$*-*. This ablaut doubtless stems from the declension, but the occurrence of three apophonic forms side by side is striking.

κάλαμος has a disyllabic root, as is evidenced by Russ. *solóma*, Serb. *slàma* < **ḱolh*$_2$*mos*. OPr. *salme*, Latv. *salms*, OHG *halm*, Lat. *culmus* have the same origin. However, there is no reason to assume that κάλαμος was assimilated from *κολαμος, for there are various words with this vocalism, see p. 206. OW *calamennou*, NW *calaf*, has the same apophonic form as Greek; however, allowance must be made for the possibility that these words have been borrowed from Lat. *calamus* (which has itself been borrowed from Gr. κάλαμος).

Forms like **ḱolh̥m-o-* **ḱ*$_{e}$*lh̥m-o* and **p*$_{e}$*lh̥m-ā* **pl̥h̥m-ā* (in παλάμη and OIr. *lám*

[99] However, the form ιανατερα appears in a Greek inscription (from Lydia); J. Keil u. A. v. Premerstein, *Reisen*, I, p. 78, No. 166.

infra s.v. πλήσσω) seem to be thematizations of *m*-stems, having regard to the interchange in the stem vocalism. The clearest case of an old *m*-stem is the word for 'earth', Gr. χθών (cf. Kuiper, *Notes*, pp. 9 f., 86 ff.). Skt. *kṣā́ḥ*, Av. *zå* point here to an original nominative **ĝhᶻōms*.[100] The stem **ĝhᶻom-* is found in χθον- and Lat. *humus* < **homos*; *e*-vocalism is found in OLat. *hemo*, stem *hem-on-*, Lith. *žẽmė*, ORuss. *zemlja* and probably also Skt. *kṣámi* (**ĝhᶻom-i* would have become **kṣāmi*), and Phryg. ζεμελω. The zero grade in gen. Av. *zəmo*, Skt. *kṣmáḥ* (or rather *jmáḥ*, for which analogically *kṣmáḥ*? for *gmáḥ* see Mayrhofer s.v.) from **ĝhᶻm-ós* and Lith. *žmuõ* 'human being' < **ĝhm-ōn* and perhaps Phryg. Γδαν. The reduced grade is found in Goth. *guma* < **ĝhₑm-en-* and Gr. χαμα- and χθαμα- (χαμάδις χαμαί χαμᾶζε Hom.; χθαμαλός N 683 ι 25 ~ κ 196 λ 194 μ 101). Χθαμαλός is reminiscent of *humilis* and may go back to **ĝhᶻₑmh-lo-*, cf. *similis* — ὁμαλός p. 208, where Greek has *o*-vocalism, like Latin in *humilis*; however, in both cases this may be secondary, after ὁμός and *humus*. The word for 'human being' therefore has the phases **ĝhem- ĝhₑm- ĝhm-on-* (*hemo guma žmuõ* respectively). It is not clear whether **ĝhᶻₑm-* has a place in the original declension of 'earth' itself, for which **ĝhᶻóm-s ĝhᶻóm-n̥* (*ĝhᶻém-*?) *ĝhᶻm-ós* is, however, certain.

This does not throw much light on the declension of the above words: **ĥolh₂m ĥₑlh₂m-ós* (neuter?); **pₑlh₂m* (beside **pl̥h₂m*) does not, however, seem to be an original nominative. Here too (as with χθών) one is inclined to assume that the three phases formed part of one paradigm (*Tolh₂m- Tₑlh₂m- Tl̥h₂m-*).

κνήμη (Dor. κνᾱμᾱ), OIr. *cnāim* go back to **knām-*. If OHG *hamma* 'hollow of the knee, ham' belongs here as **konh₂mā*, both **kneh₂m-* and **kn̥h₂m-* may be considered for Greek and Irish (for the ablaut see s.v. κάλαμος).

γέρανος 'crane' corresponds to Lith. *gérvė* < **gerh₂-u̯-*. The form **gₑrh-n-* is contained in Gaul. (*tarvos tri-*)*garanos* '(bull with three) cranes', W. *garan*. Less clear are OHG *kran-uh*, Lat. *grūs*. (The verb is perhaps found in Skt. *gṛṇáti* 'to rustle, sing', *jaritár-* 'singer'.)

κόραξ is unclear. Comparison with Skt. *śārikā* 'magpie', Lith. *šárka* (Russ. *soróka*, Serb. *svrăka*) could suggest **ĥorh₂-k-* (with Skt. *-orh-* > *-āri-*, if it does not have the suffix *-ikā*). But κόραξ κορώνη with the closest cognates Lat. *cornix* (*corvus*), tend to point more to an *n*-stem, **ĥorón ĥorn-ós*, so that κόραξ could be explained by **ĥor-n̥-k-*. However, Lat. *corvus* points to an *u*-stem (**ĥorŏus ĥoru̯-ós*). A disyllabic root would be reconcilable with this (**korh-ón* etc.; for *corvus* < **korh-u̯-* cf. *culmus* < **kolh₂m-* s.v. κάλαμος). Martinet's interpretation, **ĥorₑh^w-s* > κόραξ, **kor-eh₃-nā* > κορώνη (noted as **kor-°A^w-s* etc.) in *BSL* 51 (1955) 55 n. 3 with the explanation "La labialité aurait disparu dans le groupe *-A^ws*, d'où l'α de κόραξ" presupposes a development of which there are insufficient indications. The criticism by Cowgill, pp. 176 ff., may suffice here. The interpretation of this word therefore remains highly uncertain.

[100] The matter of initial consonantism remains out of consideration here; the formulation *ĝh²* is followed here without commitment. For literature see *Evidence*, p. 20, n. 73.

κεραΐζω (Il.) 'ravage, plunder' is a secondary present; Skt. *śṛṇáti* 'to break, smash' has the old form. OIr. *docer* 'he fell' has disyllabic root, *-ĥerh-*. This stem is further found in ἀκέραιος and κέραυνος, which goes back to **κερα-ϝαρ/υν- < *ĥerh₂-u̯r̥/un-*. Cf. ἐλαύνω *infra*.

ἐλάσαι has a root ἐλα- < **(h₁)elh₂-*; ἐλαύνω goes back to a noun **ἐλα-ϝαρ/υν-, cf. κεραΐζω *supra*.

νῆσσα, Boeot. νᾶσσα 'duck' may correspond exactly to Skt. *ātí-* 'a water bird', both from **n̥h₂ti-*, while on the other hand Lith. *ántis*, Serb. *ŭtva*, Lat. *anas* (*anatis*), OHG *anut*, which all go back in the first instance **anət-*, to cannot be separated from this. The two forms probably stem from one paradigm, but the obvious **h₂enh₂tis*, gen. **h₂n̥h₂téis* seems to me to be out of the question, since **hn̥h₂-* would have given **ἀνᾱ- in Greek; see p. 95. All that then remains is the reconstruction **ₑnh₂ti-s* (*ₑnh₂tis*?) **n̥h₂téis*. (For the nominative with reduction vowel ₑ cf. Kuiper, *Notes*, p. 19 f.)

σφαραγ- The situation here is complicated. Probably a distinction has to be made between three groups.

(1) A group of words for 'throat, gullet, gully': (ἀ)σφάραγος, φάραγξ, φάρυγξ, βρόγχος, βρόχθος, βράγχος, βάραγχος, βρακεῖν, βράξαι, βρόξαι. The group seems to be of non-IE origin, cf. Kuiper, Μνήμης χάριν, p. 221.

(2) The word for 'asparagus' ἀσπάραγος (ἀσφάραγος Att.). The beginning of the word, ἀσπ-/ἀσφ-, and the fact that it is the name of a plant suggest non-IE origin. But if the original meaning is 'the edible shoots thereof' (Thphr.), 'the shoots (of other plants)' (Nic.), a connection with Lith. *spùrgas* 'sprout, offshoot', Skt. *sphūrja-* 'plant', Av. *sparəga-* 'sprout (at the point of an arrow)' is possible. The basic form **spr̥ĝ-* which the latter forms would suggest would have given Gr. *σπρᾱγ-; ἀσπάραγος would have to be based on **spₑrĝ-*, but the ἀ- and the interchange π/φ make strange origin more probable all the same. It is of course possible to think of a contamination of non-IE *(ἀ)σπαραγ-/(ἀ)σφαραγ- 'asparagus' and a PIE **spₑrĝ-* > *σπαραγ- 'sprout, shoot'. However, the *ph* of Sanskrit also remains a difficulty (PIE **shperĝ-*, giving Gr. **ĥsperĝ-*, Skt. *sphṛ́ĝ-*?).

(3) σφαραγέομαι 'to groan with fullness, to be full to be bursting' (οὔθατα ι 440) and 'to burst with noise, crackle, spatter, hiss' (LSJ). This meaning is found in Skt. *sphū́rjati* 'to burst forth, appear; to rumble, roar, thunder'. A root **spₑrh₂g-/spr̥h₂g-* therefore seems certain. This is conformed to by Lith. *spìrgti* (**spr̥ĝ-*) 'hiss (of things fried)', but Lithuanian has other forms in *sprógti* 'to burst' (**spr-eh₂-g-*?) and *spragė̃ti* 'to crackle, spatter', which is derived from *spragà* 'Bresche, Mangel, Zaunlücke, Spalt' and *sprãgė* '*idem*' and (2) 'von einem brennenden Scheit abgesprungener Splitter' (Fraenkel; basic form?). The zero grade is also found in Serb. *pr̂žiti* 'to roast'. Neither the φ nor the *ph* of Sanskrit have been explained. The connection with Lat. *spargo* (which may be **spₑrĝ-*) is uncertain. A difficulty is also presented by σπαργάω (E.) 'to be full to bursting, swell, be ripe', which one would not like to separate from the preceding group, but which is difficult to explain by disyllabic root

(cf. Lith. *sprag-*). Perhaps in the case of this emotionally charged, onomatopoeic word allowance must be made for developments that cannot be traced now.

μαλακός 'soft' is connected with βλᾰ̀ξ 'stolid, stupid', which of course is not semantically imperative (**m$_e$lh$_2$k-*, **mḷh$_2$k-*). OIr. *mláith* 'soft, weak' (**mleh$_2$-ti* or **mḷh$_2$-ti-*) suggests a distant connection with the root of 'to grind', Skt. *mṛṇáti*, Lith. *málti*, *miltai* (pl.) 'meal', MW *blawt*, OCorn. *blot* (**mḷh$_2$tó-*) 'meal'. Lith. *mùlkis* 'Dummkopf' may go back to the same **mḷh-k-*, but Skt. *mūrkhá-* has been secondarily derived from *mūrchati* 'to be defeated' (*kh* analogic? cf. *AiGr.* II 2, p. 93 and 543 f.).

f. *Stems with different Apophonic Forms in Greek*

κάρᾱ. One finds in Greek two old apophonic forms of the word for 'head', καρασ- in κάρηνα (cf. Skt. *śíras* < **k$_e$rh$_2$-es*) and κρᾱσ- in κρᾶατος < **κρᾱσατος < *-n̥-tos*, which replaced **κρᾱνός < *-n-ós*, corresponding to Skt. *śīrṣṇás* (beside more recent *śīrṣatás*), from **k$_e$rh$_2$s-* and **kṛh$_2$s-* respectively. The full grade **ker h$_2$-s-* in Lat. *cerebrum* < **cerasrom*, unless this goes back to **kerh$_2$-es-ro-* (cf. Skt. *śíras* < **k$_e$rh$_2$-es-*), cf. *tenebrae* p. 229.

On the other hand, the word for 'horn', Skt. *śṛ́ṅgam*, Lat. *cornu*, Goth. *haúrn*, W. *carn* does not seem to have had a laryngeal (**ker-n-*). It is therefore the question whether κέρας goes back to **kerh$_2$s* and not to **kern̥-s* instead. In this way κερα(ϝ)ός (Lat. *cervus*) could be based on **kern̥uos*, but the connection with Russ. *koróva*, Serb. *krȁva* (there is no reason to assume **kōru̯ā*), Lith. *kárvė* nevertheless points to **korh$_2$u̯o-*. (The group κορυφή κόρυμβος, however, displays the clear characteristics of a non-IE substratum word.)

δάμνημι, aor. δαμάσαι, perf. δέδμημαι (Il.); derivations δμητήρ h.Pos. 5, δμήτειρα δμῆσις (Il.; δάμασις Sch. Pi.), ἄδμητος (Il.), ἀδάμαστος (I 158), ἀδμής (δ 637 ζ 109. 228). PIE **demh$_2$-*. The present must originally have sounded like **dm̥-n-eh$_2$-mi*, OIr. *damnaid* 'festbinden, (Pferde) bändigen'; δαμ- from *dm̥-* before *n* as in κάμνω τάμνω or analogic, cf. Schwyzer, p. 693 n. 1 with Nachtr. The aorist probably stands for *δεμασαι after the present. In this way (παν-)δαμάτωρ (Il.) as against Skt. *damitár-* (< **demh-*, or **domh-*? PIE **d$_e$mh-* would have given Skt. **dimi-*, see p. 000) for *δεμα-, of which Greek has no trace (Lat. *domitor* with generalized *o*). The zero grade in Skt. *dāntá-* (ἄ-δμητος), *dāmyati* (*ām* for *ā*?). Full grade with *o* in *damáyati* (**domh$_2$éi̯eti*; Goth. *gatamjan*) and *arim̥-dama-* (**-domh$_2$o-*) 'den Feind bewältigend'; ἱππό-δαμος (Il.) therefore probably for *-δομος, which perhaps was also replaced to avoid homonymy with -δομος from δέμω 'to build' (e.g. οἰκοδόμος). Thus in Greek one has beside δμη- (**dmeh$_2$-* and **dm̥h$_2$-*) only δαμ(α)-, but a form with original **d$_e$mh$_2$-* is not demonstrable.

δέμω 'to build'; (ἐ)δέδμητο (Hom.; νεόδμᾱτος Pi.) points to a disyllabic root, as does Skt. *dáma-*, if from **domh$_2$o-*. Perhaps δέμας represents **demh$_2$-s-*. See Add.

κεράννυμι (κεραίω I 203, κεράω Il.) has an older present κίρνημι (Od.), which perhaps stands for *κάρνημι < **kṛ-n-eh$_2$-mi*, aor. κεράσ(σ)αι (Il.; ἐπι-κρῆσαι η 164, Hp.), perf. κέκρᾱμαι (Sapph., Pi., Ion.-Att.; κεκέρασμαι Arist.), κρᾱθῆναι (Th.)

κερασθῆναι (Pl.). Here, then, we can see a tendency to generalize κερασ-. The starting-point was κίρνημι— ἐκέρασα— κέκρᾱμαι. Derivatives κρᾶσις (A.) as against (κατα-)κέρασις (Arist.), κρᾱτήρ (Il.) *karatera* Myc. Skt. *(á-)śírta-* corresponds to (ἄ-)κρᾱτος (Il.).

κρεμάννυμι (Att.), κρίμνημι and κρήμνημι (Pi., Hp., Trag.) has in the *Iliad* an intransitive present κρέμᾱμαι (κρέμω Ο 18.21) and the aorist κρεμάσαι, which form the oldest part of the system. Although a **kṛm-n-eh$_2$-mi* is conceivable (for the structure cf. p. 44), κρέμαμαι more readily suggests **kremh$_2$mi*. Connection with Goth. *hramjan* 'to crucify' is possible (**kromh$_2$ei̯-e/o-*), cf. *gatamjan* belonging with δάμνημι. Lith. *kárti* < **korh-ti* 'to hang' may suggest **kr-eh$_2$-* beside **kr-em-h$_2$-*. In that case κρημνός 'overhanging bank' (Il.) can be explained as **kr-(e)h$_2$-m-*. The form κρήμνημι must be analogic (after κρημνός?).

πελάσσαι, pres. πίλναμαι (Il.) (for **παλν-?) has the old scheme **pl̥-n-eh$_2$-mi* **pelh$_2$-*. The aorist πλῆτο (Il.) will also be old, but with zero grade **pl̥h$_2$-*; see p. 95. Zero grade is probably also found in πλησίον, Dor. πλᾱτίον; for the formation see Frisk, II, p. 495, where possible Irish cognates of this word are also given.

γελάω has an aorist γελάσ(σ)αι (Il.), which suggests **gelh$_2$-*. The present will have been *γέλαμι (J. Schmidt, *KZ* 39.35; not *γελᾶμι with Specht, *KZ* 63.211-6, cf. Schwyzer, p. 682,3), which is also suggested by Arg. διεγέλα καταγελάμενος. For γέλας etc. see p. 000. In γαλήνη 'stillness (of the sea)' we have *γαλασ- < **g$_e$lh$_2$-s-*, cf. κάρηνα, if it has been derived from this root (cf. also σελήνη). Equally dubious is γλήνη (Il.) 'eyeball' (possibly **gl̥h$_2$-*).

θνήσκω τέθνηκα — ἔθανον — θνητός all occur in the *Iliad*. Sanskrit has the aorist *ádhvanīt* (**dhu̯enh$_2$-*); *dhvāntá-* (for the *n* cf. *dānta-* s.v. δάμνημι) conforms to θνητός. For ἔθανον < **e-dhu̯n̥h$_2$om* see p. 217. The plural of τέθνηκα, τέθνᾰμεν, is analogic, see p. 204. Θάνατος goes back to **dhu$_e$nh$_2$-*, cf. κάματος s.v. κάμνω (p. 201).

ταράσσω. In Homer the aorist ἐτάραξε and the perfect τετρηχυῖα (Η 346), ppf. τετρήχει (Β 95) occur, which suggests a root **dhreh$_2$gh-*. The present ταράσσω (Pi.) is denominative or derived from the aorist. However, the aorist cannot be old, since one would in that case expect θ and because full grade is normal here (although **dherh$_2$ghs-* is not a very probable aorist formation). One must therefore assume influence of a noun, e.g. ταραχή (**dh$_e$rh$_2$gh-*), although this does not occur until Herodotus. Θρᾰ́σσω (Pi., Hp.), θρᾶξαι (A., E.) may therefore be older and be based on **dhreh$_2$gh-*. The *u*-stem τρηχύς will be based on zero grade (**dhṛh$_2$gh-(e)u-*).

πρᾰ́σσω belongs to a widespread root **per-* (in πέρᾱ(ν), πέρι, πείρω) with the suffix *eh$_2$*. Of this, Greek has two verbs besides πρᾰ́σσω, or rather one verb of which a specialized meaning acquired separate forms (Chantraine, *Gr. Hom.*, p. 354 with n. 2). These verbs are:

(1) 'to export for sale' πέρνημι (Il.; "περάω wrongly inferred from forms like ἐπέρασσα" LSJ), ἐπέρασσα (Il.), πέπρᾱκα (Alex.), πέπρᾱμαι ἐπρᾰ́θην (A.; πεπερημένος Φ 58, a form which one would more readily expect with (2), but Leskien's

conjecture *πεπρημένος is not permissible); on these latter forms πιπρᾰ́σκομαι (Lys.) was built, and πιπρᾰ́σκω (Thphr., see LSJ Suppl. s.v. πέρνημι).

(2) 'to drive right through, traverse, penetrate, pierce' περάω περήσω ἐπέρησα, all Il. (πεπέρακα A.).

(3) 'to pass through, fare (well etc.), achieve' πρήσσω πρήξω ἔπρηξα (all Il.), πέπρᾱγα πέπρᾱχα (Hdt.).

The last form has an invariable stem *$pr(e)ḫ_2g$- (cf. πρᾶγμα). The present must be based on the aorist (Schwyzer, p. 715), πέπρᾱχα is an innovation for πέπρᾱγα. The aorist itself may have been derived from a present *πρᾰ́-γ-ω (cf. τμήγω) (beside which the perfect πέπρᾱγα therefore stood).

Πέρνημι is an old present that has the ε of ἐπέρασα, for original *πάρνημι < *$pr̥$-n-$eḫ_2$-mi (or *πίρνημι?); Aeol. πορνάμεν (Hsch.) arose phonetically from this basic form.

The system of περάω is entirely a Greek innovation.

πλήσσω, πλῆξα ἐπέπληγον, πέπληγα, πληγῆναι all in Homer, πλαγῆναι (Hdt., only in compounds). Derivatives are πληγή, Dor. πλᾱγᾰ́. Germanic OE *flōcan* 'to beat', Goth. *faiflokun*; OCS *plakati sę* 'to be sad' (Lith. *plakù plàkti*). Greek therefore has a root *$pl(e)ḫ_2g$- (πλήσσω is derived from the aorist).

The full grade I (*$pelḫ_2g$-) perhaps in πέλαγος, with an original meaning 'flat', cf. OHG *flah* and Gr. πλάξ πλᾰκός 'anything flat and broad; plain, ocean-plain, flat top of a hill' (cf. OHG *fluoh* < *$plāki$ 'roche escarpé'). However, the last Greek form is difficult to explain, since *$pl̥ḫ_2k$- could not become πλᾰκ- (but only *πλᾱκ-). Cf. Lith. *plakù plàkti* (Lat. *plango*). One might envisage here a word of non-IE origin, cf. Πλάκος and OIcel. *floer* (< *$plak$-es) 'Felsenabsätze'; cf. Frisk, II, p. 350.

Without the enlargement *k*/*g* one has Lith. *plóju plóti* 'platt drücken, breit formen' — *rankàs* 'die Hände breit zusammenschlagen, in die Hände klatschen'.

An *n*-derivation is found in Lat. *plānus*, Celt. *Medio-lānum* (cf. OIr. *lár* 'ground, soil'); Lith. *plónas* 'thin', *plónė* 'cake'. Πέλανος 'cake' may therefore belong with this. Also compare for the meaning πλακόεις πλακοῦς (Ar.) 'flat cake' (πλάξ *supra*). However, it must be doubted that παλάθη 'cake of preserved fruit' (Hdt.) and πλάθανον 'kneading board or tray' (LSJ Suppl.) belong here; an enlargement *dh* is not found elsewhere (from this stem; the words create the impression of being of non-IE origin).

Finally, παλάμη may belong to this root, for which Lat. *palma*, OIr. *lám* (cf. *lár supra*) in any case suggest disyllabic root. More difficult is the relation between παλαστή, Lith. *plãštaka* and OHG *flazza* (all 'palm of the hand'). *Plãštaka* is derived from *plàkti* (*supra*) as *$plakškata$.

ἔτλην does not have any old present in Greek; τλάω appears very late (Tz.), the perfect or τολμάω acts as present. Beside ἔτλην, the aorist also has ἐτάλασσα, the perfect is τέτληκα τέτλαμεν τετληώς (all Il.). Cf. p. 244.

The old present is probably found in MIr. *tlenaid* < *$tlināti$ < *$tl̥$-n-$eḫ_2$-ti (Lat. *tollo* < *$tl̥$-n-?), which would have given *τάλνημι (*τίλνημι?) in Greek. Ἔτλην may be an old athematic aorist (*$tleḫ_2$-), but ταλάσσαι must have been transformed from τελάσσαι, which Hesychius defines as τολμῆσαι, τλῆναι. The many nominal forms with ταλα- will have been of influence here. The verbal adjective τλητός corresponds to Lat. *lātus* < *$tlātos$, W. *tlawd* 'poor', from *$tl̥ḫ_2$-*tós*. Derivatives are, with full grade I τελαμών 'supporting band, base of a stela', and further τλᾰμων and πολύτλας; *$t_elḫ_2$- > ταλα- (ταλαός τάλαρος ταλαεργός ταλάφρων ταλαύρῑνος ταλασίφρων τάλᾱς, -ᾰ́νος) is very frequent. For τόλμα see p. 240.

κάμνω ἔκαμον κέκμηκα κεκμηώς (Hom.). Skt. *śamnīte* 'to take pains, labour' suggests an old present *$k̂m̥$-n-$eḫ_2$-mi, which would have given *κάμνημι. For *$é$-$k̂m̥ḫ_2$-om > ἔκαμον see p. 217. To (πολύ-)κμητος (Il.) Skt. *śāntá-* (with analogic *n*) corresponds; in addition there are ἀκμής (cf. ἄδμητος ἀδμής) and ἀ-κάμας, -αντος ἀκάματος (all Hom.). Κάματος as θάνατος (*$k̂_emḫ_2$-), see p. 206ff.

g. *Words ending in* -ας

There is a small group of neuters ending in -ας that go back largely to disyllabic roots. They may be discussed here together.

σέλας (σελαγεῖν) is connected by some with Skt. *svargá-* 'heaven, celestial', Av. *xvarənah-* 'gleam, majesty' and Lith. *svìlti* 'to burn without flame'. In that case nothing would suggest disyllabic root (*svargá-*; for *svìlti* see Fraenkel s.v.: the stress characteristic of intransitive verbs). But the development of *su̯-* in Greek is a serious drawback to this connection, see Lejeune, *Traité*, p. 116.

τέρας 'sign, wonder, portent, monster'. Connection with πέλωρ τέλωρ presupposes dissimilation ρ-ρ > λ-ρ.

γέρας 'gift of honour', originally 'old age' (in which meaning it was replaced by γῆρας; cf. γεραιός 'old') is cognate with γραῦς γρηῦς γρηῢς (Γ 386, Od.), which goes back to *$ĝreḫ_2$-$i̯éu$-s *$ĝr̥ḫ_2$-$i̯u̯$-*ós* (Kuiper, *Notes*, p. 51; cf. Schwyzer, p. 574; for *i̯u̯* cf. γραιβία ἢ γραιτία (i.e. *γραιϝία)· πανήγυρις. Ταραντῖνοι Hsch. (i.e. 'γερουσία'). It may be wondered whether γραῖα (α 438; town in Boeotia B 498), instead of being a secondary ια- derivative (certainly not *γρᾱϝ-ια with Frisk), is not based on *$gr(e)ḫ_2$-$i̯uḫ_2$ (cf. πρέσβα p. 158). Skt. *jī́ryati* (*jū́ryati*) 'to become defective, old' suggests laryngeal, *$ĝr̥ḫ$-. In that case *járati* 'to make, become old' is based on *$ĝerḫ_2$- (a conjunctive present), as is *járant-*, γέροντ- < *$ĝerḫ_2$-ont-. Everything therefore points to γέρασ < *$ĝerḫ_2$-s. For Skt. *jarás-* 'old age' *infra*.

κρέας is identical with Skt. *kravíṣ-* (n.) 'raw meat'. The zero grade is probably found in Skt. *krūrá-*, Av. *xrūra-* 'bloody', *$kruḫ_2$-ro-. On the other hand κρῡμός 'frost' is better omitted here on account of the meaning (and probably Av. *xrūma-* 'horrible' as well). Κρυερός is in any case not directly from *$kruḫ_2ro$ (> *κρῡρο-), see p. 247ff. There is no foundation for a suffix *-ḫs* (Frisk *$qreu$-$əs$). See below.

For δέμας (*$demḫ_2$-s?) see p. 198 s.v. δέμω (but see Add.!), for κέρας (*$k̂erḫ_2$-/*$k̂er̥$-?) see p. 198.

ἔραμαι Il., ἐραστός, Aeol. ἐραννός etc. beside ἔρως (Il.; Aeol. ἔρος) is parallel to *γέλαμι ἀγέλαστος γέλως.

The last two stems suggest a neuter *ἔρας *γέλας beside the masculine ἔρως γέλως, PIE *$gelh_2$-s : $gelh_2$-$ōs$. (The accusative γέλω < *$gelh_2$-os-$m̥$ in σ 350 υ 8. 346, with v.l. γέλων, which is more recent, as is γέλον. The stem γελοσ- perhaps in γελοίϊος B 215, if not on the analogy of αἰδοῖος.) For -s : -$ōs$ cf. the frequent -r : -$ōr$ (-$r̥$ > -αρ : -ωρ), τέκμαρ : τέκμωρ, κελαρύζω : κέλωρ, ὐδαρής : ὕδωρ, ἦμαρ: *$amōr$ (in Arm. awr) and -$m̥$: -$mōn$ (-$m̥$ > -μα : -μων). In a similar fashion Skt. $jarás$- < *$ĝerh_2$-os- stands against γέρας.

Beside Skt. $kravíṣ$- Latin $cruor$, according to Kuiper, *Act. Or.* 20 (1958) 23-35, points to an original paradigm *$kreuh_2$-$ós$ *$kreuh_2$-$ós$-$m̥$ *$kruh_2s$-$ós$.

In this way one finds in Sanskrit beside ntr. $sádhiṣ$- a form *$sadhás$ (in $sadhásta$-), PIE *$sedh$-s and *$sedh$-es- respectively, which are based on *sed-eh_1- (in Lat. $sedēs$) (*$sedh_1$ still in OIcel. $siot$ 'seat, abode, home'); see Kuiper *ibid.* with additional cases.

It seems to me that there is no reason for Benveniste's rejection (*Origines*, p. 31-9) of this explanation of the neuters ending in -ας. True, κρέας — $kravíṣ$- is the only direct correspondence, but disyllabic root can nevertheless also be convincingly demonstrated for γέρας and *γέλασ *ἔρας. His supposition that -ας stands for -αρ cannot explain the origin of this whole category. Nor can it be seen why the much more frequent group of words ending in -αρ should have been partly replaced by -ας (cf. Schwyzer, p. 514 n. 6).

As Skt. $sadhíṣ$- shows, neuters ending in -h_1-s therefore also existed. One could connect with these the declension with ε of a few words ending in -ας. In Homer these are κτέρας, οὖδας and κῶας. It is assumed (Schwyzer, p. 515) that the basis here is a phonetic law αο αω > εο εω. Chantraine, *Gr. Hom.*, p. 210, points to the drawbacks of this assumption: the ε is found only with these three words (in Homer) and then without exception; the forms themselves do not point to the phonetic law mentioned (κτέρεα Ω 38 α 291 β 222 γ 285, -εων ε 311; κώεα I 661 Od. 4 times, -εσιν Od.; οὔδεος M 448 ι 242, οὔδει Il. 12 times, οὔδεϊ Ψ 283 ι 459, but Ξ 468 can also be read trisyllabically). In Ionic one finds κέρεα γέρεα τέρεα (all on the analogy of κτέρεα?), in Attic such forms of βρέτας κνέφας and σέβας. It is therefore possible that here only the three Homeric words are concerned originally, so that a phonetic development (αο > εο etc.) or also influence of the type γένος is improbable, the latter also on account of the dat. οὔδει, which is disyllabic twelve times (as against trisyllabic twice), while the stems ending in -ος have -εϊ. Unfortunately, none of these words has a reliable etymology. Myc. *kowo* (with the ideogram SKIN + KO), PY Un 718 (*Docs.* 283) only presents new difficulties here: acc. *kōwon* if from an *o*-stem (cf. ἔρος)? If a stem ending in -h_1-s forms the basis here, the original nominative ending in -ες would have to have been replaced by -ας, which is conceivable (although one would sooner expect that this was replaced by -ος). Further I see nothing in favour of the hypothesis. See Add.

2. The Zero Grade *Rā̆*

That the zero grade of *ā ē ō* was not a reduced vowel (*ə*), but a consonantal element (*ḫ*), is the heart of the laryngeal theory. The correctness of this view is evidenced by for instance the forms for 'full' from the root *$pelə$-/$plē$-: Skt. $pūrṇá$-, Serb. $pȕn$, Lith. $pìlnas$, Goth. $fulls$, W. $llawn$, for which, if in the zero grade *$plə$- the *ə* was a vowel, one would after all expect *$priṇá$-, *$plon$, *$planas$, *$flans$, *$llan$ respectively (Cuny, *Rev. Phon.* 2.102, cited by Cowgill, p. 144). In this way one does in fact explain — though wrongly — forms like τέτλαμεν (with τλᾰ- < *$tlə$-), e.g. Lejeune, *Traité*, p. 178; see for this p. 244. If the representations found go back to $l̥ə$ and not to $lə$, the *ə* was less sonorous than *l* (*r m n*).

Nor are the forms found explicable by $r̥ə$ (etc.) if *ə* in this formula is regarded as vowel. The (vocalic) *ə* after all became *i* in Indo-Iranian, and in all other languages *a*. In Greek one would therefore expect $r̥ə$ > αρα (and not ρᾱ) with $r̥$ > αρ before vowel (although there is little material for this development, Schwyzer, p. 342; Lejeune, *Traité*, p. 167 ff., is even briefer). This development is for instance assumed by Schwyzer (p. 362) when he attempts to explain αρα by a transitional form ('etwa $r̥ə$') of the basic form of ρᾱ ($r̥ə$ or $r̄$) (see for this idea p. 207). In the same way one would expect *iri* in Indian, *ari* in Avestan and *ara* in Latin.

Hirt, *Idg. Ablaut*, p. 58, starts for these forms from a basic form $_ərə$. However, it cannot be seen how this form was able to become anything else but *ara* in Greek and Latin. His explanations (p. 64) are unacceptable, since they are arbitrary assumptions, for which no indications are found: either the second vowel disappeared with lengthening of the first (*ara* > *ār*), followed by metathesis (*ār* > *rā*), or the first vowel disappeared with lengthening of the second (*ara* > *rā*). Walde defends this view (*Stand u. Aufg.*, pp. 152-200), because he is of the opinion that Gr. ρω can be explained in this way; however, this explanation seems incorrect to me, see p. 213. The postulation of the development *ara* > *rā* stems from Schmidt, *KZ* 23.281, who also compares ἐστόροται : ἔστρωται (see for this p. 229).

Hirt's starting-point is also shared by Kuryłowicz, *Etudes*, p. 67, who explains Skt. *īr* by $_ərə$ by assuming that $_ə$ became *i*, and *rə* became $r̥$. Apart from the improbability of the latter development, the result *i$r̥$* is very strange, nor can it be seen how this was able to become *īr*. His comparison with *īrte*, which he interprets as having developed from *i-$r̥$-te, is incorrect. The basic form of the 3 sg. *$ḫi$-$ḫr̥$-toi was, under the influence of 3 pl. *$ḫi$-$ḫr$-$n̥toi$ > *īrate*, replaced by *īrte* (if one may not assume *$ḫi$-$ḫr$-toi, with consonantal *r*). For an attempt by Bailey to explain *īr* by a similar form see Kuiper, *Die Sprache*, 7.15. In Indian nothing else is to be expected for $_ərə$ than *iri*, for which see p. 208.

A general drawback is that, if one starts from $_ərə$, one does not see what the development of $r̥ə$ then was. If the existence of the first form is to be expected — and in my opinion is demonstrable too — yet it cannot be denied that stems of the type *TeRH* had a *zero* grade *TRH*.

On the other hand it has been assumed that *r̥ə* was contracted to *r̄* back in the proto-language. However, this idea of De Saussure is based solely on the supposed parallelism with *ī ū* (from *iə uə*) as zero grade of disyllabic roots of which the second consonant was *i* or *u* (*Teiə Teuə*). Apart from this parallelism that can be constructed, there is nothing that suggests a contraction of this kind; it is not demonstrable and the assumption has nothing in its favour, because it does not contribute to the explanation of further development. Brugmann (*Grundr.*, I², 1, p. 418) calls them 'Verlegenheitsansätze'. Moreover, it has appeared above that *iH uH* at the end of the word was preserved down to the separate languages (p. 155 ff.).

That *r̥ə* was not contracted to *r̄* is also evident from the compositional shortening (which is dealt with in greater detail on p. 242 ff.). In Indian we find for instance *carkr̥tí-* as against *kīrtí-*, *ástr̥ta-* as against *stīrṇá-*. Av. *stərəta-* : *starəta-*, Gr. στρατός : στρωτός, corresponds exactly to the latter. It is clear that we are not concerned here with shortening of the historical simplicia, for in that case we would get **-kirtí-*, **stirtá-*, *στροτός (which does occur, but as the Aeolic development of **str̥tos*); cf. Kuiper, *Die Sprache*, 7.14-31. If we assume that *r̥ə* was not contracted, this shortening may be explained as disappearance of the *ə*. If a contracted *r̄* is taken as starting-point, another explanation remains possible: it may be assumed that *r̄* was shortened into *r̥*. However, this changes if Latin is brought into it. Unfortunately one finds only one case here, *cognitus* (Kuryłowicz, *Etudes*, p. 66). This form, which is cognate with *nōtus* (**ĝnoh₁tos*) cannot be explained as a shortening of *nōtus*, nor by **ĝnətos* (**ĝn̥h₁tós*), which would have given **gnātus* (and could not itself become **-gnătus* > *-gnitus* either). Here compositional shortening from **ĝnətos* (**ĝn̥h₁tos*, **ĝn̥̄tos*), Sommer, p. 605, is not possible, since this would have given **-ĝn̥tos* > **-gentus* > **-gintus*. The sole surviving possibility, to which my attention was drawn by my friend J. P. Smit, prematurely taken from us by an accident, is loss of *h* in (Lat.) **gnahtos* (< **ĝn̥h₁tos*), which therefore gave **gnātus* > *-gnitus*. If this explanation is correct, it proves the existence of a phase *naH* (*naə*). An intermediate phase *n̥̄*, with the development *n̥ə* > *n̥̄* > *naə* > *nā*, instead of *n̥ə* > *naə* > *nā* direct, becomes highly improbable in that case. Consequently there is nothing to support the contracted form *n̥̄*, while the compositional shortening rather suggests an uncontracted form *n̥H* (etc.) existing down to the individual languages.

The last-mentioned development *n̥ə* > *naə* > *nā*, which must be assumed for Latin, Greek and Celtic, itself already points to the consonantal character of the *ə* (*h*), for a development *n̥* > *na* before vowel would be most surprising.

If it is assumed that *n̥ə* was preserved down to the individual languages and that *ə* was a consonantal element (*n̥H*), the individual developments are more easily understandable than when one starts from *n̥̄* (etc.).

In Latin, for instance, *r̥H* (> *raH* > *rā*) explains the vocalism; in comparison with *r̥* > *or* one would have more readily expected *ōr* (perhaps *rō*) from *r̄*. For the *h* itself was also vocalized to *a* in Latin.

Indian *īr* < *r̥* would have to be accepted without question, while *īr* < *r̥H* becomes more comprehensible as laryngeal umlaut (*r̥H* > *irH*, in a language in which *H* was vocalized to *i*), followed by compensatory lengthening (*irH* > *īr*) (Kuiper, *Die Sprache*, 7.14-6).[101]

The Greek development *r̥H₂* > *raH₂* > *rā*, ρᾱ has already been stated in the above. In the same way one finds λᾱ μᾱ νᾱ, which tally entirely with Lat. and Celt. *rā lā mā nā*. However, this development summons up a number of questions, whereby Celtic will be left out of consideration here. In Greek ρα λα < *r̥ l̥* is normal (beside αρ αλ at the beginning and the end of the word and (?) before vowels), but *m̥* and *n̥* became α. The latter development is found in Indian before laryngeal as well, *m̥H n̥H* > *aH* > *ā*. In Greek, on the other hand, *m̥H* > *maH* > *mā* must be assumed, which development has therefore to be ascribed to the presence of the laryngeal. It is the question whether a conclusion can be drawn from this for the relative chronology. It may be postulated that the transition *m̥ n̥* > α did not occur until after the development *m̥H* > *maH*, but it is also conceivable that *m̥H* was preserved when *m̥* and *n̥* became α in another position. The latter seems less probable, but certainty does not seem possible here to me.

In Latin, where the vocalic sonants developed to *or ol em en*, a vocalic segment develops after the sonant if it was followed by laryngeal, this segment being coloured to *a* by the laryngeal.

It is clear that *rā* (etc.) must not be explained by PIE *r̥eH* (as Kuryłowicz, *Pr. Fil.*, 11.236, did), since in that case one would have expected *rā* in all languages (e.g. also in Germanic and Baltic), for instance in Indian **jñāta-* < **ĝneHto-* instead of *iātá* < **ĝn̥h₁to-*. (The form *jñātá-* that occurs stems from **ĝnoh₁tó-*, Lat. *gnōtus*.)

I fail to understand the exposition by Kuryłowicz, *Apophonie*, p. 197, who explains *TR̥H-tó-* > *TRātó-* along the line of *TR̥Htó-* > *TaRHató-* > *TaRató-* > *TRātó-*. He claims that the first phase is identical with the antevocalic development *TR̥H-o-* > *TaRH-o-* (> *TaRo-*). The parallelism construed here has, however, no basis in fact: beside *TR̥HV* > *TaRHV* one would rather expect a development *TRHT* > *TRaHT* (as is in fact found in Greek, Latin and Celtic). Furthermore, it is not clear why the second *a* becomes a full vowel while the first does not (*TaRa*, and not *TaRa*), nor how *TaRa* must lead to *TRā*: after all, it could not become anything other than *TaRa*; see the criticism of Hirt's theory above. His reference to *TeRi/TRī* (*ibid.*, p. 122 f.), which is itself explained by a reference to the *TeRa/TRā* discussed here, is thus a *petitio principii*. The comparison with the type *TeRi/TRī* is already found in Froehde, *BB* 9 (1885) 107-26. As the interchange *TeRi/TRī* is entirely unclear, the explanation remains an *obscurum per obscurius*.

[101] And yet a difficulty remains here, since one would expect that *irH* would give before vowel *ir* (*ir|HV* > *i|rV*), and before consonant *ir* (*irH|C* > *ir|C*), while the opposite is the case.

3. The reduced Grade α*Rα*

Beside *Rā*, Greek has various forms with α*Rα*. In emulation of Van Wijk, *IF* 20.342, Specht, *KZ* 59.115ff., regards the words with α*Rα* as transformations of *oRα*, i.e. θάνατος for *θόνατος, like κάλαμος as against **ḱolh₂mos* (Russ. *solóma*, Serb. *slȁma*, OPr. *salme*, Latv. *salms*, OHG *halm*, Lat. *culmus*; but see the Celtic forms, p. 195). Although this may be correct in an occasional case, it cannot be accepted as an explanation for the origin of this category. Usually a basis for the transformation, such as ἔθανον for *θόνατος, cannot be pointed to, so that only assimilation could be envisaged, which, however, is contradicted by words like κόλαφος, κόναβος, ὅμαδος, ποταμός, στοναχή, χρόμαδος.

Cowgill (p. 150) also assumes, in emulation of Kuryłowicz, *Apophonie*, p. 206f., that all forms with α*Rα* are based on transformation from full grade I (*eRḥ* or *oRḥ*). To support his argument he invokes not only the above-mentioned θάνατος but also τέμενος ταμεσίχρως beside τέμαχος. Quite apart from the fact that precisely here no *ταμα- occurs, this case must be viewed quite differently, p. 221ff.: τεμε- is the phonetic form, τεμα- and ταμε- are due to the influence of other forms. Assimilation in ε*Rα* is improbable, in view of the large number of words with this structure (γέρανος κέλαδος κέραμος πέλαγος πέλανος πέταλον τελαμών τέναγος χέραδος). However, one could point here to βάραθρον, but this seems non-IE, see p. 193. In many cases it cannot be seen from where the *α* must have been introduced, e.g. in the nominal forms with ταλα-: of *τάλνημι there is no trace. Forms like κάλαμος παλάμη ταραχή σφαραγ- χαράδρα γαλήνη κάρηνα cannot be regarded as analogic either. Cowgill's point of view in this matter is probably a consequence of the fact that he does not accept the reduced vowel (*e*), as a result of which the only alternative (*eRḥ*) becomes unacceptable for him.

Kuryłowicz, *Apophonie*, p. 198f., also does not assume that α*Rα* is a phonetic development, but explains the forms by means of analogy. On a basis of the relation *TeR(T) : TaR(T)* (< *TR̥(T)*) he believes that *TeRa : TRā* (< *TeRḥ₂ : TR̥ḥ₂*) was replaced by *TeRa : TaRa*. This is conceivable in itself, but it implies that the whole category is secondary, which is not probable in particular with the words of which the full grade *TeRa* is not demonstrable (see the words just listed). Another major drawback is that the forms with *TeR(T) : TaR(T)* are not frequent (δέρω σπείρω : δαρτός σπαρτός) and that here *aR* itself is probably analogic for *Ra* (δρατός). (It may be noted that Kuryłowicz has built up a strange system: he claims that *TRā* developed from *TR̥HT* > *T$_a$RH$_a$T* > *T$_a$Ra(T)*, which would have been more likely to have given *TaRa*, whilst the *TaRa* that is in fact found is in his opinion analogic for *TRā*. The whole of this is not very probable.)

Viewed from Greek, it is improbable that the whole category α*Rα* is analogic, since the forms are widely represented in the oldest linguistic stage and there is no basis for a complete transformation.

It has been attempted to trace *aRa* back to the same basic form as *Rā*. As the opposition θάνατος : θνητός shows that the phonetic structure cannot have determined the difference in development, it has been endeavoured to make the stress responsible for it. For instance, Per Slomann (ap. Pedersen, *Cinq. décl.*, p. 33) thought that *aRa* was the normal development *after* the stress, explaining θάνατος by *ἄθανατος. But ἀθάνατος, as a bahuvrihi, is secondary to θάνατος. In general it is improbable that the category as such developed in this way, for the group *aRa* usually forms the first two syllables of the word. It is not probable that the group came into being entirely in composition, which would then have to be assumed, since it cannot be seen in which compounds the above-mentioned words (in particular γαλήνη κάρηνα) could be used.

As many of these words have the stress on the group *aRa*, it has been assumed that *aRa* came into being when this group had the stress. However, it is improbable that this group was originally stressed in PIE, precisely because it had reduced vocalism. In that case one must assume a shift in stress (Hirt, *IF* 7.209, *Idg. Ablaut*, p. 67, *Idg. Gr.*, 2, p. 136f.). Such a shift is suggested by OHG *mord*, OIcel. *morð*, which in the first instance must go back to **mŕ̥to-*, while Skt. *mr̥tám* has doubtless preserved the old stress. Hirt here assumes a basic form *$_e$Rə*. As discussed above, there is, however, no other development than *aRa* to be expected for this form, while the forms of the type *Rā* cannot be explained by it. If we assume *$_e$Rə* beside *R̥ə* (for *Rā*), then the hypothesis of the shift in stress is superfluous. However, it is possible to use this hypothesis, starting from the basic form *R̥ə*. Here there are two possibilities.

If we assume that *ə* in *R̥ə* is vocalic, *Rā* cannot be explained by it, as has been demonstrated above. In fact, in that case we therefore need two basic forms, *R̥ə̯* (*R̥ḥ*) and *R̥ə* (*R̥ḥ̥*). If the *ə* was vocalic, *R̥ə* could not have become anything but *aRa*. However, it must be asked what reality this symbol (*R̥ə*) represents in that case. We can accept the occurrence of a vocalic sonant before a vowel without further discussion. However, in the group *R̥ə* the *ə* could be consonantal (*ə̯*) — for only in that way can the representation *Rā* be explained — and it is improbable that if this *ə* was vocalic the preceding sonant could also be vocalic (if *ə̯/ə* is replaced by *ḥ/ḥ̥* this therefore means to say that *R̥ḥ̥* is improbable). If the sonant had a consonantal function (*R̥ḥ̥*), then nothing but *Ră* would be expected. In this case we are therefore compelled to assume a vocalic element before the *R* (*$_e$Rḥ* = Hirt's *$_e$Rə*). Schwyzer (p. 362) tries to start for *aRa* from an intermediate form in the development of the zero grade (which he designates by *R̥ə̯*) and the contracted form (*R̥̄*), from which the forms *Rā* arose. He claims that this intermediate form then acquired a development of its own through secondary stress. For this intermediate phase he envisages *R̥ə*. However, it cannot be seen what real difference could exist between *R̥ə* and *R̥ə̯* (apart from the timbre of the reduced vowel (*ə : ə̯*), which, however, is unimportant here). Moreover, it has been demonstrated above that a development *R̥ə* > *R̥̄* has not taken place.

If, on the other hand, it is assumed that the *ə* was consonantal (*ə̯* = *ḥ*), then, as we have seen, *R̥ḥ* gave the forms *Rā*. Here it might be postulated that *ŕ̥ḥ* (i.e. with secondary stress) became *ara*. However, this presupposes firstly the shift in stress,

secondly that this led to the development stated, which cannot otherwise be made probable. Only the forms ταραχή, μαλακός and ταλαός could be mentioned in order to demonstrate that the stress did not always fall on *ara*. The forms to be discussed below, however, suggest that the stress was not the decisive factor.

The most obvious solution — as already indicated above — is to assume for these forms a separate reduced grade *$_e$Rh̥*, in which *$_e$* is a reduced vowel, which came into being in the proto-language through weakening of the full vowel *e*; see for this Introduction, p. 11.[102]

Corresponding forms are found in Indian (Kuiper, *Act. Or.* 20). Beside *támisrā* < **temh̥sr-* a form *timirá-* occurs, which cannot be otherwise explained than by **t$_e$mh̥-ró-*, with *$_e$* > *i* through umlaut of the laryngeal (**tm̥h̥ró-* would have given **tārá-*). Of *śámī* 'endeavour, effort, κάματος' an instrumental *śímiā* occurs, which stems from an original declension **ḱémh̥$_2$-ih$_2$ *ḱ$_e$mh̥$_2$-i̯éh̥$_2$-s* (instr. **ḱ$_e$mh̥$_2$-i̯éh̥$_2$-h$_1$*?); thus *śíma-* < **ḱ$_e$mh̥$_2$-o-*. In this way *simá-* 'self' will go back to **s$_e$mh̥-o-*, like ἁμο- and Goth. *sums*; the laryngeal is also suggested by *samá-*, which beside ὁμός, Goth. *sama-* must go back to **somh̥o-* (**somo-* would be **sāma-*). The laryngeal is probably found again in ὁμαλός; the great age of this form is evidenced by its widespread appearance, Lat. *similis*, Germ. e.g. Goth. *simle*, Celt. e.g. OIr. *saimlith* 'simul', *samail* 'resemblance', W. *hafal* 'similis'. Compare the identical structure of μεγαλο- < **meĝh$_2$lo-*, Goth. *mikils*.[103]

These Indian forms with *im*(*i*) can only be explained by *$_e$mh̥*. We therefore find in this the Indian parallel of Gr. Lat. Celt. *ara*. From *simá-* (*samá-*), ἁμό- ἅμα (ὁμός ὁμαλός *similis*), *samail* this is quite clear. This correspondence is in itself enough to postulate a separate basic form in the proto-language for these forms. That the stress was not, as mentioned above, the decisive factor is evident from Skt. *timirá-* and *simá-* beside ἁμό-, and from ὁμαλός if for *ἁμαλός (on account of OIr. *samail*; stress and structure may be compared with *timirá-*). Moreover, the supposition that both in this development in Indian and in Gr. Lat. Celt. *ara* the stress is the cause of a vowel developing before the sonant is not probable.

The form with reduced vowel reconstructed for the proto-language could be irrefutably demonstrated in forms in which the second consonant is an occlusive.

[102] This too is included by Schwyzer, although it is not clear exactly how he does so: "in andern Fällen ist die Doppelheit einfach zur Kenntnis zu nehmen (wie der Unterschied von Reduktions- und Schwundstufe in andern Fällen)."

[103] It is therefore possible that Gr. ἅμα is based on **s$_e$mh̥$_2$*, which would explain the ending; cf. p. 153f. Cf. Cret. ἄμακις, Tarent. ἅματις. In this connection ἀνά may also be discussed. To ἀνά Lat. *an-*, Arm. *am-* correspond. Avestan has *ana*, OP *anā*; it is uncertain whether Skt. *ā* belongs here. The Balto-Slavic **nō* (OCS *nā*, Lith. *nuõ*) is reminiscent of ἄνω. The comparison of the last two forms suggests **h$_2$nō* (*h$_2$noh*). Comparing the form ἅμα, a basic form **h$_{2e}$nh$_2$* seems most obvious (in my opinion **h$_2$nh$_2$* would have become *ἀνᾱ). However, it is not necessary to assume that the word began with laryngeal: **$_e$nō* (**$_e$noh*), **$_e$nh$_2$* are equally possible. A problem is also presented by Aeol. ὄν. (Ruijgh, *Etudes*, p. 353f., who believes that he can point to both *ano* and *ana* in Mycenaean, suggests ὄν by apocope from *ὄνο, which developed by assimilation from *anŏ*, while for *anŏ* beside *ana* ἀνά he compares Myc. *parŏ* (πάρο Alc.) beside παρά.) The whole analysis remains uncertain.

However, such forms are very scarce. It is uncertain whether πατάνη has been derived from **peth$_2$-* (πετάννυμι). But the connection with Lat. *pateo* cannot be denied. For this no other basic form can be reconstructed than **p$_e$th$_2$-*.

One may also think here of W. *adain* 'wing' < **atani*; but the related OIr. *én*, W. *edn* 'bird' does not seem to suggest laryngeal (**petnos*). Neither Hamp's explanation, *Evidence*, p. 231, of the second *a*, nor Kuryłowicz's explanation (*Apophonie*, p. 176) of the first seems probable to me: that with these disyllabic roots after the coincidence of full and zero grade (*ReH* and *ṚH*) a new zero grade *Ră* was introduced after the type στη-/στᾰ- (i.e. in this way ϝρηγ-/ ϝραγ-) is understandable, but not that the zero grade *TT* (e.g. **pt*) of *TeT* (**pet-*) was replaced by *TaT* (**pat-*). The word *adain* < **atani* becomes clear as **p$_e$th-n-*. Cowgill (p. 150 n. 14) is obliged to explain these forms by assimilation, W. *adar* from **peth̥ro-*.

I fail to understand Vey's thesis that αλα etc. aspirated preceding voiced occlusive (*BSL* 51 (1955) 80-100). The group αλα does not, according to him, go back to *°lə*, "mais sur *ᵃlə* (comme d'ailleurs on l'a parfois noté), c'est-à-dire *h̯ᵃlh̯ə*" (p. 83). That some noted the reduced vowel as *ᵃ* has of course nothing to do with Vey's *h̯ᵃlh̯ə*. What this designates is not clearly stated: only that the first α is not a reduced vowel, "c'est toujours un α, c.-à.-d. la même voyelle que celle qui suit". I fail to understand what this means. On theoretical grounds I do not see the slightest reason to assume aspiration here and I do not find it in the material. As he himself states (p. 94), one would also expect this aspiration with voiced occlusive (immediately) followed by *ə*, but he states that no case is known of the type **teg-ə-*. In my opinion μεγα- (μεγαλο-), which he himself cites in another context (p. 95 n. 1), conforms to this. Greek has no trace here of *μεχ-, which would correspond to Skt. *mahí*. Vey tries to explain θυγάτηρ by starting from **dhugh-ə-ter-*, assuming that here the (original !) aspiration before *ə* was *lost*. This is a purely arbitrary assumption and in conflict with what may be reasonably expected. It is not clear why **dhughətēr* did not become *τυχατηρ in accordance with the well-known rules. One must therefore start from **dhug-ə-tēr*, from which one would, however, equally well expect *τυχάτηρ in accordance with Vey's rule. Nor is it clear why the aspiration does not occur after voiceless occlusive. His theory is based on δαλάγχαν as against θάλασσα (of which therefore the θ is said to be due to the origin of the group αλα). However, for this an unknown form of breath dissimilation must be assumed (for one would expect *ταλάγχαν), while the 'nasal parasite' remains unexplained: the semantically highly dubious connection with δολιχός ἐνδελεχής, which is linked with MP *drang* < **dlongo-* etc. does not solve this problem. The interchange δ/θ points to non-IE origin. Vey further gives φάραγξ : βάραθρον, χάλαζα : *gelidus*, γελανδρόν· ψυχρόν Hsch. (**gelə$_2$-*) and χαλαρός : γελαρής (**gelə$_3$-*!; to explain γαλήνη a following phonetic law is formulated). The last two are semantically very weak. The article consists of a string of improbabilities which need not all be explained here; cf. the criticism by Cowgill, pp. 173f.

B. DISYLLABIC ROOTS WITH h_3 AND h_1

The question has arisen whether the colour of the laryngeals of the disyllabic roots with h_1 and h_3 has been preserved in Greek. This is the key problem of the following sections. Each of the separate developments will be investigated for these roots. It goes without saying that the forms with h_1 and h_3 are completely parallel.

1. ρω AS ZERO GRADE

Since it has been generally accepted that ρᾱ was able to come into being in the zero grade of disyllabic roots, the question whether ρω could also occur here has been answered in different ways. Firstly it is stated that ρω never goes back to zero grade, but is always based on a full grade (a). A second view is that the original form was a zero grade, but that the phonetic representative ρᾱ was analogically replaced by ρω (b). Finally ρω is interpreted as a phonetic development of a zero grade, explained without (c) or with the aid of the laryngeal theory (d).

It is illuminating to examine the discussion on this matter. De Saussure, *Mémoire*, p. 263, regarded ρω as the (only) phonetic representation of $\bar{r}$. Brugmann, *Grundr.*, I², 1, p. 418, wondered whether ρᾱ could not also act as such. Hirt, *Idg. Gr.*, 2, p. 133 regarded ρᾱ as regular and rejected the view that ρω could be the result of a phonetic development, while Walde (*infra*) tried to explain both phonetically and Schwyzer (pp. 361 f.) finally was prepared to accept ρᾱ as well as ρω and ρη. His starting-point displays similarity to the laryngeal theory to the extent that it accepts three separate reduced elements of $\bar{a}$ $\bar{e}$ $\bar{o}$ (noted $\underset{\frown}{a}$ $\underset{\frown}{e}$ $\underset{\frown}{o}$ respectively) which, combined with sonant ($\underset{\frown}{r}\underset{\frown}{a}$ $\underset{\frown}{r}\underset{\frown}{e}$ $\underset{\frown}{r}\underset{\frown}{o}$ or $\underset{\frown}{e}\underset{\frown}{r}\underset{\frown}{a}$ etc.) gave ρᾱ ρη ρω respectively; however it differs from the laryngeal theory insofar as these elements are regarded as pure vowels. However, in addition Schwyzer assumes that the three forms $\underset{\frown}{r}\underset{\frown}{a}$ $\underset{\frown}{r}\underset{\frown}{e}$ $\underset{\frown}{r}\underset{\frown}{o}$ were able to coincide in $\bar{r}$, giving ρω. In emulation of Lommel, *KZ* 59.193-204, he speaks of 'offene' and 'geschlossene Tiefstufenformen', but these are names that give no explanation; Lommel expressly states that he is not able to indicate when the one and when the other development took place. It is difficult to see what the factor can have been that caused the loss of the difference in timbre. The facts adduced by Schwyzer as a basis of ρω otherwise than from $\underset{\frown}{r}\underset{\frown}{o}$ (ζέρεθρον : βρω- and *στερέσαι : στρωτός) seem inadequate for the second part of his thesis ($\underset{\frown}{r}\underset{\frown}{a}$ $\underset{\frown}{r}\underset{\frown}{e}$ $\underset{\frown}{r}\underset{\frown}{o}$ may all merge into $\bar{r} >$ ρω).

Two conclusions impose themselves when one considers the development of this discussion. Firstly, there seem to be good reasons for regarding ρω as the regular representation of a zero grade. Secondly, the reason why ρω (and ρη) is not accepted will be the fact that the occurrence side by side of these forms cannot be explained otherwise than by assuming that the reduced elements of $\bar{a}$ $\bar{e}$ $\bar{o}$ were different and that these remained separate in Greek. However, this idea is almost universally rejected,

even by most defenders of the laryngeal theory, which after all presupposes the existence of such separate elements in a phase of the proto-language.

We shall discuss the four interpretations of ρω stated above in what follows.

a. ρω *Full Grade only*

If it is not accepted that for instance στρωτός goes back to a zero grade (*st̥rtós*, **st̥rətós*, **st̥rh̥tós*), it may be presumed that the ω goes back to PIE ō (e.g. Lejeune, *Traité*, p. 170). As a full grade (*eh̥₃*) or an *o*-vocalism (*oh̥*) is unusual here, this ō would have to be due to analogy in the proto-language. For one cannot invoke γνωτός, of which the stem **ĝnō-* (**ĝnoh̥₁-*) was already generalized in the proto-language with a special meaning to distinguish it from **ĝenh̥₁-/ĝneh̥₁-* (**ĝnē-*). Here the cognate forms (*jñātá-*, *nōtus*) thus show full grade. But there is no indication that this took place otherwise than in some special cases (for **plē-* see p. 219).

The verbal adjective ending in *-tos*, like that ending in *-nos*, everywhere has zero grade, and subject to evidence to the contrary that this form has been replaced in incidental cases by another apophonic form, one should start from it.

That we have zero grade here is shown by the forms that have parallels in the other languages:

στρωτός (Hes.) ἔστρωτο (Il.) βρωτός (E., X.) cf. βρῶσις βρωτύς (Il.)	Lat. *strātus*, Av. *starəta-*, Skt. *stīr̥ṇá-*, MIr. *srath* 'bank, valley' (?), W. *sarn*. Lith. *gìrtas*, Skt. *gīr̥ṇá-*.
τρωτός (Φ 568)	Skt. *-tūrti-*, Av. *-tarət-* (Kuiper, *Die Sprache*, 7.22).
πρωτός (Hdn. Gr.) cf. πέπρωται (Il.); Θεόπρωτος inscr. Delos (250 B.C.) *IG* XI 2, 287A3, Θεσπρωτοί (Od.).[104]	Skt. *pūrtá-*.

Kuryłowicz, *Apophonie*, p. 207 f., regards *TRō* as "une donnée primaire, d'autant plus qu'il y a au moins un exemple de *TRō* indépendant de l'existence de *ToR(o)*: βιβρώσκω". It is clear that this one example (which moreover would give an argument *e silentio*) is not enough to prove this proposition, but is on the contrary the exception to the rule and may not be used as starting-point for an argumentation. It will be demonstrated below that we are concerned here with a normal disyllabic root (p. 234).

An old zero grade in στρωτός is also suggested by στρατός, Aeol. στροτός, which can only be explained as compositional shortening of **st̥rh̥tos* to **st̥rtos* (p. 204., p. 242 ff.).

[104] The name Θεόπρωτος supports the interpretation of Θεσπρωτοί. For θεσ- v. Frisk s.v. θέσκελος, θεσπέσιος, θέσφατος and θεός.

b. *Zero Grade* ρω *analogic for* ρᾱ

If it is accepted that ρω stands in the place of an old zero grade, it is usually assumed that the form ρω has developed by analogy within Greek, and replaces the original ρᾱ.

Kuryłowicz, *Apophonie*, p. 208, considers the creation of *TRō* on a basis of *TeRḥ* : *TRā* = *ToRḥ* : *x* out of the question. However, as *TRā* is a Greek development, one should start from *TeRa* : *TRā* = *ToRa* (*ToRo*) : *x*, which in fact cannot have been a basis for *TRō*. More probable is *TaR*(*a*) : *TRā* = *ToR*(*o*) : *x* (possibly *TeRa* : *TRā* = *TeRo* : *x*), with *x* = *TRō*. But the following objections may be adduced to this: firstly the forms with *ToR*(*o*) are less frequent than those with *TRō* (while *TeRo* is entirely absent from historical Greek), secondly the forms with *ToR*(*o*) can be explained only with the aid of the laryngeal theory, i.e. with the same hypothesis as that which explains *TRō* as a regular development of a zero grade, and finally (if one rejects *TRō* as regular development) one must make allowance for the existing system in which the zero grade was *TRā*.

Cowgill (p. 148) also makes the last mistake, assuming that *TRō* (full grade)/*TaR-V* was replaced by *TRō*/*ToR-V* on the analogy of *TRā*/*TaR-V*, thus for instance τρω-/*ταρ- replaced by τρω-/τορ- on the analogy of κμᾱ-/καμ-). For, according to Cowgill, the original system was *TReḥ*$_3$/*TR̥ḥ*$_3$-*C*/*TR̥ḥ*$_3$-*V* > *TRō*/*TRā*-*C*/*TaR-V* (τρω-/τρᾱ-/ταρ-). It is not very probable that this was replaced by *TRō*/*TRō*/*ToR-V* on the analogy of *TRā*/*TRā*/*Tar-V*, especially in view of the low frequency of the full grade forms (*TReḥ*$_3$ > *TRō*), which would have been the only starting-point for *o*-vocalism. On the other hand, precisely the zero grade forms have a considerable influence. An important parallel is offered here by Latin, in which the zero grade was certainly *TRā* (*strātus*). Latin even gives a more favourable basis for the development postulated by Cowgill, because there *TR̥H-V* would have given *ToR-V* with the normal development *r̥* > *or*. For Cowgill disclaims the influence of the laryngeal on the vocalism of the preceding syllable in Greek and will therefore do the same for Latin (in my opinion *TR̥H-V* gives *TaR-V* in Latin through laryngeal umlaut). Moreover, the original nasal present **stṛ-n-* (cf. Gr. θάρνυμαι, p. 232) would have become **storn-* in Latin. But, despite the original *TRō*/*TRā*/*ToR*, Latin does not have a single form with *TRō*, e.g. *tollo tuli* but (*t*)*lātus*, not **lōtus*. On the other hand, it proves that *TRā* of the zero grade has been extended, e.g. perf. *strāvi*.

However, apart from this detailed criticism, such extensive analogy is not very plausible. If, as is the case here, a simple explanation is possible that is both morphologically and phonetically satisfactory, this is to be preferred to a dubious series of analogic replacements.

It cannot be denied that the stem form with ω was secondarily extended. For instance this happened with βιβρώσκω, of which only forms with βρω- occur. However, the question is from where these forms have spread. The aorist Arm. *eker*, Skt. *garat* (< **é-g*^{u}*erḥ*$_3$-*et*), Skt. *gārīt* (an *s*-aorist with analogically lengthened *a*), the perfect Skt. *jagāra* (< **g*^{u}*e-g*^{u}*orḥ*$_3$-*e*; phonetically this would have given — in the 3 sg. — **jagara*, but *jagāra* can easily be explained by analogy), do not suggest a

form **g*^{u}*reḥ*$_3$/*oḥ*$_3$- (although in my opinion the old aorist was **é-g*^{u}*reḥ*$_3$-/*g*^{u}*r̥ḥ*$_3$-, see p. 226 f.). It is therefore most likely that βρω- stems from the zero grade (before consonant).

c. *Zero Grade* ρω *explained without the Aid of the Laryngeal Theory*

That ρω was a phonetic development parallel to ρᾱ was defended by Walde, *Stand u. Aufg.*, pp. 152-200. He explained ρᾱ from $_{e}$*rə*, with a development $_{e}$*rə* > $_{a}$*ra* > *rā*. In addition he assumed for the apophonic form *ToRə* a separate weak phase $_{o}$*rə*, in which $_{o}$ is an *o*-coloured reduced vowel. It is an unessential point that he assumed that $_{o}$*nə* $_{o}$*mə* became $_{a}$*na* $_{a}$*ma*, i.e. became identical with the development of $_{e}$*nə* $_{e}$*mə* (evidently on account of the absence of νω μω; see for this p. 214 f.). In addition $_{o}$*rə* is said to have given $_{o}$*ro* > *rō*. Even if one is prepared to accept that $_{o}$*rə* became $_{o}$*ro*, i.e. that *ə*, which — according to Walde — in itself could only become *a*, was coloured by the $_{o}$ to *o* (the converse, in laryngealistic terms $_{e}$*rḥ*$_3$ > *oro*, seems more probable), the difficulty remains of the transition $_{o}$*ro* > *rō* (the same as that with $_{a}$*ra* > *rā*; cf. p. 203), for which there is no parallel in IE. But more fundamental is the question of the existence of a separate *o*-coloured reduced vowel, of which there is insufficient indication, in my opinion (Kuryłowicz, who assumes $_{a}$*ra* > *rā*, also denies its existence, *Apophonie*, p. 207). Moreover, this presupposes the form *ToRə* as starting-point, where it is not clear when *TeRə* and when *ToRə* functioned as basis: these two forms are after all apophonic forms which can occur with every disyllabic basis (unless one is prepared to assume a non-apophonic *o* here, for which see p. 139 f.). Thus the theory fails in one of the clearest cases, στρωτός, which is the zero grade of **sterə*, not of **storə*, as Walde admits (p. 166).

d. *Zero Grade* ρω *explained by the Laryngeal Theory*

The explanation that the laryngeal theory gives of ρω is a simple one. Just as ρᾱ was explained as *r̥ḥ*$_2$ > *raḥ*$_2$ > *rā*, one has here *r̥ḥ*$_3$ > *roḥ*$_3$ > *rō* (both developments only before consonant). This therefore presupposes that the vowel which developed between sonant and laryngeal was coloured by the laryngeal, namely in accordance with the original 'colour' that the laryngeal had in the proto-language. The preceding chapters have demonstrated that this original distinction was preserved down to Greek. There are various indications of such an influence of the laryngeal. In the proto-language it coloured the full vowel *e* to *a* or *o* (*eḥ*$_2$ > *aḥ*$_2$ > *ā* and *ḥ*$_2$*e* > *ḥ*$_2$*a* > *a*). But in the individual languages too such an influence can be pointed to (but not on full vowel, since this had already been coloured in the proto-language and the laryngeals did not again appear before or after full vowel *e*). For Indian reference has already been made to the umlaut (!) in *r̥ḥ* > *irḥ* > *īr* before consonant, and $_{e}$*mḥ* > *im*(*i*); here the laryngeal itself was vocalized to *i*. In Latin *raḥ* from *r̥ḥ* as against *or* < *r̥* and *naḥ* < *n̥ḥ* as against *en* < *n̥* must be ascribed to the influence of the laryngeal (*ḥ* > *a*). In Greek one could admittedly identify ρᾱ, *raḥ* from *r̥ḥ* with ρα < *r̥*, but there are two points against this. Firstly, *naḥ* < *n̥ḥ* differs from α < *n̥*, although here

the influence of the laryngeal is not a matter of colouring. Secondly, there are the Aeolic and Arcado-Cypriot forms (Lejeune, *Traité*, p. 168, Schwyzer, p. 341). Here one would expect ρω < *r̥h₂* beside ρο < *r̥*, instead of ρᾱ, if the laryngeal exerted no influence on the colour of the vowel. However, there is no evidence of this (one finds in Sappho κρᾶσις πλάσιον τλάσομαι). It is therefore to be expected a priori that in a language where *h₃* was vocalized to *o*, in contrast with *h₂* > α, *r̥h₃* became *roh*, as against *r̥h₂* > *rah*, since the *a*-colouring effect of *h₂* can be demonstrated.

Having arrived at this point, one finds an excellent confirmation of the explanation defended here in an entirely different field. For *m̥̄ n̥̄* μᾱ νᾱ were assumed of old as the only representation (e.g. Brugmann, *Grundr.*, I², 1, pp. 417-23), beside *r̄ l̄* > ρω λω. This combination is improbable. It has been found that *m̥h₂ n̥h₂* were treated in the same way as *r̥h₂ l̥h₂* (ρᾱ λᾱ μᾱ νᾱ), despite the difference *r̥* > αρ/ρα : *m̥* > α. In this way one finds in Latin complete parallelism of the nasals and the liquids (in the narrower sense): *rā lā mā nā*, despite *r̥* > *or* as against *m̥* > *em*. The same thing is found in Celtic, *nā* (Gaul. *Cintu-gnātus*) beside *lā*, despite *r̥* > *ri*, *ar*/*ra* as against *m̥* > *em*, *am*. (In Indian such parallelism does not exist, *ir* : *ā*, but here the development of *r̥h* is quite different too.) One may therefore expect μω νω in Greek for *m̥h₃ n̥h₃*, but no example of this is found in the disyllabic roots. However, the development of νω is demonstrable in the negative adjectives with (νᾱ- νη-) νω- p. 98 ff. The confirmation is all the more convincing, since there can be no question here of analogy within a verbal system. There can be no doubt about the original form of these adjectives, *n̥* followed by consonantal laryngeal. However, analogy does continue to be possible in the individual cases, e.g. for νώνυμος, which, on the analogy of νω- from words that began with ο- < *h₃*-, may be derived from ὄνομα (or — less probably — on the basis of ἀνώνυμος with ἀν- followed by compositional lengthening). However, it does not seem probable that the whole category νω- (and νη- = *nē*-) came into being on the analogy of νᾱ- from words with ἀ- < *h₂*-. Words like Myc. *nopere*a₂ (*'nōpheleha'*, ἀνωφελής) νωχελία νωλεμές and ? νωδός do create the impression of being old and of going back to *n̥-h₃C*-; see the relevant section.

The correspondence between these two forms, ρω λω and νω, reduces the chance that we are concerned here with two entirely different forms of analogy that would have led to the same result.

Cowgill based his refutation of this view (p. 149) on W. Gr., Boeot. πρᾶτος as against Ion.-Att., Arc.-Cypr., Lesb. πρῶτος, Thess. προῦτος.[105] On the strength of Skt. *pūrvá-* and Lith. *pìrmas* (Lat. *prandium* < **prām-ed-iom*, with **prām-* < **pr̥h₂m-*, is uncertain) he posits as the original form **pr̥h₃tos* and assumes that πρῶτος has been transformed after πρό, πρότερος. This interpretation is not imperative. Firstly, it is not certain that we have a *h₃* here, secondly the basic form **pr̥htos* is not certain. If, starting from a basic form **pr̥htos*, one concludes *h₃* on the strength of πρῶτος, one therefore assumes a development *r̥h₃* > ρω; however, this is just what Cowgill tries to refute. If it is assumed that πρᾶτος is the phonetic continuation of **pr̥htos*,

[105] The interpretation of Myc. *poroto* and *poroteu*, both proper names, is not sufficiently reliable.

there is no reason to assume *h₃* and not *h₂*. If the connection with πρό is correct, this in no way ensures *h₃*; Gr. παρός, Skt. *purás* has in my opinion either no laryngeal (**p$_e$rós*) or *h₂* (**pr̥h₂ós*), since **pr̥h₃ós* would have given *πορος in Greek (see p. 000). The full grade forms Skt. *prātár-*, Osc. *pruter* < **prōter* may have had *o*-vocalism (**proh₂ter*, not necessarily **preh₃ter*).

However, a basic form **pr̥htos* is not certain; the form is more likely to have resulted from a contraction (cf. Schwyzer, p. 595). The obvious *προατος would, however, likewise have given ω in Doric; cf. Lejeune, *Traité*, p. 236 with n. 1 (without any proof being adduced); Buck, *Gr. Diall.*, p. 42.[106] As οᾱ can give Dor. ᾱ, but in Attic remains οη (or possibly becomes η; Epidaur. Πραράτιος: Att. Προηρόσια, Πληρόσια), only the possibility of a group ᾱο remains; Lejeune, *Traité*, p. 235. Lejeune, *op. cit.*, p. 236 n. 1, considers *πρᾱϝο-τος, in which *πρᾱϝο- would correspond to Skt. *pūrvá-*. However, in that case one would still expect traces of the uncontracted form. Finally, one could also consider Doric metathesis *πρωατος > *προᾶτος, but this remains a hypothesis.

The form Dor. πρώαν (Att. πρώην) does not allow of any conclusion regarding πρᾶτος. This form is found in Theocritus, viz. 5.14 πρώαν with short first vowel; 4.60 πρώαν/πρόαν/πρᾶν, metrically ⏑ –; 15.15 πρόαν; 2.115 πρᾶν. If this form should go back to **pr̥h₃u̯o-* (Skt. *pūrvá-*), then *r̥h₃* > ρω would appear for Doric. However, this is not certain in view of OHG *fruoi* — πρώϊος, OHG *fruo* — πρωΐ, which points to **prōu̯i-* (for which **proh₁u̯i-* is possible, if a laryngeal must be assumed). Moreover it does not show ωᾰ > οᾱ > ᾱ, but only ωᾱ > οᾱ > ᾱ, and that at a late date.

At present it is impossible to obtain certainty regarding these forms, but, as demonstrated, the word cannot be used as an argument against the development *r̥h₃* > ρω. Finally, consideration might also be given to dialectal development *r̥h₃* > ρᾱ; cf. ἰαρός : ἱερός and see p. 258 ff.

Another word that has been brought to the fore in this discussion is βλωθρός. The word occurs twice in Homer, N 390 = Π 483 (identical passages N 389-93 = Π 482-6) πίτυς βλωθρή and ω 234 βλωθρὴν ὄγχνην. The best connection within Greek seems to be that with βλαστάνω if the latter has a stem βλαθ-, which is not certain. However, the basic forms βλωθ-/βλαθ- cannot have contained a laryngeal, since *l̥h₂* would have become λᾱ; see p. 245 ff. (possibly therefore *lō*/*l̥*). Since De Saussure the word has been connected with Skt. *mūrdhán-* 'head', OE *molda* 'highest part of the head, skull'. The Avestan cognate *kamərəδa* 'head', for which the other forms point to **kamard-* (Kuiper, *Die Sprache*, 7.22), suggests PIE **ml̥hdh-*.[107] However, from the semantic

[106] Thus Lac. ὀπάρᾱ < **op-osar-*, which Frisk maintains s.v. ὀπώρα, is incorrect. The two forms will go back to one basic form, but in my opinion this etymology does not permit of this, so that its correctness must be doubted. The two vowels can only go back to *āo*, see the text above; the *ā* of this could be based on compositional lengthening (i.e. for example **op-āi̯or-*).

[107] The connection with κμέλεθρα (pl., Pamphil. ap. *EM* 521.34) 'beam', μέλαθρον (Il.) 'roof-tree, ridgepole', is not very probable. This word (possibly **kmelh-dhr-*) seems more likely to be non-IE; semantically, too, the similarity is not very convincing. Cf. for ε/α βάραθρον/ζέρεθρον, p. 193. For κ/zero with these words see Kuiper, Μνήμης χάριν, p. 213, n. 9 (κ before vowel).

point of view the connection is weak; moreover, the meaning 'high' for βλωθρός seems nothing more than a useful guess; it could also mean 'flowering, üppig', especially if the connection with βλαστεῖν is correct; cf. τηλεθόωσα (beside μακρή) as epithet of trees. Thus nothing can be said for sure about the original form of βλωθρός and it may therefore not be used in a single respect as an argument. Cowgill, p. 149, considers **mloh₂dhro-*, with *o*-vocalism as in σφοδρός; however, it is the question whether σφοδρός is IE, see p. 188 s.v. σφαδάζω. If the form γλωθρός in (ps.-) Hes. *Cat.*, pap. H (fr. 96 Rz.³) vs. 86, is a variant, the word is of non-IE origin (cf. p. 193 f.). However, West (*Glotta* 41 (1963) 282-5) is of the opinion that it is an hyper-Ionism, and thus an artificial form. It would have been formed on the example of Att. βλήχων : Ion. γλήχων. The idea seems improbable to me.

πρωκτός, Arm. *erastankʿ* is of importance here if these forms go back to **prək̑t-* (Meillet, *Esquisse*², p. 142); however, there is no further indication of *ḫ₃*. For another explanation see p. 247.

The form τεθρᾶσθαι· ὠχεῦσθαι Hsch. (Cowgill, p. 149), which seems cognate with θρώσκω (cf. θαρνεύει· ὀχεύει Hsch.), would point to the same divergence as πρᾶτος : πρῶτος. It is not known from which dialect τεθρᾶσθαι comes.

The two forms πρᾶτος and τεθρᾶσθαι ('my only pieces of evidence', Cowgill, *loc. cit.*) are in my opinion insufficiently serious objections to the development *r̥ḫ₃ > roḫ₃ > ρω*.

2. Zero Grade *Rḫ₃* before Vowel

For zero grade *Rḫ₃* before vowel the development can also be demonstrated. Those of *TeRḫ₃* and *T꜀Rḫ₃* are much more difficult to demonstrate and consequently will be discussed later.

We are concerned here with the forms of the type ἔπορον. It is probable that all thematic aorists are transformations of old athematic ones (Wackernagel, *Festgabe Jacobi*, p. 16 f., Kuiper, *Nasalpr.*, p. 76:6). One would therefore like to assume such an origin for ἔπορον as well, but in that case the *o*-vocalism is striking, for one expects either the *e*-vocalism of the singular or the zero grade of the plural of the athematic aorist. In the latter case, which is by far the more frequent, if not the only, one in Greek (see p. 224 f.), Greek therefore has *αR* from vocalic sonant (*R̥*). Accordingly one would therefore have to start from **é-perḫ₃-ṃ* (or **é-preḫ₃-ṃ*) **é-pr̥ḫ₃mes é-pr̥ḫ₃-ent* for ἔπορον. This athematic aorist is suggested by Skt. imp. *pūrdhí* < **pr̥ḫ₃-dhi*. The latter form would have given **πρωθι* in Greek; the singular would have retained the *e*-vocalism (possibly had πρω- from **preḫ₃-*). That is why Kuiper, *India Antiqua* (1942) 199, explained πορ- by the zero grade before vowel, i.e. 3 pl. **é-pr̥ḫ₃-ent* > **ἔπορεν*.[108] This therefore presupposes that the *ḫ₃* here coloured the

[108] Phonetically ἔπορον might perhaps have developed here, but in this form the ending would in my opinion have been analogically restored. The question is further irrelevant here. Incidentally, it is quite possible that the transformation to the thematic declension took place earlier, so that one could start from 1 sg. **é-pr̥ḫ₃-om*, which we shall do from now on for simplicity's sake. Cf. also p. 251.

vowel that developed before the vocalic sonant (ἔπορον, not **ἔπαρον*). With the development of ρω from *r̥ḫ₃ > roḫ₃* the development which this explanation presupposes is in principle identical, although there might be a gradual difference: *r̥ḫ₃ > roḫ₃ >* ρω could be accepted and *r̥ḫ₃ > orḫ₃ >* ορ rejected.

The forms of this type are: ἔπορον, ἔμολον, ἔθορον (all Il.) and ἔτορε (Λ 236).

Lehmann, *PIEP* (1952), p. 93 f., arrived at the same idea, evidently without knowing Kuiper's article and, so it seems, Ruipérez, *Emerita* 18 (1950) 402 f., did too, although he is not entirely clear here. He rejects Schwyzer's idea (p. 362) that in these forms *ə* before vowel had been lost and adds, although he expressly states that Schwyzer regards **ἔθαρε* as the original form, that he cannot accept this theory, "segun la cual...el timbre de la vocal reducida o laringal habría afectado al timbre de la vocal de apoyo desarollada delante de la sonante" (p. 402). The reason why he rejects this explanation is very interesting: for one would expect the form **ἔβελον* beside (instead of ?) ἔβαλον. In my opinion there are indications that these forms did in fact exist; they will be discussed in a following section (p. 221). It is surprising that Ruipérez did not see this.

Hiersche, *IF* 68 (1963) 149-59, is of the opinion that πορεῖν owes its vocalism to an athematic present with *o*-vocalism (see p. 131 n. 60), connecting it with Germ. *faran*, Russ. *porot'*. Assuming that such a present did exist of the stem **perḫ₃-*, it does not seem probable that this form, which has disappeared entirely in historical Greek, exerted influence on the aorist. For this would have had to have happened not long before historical time if πορ- has replaced **παρ-* < **pr̥ḫ₃-*.

It is not clear what Lehmann (p. 94) means by the remark that in ἔμολον "the laryngeal was lost before lengthening the reflex of the resonant; in others [e.g. βλώσκω] it changed both the colour and the quantity". (One gains the impression that he is referring to the type ὀρθός ὀργή discussed immediately before and that "e.g. μολεῖν" is an error for "e.g. ὀργή".) As the lengthening in ρω (στρωτός) is based on compensatory lengthening for the loss of a consonant (**str̥ḫ₃|to > *stroḫ₃|to > *strō|to*), there can be no question of this with **é|pr̥|ḫ₃om*; see the criticism in Kuiper, *Lingua* 5 (1955) 319-24. However, the following may be considered a problem. If the *o* developed when the laryngeal was still spoken, which seems probable, a long syllable comes into being which thereupon, when the laryngeal disappeared, became short again: **é|pr̥|ḫ₃om > *é|por|ḫ₃om > *é|po|rom*. That, however, in the latter case no lengthening occurred is also evident from γένος βέλος, p. 180. Moreover, it may be asked whether the assumption of an intermediate phase **éporḫ₃om*, in which both *o* and *ḫ₃* are independent phonemes, is correct and whether one should not instead posit **ép꜀rḫ₃om*, with *꜀r* as (Greek) *o*-coloured variant of *r̥*, of which the *꜀* became an independent phoneme upon the fall of the laryngeal. See further p. 230.

Cowgill (p. 147 f.) doubts this explanation of ἔπορον on the strength of the fact that with *r̥ḫ₃* before consonant there could already be no question of colouring, since after all he assumes that ρᾱ was the normal development here. As we have seen, this doubt is not sufficiently founded. There are the objections stated above (p. 212) to his

explanation with the aid of analogy: if ρᾱ and αρ are phonetic, there is insufficient basis for analogic extension of *o*-vocalism.

It would be good support for the development discussed here if this could also be demonstrated in a case where analogy is out of the question, or where an entirely different analogy would have to be assumed than in the verbal forms. Kuiper, *Shortening*, p. 24, thought of πολύς and πόλις.

For πολύς Skt. *pūrví* points to laryngeal, **pl̥ḫ-u̯-iḫ₂*. In that case the *o*-vocalism could be explained from an original declension **pélḫ₃-u-s *pl̥ḫ₃-éu-s* etc. (*πέλυς *πολεύς). However, there is no other indication of *ḫ₃* and the comparative and superlative πλείων πλεῖστος (**pleḫ₁-ison-*, **pleḫ₁-isto-*) would then have to be separated from πολύς, which is improbable. It need not be surprising that the comparative is of a different stem from the positive (Lat. *multus — plus*, Germ. *viel — mehr*), but it is improbable that PIE would have had **pelḫ₁-* as against **pelḫ₃-* for this, since the correspondence is too great to be coincidental. However, certainty about this is impossible at this moment. If the stem did in fact have *ḫ₁* then one must, as with **plotḫ₂-us *pl̥tḫ₂-eu-s* (p. 179), start from **pólḫ₁-u-s *pl̥ḫ₁-éu-s* (which latter form would in my opinion have given *πελεύς in Greek). OE *feala* (Meillet, *Intr.*[8], pp. 162, 261) cannot, however, be regarded as proof of **polḫ₁us*, cf. Sievers, *Ags. Gr.*[3], p. 51, Kluge, *Urgerm.*[3], p. 146. For πολλή see p. 241.

For πόλις Skt. *purás púram purá* : *púr pūrṣú pūrbhiḥ* suggest a stem ending in laryngeal; here the zero grade *pl̥ḫ-* was generalized. Lith. *pilìs* (*i*-stem after the accusative *pìlį*, with *į* < *ę̄*) points to the same thing. The Greek stem form could therefore have been generalized from ante-vocalic **pl̥ḫ₃-*. As it is not possible to demonstrate the *ḫ₃* in another way, the proof remains scanty.

These two words cannot therefore be used as argument. Cf. further p. 221 (*R̥ḫ₁* before vowel) and p. 239 (θοῦρος, κοῦρος). See Add.

3. Zero Grade *Rḫ₁* before Consonant

Before dealing with the possible other forms of disyllabic roots with *ḫ₃* (*TeRḫ₃* and *TₑRḫ₃*), which are very tricky to demonstrate, it is clearer first to discuss the parallel developments of *Rḫ₁*, both before consonant and before vowel.

After the above one may expect beside ρᾱ and ρω a zero grade ρη before consonant, which can be explained with the aid of the laryngeal theory as *r̥ḫ₁* > *reḫ₁* > *rē*, ρη.

It is striking that this form has been seldom discussed; this is probably because there are only a few forms (which, however, also applies to ρω) and owing to the fact that the Ion.-Att. transition ᾱ > η sometimes makes it difficult to determine the original colour (as will appear).

One finds in the verbal adjective: κασίγνητος, τρητός, κλητός, εὐτμητος (or ἐὺ τμητός), ἀπόβλητος, ῥητός, all Il.

It will be shown in the next section that τμητός stems from a disyllabic root with *ḫ₁*.

Beside βλητός, which occurs relatively late (Hp.), the *Iliad* already has ἀπόβλητος (B 361 Γ 65) and ἀνάβλησις. The zero grade **gᵘl̥ḫ₁-* also in Skt. *ud-gūr-ṇá-* (*guráte* 'lifts up').

No-one has doubted that Greek *ē* is concerned here. This can also be demonstrated with the following forms.

Τρητός has η both in Pindar and in Attic (Pl., Arist.), where one would otherwise expect ᾱ after ρ.

Beside κλητός (I 165 ρ 386), ἐπίκλησις (Il.), Aeolic also has κλῆσις (Bechtel, I, p. 32), in which ᾱ would have been preserved (cf. πλάσιον Sapph.).

For κασίγνητος Ionic inscriptions point to *ē* (Lejeune, *Traité*, p. 205), whilst it also occurs in Alcaeus (L.P. N 1.12 κ]ασιγνήτων), in Sappho (5.2 κασί]γνητον, 5.9 κασιγ]νήταν) and in Pindar and on Corcyra (*JHS*, 54.65); Thess. κατί[γνειτος] is of no use here.

Ῥητός (Φ 445; παραρρητός I 526 N 726; thus LSJ, παράρρητοί (τε) I 526 edd.); η also in Doric, e.g. Arg. ϝεϝρημένος.

It is an arbitrary statement to say that all these forms are analogic. For -γνητος this is highly improbable, owing to the fact that no other forms with γνη- occur; on the contrary, the stem γεν(ε)- seems to have spread. The stem γενη- must be a Greek innovation, having regard to its structure; the forms are only recent: γεγένημαι Simon., ἐγεγένητο Thuc., γενήσομαι Pl.

Nor is there reason to regard these forms as old full grade, as for instance Frisk (s.v. βάλλω) does, referring to πλήρης. Cf. the hesitation in Chantraine, *Morph.*[2], p. 9, Rem. It is true that from the root **pelḫ₁-/pleḫ₁-* Lat. *im-plētus*, Skt. *prātá-* (only *RV* VII 16.8), Lat. *plēnus* (probably for older **plānus*), Skt. *prāṇá-* (lexicogr.) correspond, but these may very well be parallel innovations. The expected zero grade here is found in Skt. *pūrṇá-*, Lith. *pìlnas*, OIr. *lán*, Goth. *fulls*. Avoidance of identity with **pelḫ₂-/pleḫ₂-* in the zero grade will have played a part here. This is clearly an independent case, which may not be used as a starting-point for a general theory.

For -γνητος zero grade is demonstrated by Skt. *jātá-*, Av. *zāta-*, Lat. *(g)nātus*, Gaul. *Cintu-gnātus Ari-gnātus*.

It is clear that κασίγνητος is an old word: a word to indicate a family relationship, of which the origin of κασι- can no longer have been clear to the Greeks in historical times either. Kuiper gives a convincing derivation from **k̂m̥-ti* (which is to κατά as περί is to παρά, etc.), of which **k̂m̥* is the zero grade of **k̂om*, Lat. *cum* (*Glotta* 21 (1933) 287, with semantic and formal parallels). Lejeune (*BSL* 55 (1960) 20-6) arrived (independently of Kuiper) at about the same interpretation by connecting κασι- < κατι- with Hitt. *kati-* 'with' (for the meaning cf. συγγενής, *cognātus*), which he regards as the locative of the stem to which *kata* and *katan* belong (Gr. κατά, see Frisk). He suggests for Myc. *kasikono* the interpretation '*kasikonos*' 'collaborator' (cf. διᾶκονος etc.). For the meaning and the relationship with γνήσιος see Chantraine,

ibid., pp. 27-31. Κασίγνητος is thus formally practically identical with Lat. *cognātus*, of which the second element goes back to **-ĝn̥h₁tos*.

The importance of the form κασίγνητος in this context cannot in my opinion be overestimated: in itself it is adequate to prove the laryngeal theory, and in the form defended here, that the three laryngeals were preserved down to Greek separately. For κασίγνητος has η, which is not the Ionic-Attic development of ᾱ; it is an old word and cannot be analogic: *γνητός does not occur in Greek in itself (one finds it in proper names, Διόγνητος etc. (VI c., Bechtel, *HP*, p. 109) and in γνήσιος); there is not a single reason to assume PIE full grade **ĝneh₁-* here: from a morphological point of view one expects zero grade, and the related languages also point in that direction (Skt. *jātá-*, Av. *zāta-*, Lat. *nātus*, Celt. *-gnātus*; cf. Skt. *jāti-*, Lat. *nāti-o*) and notably the parallel *cognātus*. This therefore gives Gr. νη < *n̥h₁*. This development can be explained only by assuming a consonantal element after *n̥* (otherwise one would expect *nə₁* > νε). The *e*-colouring must also be ascribed to this element (the laryngeal) as against the universally recognized ρᾱ < *r̥h₂* (and against *r̥* > ρα, Aeol. ρο), and also the development of *n̥* to *CV* (not > α). This therefore confirms that *h₁* and *h₂* were still separate phonemes in Greek (like *h₃* as emerges from ρω). See Add.

Two points may be established on the strength of this. Firstly that *n̥*, and therefore probably also *m̥*, followed by laryngeal underwent the same development as *r̥ l̥* + *h*. There is consequently not the slightest reason for the formerly assumed division ρω λω : μᾱ νᾱ. Secondly, it is evident from ρη < *r̥h₁* that one may certainly speak of *e*-colouring laryngeal, and not of the non-colouring laryngeal (although this effect has remained only in Greek and can only be identified in that language).

The development *n̥h₁* > νη assumed here is confirmed by νήγρετος and νηλεής, of which the original form began with *n̥* + *h₁*; see p. 107 ff. Reference has already been made to the importance of this parallel in the discussion of *r̥h₃* > ρω, p. 214 f.

The same development is also found in βλῆτο, where one expects zero grade and which will therefore go back to **g*l̥h₁-to*, and in πλῆτο < **pl̥h₁-to*, cf. p. 95.

4. The Parallelism with Italic and Celtic

The Greek developments of the zero and the reduced grade have a parallel in Italic and Celtic, ρᾱ αρα : *rā ara* (both before consonant). In the other languages (apart from Indian) these two forms have coincided owing to the fact that in the zero grade, *R̥H*, a vowel developed *before* the sonant (or rather the sonant developed into *VC*); both *R̥H* and *ₑRH* thus became *VRH*, which coincided. The essential difference from the development in Greek, Italic and Celtic is therefore that here the sonant in *R̥H* became *CV*, after which the vowel was lengthened when the laryngeal disappeared in anteconsonantal position: *R̥H* > *RaH* > *Rā*. It is not so that in the languages mentioned the sonant always became *CV*, for in Latin *r̥ l̥ m̥ n̥* became *or ol em en* respectively in another position. The development into *rā lā mā nā* must therefore be ascribed to the influence of the laryngeal. The parallelism cannot therefore be explained by other common characteristics of these three linguistic groups.

Nor is a joint intermediate phase between *R̥H* and *Rā* conceivable in my opinion; for Italic and Celtic this possibility may be considered, but the Greek development *r̥h₁ r̥h₃* into ρη ρω excludes the possibility of common development in the three linguistic groups. For between *R̥H* and *RaH* (*Rā*) only something like *RₑH* is conceivable. Now it is true that *ₑrh₁* > ερε *ₑrh₃* > ορο (it should be noted that neither of these developments has been demonstrated for certain) as against Ital. Celt. *ₑrh* > *ara* must be ascribed to influence of *h₁* and *h₃* on the reduction vowel which first occurred in Greek (otherwise one would have expected *ₑrh₃* > *ₒrh₃* > Lat. *orh₃*, e.g. **pors* instead of *pars*); but it seems to me out of the question that in a common intermediate phase *RₑH* the vowel *ₑ* that developed before the laryngeal would not have been coloured by the latter. As the laryngeals retained their colour down to Greek, the original colour ought also to have been present in this intermediate phase. But in that case *Reh₁ Roh₃* (from *R̥h₁ R̥h₃*) ought to have given *Rē* and *Rō* in Latin and Celtic too. As this is not the case, such an intermediate phase cannot have existed. (For Italic and Celtic a common phase *RₑH*, *RₐH* or *RaH* would be conceivable.)

One can therefore establish only a parallel development.

5. Zero Grade *Rh₁* before Vowel

Parallel to ορ (and αρ) before vowel from *r̥h₃* (and *r̥h₂*; ἔπορον, ἔκαμον) one may expect ερ from *r̥h₁* in the same position, as Ruipérez postulated (p. 217). There are in my opinion a few forms in which this development can be pointed to. The aorist ἔβαλον from βάλλω was assumed to go back to **é-gᵘl̥h₁-om*. Here one would therefore expect on the grounds of the foregoing Gr. *ἔδελον, and this form is in fact found in ἔζελον· ἔβαλον Hsch. (with Arc. ζ < δ). In addition one finds in Arcadian a present -δέλλω. What the historical relation is between these forms, βάλλω — ἔβαλον : -δέλλω — ἔζελον, will be discussed below. Reference may first be made to the exact parallelism with τάμνω — ἔταμον : (Att.) τέμνω — ἔτεμον. Consequently, one might consider whether a root **temh₁-/tmeh₁-*, not **temh₂-/tmeh₂-*, forms the basis here. *H₂* has been concluded on the strength of Doric ᾱ (τμᾱ- and τμᾱγω) in Theocritus and Archimedes. However, these forms have no irrefutable admissibility as evidence, see Schwyzer, p. 185, Zus. 2. (In Theocritus τμᾱ- is found only in διέτμαξεν 8.24; on the other hand there is τμητός 25.275. Archimedes uses τμᾱ- and τμη- indifferently: 'oberflächlich dorisiert' (?), Schwyzer, p. 116.) Moreover, the derivatives of τάμνω tend more to point in the direction of *h₁* than *h₂*. There are three of them, ταμεσίχρως, τέμενος and τέμαχος. However, these are not of equal age. Ταμεσίχρως is evidently a relic; it occurs in Δ 511 and Ψ 803, on both occasions ταμεσίχροα, connected with χαλκόν, and N 340 (probably a more recent use, ἐγχείῃσι | μακρῇς, ἃς εἶχον ταμεσίχροας), each time after the penthemimeres. That τέμενος is old is

proved by Myc. *temeno* (*Docs.*, p. 266). The latter form may be derived without difficulty from **temh₁-* (cf. βέλε-μνον).[109] In ταμεσίχρως too the ε may have developed from h_1. For the α see below. On the other hand τέμαχος 'slice of fish' Hp., Ar., is more recent, and ought therefore to have the α analogically from other forms ending in -αχος. True, these are not very frequent, Schwyzer, p. 498:8 (influence of στόμαχος ?), but it is important that -εχος does not occur at all (cf. the problem of δόλιχος, p. 238). In my opinion this explanation is to be preferred to that which postulates assimilation from *τεμανος (cf. what is said on p. 206 about words with this vocalic structure) and metathesis (!) in *τεμασίχρως (starting from *ταμασίχρως the explanation would be even more difficult). See Add.

The future τεμέω (Hp.), τεμῶ (E., Th.) can be most simply explained from **temh₁-s-*; a root **temh₂-* would have led one rather to expect *τεμάω. The evidence is weakened by the fact that the form cannot be demonstrated as having occurred at a very early stage and, above all, because futures ending in -έω also occur from h_2-stems, e.g. καμοῦμαι (Hom.). However, it is striking that, while these futures seem to have been built on the (thematic) aorist (Schwyzer, p. 784), Ionic has (τάμνω) τεμέω ἔταμον; this seems to suggest that this future is not analogic, but does in fact go back to **temh₁-s-*. (If it is nevertheless built on the aorist, it does in any case point to an aorist ἔτεμον in an earlier phase of Ionic.)

After the above had been written, I saw that B. Forssman, *Unt. z. Spr. Pindars*, 1966, p. 158 ff., came to the same conclusion on the strength of Pi. *I.* 6.22, where the manuscripts all give τέτμηνϑ', which modern publishers alter into τέτμανϑ'. This form therefore gives a neat confirmation of the hypothesis.

If it is assumed that ἔζελον ἔτεμον were the phonetic aorists, ἔβαλον ἔταμον must have their vocalism from the present, while on the other hand -δέλλω and τέμνω ought to have been formed on the analogy of the aorist. In βάλλω τάμνω the vocalism is easy to explain: τάμνω here suggests a nasal present, i.e. **tm̥-n-eh₁-mi*. For the existence of nasal presents of disyllabic roots with h_1 and h_3 see p. 250ff. In the same way βάλλω will therefore also have been formed from **g^{u}l̥-n-eh₁-mi*. An *i̯ō*-present (Frisk) is conceivable only as a Greek formation, proceeding from the aorist stem βαλ-, but this was, as we saw, δελ- (-δέλλω may then thus have developed in this way). For one would expect *βληjω from PIE **g^{u}l̥h₁-i̯ō* (cf. Skt. *jíryati* < **gr̥h₂-i̯o-*).

[109] Jacqueline Manessy-Guitton, *IF* 71 (1966) 14-38, is of the opinion that τέμενος is non-IE and derives it (in emulation of Ch. Autran) from Sumerian *temen* 'barillet de fondation', Akkadian *temennu* etc., which is also said to be found in place-names in Palestine. It seems to me inconceivable that a Sumerian word, even if it is used as a place-name in Palestine, entered Greek in the living language. Further an Ugaritic form *tmn*? is mentioned. The semantic similarity is also slight.

Her objections to IE origin are just as inadequately founded. In my opinion there is not a single reason to doubt that we are concerned with a disyllabic root. The assimilation from τεμα- < **temh₂-* (or from the aorist stem ταμε-) also seems an objection to me, but this disappears if the laryngeal was h_1. It is certain that *-nos* was a suffix of the proto-language; it is found in ἔρνος and ἔθνος, and also τέμενος can therefore go back to **temh₁-nos*. It is possible that ἔρνος is derived with the suffix *-os* from a stem ending in *-n*, but the same is then also possible for τέμενος. That the stem τεμεν- does not occur elsewhere is not essential: in the case of ἔθνος too no *n*-stem can be pointed to.

Of importance here is Aeol. τόμοντες (Alc. L.P. G 1.15), although in my opinion a compelling interpretation is not possible here. The *o* of the stem can hardly go back to PIE *o*; *o*-vocalism is to be expected only in the perfect (the old form would have been *τέτομα, pl. *τέτμημεν) or possibly in an athematic present (**tomh₁mi*), but there is no trace of either. It is therefore most likely that the *o* is based on an Aeolic development of *m̥*. This may have occurred in the present **tm̥neh₁mi* > *τόμνημι. A more difficult question is whether **étm̥h₁om* would have become *ἔτομον in Aeolic. For it is conceivable that here the laryngeal determined the timbre of the vowel, so that ἔτεμον developed here as well. On the other hand, it is possible that, despite the h_1, o nevertheless occurred in Aeolic. To support the one argument one can point to Aeolic κάματος (Sapph.), ϑάνοντες (Alc.), where **dhu̯m̥h₂-* became ϑαν-, and in support of the second to χόλαισι (Alc., = χαλῶσι) and ὀν as against ἀνά; however, laryngeal is not entirely certain in the case of the last two words. Moreover, it is possible that h_2 did colour to *a* and h_1 did not colour to *e*. But what seems to me to be the most important point is that the form ἔζελον occurs in Arcadian, where one finds the same development of the sonants as in Aeolic. It is therefore most probable that **étm̥h₁om* became ἔτεμον in Aeolic and Arcado-Cypriot. The form τόμοντες found then indicates that here the aorist borrowed the vocalism of the present. Beside Ion. (Dor.) τάμνω ἔταμον and Att. τέμνω ἔτεμον (both normalized from τάμνω ἔτεμον), these dialects must therefore have had *τόμνω ἔτομον (from *τόμνω ἔτεμον).[110] (It is interesting to see that Theocritus has a system τέμνω ἔταμον, a consequence of the Greek rule *e*-vocalism in the present, zero grade (*a*-vocalism) in the thematic aorist. See for the distribution of the forms now Forssman, *Glotta*, 44 (1966), 5-14.) See Add.

Attempts have been made to explain ἔτεμον (and thus ἔζελον) in another way. However, in my opinion the two solutions suggested are improbable.

Τέμνω ἔτεμον could have developed under the influence of a present *τέμω, which was surmised in N 707 τέμει δέ τε τέλσον ἀρουρῆς. Ebel, *KZ*, 2.48, pointed out, however, that here τέμει cannot mean 'cuts', and translates it by 'achieves', as a present of ἔτετμον; so does Chantraine, *Gr. Hom.*, p. 309. This meaning does in fact fit in excellently as the climax of a typically Homeric simile like this (703-7), for which compare Σ 541-7 (this passage may be more recent, but that has little effect on the value of the parallel for the content). On the other hand there is no semantic indication of any relationship between τέμνω and ἔτετμον. There is consequently no indication of *τέμω (any more than of *δέλω), although in principle the possibility

[110] In general the representation of *m̥ n̥* in these dialects presents a problem. Cf. Lejeune, *Traité*, p. 169. The same problem is found in Mycenaean, which has *or/ro*, but has *a* for *m̥* and *n̥*. Ruijgh, *Inleiding tot de Mycenologie*, 1966 (privately circulated), § 29, is of the opinion that this is the only phonetic representation (*akitito* ἄκτιτος, *a₂tero* < **sm̥teros*). In his view the type *pemo* beside *pema* is analogic: **āmr̥ *āmn̥tos* gave **āmor *āmatos* here, which was replaced by *ἄμορ *ἄμοτος or *ἄμαρ *ἄματος, and, by analogy with this, one has *-ma(tos)* and *-mo(tos)* side by side. Thus one would in that case have to suppose that the secondary -οτος (in -ορ -οτος) would have influenced the ending -ματος, since it is not evident that *-or -otos* influences *-ma -matos*. Incidentally, the type *-or -otos* is not yet demonstrable, as far as I am aware.

of such a form cannot be denied (cf. Skt. *jáyati* < **g^{u}eiH$_3$-eti*). However, in that case the *nō*-present has no historical explanation.

Influence of the future τεμοῦμαι (Chantraine, *Gr. Hom.*, p. 314) also seems less probable to me, in view of the slight influence of this category in general (cf. p. 000).

The other explanation, proferred by Wackernagel (*Sprachl. Unters. z. Hom.*, p. 14), is the one generally accepted (Specht, *KZ*, 59.98, Schwyzer, p. 746,7 (cf. 3), Chantraine, *Gr. Hom.*, p. 391, Frisk s.v. βάλλω). This explanation proceeds from an original athematic aorist **é-temə-t é-tmə-ent*, and assumes that ἔτεμον is based on the full grade of the singular, i.e. **é-temH$_1$-om*. However, it is not clear why this did not occur with disyllabic roots with *H$_2$* as well. True, only a small group of words is concerned here, but all the same it is striking that with the stems ending in *H$_2$*, which are much more frequent than those ending in *H$_1$*, there is no trace of forms with *e*-vocalism, whilst in the case of both stems ending in *H$_1$* forms with *e*-vocalism occur. This tends rather to suggest that *H$_1$* is the cause of these forms.[111] Further, ἔταμον was derived from **e-tmə-om*, so that the existence of **e-tmH$_1$-om* (or in general **tmH$_1$-e/o-*) was recognized in any case.

Quite apart from this, there are other objections to this explanation, which will be successively discussed: a. with the exception of the disyllabic roots with *H$_1$* practically all Greek thematic aorists are derived from a zero grade; b. in Greek nothing suggests an aorist of the type **étemH$_1$-t*; c. in one case in which this type can be identified, Greek nevertheless has its thematic aorist derived from the zero grade.

(a) The thematic aorist in Greek is discussed by Schwyzer, p. 746 ff. Those with full grade (p. 746 b 1) must in this connection be divided among three groups:

(1) ἔτεμον and ἔζελον, which are under discussion here;
(2) the type ἔπορον, which in any case cannot be explained either from **é-perH$_3$-om* or from **é-preH$_3$-om* and in all probability goes back to a zero grade, as stated on p. 216 ff.;
(3) a remaining group that will be discussed here.

Re 3. Clearly secondary is ἀγέροντο ἀγέρεσθαι as against ἤγρετο ἀγρόμενος (Chantraine, *Gr. Hom.*, p. 395: "semblent avoir été créées pour les besoins du mètre". In the same way Ruijgh, *Etudes*, p. 67, with n. 95: **ἀγέρω* beside ἀγείρω (cf. δέρω/δείρω). "Le prétérit ἠγερόμην a fini par être pris pour un aoriste vis-à-vis du présent ἀγείρομαι (...), bien que l'aoriste thématique ait normalement le degré zéro (ἠγρόμην)". For πέρθετο, see Chantraine, l.c., p. 389 f., for ὦρετο *ibid.*, p. 392. In ἀπεχθέσθαι one has an imperfect which functions as aorist since the characteriza-

[111] Forssman, *loc. cit.*, p. 5, n. 3, also seeks the reason here, but gives a different explanation. The 3 sg. **e-temH$_1$-t* became ἔτεμε, which linked up with the thematic aorists, but in the case of **e-kemH$_2$-t* > **ἔκεμα* this link was more difficult on account of the -α (one would expect here a 'pseudo-sigmatic' aorist of the type ἔχε(υ)α). The origin of all thematic aorists must, however, be sought in the transition to the thematic declension (e.g. **é-drk-(e)nt* becomes **é-drk-ont*), which is not dependent on the ending of the stem (*-H$_1$* > -ε; compare the Hitt. forms ending in *-anzi*), so that it is probable that one has here the same phenomenon as everywhere else. For the rest, all the objections stated in the text apply to this explanation.

tion of the present by -αν-, Schwyzer, p. 700; cf. Chantraine, *Gr. Hom.*, p. 394.[112] The same is found in ἔτεκον, ἔπετον (Lesb., Dor.), ἐγενόμην beside the reduplicated presents τίκτω πίπτω γίγνομαι. (Incidentally, ἐγενόμην could also be explained from **ĝ$_{\text{u}}$enH$_1$-o-*. Skt. *ajananta* will be an innovation.) Θενεῖν calls for a somewhat more detailed study. This form is explained from a root-aorist **é-g^{u}hen-t é-g^{u}hn-ent*. However, it may be remarked that the zero grade of this root would have given an aorist *ἔφνον (or *ἔφανον, cf. ἔκτανον, which in any case is built on zero grade; see Frisk s.v. κτείνω), so that it would be understandable that this form was abandoned, because the connection with θείνω became unclear. It might be supposed that the form θείνας is a creation of the epic, if one compares Υ 481 ὁ δὲ φασγάνῳ αὐχένα θείνας with the two other places where forms of this aorist are found: Π 339 φάσγανον ἐρραίσθη· ὁ δ' ὑπ' οὔατος αὐχένα θεῖνε and Φ 491 ἔθεινε παρ' οὔατα. It might be that Υ 481 is based on a verse like Π 339, of which the imperfect was interpreted as aorist. However, both Π 339 and Φ 491 must be aorists. But there is no reason to assume that ἔθεινα is based on θενεῖν, as Schwyzer (p. 755) seems to think; ἔθεινα can as easily be explained as a new formation on the pattern κτείνω : ἔκτεινα. Ἔπεφνον (Il.) is without a doubt an old aorist, having regard to the similarity to Skt. *jaghnant* etc. A trace of the athematic aorist has perhaps been preserved in ἐπέφατο (cod. ἀπ-)· ἀπέθανεν Hsch. It is conceivable that PIE possessed in addition a second aorist without reduplication, but the only form that could point to this is the ἀπέφατο just mentioned, if this goes back to **-é-g^{u}hn̥-to*; the evident advantage of this interpretation is that the α of the manuscript does not need to be changed. But if the form *ἔθενον is old, one would expect this entirely isolated form (with full grade) in the oldest Greek, but it does not occur until Euripides and Aristophanes. A system θείνω — *ἔθενον stands entirely alone in Greek (compare κτείνω ἔκτανον);[113] it can therefore not be seen after what pattern the aorist in Greek could have been formed (as for instance Frisk assumes). It could only be assumed that the form *ἔθανον to be expected (with θ from θείνω for *ἔφανον) was replaced by ἔθενον to prevent homonymy with ἔθανον 'I died' (*ἔθανον would mean 'I killed'). Two further things attract the attention: the indicative of the aorist does not occur and the forms are often accentuated θένειν θένων. Taken all together this suggests that we are concerned here with old present forms (perhaps derived from the old conjunctive **g^{u}hen-e/o-* from **g^{u}hén-ti g^{u}hn-énti*; cf. also Lith. *genù*, OCS *zenǫ* beside Lith. *geniù* and (from the zero grade) OCS *zьnjǫ*, and Skt. *hanati*). Ὦφελον : ὤφλον are derived from full and zero grade of an athematic aorist (an opinion shared by Frisk s.v. ὀφείλω). The present ὀφλισκάνω will have been built on the aorist ὤφλον (as assumed by Szemerényi, *Syncope*, p. 202,7 as against Schwyzer, p. 746). The forms ὀφειλήσω, -ησα, -ηκα (Att.) are clearly built on the present. See for this now Ruijgh, *Etudes*, p. 68: one can also assume for Myc. *-operosi* a present *ὀφέλω, "dont le

[112] It is possible that ἐχθ- goes back to a zero grade if the root began with laryngeal: both **h$_1$eC-* and **h$_1$C-* give Gr. ἐC-.
[113] True, one has ὀφείλω ὤφελον, but Attic has precisely the aorist ὤφλον here; *v. infra*.

prétérit ὤφελον s'est conservé plus tard dans l'expression du vœu irréalisable"; and note 97: "au point de vue syntaxique cette forme fonctionne toujours comme un imparfait (ὤφελον = ὤφελλον chez Homère; cf. χρῆν, ἔδει)". The form ἆλεῖν finally is entirely isolated in Greek.

It therefore seems justified to conclude that all thematic aorists in Greek are derived from a zero grade. The few forms with *e*-vocalism are old imperfects.

Indian has a number of thematic aorists which have a full grade stem, of the *akarat* type. This seems to suggest that the theoretically expected possibility of thematization of the singular stem was in fact realized, so that allowance must also be made for this possibility for Greek. I am not convinced that this is correct. It seems to me that here in Indian we are concerned with more recent thematizations (cf. Kuiper, *Nasalpr.*, p. 77). For instance, it is clear that *akaram akarat* developed from athematic *akaram akar* (with the ending zero from PIE *-t*: **é-kᵘer-t*), i.e. in historical time. However, an essential feature here is the difference between Greek and Indian. In the latter language 1 sg., for instance *a-kar-a(m)* < *-ᾱ* (with secondary *m*), could be interpreted as thematic form, but the situation is different in Greek. The old athematic aorist to which ἔκλυον, Skt. *śruvam* go back, had in the singular **é-kleu-ᾱ é-kleu-t*, from which Skt. *áśravam áśrot* developed. But in Greek these forms gave *ἔκλεϝα *ἔκλευ[τ], forms attracted towards the (Greek) sigmatic aorist. It is assumed (Schwyzer, p. 744; Lejeune, *Traite*, p. 80, n. 4), that ἔχευα ἔσσευα and ἔκηα[114] (Il.) are representatives of this type. The zero grade is also found in the athematic medium χύτο, ἔσσυτο (Act. still σύθι· ἔρχε Hsch.). The forms ἐχεύατο and σεύατο are secondary; ἠλεύατο therefore presupposes a form *ἤλευα (see Chantraine, *Gr. Hom.*, p. 385). It thus seems that in Greek the zero grade became a thematic aorist, but the full grade a ('pseudo'-)sigmatic aorist (with 'thematic vowel' α), so that therefore a thematic aorist with full grade would be out of the question in Greek. (But see n. 111.)

(b) According to Meillet, *Intr.*[8], p. 200, the athematic aorist of disyllabic roots did not have the stem form sg. *TeRH-* (pl. *TRH-*), but sg. *TReH-*. In Greek one still finds (Schwyzer, p. 742, γ 1):

ἔτλην
ἔδρᾱν
πλῆ(ν)το (**pleh₂-*)
ἔβλητο
πλῆτο (**pleh₁-*; Skt. *áprāt*)
ἀπέσκλη (Ar.; innovation after the intransitive aorist ?)
ἀπ-ή-ϝρᾱ (?)
κατέβρως h.Ap. 127
ἔβλω· ἐφάνη, ᾤχετο, ἔστη Hsch.
ἐξέτρω· ἐξεβλάβη, ἐξεκόπη ἡ κύησις *EM.*

[114] The explanation of the η is uncertain. The disputed form ἤνεικα is not considered here. The α-forms of εἶπον seem recent.

The last three forms are considered recent. The medial forms may of course go back to zero grade. Further, reference may be made to:

the aorist of **gᵘeih₃-* 'to live', **é-gᵘi̯eh₃-* in ἐβίων;

the aorist of **bheu̯h₂-* 'to be' (Skt. *bhavīti*), **bhu̯eh₂-* in Lat. *-bam -bas -bat* etc. (Sommer, p. 514,521; Leumann, *Lat. Gr.*, p. 327; WH, I, pp. 557f.), pl. **bhuh₂-*, generalized in ἔφῡν, Skt. *ábhūt*.

The Greek material is therefore very scarce here. On the other hand, there is not the slightest indication of the existence of aorists with *TeRH-* in the singular. In Indian, too, there is no clear indication of the existence of this type. I know of only one form that might suggest the type in question, Arm. *eker* < **é-gᵘerh-et*, cf. p. 234 s.v. βιβρώσκω.

Note. On the other hand, the aorist of the type ἐκέρασα < **é-kerh₂-s-* seems to me an old formation that is not based on another aorist type and goes back to the proto-language. A striking feature here is that the lengthening of the stem vowel normal with the *s*-aorist is absent. In Sanskrit, too, the *iṣ*-aorist as a rule has the full grade (without lengthening): *abodhiṣam*, also in the medium, *akramiṣam akramiṣi*. This suggests that this type is old.

The type *TReH-s-* (Brugmann, *Grundr.*, II², 3, p. 418f.) seems to be wholly a secondary development of the individual languages, as Schwyzer (p. 755 β and γ) believes it is for Greek. Cf. further ἔστρωσα : ἐστόρεσα, ἔζησα/ἔζωσα : ἐβίων. The Indian forms will have to be regarded in the same way, ἔγνων: *ájñāsam*, πλῆτο *áprāt* : *áprāsam*, ἔδρᾱν: con. *drāsat*.

(c) It is known that the proto-language did not have an ablaut form *TRReH-* of roots of the type *TReRH-* (there is no trace of **dhuneh₂-* beside **dhu̯enh₂-*). It is therefore understandable that here the root aorist too had the form *TReRH-*, which would explain the form *ádhvanīt*, if we are concerned here with an athematic and not with an *s*-aorist. For an *s*-aorist of these stems cf. κρεμάσαι. If one must therefore start here from an athematic aorist **é-dhu̯enh₂-t édhu̯n̥h₂-(e)nt*, it is striking that nevertheless Greek has here ἔθανον, derived from the zero grade, not *ἔθενον from the full grade.

If these three points are considered it therefore proves that only very few thematic aorists in Greek could be built on an old full grade (θενεῖν ὀφελεῖν ἑλεῖν); that perhaps this is not to be expected in Greek either (they would have become pseudo-sigmatic aorists of the type ἔχευα); that an athematic aorist of disyllabic roots with a full grade *TeRH-* cannot be pointed to for certain; and that, of the aorist which did have the stem form **dhu̯enh₂-* in the singular, Greek nevertheless used the zero grade as starting-point for the thematic aorist (**dhu̯n̥h₂-* in ἔθανον). It is therefore most likely that the aorists ἔτεμον and ἔζελον are also derived from a zero grade.

See App. III.

6. *TeRh₁*, *T$_e$Rh₁* (*T$_e$Rh₃*)

The exact agreement between γενέτωρ (Hdt.), Skt. *janitár-*, Lat. *genitor* and Skt.

janitrī Lat. *genetrix*, for which Greek has γενέτειρα (Pi.) with full grade of the suffix (incorrect in Schwyzer, p. 381, quoted by Frisk), points to PIE **ĝenh₁-tor- ĝenh₁-tr-ih₂* (cf. ἐνατηρ; Lat. *ianitrīces* thus probably has the *i* from **ianater- > *ianeter- > *ianiter-*, parallel to *genitor*; only after that was *-ter* replaced by *-trix*; Leumann, *Lat. Gr.*, p. 365). It is improbable that the second ε in γενέτωρ -τήρ -τειρα is analogic (to what ?), since the word would certainly have preserved an original α beside θυγάτηρ ἐνατηρ (πατήρ), if it had not obtained one analogically. The possibility of PIE *e* is excluded by the comparison with the other languages.

However, the stem γενε- seems to have spread secondarily in Greek and may have displaced other forms; further only γνη- occurs, discussed on p. 000 f.; γενη- is clearly secondary. Besides γενέθλη (Il.), γενετή (Ω 535 σ 6 ἐκ γενετῆς, init.) Homer has only γένεσις (Ξ 201 = 302.246). However, the zero grade predominates in this type, so that one would expect *γνη-σις. The form γνήσιος (Λ 102 ξ 202) does not, however, point to the existence of such a form, since it is derived from a form ending in -τος (Schwyzer, p. 466). If γένεσις is old, its full grade as against the zero grade in the other forms could point to old paradigmatic ablaut. But Greek does not have other full grade forms. One further finds beside δμῆσις (Il.) δάμασις Sch. Pi. *O.*13.98 and beside κλῆσις (ἐπί- Il.) κάλεσις D.H. 4.18 (to explain Lat. *classis* !); ἔμεσις Hp. will be a word created by physicians (for the *(ϝ)μησις < **μμ̥h₁ti-* to be expected ?). In this way ἄροσις (I 580 ι 134) will also be a recent Greek form and will not go back to **h₂erh₃ti-* (**h₂r̥h₃ti-* would have given *αρωσι-). The forms ταλασίφρων (Il.) δαμασίφρων (Pi.) occurring in compounds contain, according to Specht, *KZ*, 59 (1932), 31-83, in origin the verbal root in the full grade (although in my opinion his argumentation is not compelling) and therefore do not count as evidence of an old form δάμασις etc. They are therefore thought to stand for *δεμασι- etc. Thus ταμεσίχρως may very well stand for *τεμεσι-, on the analogy of (Hom.) τάμνω ἔταμον. It may therefore not be concluded that *τάμεσις or *τέμεσις stands beside τμῆσις (Arist.). Lat. *gens* forms a separate problem. It is evidently an old word (Naev.). As it cannot go back to **ĝn̥h₁ti-* (this is found in *nāti-o*) and the assumption of an aniṭ form **ĝn̥ti-* is not justified, one must assume a form **ĝenh₁ti-* (cf. *pars* from **pₑrhtis*). One may therefore envisage here an old paradigm **ĝénh₁tis 'ĝn̥h₁téis*, to which γένεσις *gens — nāti-o* go back. For the ablaut cf. Schwyzer, p. 505. Cf. also Lith. *žéntas* < **ĝenh₁tos* 'son-in-law' and OHG *kind* < **ĝen(h)tom*. On the other hand, *genitus* (as against *nātus*) will be a recent Latin formation. For *germen* < **ĝenh₁men* cf. *palma* < **pₑlhma* (for Skt. *janman-* see Introduction, p. 10).

Βέλεμνον (Il.) contains **gʷelh₁-*. According to Specht βλῆμα (**gʷl(e)h₁-*) stands for *βελεμα (< **gʷelh₁-mn̥*); see Schwyzer, p. 523,5.

The interpretation of τέρετρον (Od.) is not entirely certain. In φέρετρον (Plb.), for instance, the second ε does not go back to *h₁* (despite Skt. *bharítram*), but is secondary for φέρτρον (Σ 236; on the other hand φαρέτρη (Il.) does seem old; **bhₑr-e-tr-*). The appraisal of Lat. *terebra* (**terh-s-ro-* or **terh-es-ro-*, cf. *cerebrum tenebrae*) is also uncertain. Lat. *tarmes* 'woodworm' points to **tₑrh-m-*; WH s.v. and

tero. OIr. *tarathar*, W. *taradr* '*idem*' also suggests **tₑrh-tro-*; for the reduced grade one may compare φαρέτρη. It is uncertain that πέλεθρον (Hom., πλέθρον Ion. Att.) is derived from **pelh₁-* 'to fill'. Δέλετρον (Numen. ap. Ath.) is too recent to be reliable. For τέρετρον both **terh₁-* and **tₑrh₁-* are therefore possible.

Ἄνεμος also belongs here, for which Skt. *ániti* suggests disyllabic root, and which corresponds to Lat. *animus* (Osc. *anamúm*), Skt. *ánila-* (it is by no means necessary to follow Frisk and assume dissimilation from **anima-*) and OIr. *animm* < **anamon-*, W. *anadl* < **h₂enh₁-tlo-* or **h₂ₑnh₁-tlo-* (cf. Arm. *holm* from **h₂onh₁m-*; for the type *ToRħm-* see p. 195 f. s.vv. κάλαμος and κνήμη). Av. *aini-van-* points to vocalic laryngeal, **h₂enr̥₁-*.

It can therefore hardly be doubted that *TeRh₁-* became *TεRε-*. However, a more difficult question relates to the development of *ₑrh₁*. Here one may expect αρε, but ερε is also conceivable with influence of the *h₁* on the reduced vowel (*ₑ*). One could compare with this the fact that *ₑmh* became *imi* in Indian, instead of *ami*, p. 208. The cases which could give an answer here are few in number and capable of different interpretations: in theory here it is always possible to explain ερε by an ablaut form with full grade (*erh₁*). On the one hand there is no compelling reason in ταμεσίχρως to start from **tₑmh₁-*, on the other hand OIr. *tarathar* is perhaps not sufficient to guarantee the form **tₑrh₁-* for τέρετρον.

In view of the general 'sensitivity' of Greek vocalism (and the predominance of forms with ερε ?), the development ερε seems to me the most probable one.

A parallel with *ₑrh₃* is rather difficult to find. The form ορο expected from it could be seen in Aeol. ἐστόροται (Jo. Gramm.). However, there is no indication that this form (beside ἔστρωτο Il.) is old. It may be analogic to ἐστόρεσα, cf. ἐστόρεστο D.C. (and ἐστόρηται Greg. Cor.). Moreover, a phase *ₑrh₃* in the perfect is incomprehensible.

A form with *ₑrh₃* may perhaps be found in ὄνομα. If the forms that the PIE word for 'name' displays are compared, they can be divided into three groups (only the forms of importance here are given): 1. Skt. *nāma*, Lat. *nōmen*; 2. Dor. ἔνυμα, OPr. *emmens*; 3. ὄνομα, Arm. *anun* (OIr. *ainm*, OCS *imę*). It seems probable that we are concerned here with the remnants of the ablaut of an old word with suffix *-m(e)n*. The first group points to PIE **nō-*, i.e. **neh₃-* (possibly **nₑh₃-*); the second must then go back to **enh₃-* (cf. for this stem form the definitely old words τελαμών and βέλεμν-ον, the latter of which may, however, be based on **gʷₑlh₁mn-* too, v. *infra*. For **neh₃-/enh₃-* see p. 44 s.v. ὄμφαλος and p. 47 s.v. ὄνυξ). The words of the last group have a vocalic element before the *n*. There is no indication of a laryngeal; see p. 47. *H₃* is out of the question on account of group 2 (and therefore also *h₂*); there is no positive indication of *h₁* and it would not explain ὄνομα (assimilation from *ἔνομα is, however, conceivable, cf. ἐρέφω : ὄροφος). These forms postulate a phase **ₑnh₃-* (cf. OIr. *talam* < **tₑlhm-* beside τελαμών). If this analysis is correct, we therefore have here a case where ovo goes back to *ₑnh₃*. This would demonstrate the principle of this development.

The interpretation that Cowgill, *Evidence*, p. 156, gives of this word deserves discussion here. He is of the opinion that OIr. *ainm* indicates that the stem of this word did not have a laryngeal, for **n̥ĥmn̥* would have given **náim* (the same view is expressed by Hendriksen, *Unters.*, p. 50). Lat. *nōmen* is said to stand for **nŏmen* under the influence of the root **ĝnō-*; Skt. *nāman-* represents **nŏmen* (according to Brugmann's Law), like Goth. *namō*. The root was therefore **ne/om-*, the declension **nómn̥ n̥méns*. In addition ὄνομα is, he believes, based on assimilation from ὄνυμα. However, the latter is not important, since he assumes that *no* before labial became νυ, so that *no* was therefore the starting-point after all. There are objections to this view. The vowel before the *n* in ὄνομα, Arm. *anun* cannot be explained in this way; on p. 152, Cowgill has demonstrated that the word cannot have had a laryngeal. Nor can the words that suggest **en-* (our group 2) be explained. True, a basis **en-em-* can be postulated, but its historical forms can only have been **enm-* or **nem-*; Dor. ἔνυμα would, however, have to go back to **enom-*. Finally, one also finds the long *ō* in Germanic, OFr. *nōmia*, MHG *be-nuomen*. According to Ernout-Meillet s.v. *nōmen*, Arm. *anun* also points to long *o*; Hitt. *la-a-ma-an* is uncertain. The predominance of *-mn-* in the oblique cases also seems to me to argue against Cowgill's paradigm, Hitt. *lamnas*, Ved. *nāmnā*, Goth. *namna*, OPr. *emn-* (< **enmn-*, as against nom. *emmen-* < **enmen-*),[115] Umbr. *nomner*. Our reconstruction **ₑnĥ₃-mn-* eliminates Hendriksen's objection. A serious difficulty for our reconstruction is, however, presented by the Germanic forms with *ŏ*, Goth. *namo* and *namnjan* (ὀνομαίνω, Hitt. *lamnija-*, of which the length is not known). The form would have to rest on secondary ablaut (*ō*/*ŏ*), on shortening in *nōmn-* > *nŏmn-* or on disappearance of the laryngeal, **noĥ₃mon-* > **nŏmon-*. The declension can no longer be reconstructed; it might be imagined as follows: **ₑnĥ₃-mén* (*-món*) **enĥ₃/mén-n̥* **nₑĥ₃-mn-ós*.[116] For declension with three ablaut phases of the stem cf. p. 195 s.v. κάλαμος.

If this interpretation is correct insofar as it concerns the form ὄνομα, this is of exceptional importance for the whole theory as given here. If *ₑnĥ₃* became ovo, this makes colouring of the reduction vowel by the laryngeal certain for the whole group *ₑRH*. For in that case colouring by the laryngeal is also highly plausible in the development of *R̥H-V* for the vowel that develops before the sonant and a fortiori for the vowel that arises after the sonant in *R̥H-C*.

However, a form with *o*-vocalism is also conceivable, **onĥ₃-mn-*, cf. **ĥolĥ₂m-* etc., OCS *plamy* 'flame' < **polmen* (Buning, *Ath. Conj.*, p. 30). See Add.

[115] Szemerényi, *Syncope* (p. 110 and p. 244f.), follows Cowgill and does not accept the stem form *en-*. In its place, however, he assumes that *emmens*, "an orthographic or linguistic deviation within Old Prussian history", stands for **immens* < **n̥men-*. But that leaves Dor. ἔνυμα unexplained, for which he assumes a prothetic vowel ε (beside o in ὄνομα). As the latter is unacceptable, there is also no reason to doubt the old Prussian form. Hamp, *Evidence*, p. 138, gives as the basic form for *emmens* **h₁nmnes*, of which the *h₁* is supposed to explain the *e*. This implies that the laryngeals were separately preserved down to Old Prussian, which ought to be demonstrated.

[116] Vaillant, *Gramm. comp. d. langues slaves*, II, 1 (1958), pp. 205 and 211f., proceeds from **nŏmn̥ n̥mnos*. The same objections apply to this as to Cowgill's view.

7. Full Grade *TeRĥ₃*

The last problem is the full grade *TeRĥ₃*. Here one would expect in Greek a development *TεRo*, which, however, is difficult to demonstrate. In the sigmatic aorist, where one expects this form, one finds στορέσαι, κορέσαι and λοέσαι, which will be discussed in the following section. The o < *ĥ₃* is found only in ἀρόσαι, ὀμόσαι, ὠνοσάμην and perhaps ἐνοσίχθων. First some remarks on these forms.

ἀρόω (Od.), ἀρόσαι (Hes.), ἀρηρομένη (Il.); ἄρουρα (Il.) Myc. *aroura*; ἄροτρον (Il.). Disyllabic root is confirmed by Lith. *arìu árti*, *árklas*, so that one may assume **ĥ₂erĥ₃-*. Ἄρουρα will be a continuation of **ĥ₂erĥ₃-tro-m.* Ἄρουρα may go back to **ἀρο-ϝαρ* < **ĥ₂erĥ₃-u̯r̥*, but in view of ἄλευρον (p. 234) **ĥ₂reĥ₃-ur-* is also conceivable.

ὀμόσαι has a stem **ĥ₃emĥ₃-*, see pp. 119, 131 and 234.

ὄνομαι, ὀνόσσεται, ὠνοσάμην (Il.) points to ὀνο- < **ĥ₃enĥ₃-*. But the zero grade that one expects in the medium, **ĥ₃n̥ĥ₃-*, would have given **ὀνω-*. In that case one must assume **ĥ₃ₑnĥ₃-* > ὀνο-, but then **ₑnĥ₃-* is also possible (**n̥ĥ₃-* gives **νω-*). In the latter case it may be connected with ὄνομα, see p. 229f. Lat. *nŏta* could also be linked with it as **nĥ₃-e/o-ta* (**ĥ₃n̥ĥ₃-e/o-* would have become **anota*).

ἐνοσίχθων may contain a stem ἐνο- < **(ĥ₁)enĥ₃-* (see Frisk), but there is no confirmatory evidence. Cf. moreover Myc. *enesidaone* (dat. sg.), *Docs.*, p. 109.

Scarce as this material is, it nevertheless clearly indicates that *(C)eRĥ₃* became *(C)εRo*.

a. κορέσαι, λοέσαι; στόρνυμι.

Three verbs present the special difficulty of *o*-vocalism in the sigmatic aorist. The most important forms of these verbs follow.

κορέσαι (Il.) was the starting-point of all other forms of this verb, κορεσθῆναι (Od.), κορέω, κεκόρημαι (Σ 287 Od.) κεκορηότε (σ 372). All presents (κορέννυμι Them. etc.) are recent. Lith. *šérti* 'to feed' confirms disyllabic root and shows the *e*-vocalism.

λο(ϝ)έσαι is probably the basic form for λοῦσαι (Il. 10 times, Od. 19 times) λούω (Il. twice, Od. once); see Frisk. For further interpretation see below.

στόρνυμι (Hdt., S.; καστορνῦσα ρ 32), ἐστόρεσα (Il.), ἔστρωτο (K 155). Στρωτός (Hes.), Lat. *strātus*, Skt. *stīrṇá-* point to **sterĥ-*, as does Skt. *sva-stara-* (< **-storĥo-*). Lat. *sterno*, OIr. *sernaim* — whatever the exact origin of these forms may be — point to the existence of forms with *e*-vocalism.

Whilst the aorist offers a problem here, the original form of the present is no less difficult to track down. Comparing στόρνυμι with ὄμνυμι, for which Skt. *ámīti* points to an old present **ĥ₃emĥ₃-mi* > **ὄμομι*, one arrives at sg. **sterĥ₃-(mi)* > **στερο-*, pl. **st̥rĥ₃-(mes)* > **στρω-*, **st̥rĥ₃-(ent)* > **στορ-*. Assuming that this reconstruction is correct, it must be doubted whether the 3 pl. στορ- was the starting-point for the present στόρνυμι (and thus for ἐστόρεσα ?). On the other hand, a nasal present is widespread; Ved. *st̥ṇóti* (*RV* once), Av. *stərənaoiti* point to **st̥-n-eu-mi*,

OIr. *sernaim* more to **stṛ-n-eh₃-mi*, but Ved. *stṛṇáti* may be secondary for *stṛṇóti*. Lat. *sterno* also suggests a nasal present. Since beside the stem **str-eh₃-* the form **str-eu-* emerges from Goth. *straujan* and Lat. *struo*, it is obvious to start from **stṛ-n-eu-mi-*. The original development of **stṛ-* in Latin (**stor-*) and Old Irish (**sri-*) has been replaced by another ablaut form. In Greek one would expect *σταρ-. If this reconstruction is correct, the *o*-vocalism must come from elsewhere. This development has a parallel in θόρνυμαι (Hdt., [S.] *Fr.* 1127,9), besides which the old form is found in θάρνυσθαι = κυΐσκεσθαι Hsch. It is evident from θαρνεύει· ὀχεύει, σπείρει, φυτεύει Hsch. that an old present ending in *-n-éu-mi -n-u-més* forms the basis here. The *o*-vocalism here is doubtless due to θορεῖν. Entirely comparable is the replacement in πέρνημι (after περάσαι; the original **pṛ-n-* in Aeol. πορνάμεν(αι)) and τέμνω (after ἔτεμον for τάμνω, p. 221ff). This would mean that the *o*-vocalism in the aorist is older than in the present. However, there is no indication of a thematic aorist *ἔστορον, nor is it probable that this form would have been transformed into ἐστόρεσα (since there is no parallel for such a transformation). One should therefore probably start from a stage *σταρνυμι ἐστόρεσα. The important place of the aorist is also evident from the forms in Homer: present only in καστορνῦσα ρ 32, ppf. ἔστρωτο K 155, further 21 aorist forms. True, this aorist only occurs in the more recent parts (I 4 times, Ω 3 times, Od.), but the fact that this type of aorist is old is evident from ἐκορέσσατο, which appears not only in the Odyssey but also at several places in the Iliad (ANTX), and notably from (the only active form in) Π 747 πολλοὺς ἂν κορέσειεν ἀνὴρ ὅδε τήθεα διφῶν. It can hardly be demonstrated that this last verb had a disyllabic root ending in *ḫ₃* (*κρωτος in κρωτάνεροι· βάναυσοι πολῖται, καὶ ἐξελευθεριῶται Hsch. ?), but, having regard to the parallelism with ἐστόρεσα, this is probable. Secondary influence of κορεσα- on the aorist of στόρνυμι is neither semantically nor formally plausible (the verbs do not have a single parallel form in Homer).

The form that one expects here in the sigmatic aorist is **στερόσαι < *sterḫ₃-s-*. The existence of this type seems to be confirmed by Myc. *rewotorokowo* (*'lewotrokhowos'*) and *rewoterejo* (*'lewotreios'*) beside λοετροχόος (Σ 346 Od.), which supposes an original form *λεϝοσαι for λο(ϝ)έσαι λοῦσαι. This therefore suggests a Greek metathesis λεϝο- > λοϝε-. However, this does not explain general *o*-vocalism in the other languages; see for these forms Cowgill, p. 159, for Arm. *loganam* also *Evidence*, p. 108. The problem becomes even more difficult if Hitt. *laḫḫuwai-* 'to pour' belongs here; Winter (*Evidence*, p. 108) consequently states that it does not (*laḫḫuw- < *leḫ₂u-*). And yet an exclusively Mycenaean metathesis *loue- > lewo-* is not very probable, since in that case this form would have entirely disappeared again. One could now assume parallel to this a metathesis στερο- > στορε-. That would also explain why ὁμο- ὁνο- remained unchanged (a development στερο- > στορο- > στορε- is therefore improbable). Ruipérez, *Emerita*, 18 (1950), 386-407, assumes that the metathesis occurred in the future, where *στερόω was replaced by στορέω (κορέει(ς) Θ 379 N 831 P 241), since in his opinion the category -όω did not yet exist then. However, in general there proves to be practically nothing of influence of the future on the aorist.

Moreover, the form *ἐστεροσα < **é-sterḫ₃-s-ṃ* corresponds fully to Skt. *ástariṣam*. This is usually regarded as secondary, in my opinion without reason. With a recent form one would be more inclined to expect **astāriṣam*, like *asāniṣam*, but here one has the old form, cf. p. 227 f.

Summarizing, one may therefore say the following about these three verbs. As secondary influence is improbable, the parallel forms will point to the same old category. The forms of στόρνυμι and κορέννυμι with their cognates point to a disyllabic root; for the former στρωτός suggests *ḫ₃*. The *o*-vocalism in the stem of these three verbs therefore seems ultimately caused by this *ḫ₃*. In the present it has been introduced on the analogy of the aorist, as the parallel θόρ-/θάρ-νυμι (ἔθορον θρω-) suggests. In the aorist one finds *ToRε*, whereas one would expect *TεRo*. This seems to point to metathesis, the more so as the old form appears to be found in Myc. *'lewo-'*.

8. Material of the Disyllabic Roots with $ḫ_3$ and $ḫ_1$

Now that the Greek developments have been established, a survey follows of the material, with some remarks on the genesis of the separate forms, insofar as of importance here.

a. *Disyllabic Roots with* $ḫ_3$

θρώσκω, θοροῦμαι, θορεῖν (Il.). The nasal present θάρνυσθαι· ὀχεύειν Hsch.. from which is derived θαρνεύει· ὀχεύει, σπείρει, φυτεύει Hsch., seems old; θόρνυμαι (Hdt., [S.] *Fr.* 1127,9) may have its vocalism from θορεῖν. The form τεθρᾶσθαι· ὠχεῦσθαι Hsch. presents serious difficulties. I can explain it only as analogic formation on the basis of θάρνυσθαι : τεθρᾶσθαι = θόρνυσθαι : *τεθρῶσθαι, cf. στόρνυμι ἔστρωται. Relationship with θρέομαι 'to cry aloud' (A., ἀλλο-θρόος Od.) (Frisk) should be rejected on semantic grounds. Θόρυβος therefore also remains outside this.

βλώσκω (κατα-, προ- Od.), μολοῦμαι, μολεῖν, μέμβλωκα (Il.). The connection with Serb. *iz-mòliti* 'to show', Slov. *molíti* 'to reach, pass', is not semantically compelling. However, if this points to a present stem **mol(ḫ₃)-*, it could be used to explain μολεῖν, see p. 217.

πορεῖν, πέπρωται (Il.); πρωτός see p. 211. Cognate with this is Skt. *pūrtá-* 'reward' and Lat. *pars* < **pₑrḫ₃ti-*.

τιτρώσκω (Hp.) τρώ(ϝ)ω φ 293, τρώσομαι ἔτορε Λ 236, ἔτρωσα; τρωτός (Il.). A more recent aorist is also (ἀντ-)ετόρησα (Il., Chantraine, *Gr. Hom.*, pp. 391, 416). Cf. also τέτορεν· ἔτρωσεν and τετόρῃ· τρώσῃ Hsch. See Add.

βιβρώσκω (Babr.), ἔβρων (h.Ap. 122), βέβρωκα (Il., βεβρώθοις Δ 35); βρῶσις (Il.); βρωτός (E., X.) agrees with Lith. *gìrtas* 'drunk', Skt. *gīrṇá-* 'swallowed'. The

laryngeal is further evidenced by *aja-gará-* 'goat-swallowing' (Av. *aspō-gara-* 'devouring horses', Lat. *carni-vorus*) < *-*g*ʷ*orĥo-*, cf. θυμο- δημο-βόρος (Il.). Arm. *eker* < **é-g*ʷ*er(ĥ)-et*, Lith. *geriù gérti* 'drink' display the *e*-vocalism. The connection with βάραθρον must be abandoned, since there is no trace here of the expected *o*-vocalism. That with δέρη (Frisk) has nothing to support it.

ὄμνυμι, ὀμοῦμαι, ὅμοσα (Il.), ὀμώμοται (A.), ὀμώμοκα (E.). The root ὀμο- (ὀμόσαι, ἀν-ωμο-τί Hdt.) is the same as that in Skt. *ámī-ti*, PIE **ĥ*₃*emĥ*₃-. The Greek present is of course an innovation. One could consider starting from **émĥ*₃*-ti* **m̥ĥ*₃*-més* **m̥ĥ*₃*-énti*, Gr. *ἐμοτι *μωμές *ὀμόντι and explaining the stem ὀμ- by the 3 pl. However, this does not seem an adequate starting-point for the *o*-colouring of all forms. In itself the aorist presupposes **ĥ*₃*emĥ*₃*-s-*. 'Ομωμο- may also point to *ĥ*₃- see p. 119. In Sanskrit the zero grade of the plural has been eliminated. Here may also belong ὁμοίιος for *ὁμο-ϝ-ιος, see Frisk s.vv.; there is no ground for his scepticism.

For κορέννυμι, στόρνυμι, λούω and ἀρόω, ὄνομαι see p. 231 f.

b. *Disyllabic Roots with* $\hbar_1$

ἐρέσσω (Il.), Att. ἐρέττω is denominative; ἐρέτης (Il.), Myc. *ereta*; *ἐρετηρ in Ἐρέτρια corresponds to Skt. *aritár-*. Beside this root form stands the full grade II *(*ĥ*₁*)reĥ*₁- in Lat. *rēmus* (the derivation from **rĕ-smos* is improbable, since Lat. **rĕ-* cannot be an ablaut form of this root). Lith. *iriù irti* represents the zero grade (which in Greek would be *(*ĥ*₁*)r̥ĥ*₁- > ἐρη-, not ἐρε- as Frisk suggests, I, p. 553; this ἐρη- is perhaps found in Lesb. τέρρητον if from *τρι-ερη-τον, Schwyzer, p. 274).

ἐμέω (Il.), ἐμέσσα (Ξ 437), ἐμήμεκα (Hp.); Skt. *vámiti*, Lith. *vémti* confirm the disyllabic root. In Homer Ο 11 αἷμ' ἐμέων and Ξ 437 αἷμ' ἀπέμεσσεν (for αἷμα ϝέμεσσεν ?) have no trace of ϝ. Skt. verbal adjective *vāntá-* < **u̯ṇĥ*₁*tó-*. In Greek *(ϝ)μητός would conform to this, so that ἔμεσις is probably secondary (p. 228). For ἔμετος (Hdt.) one could compare κάματος (i.e. **u̯ₑmĥ*₁*tos*), but here an analogic formation is more probable.

ἀλέσσαι, ἀλετρίς ἀλετρεύω (Od.), Myc. *aretere* points to disyllabic root **ĥ*₂*elĥ*₁-. Od. ἀλείατα (υ 108) is graphic for *ἀλήατα from *ἀλη-ϝαρ; to this Arm. *aliwr* corresponds, like *albiwr* beside φρείατα (Φ 197; from *φρηαρ). The latter thus points to PIE **bhrē-u̯r̥*. In the same way one must therefore start for *aliwr* ἀλείατα from **ĥ*₂*leĥ*₁*-u̯r̥* (not from *αλε-ϝαρ as Frisk believes). The thematized form occurs in ἄλευρον (Ion.-Att.; from *ἀληϝρον). Av. *aša-* < **arta-* may represent **ĥ*₂*l̥ĥ*₁*-to-* (this would be Gr. ἀλη-, but the forms with ἀλη- are probably secondary, v. Frisk s.v. ἀλέω).

ἀρέσαι (Il.) beside ἀρετή points to **ĥ*₂*erĥ*₁-. The forms ἀρείων ἄριστος are not entirely clear. Ἀρείων is evidently secondary as against Myc. *aro*₂*a* '*arjoha*' (for ἀρείων see Seiler, *Steigerungsformen*, p. 116 ff.). If they are derived from this stem, *arjos-* must go back to **ĥ*₂*erĥ*₁*-i̯os-* (**ĥ*₂*r̥ĥ*₁*-i̯os-* would have given *ἀρηϳος); cf. μέζ-ων < **meĝĥ*₂*-(i̯os-)*. Ἄριστος is probably not based on **ĥ*₂*r̥ĥ*₁*-istos* (> *ἀρεĥ₁-ιστος ?). Ἀραρίσκω, aor. ἄρσαι, has no disyllabic root and therefore can only be very distantly cognate.

τάμνω (Il.; τέμνω γ 175, Hdt.; not cognate is τέμει N 707, see p. 223), τεμῶ (E.), τάμον (Il.), ἔτεμον (Att.); τέτμηκα Arist., τετμημένος, ρ 195. Τμήγω (Nic.; ἀπο- Il.), τμήξας (Il.); -έτμαγον (δι- η 276), τμάγεν (Il.). The original system was τάμνω (for *ταμνημι) — ἔτεμον (< **é-tm̥ĥ*₁*-om*), see p. 221 ff., where the dialect forms and the derivatives are also dealt with.

βάλλω, ἔβαλον (Il.) beside Arc. -δέλλω (ἐσ-, ἐκ-), ζέλλω (*EM*), ἔζελον goes back to βάλλω (for *βαλνημι) — *ἔδελον (< **é-g*ʷ*l̥ĥ*₁*-om*). Βλῆτο βέβληκα (παρα-) βλήδην are probably all based on zero grade, like βλητός (Hp., see p. 219). For βέλεμνον see p. 228; for βέλος from **g*ʷ*elĥ*₁*-os* cf. γένος, p. 180.

πίμπλημι (for the μ Schwyzer, p. 689) of the root **pelĥ*₁*-/pleĥ*₁-, of which the zero grade is found in Skt. *pūrṇá-* etc., see p. 219. Full grade I may be found in Skt. *parīṇas*, *párīman-* 'fullness'. Skt. *pūryáte* is based on **pl̥ĥ*₁*-i̯e-*. Hom. πλῆτο probably has zero grade, as against full grade in Skt. *á-prāt*. For Skt. *pr̥ṇáti* see p. 252. The present system seems the most difficult one. As Skt. *piprmáḥ* can be explained (p. 245), sg. *piparmi* may be analogic. Conversely, πίμπλαμεν will have been derived on the analogy of ἵστημι ἵσταμεν from πίμπλημι, *ibid.* The most self-evident is therefore PIE **pi-pleĥ*₁*-mi* **pi-pl̥ĥ*₁*-més*, rather than Specht's **pi-pelĥ*₁*-mi* (*KZ*, 59.106).

γίγνομαι (p. 243), γενέσθαι (p. 225), γέγονα γέγαμεν (p. 244); γενέθλη, γενετή, γένεσις (p. 228), γνήσιος κασίγνητος (p. 219 f.) all Il. The laryngeal is lost in γένος (p. 180) and γόνος, Skt. *jána-* < **ĝonĥo-*.

καλέω, καλέσαι, κέκλημαι, κεκλήσομαι Il.; κλητός (Ι 165 ρ 386; πολύ- Δ 438 Κ 420; τηλέ- (also -κλειτος Il.), κλήδην (Ι 11, ἐξονομα- Χ 415 Od.), κλῆσις (ἐπί- Il.). The forms with κλη- can hardly all be regarded as secondary; there is no example for καλε-/κλη-, while analogy would be more likely to operate in the direction of καλε-/καλη- (cf. γενη-, beside γενε-/γνη-), as indeed in καλήτωρ (Ω 577, cf. Ο 419 Ν 541), Καλήσιος Ζ 18. This interchange must therefore probably be regarded as old ablaut. Καλέω may be based on the aorist, but here one would expect full grade (with *e*-vocalism, *ἐ-κελε-σα). Nor can the α be explained by a nasal present **kl̥-n-eĥ*₁*-mi* > *καλνημι, while there is no indication of this formation either (*κάλλω, cf. βάλλω). Nor does Greek have any old nouns with καλε-. Connection with κέλομαι (as conjunctive present **kelĥ*₁*-o-*) is semantically disputable; Frisk connects it with κέλλω (Od.) 'to run a ship aground', which is no less dubious from the semantic point of view. I can explain the form καλέω only by a present **k*ₑ*leĥ*₁*-mi* > *καλημι; see for this *infra* s.v. ἄνυμι (and cf. Umbr. *kařetu* < **kalētōd*).

γαμέω, ἔγημε (Il.) may be based on the same formation as καλέω; here, however, not a single other ablaut form is known. (Frisk's "ἔγημα eine einsilbige Reduktionsstufe" is characteristic of his unclear idea of the PIE ablaut; the form is most simply explained as an analogic formation from the stem γαμ-, cf. σφαλ- ἔσφηλα). The interpretation of γαμβρός is entirely uncertain, see Frisk. Skt. *jārá-* 'suitor, lover', is probably a loan word, see Mayrhofer s.v.

ὄλλυμι, ὀλοῦμαι, ὀλέσαι ὀλέσθαι, ὄλωλα (Il.); ὀλέκω; ὄλεθρος, ὀλετήρ (Il.), ὠλεσίκαρπος (λ 510) suggests a disyllabic root *$*ḫ_3elḫ_1$-*. The present may be a Greek innovation, cf. ὄμνυμι. Hitt. *ḫullai-* may perhaps be cognate (Couvreur, *Ant. Class.*, 12 (1943), 108). For νωλεμές see p. 110.

ἄνυμι (ε 243) ἀνύω (Att. ἀνύω); ἄνω < *ἀνϝω (K 251 Σ 473 (?) γ 496); ἤνυσα 'to effect, accomplish, win' belongs with Skt. *sanóti* 'to win'. Disyllabic root is demonstrated by *asāniṣam*, *sāta-*, and *sína-* 'supply, provision' (< *$s_e nḫ$-o-*, see p. 208) and Hitt. *sanḫzi* 'to seek, endeavour'. One could connect the aorist ἤνεσα with this (**é-senḫ_1-s-*), but this does not appear until fairly late (Specht, *KZ*, 59.93, Schwyzer, p. 752). Schulze's conjecture (*Quaestiones*, p. 158f.) of *ἐννεσιεργούς for ἐντεσιεργούς (Ω 277) is attractive on account of ε 243 θόως δέ οἱ ἤνυτο ἔργον and Σ 473 καὶ ἔργον ἄνοιτο (fin.; ἄ!), but remains dubious. For the metrical lengthening (of the full grade ἐνε-) ἐνν- see Chantraine, *Gr. Hom.*, p. 100f. (ἐνοσίχθων, ἐννοσίγαιος, εἰνοσίφυλλος and others). However, it is not clear how ἐνν- was replaced by ἐντ-.

The form of the present calls for a more detailed treatment. Kuiper has shown (*Nasalpr.*, p. 91ff.) that there is little reason for the assumption of a nasal present from a root ending in *-n* (i.e. the type **sn̥-n-eu-mi*) and that here one must, as with *bhanákti*, *tanóti*, *tanakti*, start from **t_en-éu-ti* **t_en-ék-ti*.[117] In accordance with the type **t_en-ék-ti* is **k_el-éḫ_1-mi*, καλέω, *supra* (κέλομαι could be the conjunctive present, **kelḫ_1-o-*, of this, as of **t_enékti* **tén-k-ō*, Goth. *þeihan*; *o.l.*, p. 121f.). For ἄνυμι, *sanóti* the form **s_en-éu-mi* is in that case self-evident. If the *u*-enlargement is not old (**sen-ḫ_1-/sn-eḫ_1-* beside **sn-eu-*, as with **str-eḫ_3-* **str-eu-*, **dr-eḫ_2-* **dr-eu-* **dr-em-* (in Gr. δραμεῖν) etc.), both forms may be analogic for original **s_en-éḫ_1-mi*; however, this is not important to the root vocalism.

This recalls the type Skt. *irajyáti* beside *ṛṇákti*. Bartholomae, *Studien z. idg. Sprachgesch.*, 1890/1, p. 122, started from **ṛr-eĝ-* or **ər-eĝ-*; so did Persson, *Wurzelerw.*, p. 245,1, and Kuiper, *Nasalpr.*, p. 58. The form *ər-*, i.e. *hr-*, however, became *r-*, not *ir-*, in Indian (otherwise Sanskrit would have to have forms with *i-* that correspond to Greek ones with 'prothetic vowel'). The form *ṛr-*, for which the notation $_e r$ is used here, is confirmed by comparison with the type *tanákti*. However, for *irajyáti* Gr. ὀρέγω points to a laryngeal as first phoneme, **ḫ_3reĝ-*. This leads to the reconstruction **ḫ_3_e r-eĝ-(mi)* for *iraj-(yáti)*. One therefore has of this root all the forms discussed here together:

**ḫ_3ṛ-n-éĝ-mi*	in Skt. *ṛṇákti*	
**ḫ_3r-én-ĝ-ō*	Lith. *ranszies*, ON *rakkr*, MHG *rank* 'slim'	
**ḫ_3_e r-éĝ-mi*	Skt. *irajyáti*	Gr. ὀρέγω
**ḫ_3r-éĝ-mi*	Lat. *rego*	

Iradhanta, Gr. ἐρέθω, may also have had a group **ḫ_e r-*.

That such forms occur with *in-* is demonstrated by *inakṣati* 'endeavours to reach' beside *nakṣati*, *náśati*, PIE **ḫ_1_e nék-/ḫ_1nek-*, Gr. ἐνεγκεῖν, of which the laryngeal can also be demonstrated in another way. Here the correctness of the reconstruction is further confirmed by the fact that the laryngeal explains the *i-* (as in *sína-* < **s_enho-*, p. 208), since $_e n$- in Indian would have become *an-*.

[117] His spelling *n̥n* is identical with $_e n$; it designates a group with *n* before which in the separate languages a vowel appears that does not go back to full vowel in the basic language.

On the other hand, Lat. *unguo* cannot therefore have had a laryngeal as first phoneme on account of Skt. *anákti*, not **inakti*.

τρητός. The *e*-vocalism is confirmed by Germanic, OHG *drāen*, OE *þráwan* < Germ. **þrē-*. The formation of the aorist τέτρηνα (X 396 Ψ 198), Att. τετρᾶναι is unclear. One is reminded of τρᾱνής, Lith. *trinù trìnti*, Latv. *trũts*. In view of the *a*-vocalism these forms probably belong to **ter-ḫ_2-/tr-eḫ_2-* with another enlargement. For τέρετρον see p. 228f.

σκέλλω (κατα — ομαι A.). Disyllabic root is suggested by σκελετός ('dried up' Pl. Com., 'dried body' Phryn. Com.): σκληρός Hes. etc. The original verbal system is difficult to reconstruct; the aor. ἀποσκλῆναι (only Ar. *V.* 160; again analogic to this is ἀποσκλαίη Hsch.; the latter form gives no basis for $ḫ_2$, cf. LSJ s.v. σκληρός) and the perf. ἔσκληκα (ἐν- Hp.) may be recent. The present σκέλλω from a stem **skelḫ_1-*, however, suggests in comparison with -δέλλω τέμνω an original *σκάλλω (not = σκάλλω 'to stir up, hoe' Hdt.) — *ἔσκελον with analogic σκέλλω. A form *σκάλλω does in fact presuppose σκήλει'(ε) Ψ 191 (Fick *σκείλειε; the same idea is given for instance by Curtius, *Verbum*, I, p. 307); this would then go back to **skl̥-n-eḫ_1-mi*. Cognate with this περισκελής S. and perhaps also ἀσκελής Hom. (despite Frisk). Bechtel's interpretation (*Lex.*, p. 66) is all the same probably the correct one: with ἀσκελὲς αἰέν (α 68 fin.) and ἀσκελέως αἰέν (T 68) cf. νωλεμὲς αἰεί (fin.) and νωλεμέως; thus the ἀ- is probably privative. There is no reason to regard ἀσκαλέως· ἄγαν σκληρῶς Hsch. (with ἀ- intensive) as a mistake for ἀσκελέως (Frisk): the α may be due to influence of *σκάλλω. The interpretation of σκελετός beside σκληρός is uncertain. Recent Greek forms are probably σκελεφρός (Hp., -ιφρός Erot.) beside σκληφρός (Pl.). Apart from σκελ-ετός (Schwyzer, p. 502) as against σκελε-τός (*idem*, p. 743,3) it also remains uncertain in the latter case whether this form goes back to **skelḫ_1-tos*, or, like κάματος, to **sk_el ḫ_1tos*.

πάλλω has not been interpreted for certain. Only if it is in fact cognate with πελεμίζω and Lat. *pello* is it of importance here. Πελε-μ- (beside Goth. *us-filma*, OIcel. *felms-fullr* 'terrified') may in that case be based on **pelḫ_1-m-*. Lat. *pello* (with the Old Irish compounds ending in *-ella* < **-elnā-*; secondary for *-nē-* ?) may go back to **pelnō* (with secondary full grade), so that πάλλω may have developed from **pl̥-n-eḫ_1-mi*; see p. 251.

ἐνδελεχής (Pl.) perhaps points to a noun *δέλεχος 'length'; the relationship with Skt. *dīrgha-*, Av. *darəga-*, Serb. *dȕg* (**dl̥ḫgho-*) shows disyllabic root, so that for *δελεχος one must possibly start from **delḫ_1ghos*. Full grade II is found in the Skt. comparative *drāghīyas* etc. A problem is presented here by δολιχός. The ι can hardly have developed by dissimilation from *o*, since *o* in Greek is never subject to assimilation or to dissimilation, Schwyzer, p. 255f.; it is conceivable from α, but in that case one would also have expected *ἐνδελαχης (where assimilation is possible), but there is nothing that positively points to α; nor is ο-α-ο > ο-ι-ο demonstrable (any more than ο-ε-ο > ο-ι-ο, which is more likely to become ο-ο-ο, Schwyzer, *loc. cit.*). Viewed from Greek, one should start from **dolḫ_1gho-*. A reduced grade

*$d_el\hbar_1gho$- cannot explain the first *o*; only influence of $\hbar_3$ could be considered here. The zero grade *$dl\hbar_1ghos$ would have given *δληχος. Hitt. *daluga-* (*i*-stem) does not offer any elucidation. According to Hendriksen, *Unters.*, p. 59, the *u* is graphic for the velar pronunciation of the *l* before *k* (i.e. *dalga-*), with $l\hbar > al$). Seiler, *Steigerungsformen*, p. 101 f., cannot be right in assuming ολι $< l$.

δέλεαρ/βλῆρ 'bait'. The data are: δέλεαρ E., δελεάζω Hdt.; βλῆρ Alcm.; δείλατα Call. *Fr.* 177.17; gen. δελείατος Numen. ap. Ath. 7.305^a; δέλευρα Ath. *loc. cit.* The interchange δ/β confirms that we have here various ablaut forms; it is self-evident to assume that these go back to paradigmatic ablaut. Δέλεαρ and δέλευρα point to a noun ending in -*u̯r̥*. The stem forms must have been *$g^uel\hbar_1$- > δελε- and *$g^ul(e)\hbar_1$- > βλη-. The root is similar to that of βάλλω, and possibly identical with it. Δελείατος may have been formed on the analogy of φρέαρ φρείατος, as also δείλατα. (The connection given by Frisk with βλέτυες 'leeches' is untenable; this is more likely to be non-IE, like βδέλλαι '*idem*'.)

ἄημι is based on a root *$\hbar_2u̯e\hbar_1$-; for cognate forms see p. 57 f.

ϝερ(ε)-/ϝρη-. Beside εἴρω ἐρέω the perfect εἴρηται (Il.; Arg. ϝεϝρημένος) points to *$u̯e$-$u̯r̥\hbar_1$-*toi*; connected with this are ῥητός (Φ 445, παραρρητός I 526 -ά N 726), ῥῆσις (φ 291); also ῥήτηρ I 443, ῥήτρη ξ 393. One may therefore assume *$u̯r̥\hbar_1$-*tos* for ῥητός. On the other hand, Skt. *vratá-*, Av. *urvāta-* probably stem from *$u̯r\hbar_1$-*eto*; a different view is stated by Thieme, *IIJ* 3 (1959) 150.

For ἄνεμος see p. 229.

C. SPECIAL PROBLEMS

1. The Development of *ToRH-C* and *TR̥$\hbar_3$-C*

Now that the development of the various ablaut forms of the disyllabic roots for the three laryngeals has been broadly discussed, a number of problems remain that will be discussed in the following sections.

Viewed from PIE, the question arises of the representation of *ToRH* before consonant, for which, parallel with *TeRH*, one would expect in Greek *ToRε ToRα ToRo*. However, these forms are rare, and consequently it has been thought (the first to do so was De Saussure, *Mél. Nicole*, p. 511) that these forms were represented by *ToR*, that in other words the laryngeal disappeared without trace after *o*-vocalism.

This question is complicated by the fact that in Greek *ToR* also seems to correspond to PIE *TR̥* (*TR̥H*). After the above it is clear that this possibility may be considered for *TR*$\hbar_3$ only: for the timbre (of *ToR*) can be explained only by influence of the $\hbar_3$.

One therefore finds in Greek *oR*, which sometimes seems to go back to *oRH* and sometimes to *R̥*$\hbar_3$. Needless to say, a close distinction should be made between these two cases. True, it may be assumed that *R̥*$\hbar_3$ became *oR*$\hbar_3$, and that only afterwards

did this become *oR*, like PIE *oRH* became *oR*, but this would first have to be proved. The cases which are adduced as proof of this development will be discussed separately here. The material comes from Brugmann, *Grundr.*, I^2, p. 477, Hirt, *Idg. Gr.*, 2, p. 185 f., Meillet, *Diall. i.-e.*, p. 68 f., Schwyzer, p. 363 (Lehmann, *PIEP*, p. 94, merely repeats Schwyzer).

For *oRH* > *oR* the following are cited:

ἀμοργή (Hp.) 'watery part which runs out when olives are pressed'; from ἀμέργω 'to pluck or pull', τὰς ἐλάας 'to squeeze out (juice)' (Frisk). There is no reason to assume a laryngeal here. The connection with Lat. *marceo* 'to wither, droop, shrink' is phonetically difficult (*c* — γ) and not semantically compelling.

κόρση does not belong with κέρας, v. Frisk.

μορφή does not belong with Lith. *márgas* 'motley', v. Frisk.

πορθμός (Meillet) 'ferry, place crossed by —, strait' (Od.) belongs with Lat. *portus*, Av. *pərətu-*, which point to aniṭ root (beside περάσαι etc., p. 199 f.).

To connect οἶσος 'withy' (Thphr., Ael. Dion.) with ἰτέα 'willow' (-η Φ 350 κ 510) and, on the strength of the length of the ι (see for this Frisk) and the connection with Skt. *vītá-* (*vyáyati* 'to wind'), to assume a laryngeal, is too hypothetical to be used as an argument. Cf. also ἴτυς (Δ 486 E 724) with ἴ also placed in the same category with the same degree of certainty.

φόρτος (Od.) φορμός (Hes.), beside φέρτρον (Σ 236) φέρμα (A.), comes from the aniṭ root *bher-; there is insufficient indication of PIE disyllabic root here.

κοῦρος (Il.), Arc. κορϝα, Myc. *kowo*, is derived from κορέσαι. Comparable is θοῦρος (θοῦρις Il.), which is connected by some with θρώσκω. However, here there is the possibility that θάρνυσθαι points to a root variant *dhr-eu-, so that *θορϝος may go back to *dhor-u̯-o-. If both forms are based on an *u*-stem, a zero grade *$dhr̥\hbar_3$-u- > θορυ- could be considered. For κοῦρος the form κόρυξ· νεανίσκος Hsch. might point to this. But in addition one finds κόρυψ and κόριψ (see Frisk, I, p. 921), which might point to non-IE origin for this word.

οὖλος 'woolly'; the comparison with Skt. *ūrṇā*, Gr. λῆνος, is not further stated by Frisk. His connection of it with εἰλέω is unverifiable. The word cannot be explained with sufficient certainty.

βροντή. Only -βρεμέτης (ἐρι-, ὑψι- Il.), βρεμεαίνων· ἠχῶν Hsch. might suggest disyllabic root, but against this is -βρέντᾱς (B 16.66: cf. βρενταί· βρονταί Hsch.). For -βρεμέτης one may compare -ρεϝ-έτης, Skt. *sravát-* (Persson, *Beiträge*, p. 2.688).

τόρμος 'hole or socket in which a pin is stuck' (Hdt.; more recent is τόρμα Lyc.); τρητός τέρετρον suggest $\hbar_1$. Τέρμα τέρμων τέρθρον do not belong with this (but rather with *$ter\hbar_2$-, Skt. *tárati, tiráti* < *$tr̥\hbar$-*éti*, *tīrṇá-*, Hitt. *tarḫzi* 'is powerful, can'), which likewise do not have a trace of laryngeal. For this word and the following one see *infra*.

πόρνη (Archil., Ar.) 'prostitute' is perhaps cognate with πέρνημι περάσαι (Aeol. πορνάμεν Hsch.) as 'bought slave' (LSJ) or 'brought over the sea'.

τόλμᾰ Att. is perhaps derived from τολμάω (as suggested by Solmsen, *Beitr.*, I,

p. 266, Boisacq s.v., not *τολμja, as stated by Meillet, *op. cit.*, p. 6ff., Schwyzer, p. 283). Τολμάω itself may have been derived from *τόλμη, which is found in Dor. τόλμᾱ (Pi.) (cf. for instance ὀργάω from ὀργή). This is therefore the oldest form of this group, which has the same stem as τλῆναι etc. (p. 200). The comparison with OHG *hamma* < **konh̥m-a* (p. 196f. s.v. κνήμη) and OHG *halm* etc. < **ḱolh̥m-* (p. 195 s.v. κάλαμος) suggests a noun **tolh₂m* **tl̥h₂m-*; cf. ὀργή *infra*.

πότμος is the only word in which *h* is believed to have disappeared after occlusive. It probably belongs with πίπτω (cf. for the meaning Lat. *casus* etc.). This word conjures up many questions. The Homeric system πεσέονται ἔπεσον πεπτεώς (Φ 503 χ 384, both times with synizesis; πεπτηώς perhaps does not belong here, Chantraine, *Gr. Hom.*, pp. 428, 430 with n. 1) does not give a clear indication of laryngeal. Nor are the Indian forms with *i* sufficient to demonstrate laryngeal (as Frisk thinks, II, p. 522). If there was one this ought to have been h_1. Πίτνω (Pi., A.; for πιτνέω see LSJ) can hardly be explained as a recent formation and therefore seems old; it could be thematization of a present *πιτνημι < **p_et-n-eh₁-mi*. It is doubtful whether πέτομαι belongs here, since ἔπτατο πταμένη here tend more to suggest h_2. Then it is dubious whether ποταμός stems from the same root: the transition 'falling' > 'river' suggests a torrent, which is not the typical meaning of ποταμός (cf. the Homeric epithets μέγας, ἐύρροος, καλλίρροος, εὐρὺ ῥεών; for διιπετής see Schmitt, *Idg. Dichterspr.*, p. 183ff. ('flying against (in) the sky'). On the other hand, Δ 452 points to a mountain brook). There is thus no certainty in my opinion that πότμος had a laryngeal.

R̥h₃ > oR.

κονι-ορτός belongs with ὄρνυμι and therefore has the aniṭ root **h₃er-*.

κόρδαξ has no etymology; Skt. *kúrdati* is probably a loan word, v. Mayrhofer.

ὄλμος 'round smooth stone, cylindrical body, mortar' has from the semantic point of view only a slight agreement with Skt. *sūrmí* 'trough to collect water'; the etymology has therefore been abandoned by Frisk.

στόρνυμι is explained as **stṛh₃-n-eu-mi* by Ruipérez, *Emerita*, 17 (1949), 106-18. However, Skt. *stṛṇomi* points to **stṛ-n-eu-mi*; **stṛh-n-eu-mi* would have given **stīrṇomi*. There is inadequate support for this formation too; Skt. *dhūnoti* is recent for *dhunoti* after the participle *dhūtá-*; θάρνυμι : θόρνυμι is not an argument, since this or is the form to be explained; in themselves these forms tend rather to point to a Greek innovation than to parallel PIE formations. (Λίναμαι beside ἐλῑνύω cannot go back to the same root on account of the ἐ-. Κίνυμαι is recent, like Skt. *krīṇáti*, besides which there are still traces of *krῐ̄ṇáti*.)

νεώβορτον· νεωστὶ βεβρωμένον Hsch. The second element seems cognate with **g^wṛh₃tos* > βρωτός. The explanation that the laryngeal was lost in composition and or is the Aeolic development of *ṛ* is not a convincing one. A recent formation after βορά ('food' A.), -βόρος (Il.) βορός ('gluttonous' Ar.) seems more probable to me. (If an attempt is made to emend the word, νεόβορον Schmidt, LSJ, it loses its value for the argumentation.)

πολλή beside Skt. *pūrví* could be added to this list, if πολλ- went directly back to **pl̥h₃u-*. However, this is in no way certain. The original **pl̥h̥uih₂* may have been replaced in Greek by a form with πολ- from other forms; cf. p. 218f. The syncope πολλο- < *πολυλο- (< **pl̥h₃u-lo-* ?) seems highly improbable to me. (Szemerényi, *Syncope* (!), p. 189, is also of the opinion that the form must be explained otherwise, but has still to publish this explanation.)

ὀρθός, Dor. βορθο- (ϝορθο-) beside Skt. *ūrdhvá-* could point to **u̯ṛh̥dh-u̯o-*, but *ūrdhvá-* : Av. *ərəδwa-* (without *u̯* and without a trace of laryngeal; however, the latter occurs more frequently in Avestan, cf. *pərəna-*, *kamərəδa-* (p. 215)) is in itself unclear. Lat. *arduus* (*_erh̥dhu̯o-* ?) has no *u̯* either. If the *u̯* has disappeared through dissimilation, a system remains of two ablaut forms, which suggest an old *u*-stem: **u̯_erh̥dh-u-* **u̯ṛh̥dh-u-*. For the Greek form one might consider a basic form **u̯_erh₃dhu-*, but original *o*-vocalism is also conceivable, **u̯orh̥dhu-*, cf. μόνος, ὅλος.

ὀργή 'natural impulse, mood, anger', ὀργάω 'growing ripe, swell, to be eager', Skt. *úrj-* 'strength, power'. For the meaning cf. Lith. *narsas* (**h₂ner-t-*) 'courage' *and* 'wrath'. Since the consonantal stem in Sanskrit is older than *ūrjá*, allowance must be made for the declension of an original consonantal stem, which may have been **u̯orhĝ-s*, acc. *u̯erhĝ-m̥* (in OIr. *ferg* 'wrath' ?), gen. **u̯ṛhĝ-ós*. Gr. ὀργή will therefore be more likely to go back to **u̯orh̥ĝ-*.

There is consequently not a single case that points irrefutably to the last development discussed, *R̥h₃ > oR*; the interpretation of πολλή is too uncertain, ὀρθός and ὀργή are more likely to go back to full grade with *o*-vocalism (and therefore belong to the other category). Nor is there any theoretical support for this idea. In the first place it is incomprehensible that no αρ < *ṛh₂-C* (and ερ < *ṛh₁-C*) is known, while ρᾱ is more frequent than ρω. The idea that or developed from ωρ is defended by Brugmann, *Grundr.*, I², p. 477, on the strength of the parallelism ωρ/ρω with αρ/ρα. However, it is not probable that the latter is an arbitrary interchange, although there are still problems of detail here. The absence of the parallel forms αρ and ερ stated above also applies here as a counter-argument. It must of course be borne in mind here that Brugmann regarded only ρω as the phonetic development (although he also considered ρᾱ, cf. p. 210). A development *ṛh₃C > orC* cannot therefore be regarded as having been demonstrated, and it is not plausible on theoretical grounds either.

The situation is more difficult with the assumed development *oRH > oR* before consonant. Here too the material is scanty: τόρμος, πόρνη, πότμος and τόλμᾱ may be considered, and from the second group ὀργή and ὀρθός. But it cannot be doubted that τόλμᾱ belongs to the stem **telh₂-* and it cannot easily be explained as an innovation (there is no further trace of a stem *τολ-).

As counter-examples mention can be made only of χρόμαδος ὅμαδος στοναχή κόναβος κόλαφος, which, however, may be explained as analogic forms. Δοάσσατο, ποταμός and ὤνατο are uncertain. The latter form is perhaps analogic. However, the stem ὀνο-, like ὀμο-, points to the development from laryngeal to vowel after *o*; cf. Persson, *Beitr.*, p. 2.686.

Theoretically the following may be considered: firstly that it cannot be seen why the laryngeal disappeared after syllable with *o*-vocalism, secondly that it is possible that a consonantal laryngeal was not vocalized, as for instance in Indo-Iranian. For Greek, too, one seems to have to assume this in certain cases. See for this problem as a whole p. 254.

2. Loss of the Laryngeal in Composition

Hirt, *Idg. Gr.*, 2, p. 184 ff., has the interesting thought that the combination of the loss of the laryngeal and the *o*-vocalism originally stems from composition. The loss of the laryngeal in composition will be further discussed here.

In Vedic the loss of *ə* (*ḥ*) is known, *AiGr.* 1.82 f. and 93 ff. The same phenomenon is found in Avestan. For instance

stīr̥ṇá : *á-str̥tá-*
kīrtí- : *carkr̥tí-*
deva-tta (from **dḥ₃to-*, Gr. δοτός)
sū-tí- : *sú-ṣu-ti-* 'easy birth'
śī- 'to lie' : *ní-śi-tā* 'night'
dī- 'to shine' : *dí-di-vi-*
gr̥- : *tuvi-gr-á-* (not **-gira* < **-g[u]r̥ḥ-o-*)
á-hve < **é-ghu-ai* (not **é-ghuḥ-ai*)
á-bhva- < **n̥-bhu-o-* (not **n̥-bhuḥ-o-*)

Of course, the form of the simplex was often restored in the compounds: *sú-ṣū-ta*, *prá-tūrti-*. The cases with *ḥ* after *o*-vocalism in composition, where the laryngeal prevents lengthening in accordance with Brugmann's Law, must therefore be viewed in this way (type *aja-garáˊ-* < **gʷorḥo-*, p. 10).

Before vowel one therefore has *-TRH-o-* > *-TR-o-* (or *TR̥H-o-* > *TR̥o-* > *TRo-* ?). However, Kuryłowicz, *Apophonie*, p. 172 (and p. 197 f.), gives an incorrect interpretation of the development before consonant as *-TR̥ə-C-* > *-TRə-C-* (i.e. *-TR̥H-C-* > *-TRH̥-C-*). According to him, one would therefore have a fundamentally different development than before vowel, viz. a shift in the syllabicity. This is improbable, and moreover one would expect from *Rə* (*RH̥*) in Indian *Ri* (e.g. **carkritíˊ-* < **-krəti-*). His further assumption that *Rə* became *R̥* in Indian has no support and is superfluous if, instead of the unexplained shift in the syllabicity, one assumes disappearance of the (consonantal) laryngeal, *-TR̥H-C-* > *-TR̥-C-*.

Kuiper has discussed the phenomenon in *Die Sprache*, 7 (1961), 14-31 (and *Lingua*, 11 (1962), 225-30). He doubts that it goes back to PIE. Almost all instances that are adduced come from Vedic. He further assumes that the (few) forms of the type *parī-tta* developed by metathesis of the laryngeal, **pari-dhta* > **pari-ḥdta* > *parī-tta*.

In this way there is thus an indication of the preservation of the laryngeal in composition down to the separate languages (*-dḥto-*). However, in my opinion this does not exclude the possibility of PIE origin. (The type *parītta* is probably a compound that first appears in Indian, as Kuiper also assumes.)

It is understandable that everywhere else, also already in Homeric Greek, the form of the simplex has been restored in composition, so that the original form is still found in isolated instances only. This consequently hampers proof and gives all the more value to the possible cases.

Independent parallel development is also possible. Kuiper has pointed to a similar phenomenon in a Munda language, Sora. In Latin others have pointed to *Consus* < **con-dḥtus*. If J. P. Smit's explanation of *cognitus* < **cognatus* < **cognaḥtos* < **-ĝn̥ḥ₁tos* is correct, this points to the same phenomenon in Latin, but not in PIE (that would have been **-ĝn̥-tos* > **cogentos* > **cogintus*); see p. 204.

Here the Greek material should therefore be considered.

Hirt (p. 186) mentioned the following cases.

ὄβριμος (Il.): βρίμη; these words are probably of non-IE origin, see p. 54.

ἐπισκύνιον (Il.) 'skin of the brows': σκῦλα 'spoils'. However, a connection with σκύλος 'animal's skin, hide', is more self-evident. The etymology is further unknown.

ἔγκυτι (Archil.) is too uncertain to be used as an argument (Frisk s.v. and s. κύτος).

In my opinion not the slightest value may be attached to these words. The following seem more important to me.

If ἴγκρος is based on **en-kr̥ḥ₂-o-*, it must have lost the laryngeal, for otherwise one would expect **ἐγκαρο-*. It is then entirely in line with νεογνός mentioned below.

στρατός, Aeol. στρότος, parallel to Ved. *á-str̥ta-*. However, there is no indication in Greek of origin in composition. See further below.

βρότος 'gore' has been compared with Skt. *mūrtá-* 'clotted'. Leumann, *Hom. W.*, p. 124 ff., rejects this explanation on the strength of the phonetic difficulties and gives another explanation that is difficult to summarize. He assumes that it is an artificial word from epic language and bases his view on the passage E 339 f. The expression ἄμβροτον αἷμα occurring here, borrowed from an older passage, has, he says, been wrongly interpreted as 'Nichtblutsblut', from which βρότος = αἷμα has been concluded. If the identification with *mūrtá-* is correct, ἄμβροτον could be interpreted as 'uncongealable blood' (**n̥-mr̥ḥ-tos* > **n̥-mr̥-tos* > ἄμβροτος), but 'immortal blood' is more self-evident. However, it remains difficult to see — despite Leumann — how βρότος 'blood' was concluded from this locution.

γίγνομαι is cited by Kuryłowicz, *Apophonie*, pp. 172, 197 f. PIE **ĝi-ĝn̥ḥ₁-o-* would have given **γι-γενο-*, Lat. **gigano*. Skt. *ájī-janat*, Av. *zī-zanənti* are thematizations of **ĝi-ĝenḥ₁-mi*. For the aorist ἐγενόμην see p. 225. For the perfect see below. The same problem would be presented by κέκλετο, the aorist of κέλομαι, if the stem is **kelḥ₁-* (p. 235). The same applies to ὁμοκλή if **ὁμο-κλ-ᾱ* < **-klḥ-ā*. I am not

certain that κλόνος 'confused motion, turmoil, battle-rout' belongs here (Frisk), on account of the meaning.

Another word which does belong here is νεογνός, which has many parallels in the other languages, Goth. *niuklahs* (< **-knahas* < **-ĝnh₁o-kos* (but see Feist); not *-kuna-*), *ainakls* (< **aina-knaz* < **oino-ĝnh₁os*; Feist has a different opinion), Lat. *privi- malibeni-gnus* (not *-ganus*; cf. Leumann, *Lat. Gr.*, p. 202), Celtic, e.g. Gaul. *Trutiknos, Enignus*, Av. *ā-zna-* ('innate'), Phryg. ουεγνῳ;[118] with *io* derivative ὁμόγνιος, Gaul. *Abegnia*. Cf. *manipulus* < **-plo-* (not *-palus*), Skt. *kāma-pr-á-* (not **-pura-*) 'fulfilling desires'.

At this point we should also deal with forms like τέτλαμεν, which could be interpreted as **te-tl̥h-mes* > **te-tl̥-mes*. The group should be considered as a whole, and we shall begin with γέγονα. Cowgill (p. 148) disclaims loss of the laryngeal in composition (**ĝe-ĝn̥h₁-* > **ĝe-ĝn̥-*) and starts from an aniṭ root **ĝen-*, "hardly attested outside of Greek", (n. 7) "Most notably in Latin *gens*". Lat. *gens* here, as demonstrated above (p. 228), is no proof: the form may equally well go back to **ĝenh̥ti-*, like *pars* to **pₑrh̥ti-* and *palma* to **pₑlh̥ma*. It is therefore more self-evident, as Cowgill also suggests in n. 8, to explain γέγαμεν as analogic form, starting from an original system γεγονα *γεγνη- (*γεγνᾱ- in Cowgill's view), on the example of μέμονα μέμαμεν.

There is consequently no reason to assume for γέγαμεν loss of the laryngeal in composition, which reduces the possibility that τέτλαμεν is based on this. Moreover, it would not be comprehensible why beside τέτλαμεν a form τέτληκα (τετληότ-) existed, where one would after all expect τε-τλᾰ-. But τέτληκα is also recent, since one expects **te-tolh̥₂-* (pl. **te-tl̥h̥₂-*). (Perhaps Lat. *tetuli* goes back to this form.) It cannot be taken for certain that βεβολήατο (I 3), βεβολημένος (I 9 ~ κ 247) points to a perfect *βεβολα (cf. Chantraine, *Gr. Hom.*, p. 435, and Frisk s.v. βούλομαι). It is possible, but not demonstrable, that the perfect of the type τε-τλη- goes back to medial forms with zero grade; only beside βέβληκα do such forms occur in Homer (βέβληται etc.). On the other hand, passive forms of θνήσκω, κάμνω and τλῆναι are inconceivable and the medio-passive perfect is as a whole recent, since the perfect itself is perhaps in origin cognate with the medium (see p. 133). It therefore seems most probable that the type τε-τλη- is of Greek origin and likewise the vocalic interchange. Cowgill (p. 150) speaks, in emulation of Kuryłowicz (*Apophonie*, p. 197), of a 'super-zero grade' (τλᾰ- compared with τλη- < **tl̥h̥₂-* : τλη- < **tl̥eh̥₂-*), which has been formed on the example of the type στη- : στᾰ- and the (Greek) *a*-vocalism of the zero grade of aniṭ roots (*R̥* > αρ/ρα etc.). Here, therefore, *τετολα *τετλημεν will first have been replaced by *τετληα (cf. also τετληότι) *τετλημεν, this by *τετληα τέτλᾰμεν and finally *τετληα by τέτληκα. In the same way τέθνηκα τέθναμεν arose; here τέθναμεν cannot be based on loss of the laryngeal, for **dhe-dhu̯n̥-* would have given *τε-θα- (γέγονα γέγαμεν and τέθνηκα τέθναμεν therefore stem from the same system).[119]

[118] In a Greek (!) inscription, *MAMA*, 167: ουεγνῳ υἱῷ = τῷ ἰδίῳ υἱῷ. **Ouegnos* 'selbst erzeugt' < **sṵe-ĝnh₁-o-*; for **sṵe-* cf. Skt. *sva-jāta-, sva-jana-*.

The same problem may be found in πίμπλημι πίμπλαμεν, to which in Sanskrit *píparmi pipr̥máḥ* conforms. The plural forms may go back here to **pipl̥mes*, and *píparmi* be a secondary form based on the plural (and on the analogy of *píparmi pípr̥maḥ* 'to ferry', which in Vedic has an aniṭ root), while on the other hand πίμπλημι seems old in the Greek system (**pi-pleh̥₁mi*); Av. (*ham-pa-*)*frāi-ti* presents a parallel. It therefore seems that πίμπλαμεν is based on a similar secondary ablaut to τέτλαμεν (**pleh̥₁-* and **pl̥h̥₁-* had after all coincided in πλη-). Skt. *pipr̥máḥ* will be based on loss of laryngeal in composition. The stem form χρε- (beside χρᾰ-) of κίχρημι (Schwyzer, p. 689, Frisk s.v.) points clearly to new formation of a weak grade. The other presents with this interchange are πίμπρημι κίγκρημι ἵλημι and τίτρημι (Kuryłowicz, *Apophonie*, p. 205, n. 49).

The cases for which loss of the laryngeal in composition should be considered are therefore στρατός, ἴγκρος and γίγνομαι/νεογνός. Even if στρατός were the only case this seems to me to ensure the principle for Greek too: it seems undeniable that it belongs with στόρνυμι στρωτός, on the strength of the semantic parallels, and in that case another explanation is not possible. Cowgill (p. 155 with n. 27) assumes that one must start from PIE **ster-* beside **sterh̥₃-*. In Indo-Iranian a distinction in meaning is apparent, *str̥-* 'to lay low, strike down (enemies)': *str̥̄-* 'to strew, spread out'. This division may of course also be *secondary*. His remark (n. 27): "Presumably the enlarged and unenlarged roots were not at first completely synonymous. ... Later each language moved toward (either) reuniting the two in a single paradigm, (or else eliminating the *ster-*forms)" is improbable: differentiation from one paradigm is much more frequent. In any case Greek στρατός does not have the meaning of Ind.-Ir. *str̥-*, and the meaning is entirely identical with στρωτός (στόρνυμι) and Lat. *strātus*. His invocation of PIE **ster-* therefore does not seem justified.

3. The Presumed Development of *RH* as *Rə*

In the old view that the *ə* was exclusively vocalic, it was self-evident that the group sonant-*ə* was reproduced in the separate languages by sonant (in consonantal function) followed by short vowel. Thus τλᾰ- was explained from **tlə-* (as for instance still in Chantraine, *Morph.*², p. 12; less definite is *ibid.*, p. 9).

Within the laryngeal theory, which assumes that *ə* was usually consonantal (*e̯*, *h̥*), one expects in the group *CRHC* a vocalic sonant (*R̥H*, with the Greek developments ρᾱ ρη ρω). It is not impossible to assume for the proto-language a vocalization *CRḤC*, but this is not very probable. So Cowgill states, pp. 150 and 153. In any

[119] The replacement by the short *ᾰ* is perhaps demonstrable in the perfect of ἱλάσκομαι, if B. 10.8 ἑλλᾰθι goes back to *σε-σλᾰ-θι as against ἔλλᾰτε (Call.), ἵλᾰθι (Theocr.): here *σλᾱ- could go back to *sl̥h- (an opinion not shared by Frisk). However, a problem is presented by the forms with *e*-vocalism, Lac. ηιλε̄ϝοι; this would lead one to expect *ἔλληθι. But there are many problems attached to the interpretation of the forms of this stem.

case it seems called for to start from *CR̥HC*, and to consider the other possibility only when the facts cannot be explained otherwise. In the preceding chapter it was demonstrated that τέτλαμεν πίμπλαμεν can be easily explained in another way. The forms πλάθανον (p. 181) and γνάθος (p. 190) do not seem an argument for $R\hbar > R\breve{a}$ either. For the forms with ă of ῥήγνυμι τμήγω πλήσσω see p. 183; in the case of the last verb these do not appear until Ionic-Attic, and in the case of the first two one expects $\varepsilon < \hbar_1$ (for $\hbar_1$ in τμη- see p. 221ff.).

Reference may be made here only to γλῶσσα γλάσσα, which seems to preserve an old ablaut; in an isolated word like this it seems less probable that we are concerned with a more recent analogic form (γλᾰ- instead of γλᾱ- ?), as Cowgill, *loc. cit.*, assumes. Pedersen, *Cinq. décl.*, p. 30, assumed with regard to these forms that they go back to an original paradigm γλῶσσα *γλασσᾶς cf. ὀρόγυια etc., p. 37. In the element preceding the suffix *-iĥ₂*, however, one expects no full grade, and therefore no *o*-vocalism either.[120] If the stem contained a laryngeal, one could explain λω from a zero grade *l̥ĥ₃*, but in that case one would have to assume that beside *l̥ĥ₃* a vocalization *lĥ₃* occurred and that $\hbar_3$ became α. If the laryngeal were $\hbar_2$, then in any case, apart from the full grade with *o*-vocalism ($oh_2 > \omega$), one would expect λᾱ instead of λᾰ. In my opinion the stem cannot therefore have contained a laryngeal, and one must start from PIE **glōgh-* **g̥l̥gh-* (or **gl̥ₑgh-*). This ablaut, and in particular the form with lengthened *o*-vocalism, makes an old feminine highly improbable and tends more to point to a root noun, which in Greek would have been *γλώξ *γλαχός. The existence of this is confirmed by the pl. γλῶχες (with elimination of the old ablaut). When the forms with γλωχ- were generalized and those with γλαχ- disappeared, the old feminine γλάσσα < **g̥l̥gh-iĥ₂* was replaced by the newly formed γλῶσσα.

A few other Greek words possibly had the same ablaut. For πτώξ -κός (Il.): πτάκα (acc. A.), πτάκις (Com. Adesp. 1127) 'hare' πτώξ *πτακός is probable, but in view of the connection with πτήσσω, Dor. πτᾶξαι (of which the *ā* must go back to *eĥ₂*), one must count here on the possibility of **ptoĥ₂k-s* **ptĥ₂k-ós*. Ῥώξ 'breach, narrow passage', ἀπόρρωξ etc., which belongs with ῥήγνυμι, also had a laryngeal. Ῥώξ ῥᾱγός 'grape' is not of importance here (in view of the ᾱ) and is perhaps non-IE. (A word with this structure that is definitely non-IE is δρώψ; see p. 72.) It is difficult to appraise ῥώψ (ῥῶπες Od.): χρυσό-ρραπις (Od.). Connection with ῥέπω, ῥέμβομαι or ῥάπτω, as Frisk suggests, does not seem to me to have a sufficiently firm semantic basis. On the other hand, the comparison with ῥόπαλον seems self-evident (I see no reason to connect this with ῥέπω, as Frisk does). Ῥάβδος will also belong here. But if καλαῦροψ καλαυρόφις and ῥάμνος ('various prickly shrubs', cf. ῥῶπες) are cognate with this, one must think of non-IE origin instead. Τρώξ, -γός (Strattis, V B.C.) 'gnawer, name of the weevil': τράγος (Od.) may have been derived from

[120] That the stem — but not the element directly preceding *iĥ₂* — could have *o*-vocalism is evident from ὀρόγυια, which must go back to **h₃roĝ-us-iĥ₂*. One would like to posit **h₃rₑĝusiĥ₂* for this form, but the parallel form ἀρεπυία points to full grade; **h₂rₑpusiĥ₂* could not have become other than **ἀραπυια*.

τρώγω ἔτραγον. Beside *πρῶξ πρῶκες 'dewdrop' (Call., Theocr.) one has πρόξ, -κός 'roe deer' (ρ 295), πρακνόν· μέλανα Hsch., περκνός πρεκνός, Skt. *pr̥śni-* etc.; for the meaning see Frisk under these words. True, there is no proof here of an ablaut **prók-s* **pr̥k-ós*, but the first form may be regarded as certain. This is also evident from κλώψ (Hdt.), which without doubt belongs to κλέπτω, and φώρ (Lat. *fur*), which is derived from the root **bher-* in φέρω. If Arm. *erast-an-k'* may be based not only on **prĥk-t-* but also on **pr̥k-t-* (Boisacq), a noun **prōk-t-s* **pr̥k-t-ós* is possible for πρωκτός. As, according to Meillet, *Esquisse*², p. 42f., both *r̥* and *r̄* (*r̥ə*) and *ₑr* became *ar* in Armenian, one might also assume **prₑk-*. This view would be confirmed if Skt. *pr̥ṣṭhám* 'back' belongs here. Mayrhofer (s.v.) doubts this on account of the vocalism, which in this view is not a drawback. The meaning is more likely to point in this direction; it is difficult to see how **pr̥-stĥ₂-o-* 'standing in front, leading' could become 'back'. Cf. also WH s.v. *postis*. On account of the Indian *th* one must perhaps in that case assume a laryngeal after the *t*. It is sufficiently known that lengthened *o*-vocalism in PIE could characterize the nominative. One may recall those ending in *-ōn* (Introduction, p. 12, λειμών), *-ōr*, *-ōs* (p. 202) and further ὀδών (with Skt. *dánt-am dat-ás* from PIE **dónt-m̥* **dn̥t-ós*), κυών (of which Lat. *canis* will continue a reduced grade, whatever may have been the exact development) and with *-s* **ĝʰ²óm-s* **ĝʰ²m-ós* 'earth' (p. 196) and **pód-s* 'foot' (πώς).

Thus γλῶσσα γλάσσα cannot be used for whatsoever argument with regard to the laryngeal theory.

4. Disyllabic Roots with *i̯*, *u̯* before the Laryngeal

As regards the disyllabic roots with *i̯*, *u̯* before the laryngeal one sometimes assumes that *iĥ*, *uĥ* before consonant could become not only *ī*, *ū* but also ια, υα (or ε or ο instead of α). In the preceding section it proved that the development *Rə* (*RH̥*) is not a probable one. One would therefore expect that in the group *i* (or *u*) followed by laryngeal too the *i* (or *u*) was syllabic, and the laryngeal consonantal. On the other hand it appeared probable that *iĥ₂*, *uĥ₂* at the end of the word became ϳα, ϝα. We shall therefore briefly discuss the cases that are believed to have had this development.

βρῑθύς βρῑθω : βριαρός (Il.). The same root is assumed in Skt. *grī-ṣmá-* 'high summer' (enlargement of **gʷer-* in βαρύς ?). It is not necessary that βριαρός directly represents **gʷriĥ₂ros*. A recent formation, βρι(ħ) + αρος, is conceivable, as is **gʷriĥ₂-ero-*. Frisk's *-iı̯ə-* (i.e. *iı̯ĥ*) presupposes that *i* and *ĥ* could at the same time be vocalic, which is not probable. One might consider *ₑi̯ĥ₂* > ιϳα (for the structure **gʷrₑi̯ĥ-* cf. **gʷrₑu̯i-* that is suggested by Lat. *gravis*), but from *ₑi̯ĥ₂* one could also expect αϳα (cf. Lejeune, *Traité*, p. 177f., whose explanation is not historical, however).

πρίατο (α 430 ξ 115.452 ο 483, all πρίατο κτεάτεσσιν ἑοῖσιν |; other forms in Attic), which is cognate with Skt. *krīṇáti* (for *kr̥ṇáti*) and OIr. *crenaim* (**kʷri-n-eĥ₂-mi*), could go back to **kʷriĥ₂-e-to*. Forms like ἐπριάμην πριαίμην πριάμενος must in that

case stand for *πριο- < *$k^{u}ri\hbar_2$-*o*-. (Cf. Hom. ἔπτατο πταμένη — either a root-aorist (*$pt\hbar_2$-), or a thematic aorist (*$pt\hbar_2$-*e*-) — beside (more recent ?) ἐπιπτέσθαι (Δ 126), where the ε is therefore secondary for the α < $\hbar_2$-*e* to be expected.) In general one expects with $\hbar_2$-*e*/*o* > α/ο generalization of the α or replacement by ε/ο. Lejeune (with many predecessors) assumes *$k^{u}r^{o}y\partial_2$-, in our notation *$k^{u}r_{e}i\hbar_2$-; in that case πρίατο would be athematic.

κῑνέω κίνυμαι suggests **ki-n-eu-mi*; the *eu*-enlargement is also found in *$k\underset{\cdot}{i}$-*eu*-, σεύω and related forms. Here one would therefore expect short ι. True, in κῑνύμενος (Κ 120 Ξ 173 κ 556) and μετεκίαθε metrical lengthening is probable, but this does not seem an adequate explanation. The α in μετεκίαθε and κίατο· ἐκινεῖτο Hsch. probably points to laryngeal. The element αθ may have developed from $\hbar_2$-*edh* (cf. Schwyzer, p. 703,2); μετεκίαθε seems to be the oldest form (Λ 52.714 Π 685 Σ 532.581 α 22) with αθ (Homer still has only ἐέργαθεν (Ε 147 Λ 437 Ξ 36 Φ 599 φ 221). Thus κίατο may represent *$ki\hbar_2$-*e-to* (cf. πρίατο), and possibly *$k_{e}i\hbar_2$-, beside κίε with analogic ε. In that case ῑ could be analogic after ῑ < *ih̯C* (**kih̯-n-* is inconceivable). Another explanation may be that the length derives from the thematized plural forms; for instance:

*di-*n*-$éu$-*mi* → *δινεϝω > *δινέω → δῑνέω (Aeol. ?δίννημι)
*di-*n*-*u*-$més$ → *δινϝω > δίνω (Aeol. ?δίννω)

This view is presented by Heubeck, *Proc. Cambr. Coll. Myc. Stud.*, p. 233, n. 5. (If νϝ in Aeolic became νν, δίννω (Hdn.) provides support for δίνω (Hes. *Op.* 598) and δίννημι (? Sappho, 1.11) is an indication that the forms ending in -έω/-ημι did in fact undergo the influence of those with -νϝ-. However, this development is not certain, Schwyzer, p. 228, Lejeune, *Traité*, p. 137, n. 1.)

βίᾱ corresponds to Skt. *j(i)yá*, i.e. *$g^{u}\underset{\cdot}{i}$-*e*$\hbar_2$ (or *$g^{u}i\hbar$-*e*$\hbar_2$?). Sanskrit has two presents, *jináti* < *$g^{u}i$-*n*-*e*$\hbar$-*ti* and *jáyati* < *$g^{u}e\underset{\cdot}{i}\hbar$-*eti*. If βῑνέω '*coire, futuere*' belongs with this, one has the same problem as with κῑνέω. Ζάει (·βινεῖ Hsch.) < *$g^{u}\underset{\cdot}{i}e\hbar_2$- as against βι- < *$g^{u}i\hbar_2$- (or *$g^{u}_{e}\underset{\cdot}{i}\hbar_2$- ?).

βιῶναι βίοτος Il. (βιοτή βίος Od.), ζώει Il. For βίοτος βιοτή (cf. ἀρετή) a stem form *$g^{u}i\underset{\cdot}{i}\hbar_3$- is assumed. The forms βιω- point to *$g^{u}i\underset{\cdot}{i}e\hbar_3$-, and those with ζω- to *$g^{u}\underset{\cdot}{i}e\hbar_3$- (from a present *$g^{u}_{(e)}\underset{\cdot}{i}e\hbar_3$-*mi* ? Cf. p. 236f.). The full grade is found in βείομαι Χ 431, βέομαι Ο 194, βέῃ Π 852 ~ Ω 131 (Chantraine, *Gr. Hom.*, pp. 115, 452, both with Add.), which perhaps goes back to a conjunctive *$g^{u}e\underset{\cdot}{i}\hbar_3$-*o*-. Skt. *gáya*- points to *$g^{u}o\underset{\cdot}{i}\hbar$-*o*-.

There are also indications of $\hbar_1$. Thus Cretan has βίετος (of which, however, -ετος could be secondary, Schwyzer, p. 501).[121] On the strength of the comparison with Av. *hu-jyā-ti*, ὑγιής is derived as *$g^{u}i\underset{\cdot}{i}\bar{e}$-. And yet for this *s*-stem derivation from *$g^{u}i\hbar_1$-*es*- seems more self-evident. The forms of ζῆν, which Thurneysen considered to be analogic (*IF*, 38.147, in accordance with νῶ νῆς, σμῶ σμῆς), are traced back by Leroy to an *ē*-stem (*Sprachgesch. u. Wortbed.*, p. 288). Possibly one ought to

[121] Here βίοτος has been wrongly included in the group with '*o*-Stufe der Wurzel'.

assume beside *$g^{u}\underset{\cdot}{i}e\hbar_3$- a variant *$g^{u}\underset{\cdot}{i}e\hbar_1$- (compare the interchange stated s.v. κινέω *supra*); this view is shared by Chantraine, *Morph.*², p. 13.

σάος. As Leumann has demonstrated (Μνήμης χάριν II (1957) 8-14, *Kl. Schr.*, pp. 266-72) σῶος is not an old ablaut variant, but thematization of the σῶς contracted from σάος. In Homer one finds σόος (Il. 7 times, Od. 3 times), σῶς (Ν 773 ~ ε 305 ~ χ 28 ο 42 ~ π 131; only Χ 332 in the first element of the dactylus, init.) σῶν (Α 117, ~ Θ 246, where we find σόον, Ρ 367). The conclusion that σόος is metrical diectasis for spoken σῶς from original σάος is an obvious one, whilst σῶς σῶν are either based on contraction of σάος, or are more recent forms (as is certain for Χ 332).

One must consequently start from σάος, i.e. *σαϝος on account of Σαϝοκλεϝης etc. It has been connected with Skt. *tavīti*, 'to be strong, powerful'. The traditional formulation *$t\underset{\cdot}{u}\partial$-$\underset{\cdot}{u}o$- could be replaced by *$t\underset{\cdot}{u}\underset{\cdot}{\hbar}$-$\underset{\cdot}{u}o$-, but this form is phonetically improbable (a vocalic laryngeal between sonants), cf. p. 246. Moreover, the probably cognate ταῦς· μέγας, πολύς Hsch., ταῦσας· μεγαλύνας, πλεονάσας, which was interpreted as *$t\partial\underset{\cdot}{u}$-*u*-, cannot be connected in this way with *$t\underset{\cdot}{u}\partial\underset{\cdot}{u}o$-. For ταῦς one must probably start from *$t_{e}\underset{\cdot}{u}\hbar_2$-*u*-, with the reduced grade that is frequent among *u*-stems, cf. βαρύς, Skt. *gurú*- from *$g^{u}_{e}ru$-. For the root form *$t_{e}\underset{\cdot}{u}\hbar$- cf. Skt. *tuviṣ*- < *$t_{e}\underset{\cdot}{u}\hbar$-*s*-. For the Indian forms of this root see Kuiper, *Act. Or.*, p. 20. It is therefore self-evident that for σάος too one should start from an *u*-stem with reduced grade, but here, since σ points to *$t\underset{\cdot}{u}$-, from *$t\underset{\cdot}{u}_{e}\hbar_2u$-. It is probable that one has $\hbar_2$ here because otherwise the directly preceding reduction vowel would have been coloured to *e* or *o*. For the formation one can compare *$g^{u}r_{e}\underset{\cdot}{u}$-, Lat. *gravis*, beside *$g^{u}_{e}ru$-; cf. ταναός (p. 190f.) and κραταιός.[122] Now while *$t_{e}\underset{\cdot}{u}\hbar_2$-*ús* > *ταϝύς was preserved longer (because of the ϝ), *$t\underset{\cdot}{u}_{e}\hbar_2$-*ús* > *$sa\hbar_2us$ was contracted at an early stage to *σαυς. However, this resulted in a very abnormal form, which is why this was thematized to *σάϝος, like the later σῶς was replaced by σῶος. One thus has beside *$t_{e}\underset{\cdot}{u}\hbar_2$-*ús* > ταῦς on the other hand *$t\underset{\cdot}{u}_{e}\hbar_2$-*us* > *$sa\hbar_2us$ > *σαυς replaced by *σάϝος > σῶς, replaced by σῶος.

κύαμος is in my opinion non-IE (v. Frisk).

The conclusion from the cases discussed is that for πρίατο (κίατο) and βίοτος (βίετος) the representation referred to is possible. The question that arises when this is assumed is whether the basic form was just *$i\hbar_2$* (for instance). If one uses the notation *$i\underset{\cdot}{i}\hbar_2$*, the question remains how this group must be historically interpreted. Did *$i\hbar_2$* spontaneously acquire after certain consonantal combinations a preceding vocalic element (*$CCi\hbar_2 > CC^{i}\underset{\cdot}{i}\hbar_2$*), possibly in sandhi, or must one allow for a reduced grade of *$e\underset{\cdot}{i}\hbar_2$*, since beside (for instance) *$_{e}r\hbar_2$* a group *$_{e}\underset{\cdot}{i}\hbar_2$* is to be expected a priori? The comparison of βίοτος with κάματος leads one to expect a basic form *$g^{u}_{e}\underset{\cdot}{i}\hbar_3$-*tós*.

[122] Risch, *Wortb. d. Hom. Spr.*, pp. 68 and 117, is of the opinion that κραταιός is built on the feminine κραταιή, which itself is said to stand for *κραταια, the old feminine of κρατύς, like Πλαταιαί from πλατύς. If the latter goes back to *$p\underset{\cdot}{l}th_{2e}\underset{\cdot}{u}ih_2$, this explanation is not possible for *κραταια. For this word did not have a laryngeal, as emerges from Skt. *krátu*- (which would have been **kráthu*- if it had had -*th-u*-). However, for both a form ending in -$_{e}\underset{\cdot}{u}ih_2$ is possible; Skt. *pṛthivī* is even more easily explained by *$p\underset{\cdot}{l}th_{2e}\underset{\cdot}{u}ih_2$. Cf. also ταναός, p. 190f.

If one asks oneself how this group would be represented in Greek, one might assume that $_{e}\underline{i}(\hbar)$, $_{e}\underline{u}(\hbar)$ became $^{i}\underline{i}(\hbar)$, $^{u}\underline{u}(\hbar)$ back in the proto-language. The symbol ^{i}, ^{u} could then be used to indicate that this vocalic element became *i*, *u* in all languages. This development would not be dependent on the following laryngeal. If, however, the explanation given above of ταῦς < *$t_{e}\underline{u}\hbar_2$-*ús* is correct, then a development $_{e}\underline{u}\hbar_2 > \alpha\digamma$ would emerge from it. One comes up here against the general problem of $_{e}\underline{i}$ before vowel. This group is rare and the problem cannot be further dealt with.[123]

(For πρίατο < *$k^{u}ri\underline{i}\hbar_2$-*to*/$k^{u}r_{e}\underline{i}\hbar_2$-*to* compare ὄνομαι, if in fact it is from *$_{e}n\hbar_3$-*toi*, p. 231.)

5. Presents Ending in *-nēmi* and *-nōmi*

Beside the nasal presents ending in *-nāmi* < *-n-eh₂-mi* one would also expect a priori such nasal presents ending in *-nēmi* < *-n-eh₁-mi* and *-nōmi* < *-n-eh₃-mi*. Among others Meillet has drawn attention to this, *Mél. Vendryes*, pp. 275-85, describing the absence of the last two categories as a problem for De Saussure's theory. This absence would indeed be strange, but this is no greater problem for the laryngeal theory than for the old interpretation (as he also admits on p. 284). The conclusion would only have been that *nē-* and *nō-*presents did not occur, for unknown reasons, or — and this still holds good — that they were superseded in the historical languages. Disyllabic roots ending in $\hbar_1$ and $\hbar_3$ seem to have been not as frequent as those ending in $\hbar_2$, which may explain why these formations were eliminated. It has been wrongly thought that in the article mentioned Meillet had proved that presents ending in *-nēmi* did not exist, cf. for instance Pedersen, *Cinq. décl.*, p. 63 (which is surprising in this book). He merely established that no convincing example of *-nēmi* or *-nōmi* could be given.

It was stated above that Greek has a few verbs that point to an original *-nēmi*. The original system of 'to throw' was βάλλω — *ἔδελον (from **é-g$^{u}\underline{i}\hbar_1$-om*). The present βάλλω cannot but go back to **g$^{u}\underline{i}$-n-eh₁-mi*, since a *i̯ō*-present is out of the question (**g$^{u}\underline{i}\hbar_1$-i̯ō* gives *βληϳω, and a stem form βαλ- did not exist elsewhere). For λλ see Lejeune, *Traité*, p. 133 (cf. ὄλλυμι).[124] It cannot be doubted here that the root ended in $\hbar_1$. Wackernagel-Debrunner, *KZ*, 67 (1942), 159 f. (cf. Schwyzer, p. 693, with n. 9),

[123] One might ask oneself whether $_{e}\underline{i}$ ($\underline{i}$) became *ī* before consonant, which would offer a solution for certain ablaut problems (e.g. **pī-*, the zero grade of **pǒ(i)-* < **peh₂(i)-*, from **ph₂$_{e}$i-*, **ph₂i̯-*; thus also ἔπιον from **é-ph₃i̯om*). One sees the similarity — and the dissimilarity — with the explanation of the old school from *əi*, *əu* (which for instance is still defended by Hendriksen, *Unters.*, p. 94); this would be *i̯i* in the notation of the laryngeal theory, which is a highly improbable structure. Kuryłowicz, *Etudes*, p. 41, starts from *$_{e}$i̯i*; however, for this one is more inclined to expect the same development as of full grade *ei̯i*.

[124] Lejeune's assumption that we are concerned here with a 'traitement récent' seems correct, but incorrect is the idea that these forms did not develop until after 'grec commun'; a much more likely cause is that these groups were *longer preserved* here than elsewhere (which may also be suggested by πίλναμαι) on the analogy of the type σκίδναμαι etc., where the *n* did not follow a *l*.

assume that *βάλλημι still survives in βαλλήσω and βαλλητύς. However, the first form occurs only in Ar. *V.* 222 and 1491, while Homer has βαλέω (Θ, Od.; βαλῶ P 451). A future ending in -νησω of verbs ending in -νημι < *-nāmi* is unknown. Most futures ending in -ησω have been derived from the aorist stem (Schwyzer, p. 782), but cf. τυπτήσειν (Ar.), παιήσειν (Ar.), ὠθήσειν (S., E., Ar.) and εἰδήσειν (Hom.). One is therefore probably concerned with a recent form here. For βαλλητύς see Frisk s.v. However, it is important that, according to Pedersen, Celtic also has *-ball-* with *ll* from *ln* (*VKG*, II (1913), 459).

The form σκήλει'(ε) Ψ 191 seems built on *σκάλλω; beside σκέλλω this could point to an original *σκάλλω — *ἔσκελον, of which *σκάλλω may be based on **skl̥-n-eh₁-mi* (cf. Chantraine, *Morph.*², p. 6, n. 1).

For τάμνω ἔτεμον a nasal present cannot be doubted, any more than for κάμνω. Only Cardona, *Lg*, 36 (1960), 502-7, believes that these two forms are Greek νω-presents, built on the aorist stem (ἔκαμον ἔβαλον); however, the latter is impossible with a system τάμνω ἔτεμον. It cannot be seen that this explanation is more probable than that of thematization of *καμνᾱμι, which offers a historical explanation for the νω-present. His argument that these two verbs are the only disyllabic roots that have a thematic aorist (to which βάλλω ἔβαλον should be added), ceases to apply insofar as no *πόρνω is built on ἔπορον etc. (θάρνυμι — ἔθορον also indicates an old *n*-present, which in any case cannot have been built on the aorist). His parallel πίνω is based on Leumann's reconstruction of the old aorist of this root, of the correctness of which I am not convinced; see p. 175 ff. Cardona is of the opinion that a 3 pl. *-n-h-onti* (Schwyzer, p. 663) is improbable, since the ending of the 3 pl. was probably just *-enti* (beside *-nti*), despite Meillet, *Intr.*⁸, p. 228, which is mainly based on Hittite (e.g. *kunanzi* beside *kuemi kuesi kuenzi*), for after all Skt. *-anti* may also be *-enti*. However, in Hittite *-anzi* is the general ending, and *-enzi* occurs only rarely, as a less frequent variant form (Sturtevant, *Comp. Gr.*, p. 140). It is then probable that we find in Hittite the extension of PIE *-onti* — whatever its origin — at the expense of *-enti*, which may also have occurred elsewhere. Kuiper's doubt about *ταμνημι (meant as *-nāmi*), *Nasalpr.*, p. 68, n. 4, is withdrawn by him, *ibid.*, p. 231 (Nachträge): beside MIr. *tamnaim* one has Lith. *tinù tìnti* and ORuss. *tьnu tjati*. Aeol. τόμοντες will go back to *τομνημι and thus confirm **tm̥-n-eh₁-mi* (see p. 223).

Another possible indication is the form πίτνω 'to fall', which seems to go back to *πίτνημι, especially if the form πιτνῶ (= πιτνέω) is reliable; cf. p. 240.

Reference was made above to πάλλω < **pl̥-n-eh₁mi* (p. 237); this interpretation remains extremely uncertain, however.

Skt. *pr̥ṇáti* 'to fill' cannot simply be used as proof of **pl̥-n-eh₁-mi*:[125] the form *pr̥ṇati* seems older in the Rigveda.[126] But in that case the question remains of the origin of

[125] This is done by Chantraine, *Morph.*², p. 14. It shows that this author expects presents in *-nēmi*.

[126] Kuiper, *Museum*, 57 (1952), 197: one finds 74% of the cases of *pr̥ṇati* in the family books, but not a single one in X, and only 40% of *pr̥ṇáti*, while it occurs 13 times in X. Avestan, too, suggests that *pr̥ṇati* was the old form.

pṛṇati, which can nevertheless best be explained as thematization of **pl̥-n-ḫ₁-(e/o-)* and in that case would point indirectly to **pl̥-n-eḫ₁-mi*. So old a thematization of a nasal present is striking, and it may be asked whether it is coincidental that it occurs precisely from this stem. It might then be assumed that the thematic form arose to avoid a present ending in *-nēmi*, i.e. at a time when *ē* (*-nēmi*) and *ā* (*-nāmi*) were still separate in Indo-Iranian. Later *-nati*, which then stood alone, was replaced by *-nāti*. One perhaps finds a parallel for the occurrence side by side of a nasal present and a reduplicated present (πίμπλημι) in πίπτω : πίτνω (p. 240). However, it is not certain that the nasal present stems from PIE; it may be an Indo-Iranian innovation (for **piplehₓmi* ?). See Add.

As ἱερός points to **isḫ₁-*, Skt. *iṣṇáti* may go back to **is-n-eḫ₁-ti*.

Nor was there any indication of a present with *-nōmi*. ῎Ομνυμι will be a Greek innovation as against the athematic present in Skt. *ámīti*. And yet one wonders what the starting-point must have been for these forms. From the athematic declension one would be most inclined to expect a thematic one. For στόρνυμι Cowgill, p. 154ff., gives consideration to an original system *στορνωμι *στορνομεν (which according to Cowgill again stands for *στορναμεν < **stṛ-n-ḫ₃-*) *στορνοντι (**-n-ḫ₃-enti*), of which νο before labial changed into νυ, after which, on the basis of *στορνυμεν -μαι -μενος, a present ending in -νυμι was formed. It seems to me highly dubious that this phonetic law (which is founded on ὄνυμα γυμνός νύξ ὄνυξ) can in itself have brought about the change into another type of declension. In any case this is inadequate proof of a present ending in *-nōmi*. However, it becomes highly probable through the comparison of OIr. *sernaid*, which may represent both *-nāti* and *-nōti*, with Lat. *sterno*, which will go back to an old nasal present, while PIE **stṛneumi* would lead one to expect a form **sternuo*. For the view of Puhvel, *Laryngeals and the Indo-European Verb*, I may refer to the discussion by Cowgill, *Lg*, 39 (1963), 248-70; the idea (the third, labio-velar laryngeal *A*^{w} becomes *u* back in PIE) is based on too unreliable an interpretation of a small number of facts and requires a series of arbitrary assumptions.

After the above had been written, I saw the article by Heubeck, *Proc. Cambr. Coll. Myc. Stud.*, 1966, pp. 229-38, in which possibly a clearer indication is found. He is of the opinion that Myc. *qeqinomeno qeqinoto* (‘*g*^{u}*e-g*^{u}*inōmenos g*^{u}*eg*^{u}*inōtoi*’) is cognate with Hom. δινωτός, but that this group is not cognate with δινέω. Like Richardson, he derives the verb **g*^{u}*inoō* from the root **g*^{u}*i̯eḫ₃-* and assumes a development of meaning ‘to make alive, vivify > to decorate (by living figures of nature)’. This connection of **g*^{u}*i̯eḫ₃-* with painting is in my opinion confirmed by the classical Greek term for ‘to paint’, ζωγράφειν (since Hdt.). The verb **g*^{u}*inoō* could have been derived from **g*^{u}*iḫ₃-nos* > **g*^{u}*īnos* (cf. Lat. *vīvus* from **g*^{u}*iḫ₃-u̯os* etc.), but (with Forssman) he considers the possibility of a verb **g*^{u}*i-n-eḫ₃-mi*. The length of the *i* would then have to be analogic. For this one may envisage **g*^{u}*iḫ₃-* > **g*^{u}*ī-*, which, however, cannot be pointed to in Greek, but also compare κῑνέω, βῑνέω, δῑνέω (p. 248); ?πῑνω (p. 175). Less probable is lengthening in the form **g*^{u}*i-n-ḫ₃-ō* (compare γένος < **ĝenḫ₁os*,

p. 180). For the rest it is not, of course, certain that the *i* in Mycenaean was already long.

However, up to now this is the only form for which a present ending in *-nōmi* can be demonstrated with a somewhat greater degree of probability.

See App. 3.

XII. INTERCONSONANTAL LARYNGEAL REPRESENTED BY ZERO

The investigation has shown that in some cases the laryngeal was not vocalized where one would expect. It is in itself not strange that the consonantal laryngeal between consonants (and at the beginning of the word before consonant) disappears, as notably in Iranian, see Introduction, p. 9. However, the question is what led to this consonantal laryngeal not being vocalized, as was usually the case. An answer to this does not yet seem possible. However, it may be important to place together the cases that seem to have this phenomenon. They may be divided into three groups.

I Laryngeal at the beginning of the word.
- νώροπι, νωρεῖ : ἀνήρ (p. 75 f.)
- λοιγός : ὀλίγος (*ibid.*)
- μοιχός : ὀμείχω (*ibid.*)
- ϝίκατι : ἐϝίκοσι (p. 62)
- ὑγιής : ἐυ- (p. 53)

II Laryngeal after *s-*.
- μέλδομαι if from **sh₂meld-* (p. 85 ff.)
- νεῦρον if from **sh̥n-* (*ibid.*)
- ἕλη, ϝέλα : εἵλη (*ibid.*)
- μέρδει : ἀμέρδει (*ibid.*)
- ἕρση : ἐέρση (*ibid.*)

III Laryngeal in the middle of the word.
- ἱρός < **ish₁rós* (p. 183 f.)
- *τολμᾶ from **tolh₂m* (p. 238 f.)
- ὀργή from **u̯orh₃g-* (*ibid.*)
- ὀρθός from **u̯orh₃dhu̯o-* (*ibid.*)
- πόρνη from **porh₂nā* (*ibid.*)
- πότμος : ποταμός (*ibid.*)
- μέζω Myc. *mezoa₂* from **meǵh₂i̯osh₂*
- ἄνται : ἄνεμος
- ἔντεα from **senh₁-t-*

Some remarks on these forms.

If the first element of ὑγιής was **h₁su-*, there is no trace of the laryngeal in this word. However, this basic form is not certain. Perhaps composition has also exerted an influence here (p. 242 ff.).

The remaining forms of the first group are discussed on pp. 75 ff. and those of the second on pp. 85 ff.

In μέζω the laryngeal seems to have disappeared; Skt. *mahīyas-* indicates that this belonged in the original form of the comparative. There too it could disappear, as emerges from (instr.) *mahnā* < **meǵh₂-mn-* (Introduction, p. 10).

ἄνται· ἄνεμοι, ἀντάς· πνοάς Hsch. will not have to be changed into ἀῆται, since it is given twice in this form. It may therefore go back to **h₂enh₁-t-*. Perhaps ἄσθμα also belongs with this in Greek, if it developed from *αν-σ-θμα. Compare Av. *qntyą* (*ā* + *ainti*) as against (Av.) *aini-van-*, and ON *andi* 'breath, spirit'.

ἔντεα, like ἔναρα, is connected by some with ἄνυμι, of which the stem was **senh₁-*. This etymology is, of course, no more than one possibility, but this root is most probably found in αὐθέντης and συνέντης· συνεργός Hsch. Here a non-enlarged root **sen-* seems a reasonable supposition, since a relation with the stem of the verb cannot be seen in Greek.

1. The so-called Apocope

A case of unvocalized laryngeal may perhaps be found in the so-called 'apocope' of the prepositions (Schwyzer, p. 406, Schwyzer-Debrunner, pp. 436-533, Chantraine, *Gr. Hom.*, p. 87 f., Lejeune, *Traité*, p. 193 f., Buck, *Gr. Diall.*, § 95; the last source gives the clearest review of the material on which the following is based).

Apocope is rare in Ionic-Attic, but general in all other dialects. This mainly concerns the forms ἄν and πάρ, while κάτ and πότ also occur, the latter in West Greek usually before dental, often with shortening of the double consonant (or is this only a graphic problem? κὰ τόν, πὸ τόν); especially in Lesbian, Boeotian and Thessalian, but also elsewhere one finds (beside κατ) καδ κακ καγ καπ καβ καρ καλ καμ καν; striking is καυάξαις Hes. *Op.* 666 (cf. Hom. αὐερύω, Arg. ἀϝρῆτευε < ἀν-ϝ-, Buck, *Gr. Diall.*, § 55b, cf. Arc. συϝοικία). For πεδά Arcadian has πέ. Πέρ is found in Lesbian, Thessalian, Delphian and in proper names in Locrian, Laconian, Messenian and Cretan; Elean has the form πάρ here. The forms ἄπ ὔπ(ὔπ) ἔπ occur almost exclusively in Thessalian (for the rest only Lesb. ἀπ πατέρων Alc., Hom. ἀππέμψει ο 83, ὑββάλλειν Τ 80).

One gains the impression that the last three forms (ἄπ ὔπ ἔπ) are based on a secondary extension, so that the origin must be sought in ἀνά παρά κατά and ποτί περί. For ποτί, however, allowance must be made for a PIE variant without *i* (cf. **pos*, πος), e.g. Schwyzer-Debrunner, p. 508. In the same way πέρ beside περί is old, *loc. cit.*, p. 499. Here the possibility therefore exists that the forms seemingly affected by apocope in reality go back to parallel forms in the proto-language. In

any case πότ can have developed under the influence of κάτ. If this is correct, the phenomenon would have started from ἀνά παρά κατά.

The apocope has not been convincingly explained. Loss of vowel, however conditioned, is very rare in Greek. The attempt by Szemerényi, *Syncope*, to demonstrate that syncope was not rare in Greek, tends rather to show the opposite. Many of his few examples must be explained differently, while others cannot be afforded much conclusive force. Analogic expansion of the antevocalic form is improbable (as also stated by Lejeune, *Traité*, p. 275, n. 4), since it does not then become clear why only a few prepositions are concerned; in any case, such a development cannot be indicated. Origin in the conditioned shortening (κάτ before τ, ἄπ before π etc.), as Lejeune assumes (*ibid.*, p. 280, n. 1, at least for κάτ and ἄπ ἔπ), which in that case would itself have to be ascribed to a kind of haplology, cannot, even when right for the cases mentioned, be regarded as the origin of the whole phenomenon.

If it is assumed that the phenomenon started from ἀνά παρά κατά, the origin could lie in the -α, of which the origin is not known for certain (see p. 153 and cf. p. 208, n. 103, on ἀνά and p. 208 on ἀμά). If this α developed from a PIE consonantal laryngeal which was vocalized in Greek, one could regard the forms affected by apocope as ones of which the -h_2 was not vocalized. With Aeol. ἴρος the fact tallies that apocope went the furthest in Aeolic. That πεδά, otherwise than in Arc. πέ, was not affected by apocope might suggest that the α was of different origin, e.g. an accusative **ped-m̥* (Schwyzer, p. 622).

The question then arises in which circumstances the laryngeal was vocalized. It seems that Ionic-Attic went the furthest in this. Cf. Schwyzer-Debrunner, p. 491,9: "ist die Form der ältern nicht ion.-att. Inschriften (erst seit der Koine auch παρά; παράχρημα schon in Epid. um 320[a] ...)."

However, it is impossible for me further to demonstrate the explanation proposed here. The idea is therefore given only as a hypothesis.

DIALECTAL DIFFERENCES

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The question whether the various dialects went their own ways in the development of the laryngeals, which would therefore show that the laryngeals were preserved down to the individual Greek dialects, should be further examined.

This examination, which is based on the indices of Bechtel, Buck and Scherer-Thumb, *Handbuch der Griechischen Dialekte*, II², 1959, has not yielded any clear indications of dialectal differences. In general the developments discussed above are found in all dialects. For some cases one would like to consider the possibility of a separate development, but the material is too scanty and too diverse to allow of so far-reaching a conclusion.

In the following what may be of importance here will be discussed, first by dialect, without reference to Ionic and Attic, since all data on these have been incorporated above, and then a number of etyma which it seemed better to discuss in themselves.

Figures without further designation in this chapter refer to Bechtel.

1. Mycenaean

All data from Mycenaean are in accordance with the rules found above. The principal words of importance may be mentioned here. They are given in the classical Greek form, after Chadwick-Baumbach, *Glotta*, 41 (1963), 157-270, where the individual forms are given.

ἀγείρω ?ἀείρω ἀέξω ἀλείφω ἀλέξω (ἀλεκτρυών) ἀνήρ, ἐλεύθερος ἐρυθρός ἐυ-, ὀνᾱ- (*onato*) ὄνυξ ὄφελος ὀφείλω ?ὀφρῦς; ζέφυρος (*zepu₂ro*); ἀλκή ἀργός; ἐρῆμος (*eremo*); θυγάτηρ, ἄνεμος ἐρέτης ἱερός, ἄρουρα *λεϝοτροχόος δίδοτο -δοτος; ταλασία *χάραδρος; τέμενος (-τομος) *ταμιεύς; ?*λεχεστρωτηριον (*reketoroterijo*); στρατός (*tara$_{[2_1]}$to*); *mezoa₂*.

2. Arcado-Cyprian

The Arcado-Cyprian material is very scanty.

Laryngeal at the beginning of the word is found in Arc. ὀφέλλονσι (1.334 f.), in the middle in Arc. ὁρκōμοτας (1.393), Cypr. ὁμōμοκον (1.434), the latter form with Attic reduplication.

Both dialects have the stem ϝρē- (1.391,403); in Cyprian one finds κασιγνēτος.

Nothing points to aberrant developments.

3. Aeolic

Laryngeal at the beginning of the word is found in ὀφέλλω (ὀφείλω), ὄνοιρος (Att. ὄνειρος), Boeot. ὀφρυγνᾶ (from ὀφρῦς 1,307), Thess. ?'Ολιζών (1.209; Hom. B 717).

One finds laryngeal in the middle of the word in ὁμο- (1.41, Lesb.).

For ἶρος (1.56, Lesb.) see p. 184 f.

Forms like χόλαισι are probably not of importance to our problem; cf. Bechtel 1.25 (χαλάσσομεν, Alc. LP D 12.10). 'Ον for ἀν(ά) also seems secondary (1.24 f.: Hom. αὐερύω < *ἀν-ϝερύω). In general Aeol. (and Arc.-Cypr.) ο for α elsewhere is not clear, Buck, *Gr. Diall.*, § 5 and 6.

The only thing that points to a separate development is therefore ἶρος.

4. West Greek

In general the Doric forms give the impression that here the same development has taken place as in Ionic-Attic.

As regards laryngeal after vocalic sonant, one could point to πρᾶτος. As we have seen (p. 214 f.), there is, however, no compelling reason to start from **pr̥h₃tos*, so that this form cannot be used as an argument. However, a more difficult case is τεθρᾶσθαι, which seems cognate with θρώσκω; p. 216. However, there is no certainty that the word is Doric. For the development of *r̥h₁* one can point to general Doric ϝρη-, κλη-.

For the rest, only the vocalization of the laryngeal requires discussion. For laryngeal at the beginning of the word the following forms point to the expected development: ὀφείλω (passim), ὄρεγμα (Heracl. 'measure of land', cf. ὀρόγυια, Buck, p. 373), ὀλισθράζω (Corinth., 2.286), ἑκατ-ώρυγος (Megar. 2.203); ἐλούθερος (Cret., Buck, § 33a; late Delph. ἐλαύθερος, l.c.), ἐπελευσεῖ (ἐπέλευσαν Cret., Buck, § 162.15), ἐρευνίοντες (Cret., 2.673). That these forms are small in number is probably a result of the fact that the above handbooks mainly state the forms differing from Ionic-Attic; the list could probably be extended by further research.

However, one finds here a few forms with α where the other dialects have ε or ο. The clearest is Cret. ἄναιρος ἄναρ as against ὄνειρος ὄναρ, Aeol. ὄνοιρος; see p. 46. Comparable is Ἀνασίφορον Phoc. (2.108), beside which, however, 'Ονασι- occurs. Thus Cretan has ἄερσα as against ἔερσα elsewhere, p. 64. For αὔληρα see p. 64 (and for εὐλάκα see p. 40 s.v. ἅλοξ).

Attic reduplication is found in ὁμωμόκαμες Cret., 2.755.

For the vocalization of the laryngeal in the middle of the word the widespread stem ὁμο- is important. The form ἄρουρα cannot be used very well, since the exact basic form is not known (p. 231).

As the exact explanation of βίετος (Cret., 2.722): βίοτος is not known (cf. also Buck, p. 167), a conclusion regarding dialectal development of the laryngeal is not possible; if the ε goes back to a vocalized *h₁*, this shows the expected development also for Cretan.

However, ἰαρός remains indisputable (very frequent, can be pointed to in practically all dialects). The form can hardly be explained by a transition ε > α (usually with ρ), for this is not found in all dialects, nor is it constant (Buck, § 12 and 13.1). Aeol. ἶρος as against ἱερός also suggests dialectal difference. One could only assume that the *h₁* before *r* (ρ, cf. ερ > αρ in *some* dialects), perhaps also through the dissimilatory effect of the ι did not become ε but α, but this of course has the weakness of every ad hoc phonetic law.

The form ἀράω, with ἀρα- instead of ἀρο- elsewhere, would correspond to ἰαρός: Heracl. ἀράσοντι (2.417), Cret. ἄρατρον and Ἀράτυος, Arg. Πραράτιος (2.474, 515; from προ-αρα- cf. Att. Προηρόσια). However, here one can point to comparable interchanges in the present system (Buck § 161.5), ἀξιάω (Lesb.): ἀξιόω, κοινάω (Thess., Dor.): κοινόω, where there can be no question of a laryngeal being a cause of the difference.

It is difficult to draw a conclusion from this survey. Most of the forms stated — among which the development of *r̥h₁* (ϝρη- κλη-) is very important — display the same development as Ionic-Attic. And yet the exceptions may be of great importance. In this connection two things are striking. In the first place ἰαρός is a word that belongs to cultic language, in which archaisms are often preserved. In the second place a relatively large number (but with such scanty material working with percentages may of course be deceptive) of the exceptions occur on Crete (ἄναιρος ἄναρ, ἄερσα; ἀρα- and ἰαρός also on Crete; βίετος). This could be a consequence of the fact that this island (partly through its location) has less intensive contact with the rest of the Greek world (while it is also large enough to preserve a character of its own). On the other hand, one does not easily assume that all forms displaying the East Greek development ought to be ascribed to the influence of other dialects; the whole region of West Greek, as is known, was originally inhabited by tribes speaking East Greek. The conclusion that may be given here seems to me to be the following: the scanty material cannot be taken without more ado as proof of a West Greek development *h₁ h₃* > α; and yet serious allowance must be made for the possibility of this; a more detailed examination of the oldest material attainable — notably in Crete — is necessary.

The following consideration is of importance to the question whether the laryngeals did not disappear until after the division into dialects. On p. 205 it could not be established whether the development (for instance) *mh₂* > *mah₂* took place before or after the development *m̥* > α. If the first transition took place after the second or also, what perhaps is more probable, both occurred simultaneously, this may not have happened until the separate dialects, as emerges from *r̥* > αρ(ρα) as against *r̥* > ορ(ρο) elsewhere.

5. Miscellaneous

A word that could point to different developments is δῆλος. The Hesychius forms with δια- (dialectal for δεα-) and the connection with δέατο etc. point to an original

*δεαλος, see Frisk. This form certainly belongs to East Greek (Hom. ἀρίζηλος Il., ἔκδηλος E 2, δῆλος υ 333, Arc. (conj.) δέᾱτοι). With Skt. *dī-* (Kuiper, *Die Sprache*, p. 7.24) this points to **deiH̯₂-*. With the latter word one usually connects K 466 δέελος and εὐδείελος, which, with metrical lengthening, is said to stand for *ἐυ-δεελος The idea that an old suffix variant *lo* : *elo* forms the basis of this is not plausible, and moreover both **deiH̯₂lo-* and **deiH̯₂elo-* would phonetically have given *δεαλο-. Here one could only envisage a Greek replacement of αλο by ελο (just as one finds ερο beside αρο). In my opinion a dialectally different development should not be envisaged here, since the two forms evidently belong to the same linguistic region. The question thus arises whether the connection is correct. For εὐδείελος the meaning is by no means certain. Moreover, connection with the Mycenaean place name *eudewero* (PY Ab 02+, *Docs.* 148, 159; cf. Strabo, p. 415 Εὐδείελος as another place name for Aspledon) is self-evident. Δείελος 'evening' (v. ap. Frisk) has also been envisaged. The etymology of the latter word is unknown; the explanation **deu-s-* (Frisk s.v.) would be supported by Mycenaean. The form εὐδείελος is in my opinion too unreliable to be used as an argument. I cannot explain δέελος, but one may not attach too much value to this Homeric hapax (in the Doloneia; is it a diektasis of δῆλος?).

If the connection of ἠρέμα (Pl.) with W. *araf* 'quiet' and Av. *airime*, *armaē-šad-* (Bartholomae, *IF* 7 (1897) 69f.), Choresmian *arma-* 'to leave alone' (Henning, *Zoroaster*, p. 45) is correct, we have here a disyllabic root (**H₂erH₁-m-*). The Hesychius glosses ἄραμεν· μένειν, ἀράμεναι· ἡσυχάζειν would in that case point to α as against ε. The origin of the forms with α is unknown. However, the ending -μεναι suggests Lesbian. It therefore does not seem permissible to attribute the α to a West Greek dialect. The η of ἠρέμα is incidentally also unexplained. For an entirely different interpretation see Frisk s.v. (p. 193).

Miss J. Narten, *IIJ*, 10, p. 247ff., links the Indo-Iranian words with ἐρωή, OHG *rouwā*. OHG *rāwā* points here to *ē*, the Greek ἐ- to *H₁-*, so that one arrives at a basic form **H₁reH₁-*; in that case ἠρέμα can be based only on **H₁ērH₁m-*. Ved. *īrmá*, for which Miss Narten assumes the meaning 'ruhig, still auf der Stelle verbleibend', may go back to the same basic form as ἐρῆμος (p. 36), **H₁r̥H₁m-*. The development of the meaning (> 'desolate, lonely') does not seem impossible to me; cf. Chorasmian *arma-* 'to leave alone'. It then becomes less probable that the Greek forms with double α come from the same root, although the similarity in meaning (both μένειν and ἡσυχάζειν) is striking. Finally, it may be remarked that the words mentioned in Frisk (cf. p. 193) may have the same root with a different enlargement: *H₁r-em-* beside *H₁r-eH₁-* (with *H₁r-em-H₂-* and *H₁r-eH₁-m-*?). Much therefore remains uncertain here.

Another form with unexplained α occurs of the stem ὀνο- (ὄνομαι ὀνόσσομαι, ὠνοσάμην Hom.; ὀνοστός I 164, ὀνοτός Pi.; ὀνοτάζω Hes.). P 25 ὤνατο (preceded by ἀπόνηϑ') and ὄναται· ἀτιμάζεται, μέμφεται Hsch. are unclear. Chantraine's suggestion (*Gr. Hom.*, p. 295) that ὤνατο could be a sigmatic aorist (*ὠν-σα-) thus presumes a form created on a stem ὀν-. Even more disputed is the form οὔνεσϑ' Ω 241.

CONCLUSIONS

CONCLUSIONS

A. CONCLUSIONS FOR THE LARYNGEAL THEORY

The principal problems of the laryngeal theory, as outlined in the Introduction, are: the number of laryngeals, the question of the positions in which the laryngeals were preserved down to the separate languages and the question when consonantal and when vocalic laryngeal must be assumed for the proto-language.

1. The Number of Laryngeals

The existence of two laryngeals was regarded as an established fact. Various facts in Greek point to a third, *o*-colouring laryngeal. In the first place the so-called 'prothetic vowel'. It emerged that here ἐ-, ἀ- and ὀ- occur side by side and that they developed from vocalization of a laryngeal without the environment exerting influence on the timbre of the vowel that developed, so that three laryngeals differing in 'colour' must be assumed. The same development was encountered in the first syllable of Attic reduplication. Between consonants, too, one finds o, which may have developed from laryngeal. Here compelling proof was not possible, but in connection with the preceding and the following this view seems the correct one. In the disyllabic roots the type $TeR\hbar_3$-C is poorly represented: here one finds only forms with $ToR\varepsilon$, which seem to have to be ascribed to metathesis (one expects $T\varepsilon Ro$). There are also a few indications of $\hbar_3$ before vowel at the beginning of the word. However, the most important is the group $\underset{\circ}{R}\hbar_3$. Before vowel this proved to have become oR, whereby the colour of the vowel must be ascribed to the laryngeal. Thus the group $R\omega$ must also go back to $\underset{\circ}{R}\hbar_3$ in many cases. The latter assumption is supported by the parallelism of the forms with $\underset{\circ}{R}\hbar_1$. When these indications are considered the assumption of a third, *o*-colouring laryngeal (beside $\hbar_1$ and $\hbar_2$) becomes inescapable.

Greek gives no hint of a fourth laryngeal. Of course, in practically every chapter unexplained forms remain, but that need not be surprising. The laryngeal theory enables us to solve various questions that have so far remained unanswered, but even after this there will doubtless be a remnant for which we cannot yet give an answer, and perhaps will never be able to either, since we simply do not have enough data. Indo-European linguistics is largely based on the exceptional forms of the various languages that have been preserved as archaisms; however, if these forms become so

exceptional that we have too few of them to discover a pattern of regularity, they stay unexplained. However, this material is of too varied a nature and too small a size for it to be capable of solution by assuming a fourth laryngeal.

2. The Laryngeal Preserved Down to the Separate Languages

The Introduction mentioned the fact that the laryngeals were preserved down to the separate languages. However, the question is whether this was the case in all positions A summary will now be given of what the Greek material points to.

As the 'prothetic vowel' is based on a Greek development, the laryngeal must have been preserved down to Greek at the beginning of the word before consonant. However, it cannot be demonstrated that the laryngeal was, on the other hand, also preserved before vowel. This *was* the case before sonant if ὄνητο goes back to **ḫ₃n̥ḫ₂to*; **ḫ₂r̥grós* is meaningless, and the same formation with another laryngeal cannot be demonstrated for certain. (If, as assumed on p. 132, the colour of the vowel was influenced by the laryngeal in that case, this must still have been present in Greek.) At the end of the word laryngeal after *i* and *u* must have been preserved down to Greek if Greek here, unlike all other languages, vocalized the laryngeal. After *e* too the laryngeal will doubtless have been preserved until shortly before historical time. On the strength of the Greek material alone it is not impossible that the vocative had lost the laryngeal back in the proto-language (*-eḫ₂ > -ă*), but for instance the shortening *in pausa* in Indian (p. 145) suggests that the laryngeal after vowel must have been preserved until shortly before historical time. After consonant the only clear case is really the plural of the neuter. Greek does not contain any indication here that the laryngeal was only secondarily vocalized, but in view of Avestan this must have been the case. The only instance I know of laryngeal after sonant is the very uncertain νέκταρ (p. 160 f.).

The possibilities in the middle of the word are greater. I see no indication that the laryngeal in the positions after vowel before consonant (*VHC*), between vowels (*VHV*) and after consonant before vowel (*CHV*) was preserved down to Greek (for the last two cases this is probable on the strength of Indo-Iranian, see Introduction, p. 9f., point 6b and a). However, the laryngeal before vowel after vocalic sonant (*R̥HV*) must have been preserved in Greek, in view of the laryngeal umlaut. Interconsonantally *ḫ₁ > ε ḫ₃ > o* indicates that the three laryngeals preserved their 'colour' down to Greek; since the other languages have *a* here (Ind.-Ir. *i*), these vowels must first have developed in the separate languages from the laryngeal. Before consonant after vocalic sonant (*R̥HC*) the laryngeal must have caused the developments *R*η *R*ᾱ *R*ω, developments which cannot have taken place until Greek.

It can therefore be demonstrated that the laryngeal both at the beginning of the word (*HC*, *?HR̥*), and at the end (*i/uH*) and in the middle (*R̥HV*, *R̥HC*, *CHC*) was preserved down to Greek. It is perhaps worth while combining these data with those of Indo-Iranian and Hittite.

(Gr. etc. means preserved down to Greek etc.)

HC-	Gr., Arm.[1], Ind.-Ir.[2], Hitt.[3]	*VHC*	
HR̥-	? Gr., ? Hitt.[4]	*R̥HC*	Gr., Ind.-Ir.[8], Lat.[9], Celt.[9]
He-	Hitt.[5]	*VHV*	Ind.-Ir.[10]
-CH	Gr., Ind.-Ir.[6]	*R̥HV*	Gr., Ind.-Ir.[11]
-R̥H		*CHV*	Ind.-Ir.[12], Hitt.[13]
-i/uH	Gr., Ind.-Ir.[7]	*CHC*	Gr., Ind.-Ir.[14]
-eH	Ind.-Ir.[7]		

1. the prothetic vowel in Armenian. 2. lengthenings of the type *sūnára-*. 3. *ḫuanteš*. 4. *ḫarki-*. 5 *ḫanti, ḫaštai-*. 6. Av. */manāh/* < **menēsḫ₂* as against Ind. *mánāṁsi*. 7. shortening in pausa. 8. laryngeal umlaut in *ir* and compositional shortening. 9. *Rā*, with a development of *R̥* different from that in another position. 10. hiatus. 11. laryngeal umlaut in *ir*, *im*. 12. aspiration and the explanation of the apparent exceptions to Brugmann's Law. 13. prevention of assibilation (*-tḫ₂i* > *-ti*, not *-zi*). 14. Ind.-Ir. *i* as against *a* in the other languages and the interchange *i/zero*.

There are thus very numerous indications that the laryngeals were preserved down to the separate languages, so that one should instead ask oneself whether there is in fact any reason to assume that this was *not* the case in some position or the other.

3. The Vocalic Laryngeal and the Vocalization of the Consonantal Laryngeal

The most difficult question is that concerning the relation between the vocalic and the consonantal laryngeal and that regarding the secondary vocalization of the consonantal one. One derives the impression that secondary vocalization was nowhere as intensive as in Greek. For instance, it was stronger than in Indian, since Greek vocalized the laryngeal before consonant at the beginning of the word, and also the laryngeal at the end of the word after *i* and *u*. It was not vocalized at the beginning of the word before vowel (*HV-*, also before *i* and *u*), at the end after PIE *e*, and in the word after vowel before consonant, after consonant before vowel and between vowels; in these positions vocalization is in addition hardly imaginable. At places where a consonantal laryngeal could be vocalized one only rarely finds that the laryngeal has disappeared (ἶρος, **τόλμᾱ* etc., p. 254 f.). This is also rare in Indian. The question therefore arises when vocalization took place and when it did not. At present a satisfactory answer cannot be given to this question, neither for Greek nor for Indian.

As a result, it is difficult to decide on the strength of Greek whether one is concerned with a consonantal or a vocalic laryngeal of the proto-language. For the number of cases in which a consonantal laryngeal that could have been vocalized has disappeared is very small. Consequently, in by far the majority of cases one finds in Greek a vowel, but this can stand for both *ḫ* and *ḫ̥*. Here only the comparison with the other languages can supply an answer.

B. SUMMARY OF THE GREEK DEVELOPMENTS

Perhaps it is useful after the fairly detailed treatment of the material to summarize once again what the laryngeal theory means to Greek. The stress should be laid on

the simplicity of the conception and the possibility of using the theory to solve various problems in the development of Greek practically without further hypotheses.

Greek suggests that the proto-language had three laryngeal phonemes; these were usually consonantal, but could also be vocalic; that is to say

$$\hbar_1/\underset{\circ}{\hbar}_1 \qquad \hbar_2/\underset{\circ}{\hbar}_2 \qquad \hbar_3/\underset{\circ}{\hbar}_3$$

These phonemes are no longer present in historical Greek. In principle their original presence is still perceptible in colouring (to *e*, *a* and *o* respectively) of neighbouring vowels (except *o*), either original vowels or ones which developed later, or because they themselves became ε, α or ο. The vocalic laryngeals could not become other than vowels; the consonantal ones were usually vocalized but seem to have disappeared in a few cases where they could also have been vocalized.

The colouring of adjacent full vowel is found in every language, so that here there is nothing specific to be found for Greek. Before consonant the laryngeal disappeared with lengthening of the preceding vowel, as in the other languages.

The so-called 'prothetic vowel' is based on vocalization of a consonantal laryngeal. This is also found in Attic reduplication, e.g. $*\hbar_1 le\text{-}\hbar_1 loudh\text{-} > \grave{\varepsilon}\lambda\eta\lambda\upsilon\vartheta\text{-}$, where an auxiliary hypothesis is necessary to the extent that one must assume that the two first consonants were repeated in the reduplicative syllable. At the end of the word after *i* and *u* the consonantal laryngeal was most probably also vocalized.

It is often impossible to make out whether a vowel goes back to a consonantal or to a vocalic laryngeal (πατήρ, ἄνεμος).

It seems probable, though it cannot be demonstrated for sure, that the colour of the (PIE) reduction vowel which was separated by sonant from a following laryngeal was determined by this laryngeal ($_{\mathrm{e}}r\hbar_3 > \mathrm{o}\rho\mathrm{o}$). However, such a laryngeal umlaut is certain in the group $\underset{\circ}{R}HV$, in which $\underset{\circ}{R}\hbar_3$ became ορ and $\underset{\circ}{R}\hbar_1$ became ερ. The same colouring of a developing vowel is found in $\underset{\circ}{R}HC$ ($\underset{\circ}{R}\hbar_3 C > R_{\mathrm{o}}\hbar_3 > R\omega C$). This development is found not only in the disyllabic roots but also in the element νη- νᾱ- νω- of some negative adjectives (that must go back to $*\underset{\circ}{n}\text{-}\hbar C$-). However, once again the development of $H\underset{\circ}{R}C$ is not certain; here too, though, colouring by the laryngeal is to be expected.

One thus finds the colouring in the following groups:

still in PIE	*VH*	*HV*	*VHV*	
in Greek	$\underset{\circ}{R}HC > R_{\mathrm{e}}HC$			
	$\underset{\circ}{R}HV >{}_{\mathrm{e}}RHV$			
	${}_{\mathrm{e}}RH$			
	? $H\underset{\circ}{R}C$			

All the fundamental points in the laryngeal theory that are of importance to Greek have now been given. The author hopes that this study has demonstrated the correctness of these points, without all too great inaccuracy in the details.

APPENDICES

APPENDIX I

Against Szemerényi

In a recent article (*Phonetica*, 17 (1967), 65-99) Szemerényi attacks the view that PIE had more than one laryngeal and the assumption on the strength of this view of a language with only one vowel. Some points may be discussed here.

The article consists of two parts, the first of which deals with the matter of whether a language with one vowel is possible. With regard to the possible parallels in the Caucasian languages he states (p. 74f.): "The fact (!) that, as against the general pattern observed in all the languages of the world studied so far, one or two or even half-a-dozen exhibit a deviant, abnormal pattern will not be regarded as sufficient justification for admitting the deviant pattern as a support for a reconstruction of the deviant type." However, in my opinion it cannot be denied that the counter-argument that such a type of language is not demonstrable would then cease to apply. After his finding (p. 87) that the reconstructed system "is almost identical with that of Ubykh", his conclusion (*ibid.*) "that such a picture is quite unrealistic and is to be rejected" consequently does not seem justified.

However, it might be as well to point out that the interpretation of the data of the Caucasian languages is not yet sufficiently certain. At present we may confine ourselves tc saying that there are scholars who assume that certain languages have two vowels, one or even none. But even if a language with fewer than three vowels could not be designated anywhere, the reconstruction by historical linguistics cannot be rejected, unless it can be demonstrated at which point in the reconstruction a mistake has been made. As long as it is assumed that the method of reconstruction is reliable, one can only allow oneself to be guided solely by these reconstructions themselves if one wishes to form a picture of PIE. In general it has been realized that the progress of science is repeatedly checked by denying or ignoring exceptions to what were thought to be rules of universal validity. It is, of course, quite legitimate to query the results, and this may lead to a critical look at the *method* of linguistic historical reconstruction, but as long as this critical study has not demonstrated any errors in the method, one cannot do otherwise than follow the old method. Szemerényi rightly states: "The question cannot be answered on *a priori* grounds, only empirical facts can help us to decide it". However, historical reconstruction is also

empirical. That is what Szemerényi does not realize with sufficient clarity in the first part.

Before considering the second part, a few remarks will be made. It is of essential importance to realize that we are speaking here about *Pre*-PIE. For it seems that in the case of PIE, the linguistic stage found by direct reconstruction from the historical languages, the vowels *e o a i u* have to be assumed. But there are also indications that in an *earlier* stage *a* was not a phoneme and that *i* and *u* were allophones of *i̯* and *u̯*. It follows from this, for instance, that the words mentioned by Szemerényi with *a* in the stem do not form a decisive argument. If it proves that we are concerned here only with a score of words standing alone, while the *a* has no further function in the system of the language, it seems justifiable to conclude that the *a* did not originally belong to the linguistic system, and that the words mentioned are borrowings or must be explained in some other way.

The same applies to Szemerényi's treatment of *i* and *u*. He states that *i* and *u* were independent phonemes and not only allophones of *i̯* and *u̯*. If that were correct, there would not be the slightest problem for the vocalic system, which would then have been *i - e - u* (or *i - a - u*, because in that case it is immaterial whether one writes *e* or *a*), for this is "the usual triangle type (*u*, *a*, *i*)". However, here too it is true to say that it is possible that in an *earlier* stage of PIE *i* and *u* did not occur as vowels. It must be borne in mind here that it is, of course, impossible, assuming that the theory was correct, to demonstrate for all cases that the *i* and *u* developed in the zero grade of *ei̯*(*i̯e*) and *eu̯*(*u̯e*). But conversely one may not conclude from the fact that we cannot demonstrate this that the theory is incorrect.

The second part is largely based on theoretical considerations. On the strength of Jakobson's Law: "languages possessing the pairs voiced-voiceless, aspirate-non-aspirate, have also a phoneme /*h*/", Szemerényi assumes a phoneme /*h*/ for the proto-language, which he then calls laryngeal. This is, of course, legitimate as a working hypothesis, but one must bear in mind that the fact has then still to be proved.

Furthermore, on the strength of the considerations in the first part, Szemerényi proceeds from the existence of *a*, *e* and *o* (beside *i* and *u*) in PIE. This too is acceptable as a working hypothesis, provided that it is realized that this does not refute the entire argumentation for the laryngeal theory.

Szemerényi states that it is not necessary to assume more than one laryngeal, since *eh*, *ah*, *oh* explain the later forms *ē*, *ā* and *ō* just as well as *eh₁*, *eh₂*, *eh₃*. However, in his view there are also long vowels *ē*, *ā* and *ō* that do not go back to short vowel + laryngeal, so that for PIE the long vowels *ē*, *ā* and *ō* must be assumed too. Szemerényi bases this on cases like Hitt. *paḫš-* : Lat. *pāsco* as against Hitt. *paš-* : Lat. *pōtare*. This assumption is thus founded entirely on the Hittite data: "Surely, the only real evidence that we possess is afforded by the Hittite evidence with *h*" (p. 91 f.). Two comments may be made about this. As already stated in the Introduction (p. 6), it seems dangerous to me to take only Hittite as a basis. For it is quite possible that a more thorough knowledge of Hittite would lead to a different explanation of the apparent exceptions. In the second place there are also other criteria than the Hittite material. The apparent strength of his theory lies in the fact that he proceeds from one language only, namely the one that offers other scholars the most difficulties, and ignores the other data.

Further, he is of the opinion that the assumption that h_1 has disappeared in Hittite is in contradiction with the forms with *ḫe-*. He believes that he can solve this by assuming that (his one) *h* was preserved. However, this too is a solution in appearance only, owing to the fact that Szemerényi takes the facts of just this one language as a basis. The difficulties occur when one combines the data of the different languages. If one assumes, for instance, that Gr. ἔέρση goes back to **ḫu̯ers-*, then Hittite proves to have no *ḫ* (*ḫu̯arša-*, p. 93), while ἄεσα < **ḫu̯es-* in Hittite does have *ḫ* (*ḫu̯išzi*). I do not see how Szemerényi can explain this difference. I admit that the Hittite material summons up a number of questions and I therefore fully agree with Szemerényi that further research is called for here. However, in that case it is the question whether one may base such far-reaching conclusions on it at the present stage.

He gives two interpretations of the vocalic representation. According to the first one (p. 90) an anaptyctic vowel developed after the *h*, whereupon the *h* disappeared ($ChC > Ch_eC > C_eC$). The second is based on the assumption that PIE also had long vowels with a zero grade *ə*, i.e. for instance *ā*/*ə*. He established the connection with our problem as follows: "It was this type which attracted the laryngeal type so that their nil-grade, *H*, became *hə*, later *ə*". Both explanations presuppose in any case that after the *h* a vocalic element came. He states then: "At long last, we get a better purchase for the understanding of the development of the nil-grade of long vowel roots" (p. 92). I do not see where the progress lies. In my view he is returning to Kuryłowicz' view (of 1935); see p. 94 of this book.

His assertion that the mediae aspiratae are often explained from media + laryngeal is not essential. However, he does not clearly state that this applies only to Indo-Iranian mediae aspiratae (as his example Skt. *aham* : Lat. *ego* indicates). His thesis that the mediae aspiratae were diphonemic in an earlier stage of the proto-language is therefore not based on the slightest concrete indication.

In the following eight lines (p. 92.4) the tenues aspiratae are reinstated. The only basis for this is the finding that every language that has a *dh* beside *t* and *d* also has a *th*. This too is an *aprioristic* use of an *empirical* datum and so is not binding. Szemerényi fails to give series of correspondences by which these phonemes are determined.

Szemerényi concludes by remarking that he has seen no reason for assuming more than one laryngeal. Reference may be made here to the Greek material; three laryngeals are suggested above all by the "prothetic vowel", Attic reduplication, the triple reflex and the development of the group sonant + laryngeal (e.g. $\text{ɾ̥}h_1C > \rho\eta$, $\text{ɾ̥}h_2C > \rho\bar{\alpha}$, $\text{ɾ̥}h_3C > \rho\omega$ in the disyllabic roots and in νη- νᾱ- νω- of the negative adjectives, and $\text{ɾ̥}h_1V > \varepsilon\rho$, $\text{ɾ̥}h_2V > \alpha\rho$, $\text{ɾ̥}h_3V > o\rho$ in the thematic aorist). Szemerényi dismisses all this with a reference to Kuryłowicz' view in *Apophonie*, the correctness of which was disputed above.

To sum up, one may say the following. Szemerényi's set-up is aprioristic, which is most clearly evident in the acceptance of the tenues aspiratae for the proto-language. Here he even makes no attempt to verify the theory against the facts. His denial of the existence of three laryngeals is based on the fact that he only incorporates a few Hittite data, but leaves others, notably the Greek, out of consideration. It is permitted to bring forward a theory without working it out entirely, if such an idea was not yet known, but it is *not* permitted to reject an existing theory that has far-reaching consequences without discussing all the problems involved. Szemerényi's procedure is in accordance with the fact that, on the point of the possibility that a language with only one vowel could exist, he states that he does not wish to be guided by the facts.

APPENDIX II

N 707: τέλσον AND ὦλκα

I have changed my opinion about ὦλκα, discussed on p. 40. I may treat this problem at some length in its context. For the sake of convenience the relevant text may be given here:

701 Αἴας δ' οὐκέτι πάμπαν, Ὀιλῆος ταχὺς υἱός,
ἵστατ' ἀπ' Αἴαντος Τελαμωνίου, οὐδ' ἠβαιόν,
ἀλλ' ὥς τ' ἐν νειῷ βόε οἴνοπε πηκτὸν ἄροτρον
ἶσον θυμὸν ἔχοντε τιταίνετον· ἀμφὶ δ' ἄρα σφι
705 πρυμνοῖσιν κεράεσσι πολὺς ἀνακηκίει ἱδρώς·
τὼ μέν τε ζυγὸν οἷον ἐύξοον ἀμφὶς ἔέργει
ἰεμένω κατὰ ὦλκα, τέμει δέ τε τέλσον ἀρούρης·
ὣς τὼ παρβεβαῶτε μάλ' ἔστασαν ἀλλήλοιιν.

The article by V. Pisani, *Athenaeum* N. S. 18 (1940) 3-10, on the subject may be the starting-point. His argumentation is this. Stating that PIE *ls* between vowels did not remain in Greek and noting that a suffix -σο- is rare, he argues that N 707 is the oldest context for the two words (which may well be right; the other occurrences are for τέλσον Σ 544.547, for ὦλκα σ 375). For τέμει δέ τε τέλσον ἀρούρης he compares Hdt. 4.136 τετμημένων τῶν ὁδῶν, Plat. *Crit*. 118 E διάπλους ... πρὸς τὴν πόλιν τεμόντες, etc., and concludes that it can only mean 'scava il solco della terra'. In that case ὦλκα could not mean 'furrow' and, accepting its connection with Lith. *velkù*, he maintains that "l'⟨*⟩ἀϝολξ lungo o durante il quale i buoi si sforzano, non è altro che il *trahere* dei buoi stessi, la loro azione di tirare l'aratro."

There are objections to this view. First it seems improbable that *ἀϝολξ designates 'the action of drawing' rather than a concrete object. Secondly, κατά would be difficult: it is never used in a temporal sense in Homer and I find no parallels to show what κατὰ ὦλκα could mean otherwise (LSJ s.v. and Chantraine, Gr. Hom. II, p. 114 f.). Thirdly it is assumed that τέμει contains the same root as τέμνω. This is not impossible, but Monro's suggestion that it is a present with the same root as ἔτετμε 'he reached' deserves at least consideration. But most important is that Pisani rejects the value of the gloss τέλσας· στροφάς, τέλη, πέρατα Hsch., p. 3 n. 1:

"il significato che Esichio attribuisce alla parola è, a ogni modo, secondario." I see no ground for this assertion. On the contrary, since we do not have here the same word as in Homer, and since it is improbable that Hellenistic *poetae docti* or grammarians would have created τέλσᾱ, τέλση, it is much more probable that we have here an independent piece of evidence for the meaning of τέλσ-ον, -η.

A suffix -σο- may be rare in Greek, but morphologically there is nothing against assuming a derivative from τέλος (cf. Skt. *vátsa-* against ϝέτος). Phonetically the development of *ls* is not clear. Lejeune, *Traité*, p. 107, states that it is retained, but his examples are ἄλσος and τέλσον, of which ἄλσος is of no use since its origin is unknown, and τέλσον is the word under discussion. On p. 108, moreover, Lejeune gives instances in which the *s* is lost, instances which can hardly be dismissed.[1] On the other hand we may expect the same treatment as for *rs*, and there are clear cases in which we find this group preserved, e.g. ἐέρση, κόρση; so *ls* might be retained as well in some circumstances.[2] In any case, as the question is not definitely settled, the possibility that *ls* remained cannot be excluded. (One is reminded of the problem presented by ἀπόλλυμι, etc., Lejeune, *Traité*, p. 133.)

Now when τέλσον is 'turning-point', τέμει is probably 'reaches'. Then there is the question of what ὦλκα means. F. Solmsen, *Unters.*, p. 258 ff., treated the form: the hiatus in κατὰ ὦλκα suggests ϝ-, but *ϝωλκα is impossible, since this would have been shortened to *ϝολκα. We must therefore assume *ἀϝολκα [the other possibilities, *ϝασολκα/ϝαϳολκα < *μ_e*solk-*/$\mu_{\underline{e}}$*iolk-* or *μh_2*esolk-*/$\mu h_2 e_{\underline{i}}$*olk-* giving very unusual structures, if the word is IE]. This form was contracted in the living language to ὦλκα, which was introduced into κατ' ἀϝολκα, while — as the metre was then disturbed — κατ' was replaced by κατά, despite the hiatus. What is the meaning of the word? As it may be cognate with Lith. *velkù* 'to draw', I thought of 'the thing drawn = the plough' (cf. ἄλοξ 'furrow' — εὐλάκᾱ 'plough', OE *sulh* (< *$s\underline{l}k$-) 'plough, furrow'), which would give us a subject for τέμει (see Leaf ad loc.), but then κατά makes no sense. We should therefore retain the old explanation 'the thing drawn = the furrow'. (For the use of κατά cf. O 682 καθ' ὁδόν, Z 391 κατ' ἀγυιάς etc. and specially Λ 68.)

As *ἀϝολξ may safely be considered cognate with Lith. *velkù* etc., the PIE root had the form *$\hbar_2 \underline{u}elk$-. This is the relevant point for this book, and the form *ἀϝολκ- should be added on pp. 56-8 and p. 69. Beside it there was **selk-* with the same meaning ('to draw'), see e.g. Frisk s.v. ἕλκω. Though this is remarkable, we should not be embarrassed by such phenomena. There are many comparable things in the living languages, and there is no reason why PIE should not have had them.

As to *ἀϝολξ itself, the form may be either a nominative with *o*-vocalism, *$\hbar_2 \underline{u}\breve{o}lk$-*s* (cf. p. 89 on ἀλκ-ή) or a zero grade, *$\hbar_2 \underline{u}\underline{l}k$-, in which we might expect αλ/λα or

[1] Χείρ is not relevant, since it is derived from **ghesr-*, as Hitt. *ki-eš-šar* 'hand' proves (see for instance Schmitt, *Igd. Dichterspr.*, p. 145 ff.).

[2] It seems most probable that there is a chronological difference, the words with ρσ looking like relics. In some cases analogy may of course have played its part.

Aeolic ολ/λο from $\underline{l}$. About the other forms, ἄλοξ etc., uncertainty remains. Αὔλαξ may also represent *$\hbar_2 \underline{u}\underline{l}k$-, but the ε- of εὐλάκᾱ, the ο- of ὄλοκες (and in -ωλακ-), the χ in αὐλάχᾱ, and ἄλοξ itself would be irregular. Cf. beside Frisk s.v. ἄλοξ also Buck, Gr. Diall., p. 51.

I may take the opportunity to make a few remarks on the relevant passage in N. Firstly, the verse N 707 is a fairly old one, because it contains two words that occur nowhere else, τέμει and ὦλκα (Pisani rightly points out that the author of σ 375 probably connected τέμει with τέμνω, because he writes εἰ ὦλκα διηνεκέα προταμοίμην). The simile is made to describe the Αἴαντε, which are not the two heroes called Ajax, but the two sons of Telamon, as Wackernagel demonstrated (see e.g. D. L. Page, *History and the Homeric Iliad*, p. 236 f.); the simile could therefore be as old as the original use of this dual. We then observe the excellent rhythm of the line, all major incisions of which coincide with the important caesurae: the trithemimeres, the trochaeic caesura, the hephthemimeres and the bucolic caesura. However, at the same time it has one of the extremely rare violations of Hermann's Bridge, though it will be agreed that δέ τε go closely together. Are we to conclude that this refinement was later observed more strictly? Cf. the Add. to p. 66.

As regards metrics, in vs. 705 three things may be noted. First the third element is long through ν-movable, which is not an old trait (see Hoekstra, *Mod.*, pp. 71-111). Secondly the last syllable of πολύς, though followed by a vowel, is counted long, and thirdly the ϝ- of ἰδρώς is not observed. The last two facts can both be accounted for by comparing Ψ 507, where the second part runs: πολὺς δ' ἀνακήκιεν ἱδρώς. Not only does the problem of πολύς not exist here, but it may also be reasonably supposed that the ν-movable was introduced here only when ϝ- had disappeared. For the last point we must also compare Λ 811 Ψ 715 κατὰ δὲ νότιος ῥέεν ἱδρὼς | (of which Ψ 688 ἔρρεε δ' ἱδρὼς | is reminiscent). Here too it is probable that the formula originally had ϝ-, not the ν-movable. I state this rather circumstantially because Chantraine, *Gr. Hom.*, p. 156, finds difficulty with the fact that there is no trace of ϝ-, and even supposes that there might have been a PIE by-form with *s-* (instead of *s$\underline{u}$-*); thus Frisk (s.v. ἐμέω, to which he refers s.v. ἰδρώς) says: "Das Fehlen des Digamma bei Homer ist nicht befriedigend erklärt." Now not only *are* there traces of ϝ-, but even if there were not, there would be nothing to be explained: in the last phase of epic poetry ϝ- had disappeared from spoken language, and though many traces of its original presence have been preserved in traditional formulae, it is only natural that there are as many or more cases where this ϝ- is absent. To be clear, N 705 is an adaptation of the formula found in Ψ 507, and the only difficulty is πολύς (the author simply could not use δέ and left it out, not considering the metrical difficulty serious enough to remedy it), for in ἀνακήκιει ἱδρώς there was no problem for him. (It may be noted that the two formulae do not date back to the oldest phases of epic poetry, since ἱδρώς originally had *s$\underline{u}$-* (cf. OHG *sweiz*), of which the expected 'ϝ- would have lengthened a preceding short vowel (as for instance *'ϝῆν, see p. 61); for ἱδρώς see besides Frisk also G. R. Solta, *Die Stellung d. Armenischen*, p. 61 f. with n. 60.)

An old element may be seen in βόε οἴνοπε (where ϝ- is observed), since we found Myc. '*Woino^{U}ks*' as the name of an ox.

As regards ἀμφὶς ἐέργει (706), Pisani rejects the explanation 'hält auseinander', and thinks that the yoke 'constringe da ambedue le parti'. I think οἷον is against this (it would be meaningless).

We have then all in all a typical situation: some stray old elements, a whole old verse, of which the meaning was soon no longer understood, together with contemporaneous elements of the last phase of epic tradition (the loss of ϝ- in 705), the whole a picture full of interest and force, culminating in the last half verse (707): the reader (listener), whose sympathy for the labouring bulls was aroused by vs. 705 and who sees the animals "struggling along the furrow", is told in few words, added paratactically — which adds to the directness — that, notwithstanding (δέ) the fact that the work is terribly hard (depicted in the heavy word (ϝ)ῑεμένω at the beginning of the line), the plough, as you will have seen yourself happening so many times (τε), *has* not reached, but *is reaching*, is busy reaching (the present τέμει) its goal, and then, at the climax, or rather just before reaching the climax, before suspense would be broken, we are suddenly returned from this peaceful toil to the battlefield: a simile well worthy of 'Homer.'

APPENDIX III

STRUNK, NASALPRÄSENTIEN UND AORISTE.

The problem of the nasal presents of seṭ roots is treated by K. Strunk, *Nasalpr.*, pp. 21-59. As many points are of interest to our study, I may make some brief comments on them.

Of importance is his argument that nasal presents of the type *TR-n-eH-mi* have a root aorist *TR(e)H-*. To my list on p. 226 should be added: *ἔβλην, found in ξυμβλήμεναι Φ 578, ξυμβλήτην (3. du.) φ 15, βλείης (2. sg. opt.) Epich. *Fr.* 219 (Kaibel), βλείς (ptc.) id. *Fr.* 176 and ἔβλη *EM* 199,55 (*o.c.*, p. 45); apart from κατέβρως there is ἔβρως Call. *hy.* 1,49 and ἔβρω· ἔφαγεν, ἔδακε, διέσπασε Hsch. (*o.c.*, p. 48). This confirms my view that ἔτεμε cannot derive from an aorist **é-temh₁-t*. The same situation occurs with the presents in *-n-eu-mi*, which also had a full grade II aorist (Skt. *áśrot* < **ékleut*, ἔσσευα < **éḱi̯eu̯m̥*); there are no aorist roots of the type *ϝερυ-, *ϝελυ-. (Of course I do not agree with the statement (p. 43 f.) that βλῆτο etc. have "starre VS [Vollstufe] II".)

However, Strunk holds that the Sanskrit aorists of the type *astarīs* are originally athematic, referring to J. Narten, *Die sigmatischen Aoriste im Veda* (Wiesbaden, 1964). It may be right that the type *astariṣam* has been built on the athematic aorist, which is why the root has no lengthened grade. If so, my remark on the subject on p. 227 should be deleted. Strunk tries to show that these aorists are innovations, to my mind not very convincingly (pp. 49-54). The idea that these are old imperfects (p. 52) seems to me more probable; cf. p. 224 ff. (of this book) on some Greek (thematic) aorists.

It may be useful to point out that, even if aorists with roots of the type *TeRH-* occurred, it is improbable that ἔτεμον was derived from **é-temh₁-*. If the full grade form of the singular of the athematic aorist was transformed into another aorist type within Greek, we might expect, parallel to **é-temh₁-t* > ἔτεμε, from **éḱemh₂-t* > *ἐκεμα, which would have become a 'pseudo-sigmatic' aorist of the type ἔχευα; as this does not occur, the first development (**é-temh₁-t* > ἔτεμε, which would have been the starting-point of the thematic aorist) is also improbable. If one explains ἔτεμον from **é-temh₁-om*, we would also expect *ἔκεμον < **é-ḱemh₂-om*; as the latter is not found, the first development is also improbable. Perhaps the type **é-ḱerh₂-t* > *ἐκερα was transformed into a *s*-aorist, ἐκέρασα; in that case we would

expect from **é-temh₁-t* a form *ἐτέμεσα (as in ἀπ-έμεσσε). I see no way to prove or refute the last assumption. To my mind, then, even if there were aorist roots of the type *TeRH-*, they were not the starting-point for ἔτεμον. (Cf. also p. 224 n. 111.)

By way of criticism I must say that I do not think that the fact that nasal presents have root aorists is as important as Strunk holds. The only other possible type is a *s*-aorist, and it has not been shown that this type is not old with these presents; for thematic aorists are probably all recent and derived from athematic ones, as Strunk admits on pp. 97-100. (I consider the theory of **likʷe-* as a variant full grade II (II'), with an old present **li-n-kʷe-ti* and aorist **e-likʷe-t*, very improbable, because such root structures (ending in a vowel) are otherwise unknown in PIE (*o.c.*, p. 32 f.).)

Strunk too interprets βάλλω as thematization of a nasal present, on morphological grounds (the parallel with κάμνω etc.). He too therefore allows presents in *-nēmi* and *-nōmi*. See his review of the problem, p. 56-9. His most important argument seems to me Skt. *pṛṇīhí*, which is cognate with ἔπορον and therefore indicates **pṛ-n-eh₃-mi*. As for *pṛṇáti* compared with *pṛṇáti*, he too holds that the first form "darf ... als typologisch jünger gelten" (p. 57).

As regards πρίατο, Skt. *krīṇáti*, I may stress the fact that **kʷri-n-eh₂-* is an unusual structure, as is a root **kʷrieh₂-*. It might be useful to distinguish between the behaviour of three- and four-consonant roots (**kremh₂-*, **dhu̯enh₂-*).

I am not convinced by the reasoning that ἔκιον represents **éki̯om* (p. 101 f., especially n. 281): I do not see why in the stage of development of which we are speaking the form συ- would not have acted upon **ki̯u-/ki̯u̯-*, and — which is more essential — I do not believe in the automatic distribution of syllabicity which would produce **ki̯u̯-*. Edgerton's laws do not explain all problems; things are more complicated.

Two important points may be further noted.

Strunk thinks (p. 72 ff.) that the types τανύω *tanóti*, ἄνυμι *sanóti* derive from **tn̥-n-eu-* etc. This cannot be correct since this development is impossible for Greek. A form **tn̥neu-* would have given *ταννυ-, because a vocalic sonant before another (consonantal) sonant develops into *VR*: θαρνεύει < **dhr̥-n-eu-*, χαίρω < **ghr̥-i̯-*, ἰοχέαιρα < *-χεσr̥ϳα < **isu̯o-ghesr-ih₂*, βάλλω < **gʷl̥-n-*, μαίνομαι < **mn̥-i̯-*, βαίνω < **gʷn̥-i̯-*, δάμνημι < **dn̥-n-*, κάμνω etc. (*τομν- < **tm̥-n-*, see p. 223). It may be pointed out again that there is a difference between *n̥n* and *ₑn*, and that confusion can arise from the fact that some scholars use *n̥n* in the function of *ₑn*. There is no reason why -ανν- should have been reduced to -αν-; compare Aeolic (?)δίννω (Hdn.), and (much more recent) κεράννυμι κορέννυμι. On the necessity of assuming structures of the type **tₑneu-* see p. 236. (The form ἀχευ- may be derived from **h₂ₑgheu-*. I am not convinced that there could not be a second present beside ἄχνυμαι < **h₂gh-n-u-*, and I am also not convinced that Hom. ἀχεύων can be better understood as aorist: with E 869 καθέζετο θυμὸν ἀχεύων | we may compare καθέζετο κύδει γαίων | (A 405 E 906 Θ 51 Λ 81), and in five out of eleven occurrences of ἀχεύων we have ὀδυρόμενος καὶ ἀχεύων, I 608 Ω 128 β 23 δ 100 ξ 40.)

Strunk's interpretation of Greek στρατός (p. 111) is entirely unacceptable to me. He discussed it at great length in Münch. Stud. z. Sprachwiss. 17 (1964) 77-108. It may be discussed in greater detail, because Strunk gives his treatment as an example of a good etymology, while it is to my mind a forced one, and because I see (November 1968) that Frisk seems to be influenced by him and considers the question to be undecided, while I think it is perfectly clear. It is to be regretted that we have repeatedly to fight for results obtained long ago.

Strunk holds that Skt. *stṛta-* can only mean 'niedergestreckt, besiegt', that this is the original meaning of the aniṭ form of the root **ster-*($\hbar_3$-), and that στρατός developed either from '*niederstreckbar > *Feindesheer > Heer' or, with active meaning of the adjective in *-tos*, from '*Niederstrecker'.

This semantic development may not be quite impossible, but I know of no parallel, while the old interpretation ('Feldlager' > 'Heer') has many parallels (Strunk, p. 78f.: στατόπεδον, Byzant. φοσσᾶτον etc., Dutch *leger*). I do not see what reality there is in the suggestion (p. 79) that these developments "viel späteren kriegstaktischen Vorstellungen entwachsen sein dürften." The statement that the meaning 'Feldlager' must be demonstrable in the case of στρατός before we could assume the same development here must, of course, be rejected. It would be irrefutable evidence, but the interpretation would remain just as possible if we could *not* point to this meaning.

As it is, there are cases in Homer where στρατός means 'camp'. Strunk admits this (p. 80, 86), but rejects these cases as secondary. This is all the more unrealistic since there is as strong confirmatory evidence as one could wish that this is the *oldest* meaning. Let me give Strunk's treatment first. He states that the meaning 'camp' is only possible where the word stands in the accusative and forms the second element of the fourth dactyl. He proceeds from the other cases and tries to demonstrate that in all these cases the meaning is 'army'. Sometimes this demonstration fails to convince. I may give one example. He holds that there is an opposition στρατός 'common people': ἄριστοι, βασιλῆες; this may be right, but the application in the case of A 10 (and some others) is overstrained (p. 84f.): "A 9-11 wird die Strafe des Gottes ausdrücklich so gekennzeichnet, das für den Frevel des Agamemnons die gemeinen Krieger sterben müssen." This is a clear case of 'hineininterpretieren'. At least the meaning 'camp' is equally possible here. (Perhaps in these cases no choice is necessary: στρατός means 'the encamped army', just as, when we say "at school", *school* means both the building and the people working there.)

But this is not the main objection. He further considers that in the formula too the meaning 'army' prevails, and states (p. 87) "Eine Lösung ... kann in der relativen Häufigkeit der einen oder anderen Sinngebung im Rahmen der Formel gesucht werden." This again is not acceptable: such questions are not decided by numbers. Though he recognizes that formulae may contain old elements, he holds that here the meaning 'camp' was later introduced by 'Umdeutung' of the formula. This again is highly improbable, for στρατός was so well known in the meaning 'army', that 'Umdeutung' is most improbable.

Let me give the facts as I think they should be presented. In the *Iliad* — the five instances in the *Odyssey* may be neglected — the ciphers for the occurrences of the different cases are: sg. gen. 7, dat. 4, acc. 46, pl. nom. 1. Formulae should thus be looked for in the accusative; that the genitive will not contain anything old appears from the form, στρατοῦ, not -οῖο (a form that would not fit the dactylic hexameter!). Now there is virtually one formula only: after the trochaeic caesura ⏑ – στρατὸν εὐρὺν Ἀχαιῶν |, in which ⏑ – is a preposition: κατά 4 ×, ἀνά 1 × (before the bucolic caesura 1 ×; with ὀρώρει instead of Ἀχαιῶν 1 ×), μετά 1 ×, ἔσω 1 ×; without εὐρὺν Αχαιῶν we have between trochaeic and bucolic caesurae κατὰ στρατὸν 17 ×, ἀνὰ στρατὸν 5 × (on other places 2 ×) and (after the penthemimeres) μετὰ δὲ στρατὸν 1 ×. All instances mentioned together form 34 out of the 46 accusatives. This to my mind is a clear instance of a formula with shortened and shifted variants (note Ψ 285 κατὰ σ. ὅστις Ἀχαιῶν). The original formula falls between trochaeic caesura and verse-end. The most obvious conclusion is that this is an old formula, where the original meaning 'camp' has sometimes been retained. (That the formula was reinterpreted as 'army' is not strange, since this was the normal development of the word.) This is confirmed by εὐρύς (9 ×), which means 'broad, extending broadly', a mostly geographical term. Strunk's reference to the 'breite Masse' suggests a meaning which is not a natural epithet for people in the Homeric language, and certainly not in an old formula.

The only old formula in which στρατός is used sometimes displays the meaning 'camp', a meaning confirmed by the use of the epithet εὐρύς (cf. στρατῷ εὐρεῖ Δ 76). The fact that in many cases one hesitates between the two meanings shows how natural this semantic development is; but that was already known from the three parallels. This meaning is incompatible with Strunk's hypothesis, which must therefore be abandoned.

The etymology is then clear: **stṛtós* means 'spread out'; what is spread out is (a place or) things to lie (up)on, a sleeping-place, which is one of the natural meanings of στόρνυμι, cf. I 621 στορέσαι πυκινὸν λέχος.

(Remark. In Mycenaean we might expect from **stṛtos* a form *στορτος. It should be remarked that this form cannot be used in our formula, and secondly that Cretan σταρτος might be the Doric form στρατός influenced by *στορτος from the Mycenaean substratum; but see on Cretan Buck, *Gr. Diall*, § 49. 2a and 70.1.)

Attention may be drawn to the fact that the Germanic languages sometimes have *ē*-forms beside *ā*- or *ō*-forms in the other languages. If these are a reality, we must decide from case to case whether this implies root variants or ablaut forms.

Strunk (p. 37) assumes for γιγνώσκω a root **ĝneh₃-*, but points to (n. 43) Germ. **ĝnē-*, e.g. OE *cnāwan*. This implies **ĝneh₁-* beside **ĝneh₃-* 'to know' and, identical with the first or not, **ĝneh₁-* 'to be born'. Now the different forms to my mind (see p. 166) suggest that **ĝnō-* is an ablaut variant of **ĝneh₁-*, that is **ĝnoh₁-*.

When OIcel. *krās* 'Leckerbissen' points to **gʷrē-* beside **gʷrō-* in βιβρώσκω, one could consider βρω- as resulting from **gʷroh₁-*; that this root form was generalized (like **ĝnoh₁-*) is, however, not confirmed by the cognate forms (Skt. *gīrṇá-*, *garat*, *gārṭ*, *gīráti*, *jagāra*, Lith. *gìrtas*, Arm. *eker*, Lat

vorare). Consequently a root variant *$g^{w}erh_1$-/$g^{w}reh_1$- seems more probable here; cf. *$g^{w}ieh_1$-: $g^{w}i̯eh_3$- 'to live' (p. 248 f.). (Ζέρεθρον could then represent *$g^{w}erh_1$-, but βάραθρον would remain inexplicable.)

Lastly we may recall χάος etc. against OHG *gëwon*, which points to *$ĝhēu$- (p. 178). Does this require root variants *$ĝheh_1$-/$ĝheh_2$-?

ADDENDA

ADDENDA

p. 35. (ἄρπυια.) Snell notes on Pi. *Paean* 6.136 that α is impossible, and that it must have been ε or σ vel sim., but S. L. Radt, *Pindars zweiter u. sechster Paian* (Amsterdam, 1958), p. 180f., remarks that he cannot find traces of ε. See for all the forms M. L. West, *Hesiod, Theogony*, p. 428 ad vs. 990. The problem cannot be solved as yet.

p. 51. ἀστράγαλος. It may be doubted whether the form στράγαλος, *Vita Aesop.* (G) 69 (LSJ Suppl.) is old; if it were, it would confirm that the word is non-IE.

p. 53. εἰκῆ. Delete ἕνεκα

p. 53. ἐύς. See the Add. on p. 65 (εὐρύς).

p. 54. ὀδάξ. From the point of view of the formulaic language it is also clear that the formula where ὀδάξ can only mean 'with the teeth' is the younger one. When we compare ὀδὰξ ἕλον ἄσπετον οὖδας (Τ 61 Ω 738 χ 269), to which (ὁ δ' ἐν κονίῃσι) πεσὼν ἕλε γαῖαν ἀγοστῷ (Λ 425 Ν 508.520 Ξ 452 Ρ 315) is the parallel for the third person singular, with ὀδὰξ ἐν χείλεσι φύντες (α 381 = σ 410 = υ 268), the last formula is characterized as recent by the dative in -εσι (against the older form in -εσσι). The last formula recalls λὰξ ἐν στήθεσι βαίνων/βάς (Ν 618 Π 503/Ζ 65) with the same dative. Here the relation is very pronounced: 8 times στήθεσι against 128 cases of στήθεσσι.

p. 56. ἄεθλος. Compare now πενταϝεθλεῦν on a ἁλτήρ from the Isthmus, early sixth century BC. (LSJ Suppl. s.v. πενταθλέω).

p. 61. (εἴκοσι). The reconstruction ϝήν πατρίδα γαῖαν seems confirmed by an analysis of the formulaic use of πατρίδα in the *Odyssey*.

A.

φίλην	ἐς	π. γ.	α 290 = β 221 ε 37.204 κ 562 λ 455 ξ 333 = τ 290	
			ο 65 σ 148 τ 258.298 ψ 340	(13×)
ἑήν	ἐς	π. γ.	ε 42 = 115 ι 533 ν 52	(4×)
σήν	ἐς	π. γ.	δ 476 = ζ 315 = ο 219 = ψ 259	
			η 77 = κ 474	(6×)

	ἐς	π. γ.	ξ 322 π 206 = τ 484 = φ 208 = ω 322 ψ 102 = 170	(7×)	
ἱκόμην	ἐς	π. γ.	ι 279		
ἵκοιτ'	ἐς	π. γ.	ρ 539 = σ 384 ω 237	(3×)	(20×)
		π. γ.	κ 462 ν 197.219 σ 257 τ 116 ψ 120	(6×)	
(ἀφ)ικοίμεθα		π. γ.	κ 33.420 μ 345	(3×)	

B.

σὴν	π. γ.	ἵκοιο	γ 117	(1×)
,,	,,	ἵκηαι	δ 545 ε 168	(2×)
ἣν	π. γ.	ἱκέσθαι	δ 558 = ε 15 = ρ 144	(3×)
,,	,,	ἵκηται	ε 26 = 144 η 193	(3×)
πρὶν	π. γ.	ἱκέσθαι	δ 823 = ν 426 = ο 30 ε 207.301	(5×)

It occurs 57 times combined with γαῖαν, and this combination is found either at the end of the verse (A, 43×) or followed by a form of ἱκέσθαι (⏑ – ⏑), which is final (B, 14×). The second group (B) is preceded by a possessive (σήν, ἣν; 9×) or πρίν (5×). The first group (A) is in more than half of the cases preceded either by φίλην ἐς (13×) or a possessive + ἐς (σήν, ἑήν; 10×). Of the remaining twenty cases we find παῖρίδα γαῖαν without ἐς (9×) either by itself (6×) or preceded by a form of ἱκέσθαι (3×); the other cases (11×) have ἐς πατρίδα γαῖαν, four times preceded by a form of ἱκέσθαι. Of the seven cases where ἐς πατρίδα γαῖαν stands by itself, six are in the two formulae discussed on p. 61, the only other instance being ξ 322. The conclusion is that πατρίδα γαῖαν almost always has an adjunct, mostly a possessive; in the second group (B) this is even clearer. The second group also demonstrates that ἐς is not necessary with ἱκέσθαι, and the construction without the preposition will be the older one. Now I think this situation makes it probable that ἐς has replaced a possessive. It is important to note that σὴν ἐς πατρίδα γαῖαν does not coincide with a caesura: it is a recent variant for a second person; the replacement of a third person formula by one for the second person is also clear in the second group (B). In the formula for the third person with ἐς, it was possible to fit it into a caesura by using the form ἑήν instead of ἣν. One might wonder why for the second person τεήν was not used; probably the form was too unusual for the singers who made the change (cf. Chantraine, *Gr. Hom.*, p. 271).

The double consonant of ἣν may also be concealed in the formula δ 558 = ε 15 = ρ 144: ἴσχει. ὁ δ' οὐ δύναται ἣν πατρίδα γαῖαν ἱκέσθαι, if we assume that the verse originally occurred in narrative with the form δύνατο ϝήν. For the more recent present for an older imperfect cf. ἀνακήκιε(ν), App. II, p. 277, and ἦσαν supposed in the Add. on p. 108 f. (Ἴσχε would not fit the metre; ν-movable is improbable. The verse may originally have run:

*αὐτὰρ ὅ γ' οὐ δύνατο ϝὴν πατρίδα γαῖαν ἱκέσθαι.)

p. 64. (ἔλπομαι). M 407 has θυμὸς ἐέλπετο. In this form (also in N 8.609 ψ 345) the ἐ- may of course be the augment (Chantraine, *Gr. Hom.*, p. 480). Then N 813 θυμὸς ἐέλπεται may be θυμὸς ἐέλπετο transformed into a present. (It would be an instance of 'verschlepptes Augment', but this only artificial, to be well distinguished from that of the living language, Schwyzer, p. 656 d.)

p. 65. εὐρύς. Though they constitute desperate problems, I may add a few remarks on εὐρύς and ἐύς, the more so as I disagree with regard to the last with one of the latest reviewers, R. Schmitt (*Dichtung*, notes 511, 530, 728, 739, 743, 863, 865, 867).

εὐρύς. I think εὐρύς simply represents **eur-u-s*, as against Skt. *urú-*, Av. *vouru-*, which continue **u̯ₑru-*. Ablaut of this kind, presenting a vowel either before or after the first consonant of the root, is also found in **u̯es-u-* (see s.v. ἐύς below) against **eus-* in Goth. *iusiza* 'better'. With both times a reduced vocalism we find this alternation in ταύς : σαός, if our reconstruction of **tₑu̯ħ₂-u-* : **tu̯ₑħ₂-u-* (p. 249) is correct. With nouns we found this kind of ablaut in the word for 'name': **enħ₃-/ nₑħ₃-*; cf. also p. 44 s.v. ὀμφαλός. Full grade *e* with *u*-stems is, except in **u̯esu-*, also found in κενός etc. Since the root cannot be established exactly, this form might in itself be explained from **kn̥ħ₁-u-* (> *κενυ-), but Arm. *sin* 'id.' proves full grade *e* (probably **ḱen-u-*). (For ἡδύς, beside **su̯eħ₂d-u-*, a reduced grade **su̯ₑħ₂d-u-* is also possible. The form ἑτεός ἐτυ- may represent **etu-*, **ħ₁etu-*, **ħ₁ₑtu-* or **ħ₁tu-*.)

If a laryngeal should be assumed — for which there is no positive evidence —, beside **ħ₁euru-* a form **ħ₁ₑuru* is possible, and, as I now hold, **ħ₁u̯uru-*; I am no longer of the opinion that the */u/* should necessarily have been vocalic in this sequence. A form **(ħ)u̯ru-* is found in Av. *urv-āp-*, though this is in composition.

We are thus left here too with four possibilities: **eur-*, **ħ₁eur-*, **ħ₁ₑur-*, **ħ₁u̯r-*. (It is possible that the second and third form both occurred in the flexion, and that the last was found in composition. But in composition an original **u̯ru-* may have been replaced by εὐρυ- by influence of the adjective, as was **su-* by ἐυ-.)

ἐύς. The fact that the compounds with ἐυ- in Homer have no trace of ϝ-, and the fact that these compounds have *e-u-* in Mycenaean (Chadw.-Baumb. s.v. ἐύς) show clearly that the Greek word did not have the *u̯-* found in Skt. *vásu-* etc.

The interchange ἐ-/ἠ- has been explained as metrical lengthening, for instance by Frisk; Leumann, *Hom. W.*, p. 317 n. 107, holds that it originated in compounds. Against this must be argued first that from recent lengthening one would expect εἰυ- (but non-Ionic lengthening might indeed be found in ὠλεσίκαρπος; this seems better than Strunk's view, *Nasalpr.*, p. 120, that ω represents the original length of the *s*-aorist). Secondly there are in Homer only two such compounds.

That these forms are old is clear. We have four instances of ἠυγένειος: λῖς ἠ. | Ο 275 Ρ 109 Σ 318, λέων ⏑ ἠ. | δ 456 (λῖς further only Λ 239, at the same place in the verse, preceded by ὥστε as in Ρ and Σ, but followed by ἐκ δ' ἄρα χειρὸς: evidently a remnant of the formula; λῖν Λ 480, the same book).

Ἠύκομος occurs *Il.* 3 ×, *Od.* 1 ×, -οιο *Il.* 15 ×, *Od.* 2 ×. A frequent formula is (δῖος) Ἀλέξανδρος, Ἑλένης πόσις ἠυκόμοιο, Γ 329 H 355 Θ 82 Λ 369.505 N 766 (a variant is Ἑλένης ἕνεκ' ἠυκόμοιο I 339). Θέτιδος πάις ἠ. (Δ 512 Π 860) may be recent, since Thetis' usual epithet is ἀργυρόπεζα, which might have been used here too. Ἀθηναίης ἐπὶ γούνασιν ἠ. (Z 92. 273. 303) is not necessarily a formula, but may be only a 'repeated line' (see J. B. Hainsworth, *The Flexibility of the Homeric Formula*, 1968, p. 41); moreover, it is too flat a description for Athena. Further, it is used of Briseis (B 689), Hera (πόσις Ἥρης ἠ. K 5; the occurrence with πόσις suggests that it has been taken from the formula with Helen and this confirms that *that* is the old formula; for Hera too it is too flat; note that it is in K), μητέρος (Ω 466, the only instance without a name, though Thetis is meant; note Ω) and Calypso (ϑ 452 μ 389). In the nominative we have (τ)ὃν ἠ. τέκε Λητώ | (A 36 T 413 λ 318) which may be old, and Ω 602 of Niobe (note Ω again). The conclusion seems that the oldest formula is that with Helen. That this (the wole line) is very ancient is demonstrated by the fact that the aspiration of Ἑλένη makes position; that this is an old feature, I hope to demonstrate elsewhere. (Note the excellent rhythm of the line, all word-ends falling on 'caesurae'.) The conclusion is that ἠύκομος belongs to the oldest elements of the epic tradition.

The forms of ἠύς are a remnant as well as the compounds with ἠυ-. Ἠύς occurs only in ἠύς τε μέγας τε (6 ×) and ἠὺς ϑεράπων (before the penthemimeres, 2 ×); ἠύν in ἠύν τε μέγαν τε (3 ×) and once otherwise (Z 191); ἠύ only in μένος ἠύ | (6 ×). This conveys the impression that the form with ἠ- was retained only in the formula with μέγας (after the hephthemimeres; for the formula type cf. ϝέργον τε ϝέπος τε, π(τ)όλεμόν τε μάχην τε), and perhaps with ϑεράπων (cf. ϑεράπων ἐύς 4 ×) and μένος.

Now it is not impossible that we have here a very old metrical lengthening, which was (from the compounds) secondarily introduced in an adjective that itself disappeared from the living language. But all together it is to my mind far more probable that the ἠ- is an old form of the living language (introduced in compounds, as was the ἑ- of ἐύς; see below), preserved in a few old formulae. This seems confirmed by ἠέα· ἀγαϑά Hsch., if it is not a recent epic form.

That ἐυ- had a laryngeal is not certain. It is frequently connected with the root of 'to be' as **ḫ₁s-u-*. But firstly this connection is not certain, and secondly it is not certain that the root of 'to be' had a laryngeal (see p. 91). In fact ὑγιής could be more easily explained by **su-* than **ḫ₁su-*. I do not understand what Schmitt (n. 530) means when he says: "oder erklärt sich die griechische Kompositalform ὑ- gar als Reflex des anlautenden *ə₁*- ??" The form ἐυ- in compounds must then be ascribed to influence of the adjective, as must ἠυ-. That ὑγιής escaped transformation to ἐυ- was due to the fact that the composition was, at an early date, no longer clear.

The supposed genitive ἐῆος (ἑῆος) is too doubtful to be used as a basis for conclusions. The same applies to ἐάων.[1]

[1] Schmitt, *o.c.*, p. 144 f., rightly regards δωτῆρες in ϑ 325 δωτῆρες ἐάων as a hybrid form (as does Chantraine, *Dict. Etym.*, s.v. δίδωμι A 2). It must be a transformation of δοτῆρες after δῶτορ (ἐάων ϑ 335), which form fits in after the bucolic caesura. It is then also clear why δοτῆρες was not used: it would have violated Hermann's law.

Now ἠύς beside ἐύς together with Hitt. *aššuš* supposes three ablaut forms; for this phenomenon cf. p. 195 s.v. κάλαμος. I can imagine this most easily as **és-u-s *és-u-m *₍ₑ₎s-éu-s*. For the full and reduced grade of the root I refer to the discussion of εὐρύς above. The lengthened grade is less known, but I think we have decisive evidence that it did occur for the word **μesu-*. In Celtic we find Ir. *fiu*, W. *gwiw* 'worthy', Bret. *gwiou* 'merry' and Gaul. *Uisu-rix*, *Bello-uesus*, *Sego-uesus*, which all have **μēsu-*; WP I 310; Pok. 1174; Lewis-Pedersen, p. 18 (not changed in the 1961 supplement). The assumption of a form **ēs-u-* as a basis for ἠύς therefore seems allowed.[2]

p. 66. (Ἶσος). A verse-end νηὸς ϝίσης was clearly avoided. When the fifth metron was followed by word-end, it is very often a dactyl, very seldom a spondee. K. Meister, *Die Homerische Kunstsprache*, p. 7, lists only ten instances, half of which are probably due to recent contraction (e.g. ἠῶ δῖαν < *ἠόα δῖαν). Even more important is that in these cases the tenth element is always long by nature, not — as in νηὸς ϝίσης — by position. The only conclusion I can draw from these facts is that an ending like νηὸς ϝίσης, which must be old, was allowed in earlier epic but avoided later, and that in this particular case the metrical anomaly was removed even at the cost of a non-existent form (ἴσης) in order to keep the formula. If this view is correct, then we have in this old formula a trace of an old metrical licence that later disappeared wholly. Cf. the Add. to p. 108 f.

p. 87 f. Important would be the form *eluzanem* 'to make come up [of plants]', if it belongs with ἐλεύσομαι ἐλεύϑερος, which is a good possibility; see Solta, *Stellung d. Armen.*, p. 244. This would seem to confirm the view that the original colour of the laryngeal was retained. However, in the middle of the word there is no evidence for this, cf. *alawri* 'mill' < **alatrio-*, cf. Gr. ἀλετριο-, which is derived from the root **ḫ₂elh₁-*.

p. 108 f. νηλίτιδες. For νηλείτης (Antim.) and νηλεῖτις see now LSJ Suppl. The forms given there support the interpretation given in the text.

The form (νηλειτ)-έες is the more probable, since the fifth metron when followed by word-end is very often a dactyl, very seldom a spondee; according to K. Meister, *Die Homerische Kunstsprache* p. 7, there are only ten instances of which five can be resolved. Cf. the Add. to p. 66. (In the archaic formula so reconstructed the form εἰσι is surprising; it might replace ἦσαν.)

[2] Dr. C. J. Ruijgh, who was so kind as to give me his view on the problem by letter, is also of the opinion that the ἠ- is old. He thinks, however, that it originated in a neuter, comparing ἦπαρ < **jēkᵘr* (and γωνία, if it were cognate with γόνυ as **ĝōnu-*). I doubt whether we have evidence for lengthened grade in the neuter of adjectives.

p. 168. A clear instance of $o\hbar_2 > \bar{o}$ (ω) is πτήσσω πτώσσω. The root has in Greek the forms πτηκ- < πτᾱκ-(Dor.)/πτωκ-/πτᾰκ-. A cognate is probably found in Arm. *t'ak'-cim* 'to conceal oneself'. If it is assumed that ᾱ comes from PIE $e\hbar_2$, ω must have arisen from $o\hbar_2$. Analogy being virtually excluded, the only alternative is to assume $\bar{a}/\bar{o}$ as such for the proto-language. At present, however, a phoneme $\bar{a}$ can only be taken into consideration if a laryngeal is impossible.

As for βωμός, see for the semantic side Chantraine, *Dict. Etym.*, s.v.; as this etymology seems indisputable, this word alone suffices to prove the development $o\hbar_2 >$ ω (which Chantraine does not accept). (The line of development of the meaning of this word must have been something like this: 1. step, pace > 2. step up > 3. step (of a staircase) > 4. raised place, platform (, tribune) > 5. base, pedestal > 6. altar. For βωμός we find beside 6. only the meanings (4 and) 5 in Homer (see Chantraine, *l.c.*), but there is — beside OP *gāθu-* (see Frisk s.v. βωμός) — a parallel that shows the meanings 1, 4, 5 and 6: βῆμα; even in modern Greek this word has both the meanings 1 and 6. Another form of the root βᾱ- shows a similar development: βάσις.)

p. 178. Καυλός : αὐλός, κμέλεθρον : μέλαθρον and perhaps γλαύκη· φοβερά Hsch.: λαύκη· ... φοβερά ... Hsch. could be added to the instances given by Kuiper, Μνήμης χάριν, p. 213 n. 9. As regards κόγχναι: ὄγχναι reference may also be made to the variant ὄχνη (see LSJ). Although incidental explanations are not inconceivable here (κόγχνη "perhaps from false division, cf. οὐκ ὄγχνη Od. 24.247" LSJ Suppl.; ὄχνη by dissimilation from ὄγχνη, Frisk), it seems more probable that both phenomena point to a substratum word. These words are then important insofar as they demonstrate that the interchange *k*/zero and the prenasalization (p. 12) belong to the same linguistic stratum. At the same time the connection of (κ)αὐλός with the Lithuanian words may be of far-reaching importance to the interpretation of the substratum. Finally, reference may also be made to the roots **psam-*: *sam-*, *sab(h)-* in ψάμαθος etc. (cf. p. 189 f.), where the interchange *p*/zero may be a parallel of the *k*/zero discussed here.

I might add κονίς: Arm. *anic* 'egg of lice'. Frisk tries to account for the different forms found in other IE languages by "volksetymologische, euphemistische, tabuisierende Veränderungen und Verdrehungen" and proposes for *anic* **sn̥id-s.* Solta, *Stellung d. Armen.*, p. 122, holds that Armenian by its prothesis stands entirely alone. To my mind here again Greek and Armenian are most close to one another, if we accept the interchange *k*/zero. (For non-IE elements common to both Armenian and Greek see Solta, *l.c.*, pp. 119 n. 3, 405, 430, 463 n.; cf. also p. 194 of this book, on γέφυρα.)

p. 194. On the pre-Hellenic labio-velars see now Kuiper, *Lingua* 21 (1968) 269-77 (on θάλπω: θαλυσσόμενος θαλυκρός and ἄνθρωπος).

p. 198. See addendum to p. 202.

p. 202. Myc. *demeote* PY An 35 (*'demeontes'*) 'those who will build' points for δέμω to a root *demh₁-/dmeh₁-*. See Chantraine, *Morphologie*², p. 249, who comments that classical Greek has no future of this verb and that "les formes en ᾱ d'écrivains doriens ne doivent rien représenter d'ancien". In Pindar there are variants with η for θεόδμᾱτος. (This is dealt with in the greatest detail by C. J. T. Mommsen, *Annotationis criticae suppl. ad Pind. Ol.*, Berlin 1864, ad *O.* 3.7: "Est cur praeferas θεόδμητον, cum a δέμω formatum esse videatur. Ut hic Moschopulus, ita *O.* VI, 59 Triclinius η scripsit. *P.* I, 61 duo codd. η praestant, sed *P.* IX, 10. *I.*V, 10 omnes in ᾱ consentiunt ... Hoc loco Vaticanus η; is etiam vs. 1.4.12.13 formam melius servavit quam Ambrosianus". Snell does not give the variants, and Bowra gives them only for *O.* 3.7 (mss. BC). Of the two times that the word occurs in the fragments, 78-79.1 Bo. = 33 c 1 Sn. give -δμήτα M, corr. Boeckh; for 167 Bo. = 35 c Sn. only Rumpel *(Lexic.)* gives ᾱ Bergk, vulg. η. Forssman, *Unters.*, who specially examined ᾱ/η in Pindar, calls (p. 160 n. 4) *Fr.* 33 c 1 Sn. a case of "un-doric η", but does not discuss the other cases.)

If this is correct, then δέμας probably replaced *δεμες < **demh₁-s.*

As regards κτέρας, it may be added that the forms with ε are very old. In Homer one finds the verb κτερεΐζω, which must have been derived from the ε-forms of κτέρας. This verb occurs in the formula [σῆμά τέ οἱ χεῦαι (χεύω)] καὶ ἐπὶ κτέρεα κτερεΐξαι (-ξω). The fact that this is an old formula is evident from the transformations with the more recent forms κτερίσαιεν Ω 38 and κτερίσειεν γ 285, and from the guttural declension. Ruijgh, *L'élém. ach.*, p. 83, and Hoekstra, *Modifications*, p. 143 (and p. 142 n. 1) are therefore both of the opinion that the formula is of Mycenaean origin.

One may therefore still expect the old nominative ending in *-es* (-ες) in Myc. An all the stranger form is *kowo*. It may be interpreted as *'kōwōs'* (**kōwh₁-ōs*, cf. γέλως < **gelh₂-ōs*) or *'kōwos'* (**kōwh₁-os*).

On the strength of the above I would now be inclined to be somewhat less sceptical vis-á-vis the hypothesis given on p. 202.

p. 218. If the glosses τέτορεν· ἔτρωσεν and τετόρῃ· τρώσῃ Hsch. are reliable, they possibly provide a further instance of $\underline{r}\hbar_3V > \text{or}V$. The explanation found in Hesychius suggests that the forms are aorists. They must then be reduplicated thematic aorists of the type τέ-τμ-ον πέ-φν-ον. The *o*-vocalism can be explained if the root is the same as that of ἔτρωσα, i.e. **terh₃-*, because we would expect a basic form **te-tr̥h₃-e* > τέτορε. It may further be noted that the absence of augment probably indicates that the word is taken from epic poetry, so that the form may well be ancient.

p. 220. The stem γνη- is also found in ἴγνητες 'αὐθιγενεῖς', from **ἐν-γνη-τ-*; cf. ἑτερόγνητ- 'ἑτερογενής' Hdn. Gr. 1.83 (ἑτερογνής Schwyzer, p. 451). The form ἴγνητες is apparently old: its translation in "modern" (classical) Greek, its meaning ("the *original* inhabitants", e.g. of Rhodes); ι(ν) < *en* Arc.-Cypr. For the com-

pound compare the Homeric formula τοὶ Ἰλίῳ ἐγγεγάασι (Z 493 P 145). For the zero grade compare ἀδμητ- < *$n̥$-$dm̥h_2$-t- (Av. *ašbəret-* < *-$bhr̥$-t-).

p. 222. (τέμενος) That the word was derived from τέμνω is confirmed by the use of ἀποτέμνω Hdt. (LSJ s.v. II 2) and ἀπότομος Locr. V B.C. (idd. Suppl. s.v.) in the sense of 'to cut off land (for private use)'.

p. 223. However, o for α in the neighbourhood of ρ λ μ ν seems to rest on a general tendency in Aeolic (Thumb-Scherer, *Gr. Dial.*, II p. 87f.). It can hardly in all cases result from the development of a PIE sonant; cf. ψόμμος, δόμορτις, γνόφαλλον, κόθαρος.

p. 230. Of importance for ὄνομα is H. Rix' article, *MSS* 18 (1965) 79-92, in which he convincingly argues that the *o* of the root in the Latin gen. *iocineris* is old and was not introduced from the nominative, of which the oldest form is *iecur*, not *iocur*. I am not convinced that the details of Rix' reconstructions (which he gives with due reservation) are right, but the important fact remains that we have here *o* beside *e* in the root of a neuter noun, which, as *enh_3-$mn̥$*, has zero grade of the suffix in the nominative. The *o*-grade is also found in οὖθαρ (< *$(h_1)ou(h)dh$-$r̥$).

p. 252. (*$pr̥náti$*) Puhwel, *Laryngeals and the IE Verb*, p. 39f., points out that Arm. *lnum* and OIr. *do-lin* seem to confirm that the root *$pleh_1$- had an old nasal present.

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II. SUBJECTS

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The languages are grouped into families and these are arranged in alphabetical order.[1]

For all languages the same alphabetical order has been adopted, that of the Latin alphabet.[2]

For the alphabetical arrangement not only the accents but all diacritical signs are neglected[3] (only where words differ in nothing but diacritical signs they are arranged in order of the complexity of these signs[4]).

[1] Sometimes these families are arranged geographically or according to the numbers of words listed. The first must necessarily be approximative, the second will vary from book to book.

[2] Indices and alphabetical order exist for the sake of convenience. The use of these lists is, however, hampered by the fact that several languages have rules of their own. As with the exception of Greek all languages are translitterated into the Latin alphabet, it is evident to follow the order of that alphabet. As most spellings are neither phonetically nor phonemically satisfactory and as the order of the Latin alphabet is not based on any logical arrangement of sounds but is only a matter of convention, there is no reason to make exceptions based on whatever principle. The advantages of uniformity will be evident, I think, and it can be easily obtained. It was for that same reason that the original scripts were translitterated into the Latin alphabet. This advantage should not be undone partially. Conflict with the tradition then is unavoidable, but it is hoped that the advantages in the ease of consultation will outweigh this draw-back. For Armenian the order of the Latin alphabet is now generally adopted.

[3] Accents are generally neglected, as is the macron. As accents are sometimes identical with diacritical signs (e.g. $\tilde{r}, \tilde{n}$), it appeared desirable to neglect them, the more so as in this book the following varieties of *e* are found, that would all have to be grouped separately: *e*, *ę*, *ė*, *ë*, *ē*, *e͡*, *ĕ*. It would be creating a new inconsistency if only *consonants* with these signs were treated independently.

[4] Though one might dispute the details, I propose the order of signs as on the following letters:

ŗ ṛ ḫ ų ɬ ę ç a_2 d l ė û ë ē e͡ é ĕ á k^{ϵ} å̈ č

It may be pointed out that this order is not very important as the words concerned are now listed one after the other, so that the different forms can be seen at the first glance; when the signs are not in the first instance neglected, otherwise identical forms could appear at quite different places in the lists.

Two letters representing a single sound are nevertheless treated as two letters: *ch* = *c* + *h*, *æ* = *a* + *e*, etc.[5]

Compounds are always classified according to the letters of the first element.[6]

Letters not taken from the Latin alphabet are inserted after the Latin letter with which they are associated most closely:[7]

a, b, c, d, δ, e, ə, f, g, h, ḥ, i, ı, j, k, χ, l,
m, n, o, p, q, r, s, t, þ, ϑ, u, ʊ, v, w, x, y, z.

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[5] See note 2.

[6] It would be in conflict with the principles stated specially in note 2 to classify compounds otherwise than according to the first letters.

[7] The arrangement followed here is founded on the basic form of the letters, while diacritical signs are neglected. It is clear, however, that e.g. *ə* is a separate symbol; and as *ə* is an inverted *e*, it is only natural to put it after *e* (as is done in Armenian words). Similar considerations apply for the other symbols.

[8] In accordance with the principles stated above (p. 296) *g* and *q* have not been put together with *k*; the same applies to *b*, *p* and *d*, *t*. The same treatment is found in Schwyzer's *Register*. Thus *i̯* is found under *i*. Spellings like *e-eš-zi* are treated as *eeszi*, not according to their probable pronunciation (*eszi*).

Though this has not been realized in the text, I am of the opinion that the signs *ḫ i̯ u̯ š* in Hittite words should always be written *h y w s*.

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STELLINGEN

1. Ten onrechte beschouwt Solta ook de niet-Indo-europese elementen die het Armeens en het Grieks gemeen hebben als aanwijzingen voor een nauwere verwantschap van deze beide talen.

(G. R. Solta, *Die Stellung des Armenischen im Kreise der indogermanischen Sprachen*, Wenen 1960, p. 463.)

2. Zoals men in het Grieks bij de 'prothetische vocaal' en bij de klanken die op een labio-velaar schijnen terug te gaan zowel met de mogelijkheid van herkomst uit een substraattaal als met Indo-europese oorsprong rekening moet houden, zo moet men dat ook bij de wisseling π-/ππ-.

3. Aan de notatie van consonantgroepen in het Lineair B ligt het principe ten grondslag dat consonanten aan het begin van een syllabe worden genoteerd, die aan het einde niet, waarop consonant-groepen aan het einde van een woord en de *s* een uitzondering vormen.

4. De vorm πολη- wijst op een oorspronkelijke hysterodynamische flexie van deze *i*-stammen.

5. Bij de discussie over de compositie en de overlevering van 'Homerus' wordt te weinig rekening gehouden met het feit dat er naast de Ilias ook de Odyssee is.

6. Het onderzoek van O'Neill toont aan dat de plaats van woorden in de hexameter bepaald wordt door de caesuren, waaruit volgt dat ook de plaats van formules door de caesuren bepaald wordt.

(E. G. O'Neill, *YCIS* 8 (1942) 103-78.)

7. De definitie van Hainsworth van de Homerische formule als de kleinste herhaalde woordgroep "capable of extension" mag niet worden opgevat als de beschrijving van een historisch proces.

(J. B. Hainsworth, *The Flexibility of the Homeric Formula*, Oxford 1968, p. 39.)

8. De 'verboden caesuur' in Λ 686 is ontstaan door het gebruik van de formule *ἐν ϝάλιδι δίᾳ na het verdwijnen van de ϝ-.

9. De vorm ὑλήεντι in α 246 = π 123 = τ 131 geeft steun aan de Leukas-theorie.

10. De afleiding van δῶ uit PIE **dō*, dat gevonden wordt in OHD *zuo* etc., is onjuist.

11. De vormen ὑπείρ en εἶν in Homerus zijn kunstmatige vormen ontstaan in formules waarin ὑπέρ en ἐν voor 'positie makende' aspiratie stonden.

12. Het feit dat het postpositieve ὥς 'evenals' 'positie maakt' sluit de mogelijkheid niet uit dat het op een basis **i̯o-* teruggaat.

13. Noch de interpretatie van Shipp noch de skepsis van West zijn sterk genoeg om εὐρυόδεια als de oorspronkelijke vorm van dit epitheton te beschouwen.

(G. P. Shipp, *The Language of Homer*, Cambridge 1953, p. 48; M. L. West, *Hesiod, Theogony*, Oxford 1966, p. 195.)

14. Een typisch Griekse ontwikkeling in de functie van het participium bestaat hierin dat de handeling die het participium aanduidt tot object of subject wordt van de handeling van het verbum finitum.

15. In Thuc. 2.39,1 betekent ἰσοπαλεῖς noch 'in verhouding tot (onze strijdkrachten)' noch 'evengroot' maar 'in dezelfde verhouding (als anderen), evenredig groot'.

16. In [Theocr.] 20.16 betekent ἔρσᾳ niet 'door de dauw' maar 'in de lente'.

17. Voor de historische taalbeschrijving dient een teken te worden ingevoerd dat betekent 'wordt (anders dan door phonetische ontwikkeling) vervangen door'.

(Men kan denken aan », dat ook gemakkelijk omgekeerd kan worden.)

18. Ook met het oog op de te verwachten toeneming van de vrije tijd is het gewenst de bestudering van de Romeinse en vooral de Griekse cultuur in het voortgezet onderwijs te handhaven.

19. Er zijn niet voldoende goede vertalingen en er is niet voldoende secundaire literatuur in het Nederlands om de bij de gymnasiast voor de Grieks-Romeinse cultuur gewekte belangstelling te helpen voeden en verdiepen, een gemis dat zich met de invoering van de 'Mammoetwet' te ernstiger zal doen voelen.

20. De financiële risico's die een gerechtelijke procedure in Nederland met zich brengt weerhouden velen er van hun recht te zoeken, waardoor afbreuk gedaan wordt aan het vertrouwen in de rechtsbedeling.

Stellingen behorende bij R. S. P. Beekes, *The Development of the PIE Laryngeals in Greek*, Den Haag, 5 maart 1969.