

Anceps

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INTRODUCTION. In current metrical theory *anceps* is generally assessed as a third autonomous element of the metrical structure distinct from *longum* and *breve*. In this paper we show that the ancient testimony appealed to in modern treatments does not substantiate this assessment, and that a third distinctive element is *a priori* improbable since it would find no parallel in the metrical systems of the world. In an explicit and formalized manner we apply certain techniques for the analysis of the organization of patterns (namely structural and transformational-generative analysis) which were developed primarily in linguistics, but which are applicable to patterns generally and hence to metrical patterns in particular, and we establish that (a) *anceps* is not a third metrical element, (b) it does not involve distinctive duration intermediate between *longum* and *breve*, (c) in the iambic trimeter metron and foot are not incompatible organizational concepts, and (d) no internally non-constrastive feet are basic higher level units of Greek metre.

2. ANCEPS. In Greek and Latin, as in various other languages (*e.g.* Finnish, Vedic, Arabic, Hausa, Old English) there are two linguistically functional syllable quantities, and these play a part in the implementation of the metrical elements of the verse patterns utilized by these languages. These patterns are achieved by the obligatory exclusion of all but one of the metrical elements¹ in given positions within a larger metrical unit. It is often the case, however, that at certain positions in the patterns² and particularly at boundaries (*e.g.* in Greek, metron initially/finally when the realization of the basic foot contains two, but not when it contains three syllables; stichos finally), this exclusion rule does not hold, and the result is a free choice between two elements: as Marius Victorinus puts it, “*nihil*

¹ In fact, whatever their linguistic realization, no metrical system yet scientifically examined in any language shows more than two distinct metrical elements, and we demonstrate below that Greek and Latin are no exceptions to this rule.

² We are basically restricting our attention to podic metres in this paper.

metri interest utrum illa [final anceps] longa sit an brevis.”³ In terms of the number of syllables or metrical elements *anceps* is a one-to-one variation, whereas other kinds of metrical variation involve either two-to-one (the *mora*-based resolution and contraction) or one-to-zero (catalexis, etc.).

3. FINAL ANCEPS AND ANCEPS PROPER. The above described phenomenon in classical verse has, since the time of the humanists,⁴ been subsumed under the term *anceps*. Some modern metrists⁵ like to make a distinction between this free choice at the end of a *stichos* (final *anceps*, i.e. *brevis in longo* and the rare and disputed reverse thereof⁶) and *anceps* proper (e.g. *metron* initially/finally in iambics and trochaics respectively): some such distinction does seem inherent in the different treatments accorded the phenomenon in these two positions by ancient metrists and grammarians, and we shall argue in favour of it below. *Anceps* proper may be treated as the result of one rule and *brevis in longo* as the result of a different one: the distinction thus drawn depends *inter alia* on the metrical elements that the rules change and, of course, on the environments in which they operate—*syllaba brevis in elemento longo* means that there is a rule optionally changing the long (final) element of the basic pattern into the short element. On the other hand, the structural effect of the two rules is identical, namely to produce alternation between elements: this congruence is reflected by the use of the blanket term *anceps* to refer to both rules.

4. ANCIENT TREATMENT OF ANCEPS. Ancient metrists prefer to use feet rather than smaller units as the basis of their analysis whenever possible, and therefore *anceps* proper in stichic metres is not specifically recognized as distinct from resolution (by metrists as opposed to rhythmicians), but rather the different feet resulting from both processes are simply listed along with the iamb or trochee in parallel fashion. Hephaestion 15.16 (Consbruch):

Τὸ ἰαμβικὸν δέχεται κατὰ μὲν τὰς περισσὰς χώρας τουτέστι πρώ-
την, τρίτην, πέμπτην ἰαμβον, τρίβραχυν, καὶ σπονδεῖον, δάκτυλον,

³ This formulation does not, of course, preclude secondary conditioning or statistical tendencies in any such position.

⁴ L. Rossi, *RFIC* 91 (1963) 52.

⁵ e.g. P. Maas, *Greek Metre* (Oxford 1962) §34; A. M. Dale, *The Lyric Metres of Greek Drama* (Cambridge 1968) 26.

⁶ cf. Maas, *op.cit.* (*supra* n.5) §34 and note.

ἀνάπαιστον, κατὰ δὲ τὰς ἀρτίους τουτέστι δευτέραν, τετάρτην,
ἕκτην ἴαμβον καὶ τρίβραχυν καὶ ἀνάπαιστον·

For final *anceps* on the other hand a separate term exists at the level of the single element, namely ἡ ἀδιάφορος (συλλαβή), *syllaba indifferens*: the results of final *anceps* are described just as those of *anceps* proper in terms of foot variants, but with the important difference that here the ἀδιάφορος is given as the motive for the variation. Hephaestion 16.2:

Ὅτε μὲν οὖν ἀκατάληκτόν ἐστιν, ἐπὶ τῆς τελευταίας τὸν ἴαμβον
δέχεται μόνον ἢ πυρρίχιον διὰ τὴν ἀδιάφορον

The more specific treatment of final *anceps*, as opposed to *anceps* proper, may find its explanation in the greater generality of the former. Hephaestion 14.15:

Παντὸς μέτρου ἀδιάφορός ἐστιν ἡ τελευταία συλλαβή, ὥστε
δίνασθαι εἶναι αὐτὴν καὶ βραχεῖαν καὶ μακράν

since final *anceps* occurs in all sorts of metres and always in the same easily recognizable position (coda). However, some parallelism between *anceps* proper and final *anceps* does emerge from the phrasing of one scholiast, and Rossi's claim⁷ that ἀδιάφορος can refer only to "l'ultimo elemento del verso" requires qualification, for the term is used in a reasonably technical sense by the scholiast to Hephaestion ch. V, not only in the statement ἀδιάφορα γὰρ τὰ τέλη (116.20 Consbr.), but also in the statement πᾶσα μέτρων ἀρχὴ ἀδιάφορος (*ib.* 115.1).

5. ANCIENT TESTIMONY FOR INTERMEDIATE DURATION OF ANCEPS. Some modern metrists⁸ interpret *anceps* as representative of a metrical durational unit in the abstract scheme intermediate between the long and short elements, and in support of this view they have cited Aristoxenus §20 (Westphal):

Ὡρισται δὲ τῶν ποδῶν ἕκαστος ἦτοι λόγῳ τινὶ ἢ ἀλογίᾳ τοιαύτη,
ἥτις δύο λόγων γνωρίμων τῇ αἰσθήσει ἀνὰ μέσον ἔσται. γένοιτο δ'
ἂν τὸ εἰρημένον ὧδε καταφανές· εἰ ληφθείησαν δύο πόδες, ὁ μὲν
ἴσον τὸ ἄνω τῷ κάτω ἔχων καὶ δίσημον ἐκάτερον, ὁ δὲ τὸ μὲν κάτω
δίσημον, τὸ δὲ ἄνω ἡμισυ, τρίτος δὲ τις ληφθείη πρὸς παρὰ
τούτους, τὴν μὲν βᾶσιν ἴσῃν αὐ τοῖς ἀμφοτέροις ἔχων, τὴν δὲ

⁷ Rossi, *op.cit.* (*supra* n.4) 61.

⁸ e.g. Dale, *op.cit.* (*supra* n.5) 7; W. J. W. Koster, *Traité de métrique grecque*³ (Leyden 1953) 27; and A. Kolář, *De re metrica poetarum Graecorum et Romanorum* (Prague 1957) 44 and 91ff.

ἄρσιν μέσον μέγεθος ἔχουσαν τῶν ἄρσεων. ὁ γὰρ τοιοῦτος ποῦς ἄλογον μὲν ἔξει τὸ ἄνω πρὸς τὸ κάτω· ἔσται δ' ἡ ἀλογία μεταξὺ δύο λόγων γνωρίμων τῇ αἰσθήσει, τοῦ τε ἴσου καὶ διπλασίου. καλεῖται δ' οὗτος χορεῖος ἄλογος.

Although, as usual in ancient discussions, no examples are cited, it is a reasonable assumption, going back to Boeckh and approved by Westphal,⁹ that the reference is to *anceps* phenomena. The only clear evidence from the tradition in favour of this assumption is from Aristides Quintilianus 37.24 (Winnington-Ingram) and Bacchius Senior, *Εἰσαγωγή* 25 (Meibom); the latter cites a spondee as an example of a long thesis and an irrational (ἄλογος) arsis. The ancient testimony appears to be stating that in iambic and trochiac metres dactyls, anapaests and spondees change the durational ratio of ἄνω to κάτω, i.e. 'long *anceps*' has a time value somewhere between that of the short element and the basic value of the long element.

It is important to realize that this sort of ἀλογία is a rhythmic and not a metric concept:¹⁰ this fact is clearly brought out by a comparison of Aristides' treatment of the *anceps* phenomenon in his rhythmical section (37.24 just cited) with his treatment of the same in his metrical section, which is as follows (48.16):

Τὸ δὲ ἱαμβικὸν δέχεται δάκτυλον τρίβραχυν ἀνάπαιστον, τροχαῖον δὲ οὐδ' ὄλως· εἰς ἕτερον γὰρ τραπήσεται μέτρον. σπονδεῖον δὲ δέχεται μὲν ἐν ταῖς περιτταῖς, ἐν δὲ ταῖς ἀρτίοις οὐδαμῶς· ὁ γὰρ χωρίσας αὐτὸ τῆς πρὸς τὸ δακτυλικὸν ὁμοιότητος ὁ κατὰ τὴν ἄρτιον χώραν ἱαμβός ἐστι.

As Aristoxenus points out, distinct rhythmic χρόνοι do not presuppose distinct metrical χρόνοι (*Fragm. apud Psellum* 8):

Τῶν δὲ χρόνων οἱ μὲν εἰς ποδικοί, οἱ δὲ τῆς ῥυθμοποιίας ἴδιοι.

Indeed the native songs of the Eastern Caroline islanders have quantitative metre, but there is no regular or consistent relation between musical duration in performance and metrical quantity.¹¹

⁹ R. Westphal / H. Gleditsch, *Allgemeine Theorie der griechischen Metrik*³ (Berlin 1887) 132, 135. See also E. Kalinka, in *Bursians Jahresberichte* 250 (1935) 429–30.

¹⁰ Only W. Brambach (*Rhythmische und metrische Untersuchungen* [Leipzig 1871] 16) seems to have explicitly noted the difficulty of taking metrical *anceps* as evidence for rhythmical 'irrationality'.

¹¹ J. L. Fischer, *Journal of American Folklore* 72 (1959) 47–52.

It follows that the same word may vary in rhythmical value but not, of course, in metrical value. Aristoxenus 270:

ἡ γὰρ αὐτὴ λέξις εἰς χρόνους τεθείσα διαφέροντας ἀλλήλων
λαμβάνει τινὰς διαφορὰς τοιαύτας, αἷ εἰσιν ἴσαι αὐταῖς τῆς τοῦ
ῥυθμοῦ φύσεως διαφοραῖς.

“Rhythmi temporibus syllabas, metrici tempora syllabis finiunt” (Funaioli, 304.132). It is essential to draw clear distinctions between ‘metrical’, ‘rhythmical’ in the ancient sense, and ‘rhythmical’ in the general modern sense. Any argument which extrapolates in a mechanical fashion from ‘rhythmical effect’ (A. M. Dale¹²) to metrical structure runs the risk of producing confusions similar in character to those of the notorious so-called cyclic dactyl.

The *χορεῖος ἄλογος* is, therefore, a performance foot just as the other strange feet of the rhythmicians, such as, perhaps, the *σπονδεῖος μείζων*, the *ἴαμβος ὄρθιος* and the *τροχαῖος σημαντός*. It is certainly not a necessary assumption, and we feel it is a misleading assumption, that the durational modifications of a spondee or a dactyl in iambic metres reflect a distinct unit in the abstract metrical scheme rather than the phonetic niceties of the performance level, as is clearly the case with the reported *ἀλογία* of the dactylic hexameter, whatever interpretation is given to the much debated passage in Dionysius claiming a shorter than normal long element in the dactyl.¹³ What metrical analysts have to assess is why a spondee is permitted in certain positions in iambic/trochiac metres, and not why the duration of that spondee is tampered with in performance to approach podic isochrony more closely.

But even if for the sake of argument we grant that *anceps* is a distinct metrical unit of intermediate quantity, it remains true that the ancient testimony is a very weak support for this view. In the first place, the ancients did NOT recognize a separate unit themselves, but only variation of a regular unit; secondly, although the long syllable is reported to be phonetically shortened when realizing *anceps*, no

¹² A. M. Dale, “Resolutions in the Trochaic Tetrameter,” *Collected Papers* (Cambridge 1969) 130.

¹³ It is not even absolutely certain that the rhythmicians’ discussion of *ἀλογία* refers to the performance of spoken metre (as do Dionysius’ remarks) and not merely to unusually accompanied lyric (see e.g. L. Pearson, *GRBS* 15 [1974] n.9, 173–74). For the invalidity of J. Irigoin’s statistical arguments in favor of the usual durational interpretation of Dionysius’ remarks (*GGA* 217 [1965] 224–31) see our article “The Homeric Hexameter and a Basic Principle of Metrical Theory,” forthcoming in *CP* (1976).

parallel statement is ever made for the short syllable which surely according to this view must likewise have been lengthened to give intermediate quantity;¹⁴ of course it was not, and what the supporters of intermediate quantity have achieved by their appeal to ancient doctrines of ἀλογία is to explain an alternation between short and long elements by an alternation between short and intermediate elements, as though that were an insight. The fact of alternation remains, and it is this fact that requires explanation.

6. CURRENT THEORY. *Anceps* is normally taken by modern metrists as a third distinct metrical element, and those who have seen that positing a distinction presupposes a property whereby that distinction can be realized have concluded that *anceps* is distinct from the other two basic elements by the same property that distinguishes them from each other, namely duration, and have accordingly ascribed to *anceps* a duration between that of the short and that of the long element. Maas writes:¹⁵ “The apparent metrical licence [*anceps*] may have arisen simply because the time value of the *anceps* lay somewhere between that of the *longum* and that of the *breve*.” A. M. Dale’s position¹⁶ is somewhat more complex: she believes in “the objective reality of the quantity called ‘*anceps*’,” and that *anceps* proper “is an integral part of the metrical pattern itself,” and, unlike final *anceps* (specifically *brevis in longo*), not derived by a subsidiary process from a basic *longum* or *breve*. M. L. West has an explicit formulation of the modern position: “On my view this apparent eccentricity is simply a reflection of the fact that it is in these positions that the conventional long-short dichotomy is most conspicuously inadequate. . . . ‘*Anceps*’ positions are really positions of medium capacity.”¹⁷

¹⁴ H. Jusatz (*Leipziger Studien* 14 [1893] 268) ties himself in philological knots over this neglected question.

¹⁵ *op.cit.* (*supra* n.5) §51.

¹⁶ “Observations on Dactylic,” in *op.cit.* (*supra* n.12) 185–86.

¹⁷ M. L. West, *Glotta* 48 (1970) 192. West attempts to account not only for metrical variation (*anceps*) but also for a group of unrelated language phenomena (such as dialect variation, archaisms, *sandhi* rules, word and compound juncture constraints) by distributing those phenomena over a set of “at least seven” durational classes, to which linguistic significance of some sort is attributed. (Each position of the verse admits a certain subset of these seven quantities defined by a maximum and a minimum duration: “We may imagine a row of sized slots in a frame of slightly elastic material.”) Our present purposes do not require a discussion of the proposal (which would derive little support either from linguistics or from general metrical theory), since its approach, like the traditional one discussed in the text, involves a separate *anceps* element: the difference is that in *anceps* proper the traditional variation between two linguistic quantities is replaced by a variation between

We wish to propose, in contrast to the above statements, that *anceps* is NOT a third distinct metrical element, and that it does NOT involve a distinctive intermediate quantity.

Traditional metrists have never seen any difficulty in accepting a strict binarization of syllabicity, *i.e.* something is either a syllable or it is two syllables, never one and a half, even if as particularly in Vedic the same word can appear as *e.g.* tri- or quadrisyllabic, *e.g.* *ayugdhvam/ayugdhuam*, RV 1.85.4–5. Likewise in the matter of the variation of the location of the caesura in the dactylic hexameter, no one would explain the free variation between masculine and feminine caesura on the basis of an underlying hermaphroditic caesura halfway through the intervening syllable. A similar variation between quantitative metrical elements, however, as we have seen, has given rise to the traditional compromise treatment of *anceps*. This may in part be due to the fact that the *anceps* free variation has, in a number of authors,¹⁸

seven supposedly linguistic quantities, but the principle of accounting for variation by a separate pattern element remains in both. In fact the application of the principle of a single compromise element is extended from metrical to linguistic variation, with the result that dialect alternants (*e.g.* *muta cum liquida*), which vary freely in the poetic language, are accounted for by a compromise assessment. As far as minor word-boundary constraints are concerned, the presence or absence of which is likewise a basis for different quantity categories according to West, these are predictable on the basis of the metrical context and are therefore properly handled in the traditional manner by allophonic-type rules, which are simply contextual implementation rules: after all, to take a linguistic illustration, where there are contextually predictable variations in phonetic parameters, such as aspiration and fortisness in the case of stops, these should be handled by subsidiary context-sensitive rules and do not justify positing phonemic distinctions.

West still uses the term *anceps* both for elements of the metrical pattern and for syllables, in the latter case in place of the proper term *communis*: the distinction has been spelled out yet again by L. P. E. Parker, *Lustrum* 15 (1972) 50.

The topic of archaisms and dialect variation in verse has attracted the attention of several generative phonologists who give a more scientific, if not entirely realistic, synchronic explanation, seeing evidence therein for the psychological reality of abstract linguistic representations. See P. Kiparsky, "Metrics and Morphophonemics in the *Rigveda*," in M. K. Brame, *Contributions to Generative Phonology* (Austin 1972) 171–200; Kiparsky, "Metrics and Morphophonemics in the *Kalevala*," in D. C. Freeman, *Linguistics and Literary Style* (New York 1970) 165–81; P. Valesio, *Poetics* 2 (1971) 60ff; and V. Zeps, *Int. Journal of Slavic Linguistics and Poetics* 7 (1963) 123–28. For criticism of such treatments see our article "The Abstractness of Metrical Patterns: Generative Metrics and Explicit Traditional Metrics," *Poetics* 16 (1975).

¹⁸ There is a particularly bad example in A. M. Dale, *op.cit.* (*supra* n.16) 186: "That it had in delivery a special time value which made it immediately recognizable can never be proved, but the existence of this anomalous factor as an essential ingredient in several metrical types strongly suggests that it had." The logical progression from premise to conclusion in this argument is opaque largely because Miss Dale's whole discussion fails to make (at least with any consistency) the following necessary distinctions: (1) metrical

fallen victim to the following sort of circular argumentation: (a) free variation of linguistic items is assumed to require (b) a third quantity at the metrical level; but a third metrical quantity would be otiose if never realized, therefore (c) a third quantity is postulated at the level of performance; then (d) performance is cited to substantiate a third quantity at the metrical level. The net effect of this is to deny a specifically linguistic level between pattern and performance.

The secondary stress component suggested by Sidney Allen for Greek metre in various recent publications¹⁹ does not directly affect our discussion of *anceps*.²⁰ One suggestion of Allen is, however, particularly interesting for our topic, namely his view that final *anceps* "is not a mere poetic invention, but, like other metrical characteristics, has some ultimate basis in speech." It is not absolutely clear whether Allen intends a low-level syllable quantity neutralization rule in prepausal environment which is ordered before the stress assignment rules (apparently his position in 1966) or simply that heavy and light syllables function as a class prepausally in the terminal stress assignment rule, there being no surface neutralization (apparently the position in 1973). The former suggests to us the parallel of Hausa, which has both metrical final *anceps* and a linguistic rule neutralizing syllable weight prepausally;²¹ Hausa metre (both popular and learned) also has *anceps* proper. In Greek the linguistic correlate of *anceps* might be sought in the patterned sequences of heavy and light syllables in prose and in their processing for spoken delivery, if that be thought to involve etic durational modifications that rendered the *anceps* alternation acceptable also under the stricter rhythmic constraints of verse.

structure *versus* performance, (2) linguistic structure *versus* metrical structure, (3) type *versus* token, and (4) etic *versus* emic. In general her presuppositions are unexpressed or ambiguous, and there seem to be no fixed principles of analysis, as is evident *inter alia* from the use of vague expressions such as "anomalous factor" and "essential ingredient," "a mere empirical effect of the take-off from long to short," etc. As Miss Dale herself said in another paper (*op.cit.* [*supra* n.12] 130), "Loose terminology . . . can be a hindrance for the understanding of Greek metric."

¹⁹ W. Sidney Allen, *Transactions of the Philological Society* 1966 (1967) 107–48; *To Honor Roman Jakobson I* (The Hague 1967) 46–62; *Accent and Rhythm* (Cambridge 1973).

²⁰ ". . . it [Greek metre] was quantitative, and certain of its features can only be accounted for in these terms (e.g. the admission of 'anceps' only at one place in the iambic or trochaic metron) . . ." Porson's Law involves a restriction on *anceps* in the particularly sensitive coda, and explanation of *anceps* is not affected by the explanation of this distributional constraint.

²¹ We wish to thank W. Leben for mentioning the linguistic rule to us.

7. OBJECTIONS TO CURRENT THEORY.

(a) The assumption of a third distinct metrical element at the surface level to explain *anceps* is due to unsound structural analysis, and, specifically, to failure to recognize that free variation between two elements does not imply a third distinctive element. This will be demonstrated in detail below.

(b) It has been observed²² that it is probably a universal characteristic of metrical systems of all languages that they have no more than two basic contrasting elements, and this is certainly true in the *ca* 50 metrical systems of different languages from all over the world that we have so far examined—whatever the linguistic realization of those two elements may be. *Anceps* as a third element would break this rule, and the current theory is therefore suspect on this count.

(c) Our own experience with metrical systems of various languages further leads us to observe that it is also a universal characteristic of metrical systems that the elements of those systems be of a number smaller than or equal to the number of the distinctive linguistic features, or combinations of features, utilized to implement them. Now in Greek the metrical elements are realized by syllable quantity, and there is no evidence from linguistic analysis (*σοφός/σοφώτερος*, *λεπτός/λεπτότερος*) for more than two distinctive syllable quantities or weights in the Greek language, and it is therefore very unlikely that there should be a third metrical element realized by some intermediate quantity not functional in the language. Hence the ascription of elemental status to *anceps* is theoretically improbable: it is moreover practically impossible, since *anceps* is not implemented by shorter long syllables and longer short syllables, but by any long varying freely with any short, and free variation does not imply an underlying distinctive unit (see [a] and discussion below). The assumption of a third element (*anceps*) is also absurd from the point of view of the genesis of the Greek metres: why design a structure that cannot be realized in its intended medium?

(d) If *anceps* is a third distinctive element, the restrictions on its distribution are rather suspicious (although by itself this would prove nothing): *anceps* is neither as widely utilized nor as free to appear in any position in the verse as the short and long elements are. For instance the well-known distributional rules “no *anceps juxta*

²² J. Lotz, “Metric Typology,” in T. A. Sebeok, *Style in Language* (Cambridge [Mass. 1960] 140.

breve” and “no *anceps* next to *anceps*” (except in the Aeolic base) are noticeably restrictive.

(e) *Anceps* is not a phenomenon peculiar only to Greek and Latin metres, but is quite a common metrical device, found *e.g.* in Vedic and Arabic metrical patterns (*jagati*, *triṣṭubh*, *rajaḥ*, *ṭawil*); for that matter it is not limited to durationally based types of verse: final *anceps* occurs for instance in the stress-based verse of the West African Bambara-Maninka; metron initial *anceps* (as in the Greek iambic trimeter) is found, for instance, in the metrical riddles of the West African language Efik, the pattern of which is realized linguistically by tone and not by duration. These riddles consist of an octosyllabic query and an octosyllabic response in strict external responsion as to the sequence of high and low tones; each octosyllabic line consists of two tetrasyllabic metra; however, only the last three syllables of each metron have identical tonemic patterns: high and low tones are in free variation in the first position of each metron: *e.g.* x h h l / x h h l. So *anceps*, when considered not only in Greek and Latin, but as a general metrical phenomenon in various languages, is not necessarily linked either to duration or to a compromise element: it merely represents the relaxation of normal constraints on the choice of metrical elements for given positions in the verse, and apart from its use in metres where only the coda is strictly regulated, often appears to have the function of adding variety to an otherwise monotonously alternating pattern and/or marking a metrical boundary such as the beginning or end of metron or line.

(f) The only aspect from which *anceps* could conceivably be considered a separate element is the genetic one. In this case the abstract metrical pattern would not reflect linguistic verse directly but would be a musical structure constrained by a compromise between the continuum of musical durations and binary linguistic quantity. This may or may not be true (and probably is not in view of the properly metrical status established for *anceps* by the parallels cited above), but it is in any case not relevant to the status of *anceps* in the structure of the verse as it exists. What metrists have to analyze is the structure inherent in the verse and consequently the natural perception and interpretation of that structure by any audience. It is this inherent structure, and not the genesis of the verse (whether the audience is aware of its genesis or not), that metrists have always seen as their initial and fundamental analytical objective.

8. **ANALYTICAL TECHNIQUES APPLICABLE TO METRICAL PATTERNS.** For the analysis of any pattern, metrical or otherwise, there are two basic techniques available to us and in fact automatically and subconsciously utilized by us in our daily lives: we shall call these techniques 'structural analysis' and 'transformational-generative analysis' according to the nomenclature of the science of linguistics, where these two methods have been most fully developed and formally elaborated.²³ Structural analysis sorts items in our experience, assigns them to classes, and specifies their arrangements: thus a structural analysis of the sound system of Greek (a subconscious prerequisite for alphabetic spelling) reveals that the form $\epsilon\upsilon\lambda\lambda\alpha\beta\eta$ contains seven separate phonological elements, that the third is the same as the fourth, and that not all elements are permitted in all contexts, e.g. λ and β cannot end a word, etc. Transformational-generative analysis seeks to find the most basic forms of variants which are related in that they belong to a single class: thus for instance in syntax two different sentences with the same meaning, in phonology two forms of the same morpheme, in metre two lines that respond. It then seeks to explain those variants as due to subsidiary modifications of the basic structures. Thus to take our linguistic example again, $\epsilon\upsilon\lambda\lambda\alpha\beta\eta$ is $\epsilon\upsilon\nu + \lambda\alpha\beta\eta$, to which is applied the rule which assimilates ν to λ before a following λ , i.e. $\epsilon\upsilon\lambda$ and $\epsilon\upsilon\nu$ are superficially different variants of the same prefix, which is analyzed as having the basic, underlying form $\epsilon\upsilon\nu$ on various considerations of generality and naturalness. These two analytical techniques are not, of course, mutually exclusive: structural analysis is static and considers the item and its arrangement; transformational-generative analysis is dynamic and considers the item and the processes affecting it. Both techniques have naturally been used by ancient and modern metrists, but in an intuitive rather than an explicit and formalized manner. For instance, thesis, arsis, foot, metron, stichos, etc. are units identified by structural analysis; catalexis, resolution ($\lambda\upsilon\sigma\iota\varsigma$), contraction, anacsis, etc. are processes identified by transformational-generative analysis: they presuppose an abstract metrical pattern which is modified by the process in question to produce the surface structure we actually find.

²³ Structural analysis is currently deemphasized in linguistics, yet some form of structural analysis remains a prerequisite to the presently fashionable generative accounts, and it may well regain some of its lost importance *mutatis mutandis* in the development of linguistics over the next few years.

Structural analysis is always necessary but not always sufficient: it requires supplementation by transformational-generative analysis. For instance, Ruypérez' purely structural statement²⁴ that the rhythm of the hexameter consists in the repetition of the 'Gestalt' $-\cup\cup$ or its variant $--$ is sound but unrevealing: it is necessary to take the further step and formulate the transformational rule for contraction ($\cup\cup \rightarrow -/$ except coda, with rare exceptions). This entails the assumption that the basic or most abstract representation of the hexameter is purely dactylic and that spondees are derivative resulting from the application of a rule. This has been the implicit assumption of most metrists, but explicit formulation is really necessary for a proper analysis of hierarchical structure in less transparent metrical phenomena by the same technique.

It is vital to recognize the difference between transformational rules and the rules of historical development: the former are theoretically separate from and make no claim about the latter. The assumption that the dactyl is basic in the dactylic hexameter does not imply that there was ever a period at which the hexameter had no spondees. Naturally transformational-generative rules and historical rules often coincide, but not always nor of necessity.

9. STRUCTURAL ANALYSIS: ANCEPS AND NEUTRALIZATION. It is generally realized that metrical free variation does not imply a separate element in the case of resolution, for instance, where there is free variation between a long and two shorts. In fact, as will be immediately clear from the parallel situation illustrated below, sound structural analysis at any particular level will never lead to positing a separate, otherwise non-occurring, element to explain free variation between two elements: this would involve the fallacy of accounting for non-contrastivity by contrastivity (in a single level analysis²⁵).

Take a table round which are placed stools and chairs in the following pattern (depending on where you start counting):

CHAIR	-	STOOL	-	CHAIR	-	STOOL/CHAIR	etc.
1		2		3		4	

An analysis of the above structure into occurring items leads to the assumption of two distinct units (the CHAIR and the STOOL), which we

²⁴ M. S. Ruypérez, *Emerita* 23 (1955) 89.

²⁵ In a multilevel analysis, of course, there would be no *a priori* objection to this procedure, provided there was some motivation for it. It will be clear from the discussion of transformational-generative analysis below that there is no motive in the case of *anceps*.

recognize from outside experience, and to the statement that in position 4 either may occur, *i.e.* the only thing demanded by the pattern is some kind of available seat. It does NOT lead to the assumption that in position 4 a third, separate, otherwise non-occurring unit is required, such as a lamp or a chair with a low back (intermediate between CHAIR and STOOL), for there is nothing in the existing arrangement of chairs and stools that could suggest the occurrence of either a lamp or a chair with a low back. The only way to account for position 4 with one item is to say merely that a SEAT is required there; this instruction is then implemented by the choice of one of the two available types of seat, namely a stool or a chair. Therefore the pattern is:

CHAIR - STOOL - CHAIR - SEAT *etc.*

It is obvious that the difference between any SEAT and CHAIR is not comparable to the difference between STOOL and CHAIR: STOOL and CHAIR are both members of the class of SEAT, but CHAIR is not a member of the class of STOOL or *vice versa*.

Free variation between two otherwise distinctive elements is not an uncommon phenomenon in linguistics. Its grammatical description depends on the overall framework adopted for phonostylistic and other variations (and in a generative phonology also on the degree to which the rules producing the free variation are morphologically or lexically constrained); nevertheless, the structural effect on an autonomous representation is one of neutralization, as pointed out already by Martinet in 1936.²⁶ For example in Northern (British) English²⁷ words like *climb* and *clock* are often pronounced *tlimb* and *tlock*, *i.e.* there is free variation between *t* and *k* before *l* at the beginning of a word. Instead of either *t* or *k* (as in other phonetic contexts, *e.g.* *time*, *cock*), we have simply 'any voiceless, non-labial stop', implemented by *t* or *k* in free variation. Neutralization is a technical term denoting the non-distinctiveness in a subsystem of elements that are distinctive in the overall system.²⁸

²⁶ A. Martinet, *Travaux du Cercle Linguistique de Prague* 6 (1936) 55.

²⁷ Example from W. Haas, *Transactions of the Philological Society* 1957 (1958) 150.

²⁸ For a discussion see E. Buyssens, *Proc. XI Int. Cong. Ling.* (Bologna, forthcoming), and Devine, *Linguistics* 109 (1973) 17-34. An intermediate duration for the *longum* in *anceps* position would simply constitute a contextually determined variant of the *longum*, which would still vary freely with the *breve*, with the structural consequences noted above.

In the case of *anceps*, free variation results in the neutralization of the contrast between *longum* and *breve*²⁹ at least for final *anceps* and *anceps* in the pure alternating (*i.e.* iambic and trochaic) metres. Therefore the term *anceps* denotes an element unspecified as to quantity, just as *any* SEAT in our table example denoted an element unspecified as to the CHAIR–STOOL distinction, and *non-labial voiceless stop* a sound unspecified as to the dental-velar contrast. Such an element is known as an *archi-element*. The *archi-element* does not differ from the elements that implement it in the same way as they differ from each other. One thinks of Aristotle's ἕτερα . . . τὸ αὐτό τι ὄντα (*Met.* 1018a), and if Aristotle's examples of this, ἵππος and ἄνθρωπος (*Top.* I 103a), were lined up in the order HORSE–MAN–HORSE–MAN/HORSE etc., one would hardly assume that the fourth element of this pattern was really an unavailable centaur.

10. GENERATIVE ANALYSIS: ANCEPS PROPER AND BASIC PATTERNS. It is surely not unnatural to suppose that a person assessing the arrangement of stools and chairs around our dinner table would get the impression of a basically regular alternation between the two elements of the pattern, disturbed by an optional, subsidiary relaxation of the basic rule in every second CHAIR–STOOL sequence. He would thus be positing two levels or two patterns, a basic one with pure alternating structure, which is highly abstract, and a derivative one which accounts directly for the physical arrangement of chairs and stools as actually found, and which we have subjected to structural analysis in the preceding paragraph. To get from the abstract to the surface level, *i.e.* from the basic to the derivative pattern, we have the *anceps* rule, which optionally changes every second stool into a chair. We repeat that the basic pattern is an abstract one which is not necessarily ever implemented directly without the *anceps* rule, and does not necessarily represent an earlier form of the pattern in the sense of its historical evolution or of its genesis: *i.e.* the assumption of a basic theoretical pattern

CHAIR – STOOL – CHAIR – STOOL etc. (trochaic type)
 STOOL – CHAIR – STOOL – CHAIR etc. (iambic type)

²⁹ Of course, this sort of neutralization is much less basic than the harmonic type of redundancy entailed by the repetition of the same foot throughout the stichos.

does not imply that this arrangement is now or ever was actually used around any table.

Whereas we have seen in the previous section that structural analysis at the surface level is based not on intuitive preference but on principles of logic (which exclude the possibility of a third surface element), at the abstract level on the other hand no completely rigorous means of deciding between alternative proposals is always available (although of course there are sound criteria as we shall see below). Therefore, since the traditional *anceps* cannot be a surface element, it might seem feasible to defend it as an abstract element; but there are a number of objections to this, too. In the first place it is worthwhile to postulate an abstract pattern different from the surface pattern in order to capture the posited basic, pure alternation, but an abstract pattern with a separate third element does not seem to have any immediately obvious advantages, since free variation at the surface is not necessarily best accounted for by a separate abstract element: such a solution would not be preferred, or even occur to most people, in the parallel case of the CHAIR/STOOL variation above. The real motive for the traditional third element hypothesis lies in the supposed evidence of performance. But, even if it were absolutely certain that in performance long syllables were or could be shortened to a value between long and short in *anceps* positions, this would not lead to the assumption of an abstract compromise element. Since, as noted above, there is evidence *ex silentio* that in performance short syllables were not lengthened to intermediate duration in *anceps* positions, it is clear that the posited pattern-motivated shortening of long syllables would be due to an attempt to realize directly the underlying SHORT element posited by us and not the underlying compromise element posited by traditional theory. There would be an interesting parallel for this in the performance of the Serbo-Croat epic *deseterac*, where, to maintain isochrony, the ninth syllable is phonetically lengthened in compensation for the preceding quantitatively pyrrhic foot.

We therefore suggest that the following is an intuitively satisfactory, although of course not empirically confirmable, transformational-generative analysis of an initial portion of a Greek iambic stichos: the implication of this derivation is that it represents for any audience the psychological organization and assessment of the structure inherent in the metrical pattern in question.

A. ABSTRACT PATTERN

U — U — *etc.*

1. ANCEPS TRANSFORMATION RULE

U → — (*odd-numbered feet, optional*)³⁰

[B. SURFACE PATTERN

X — U — (*where X denotes the archi-element produced by the above rule*)

2. ARCHI-ELEMENT REALIZATION RULE

X → {U} ³¹

C. ACTUALLY OCCURRING INSTANCES OF THE PATTERN

— — U —

U — U —

The number of different permissible instances of the various metrical patterns in Greek is relatively constrained (as opposed, for instance, to the number of different verses that could be written according to those patterns, which is, of course, infinite). One possible metrical grammar therefore would be a simple list of all permissible surface instances of each pattern (iambic trimeter, dactylic hexameter, etc.). This, however, would be rather cumbersome, since there are about fifteen hundred different varieties of the comic trimeter.³² But there are more important objections to such a grammar than the fact that it is an inefficient and uneconomical way of providing the necessary information. In the first place it suggests that a poet or audience judges the metricality of a line by checking through a list of hundreds or thousands of possible structures. And secondly it quite fails to relate the superficially distinct but basically similar and to separate the basically distinct but superficially similar: this is imposed on a metrical grammar as a primary task by the phenomenon of *responsion*. A transformational-generative account of metrical patterns, on the other hand, meets all these objections, and directly incorporates the fundamental principle of *responsion*: all surface patterns (correctly) derived from the same basic pattern *respond*.

By the above metrical analysis, furthermore, the old conflict

³⁰ For the nature and function of optional rules see Devine and Stephens, *New Approaches to Greek Metre*, to appear 1976.

³¹ For the sake of simplicity we have omitted other rules such as resolution.

³² To be precise 1510: there are 2250 mathematical combinations of the permissible foot variants, 740 of which are ruled out by the co-occurrence restriction 'no contiguous resolved elements'.

between the metron and the foot in pure alternating metres is resolved: for the metron only comes into existence as a structural unit at the level of abstraction of the *anceps* rule, prior to which there is only the foot, as in the dactylic hexameter. It is thus possible to assume that the iamb is basically a self-repeating foot³³ just as is the dactyl, and that both of them are modified by subsidiary rules (*anceps* and contraction respectively) to produce their surface patterns: the difference is that while contraction applies to every dactylic foot outside of the coda, the *anceps* rule applies only to every other foot in pure alternating metres, whence the generation of a unit larger than the foot (the metron) on the basis of internal respension.

It is well to note that in the above scheme B and 2 are logically demonstrable from (the empirically observable) C; but A and 1 are hypotheses which we find intuitively more satisfactory and valuable for an economical account of the diverse surface forms than other possibilities (such as $\text{---}\rightarrow\cup/$ odd numbered feet, or some even more fantastic construct) on the grounds that they (A, 1) reveal internal respension. In general, criteria for the assessment of conflicting abstract representations and associated rules refer to factors such as respension, statistics, 'Ockham's razor' (i.e. no absolute neutralization, or in other words no abstract forms which never appear at the surface), naturalness of representations, naturalness of rules, etc. It is interesting to note that Horace (*Ars Poetica* 253ff) seems to come out explicitly in favour of an analysis comparable to that just given, except that he confuses abstraction with historical priority, an erroneous procedure in which Horace is joined on occasion by certain modern linguists. He describes the iambic trimeter as consisting of nothing but iambs (*primus ad extremum similis sibi*) and explains that spondees were admitted by a later innovation (*non ita pridem*³⁴ . . . *spondeos stabilis in iura paterna recepit*). The obvious historical falsity of this claim for an original trimeter with no *anceps*, whether Greek or Latin, has disturbed scholars for centuries. What Horace has done, as just remarked, is to confuse transformational-generative analysis with historical development by assuming that the basic abstract pattern

³³ A natural impression; cf. e.g. Jusatz (*op.cit.* [*supra* n.14] 268): "ut arsis, quam brevem esse rhythmus legitimus postulet, longam excipiat."

³⁴ The various difficulties presented by "*non ita pridem*" in no way obscure the obvious fact that Horace is speaking of priority in the historical, genetic sense, which is all that our point requires. See C. O. Brink, *Horace on Poetry* (Cambridge 1971) 298, *ad loc.* for bibliography.

of the iambic trimeter (which he deserves credit for discerning explicitly) also represents the earliest stage in its evolution. Orelli already perceived the source of the confusion when he paraphrased Horace as follows: “‘Quod ad *θεωρίαν* et legem huius versus attinet’ ait ‘esse debebat atque initio fortasse fuit senarius purus’.” Sacerdos³⁵ accepts the doctrine of the basic iamb in his chapter on metrics (VI 518.15 Keil), but, apart from his citing Horace with approval, it is not clear whether he made the same erroneous genetic deductions as Horace did.

11. FINAL ANCEPS. As noted in §3 above, ancient metrists specifically recognized final *anceps* as opposed to *anceps* proper, terming it ἡ ἀδιάφορος. This intuition is certainly well founded, as becomes clear when the phenomena are rendered explicit by formal transformational-generative statement. Final *anceps* is a rule affecting all metres, while *anceps* proper is a less general rule, being confined in simple stichic metres to pure alternating rhythm; final *anceps* and *anceps* proper have different contexts by definition and generally operate on different underlying elements (more often than not *anceps* proper involves the rule $\cup \rightarrow \underline{\cup}$, final *anceps*, i.e. *brevis in longo*, $— \rightarrow \underline{\cup}$). The two *anceps* rules have different functions and motivations: *anceps* proper, although demarcating the unit which results from its action (the metron), is basically designed to add variety to the pure alternation of short and long elements, whereas final *anceps* is coda-marking, i.e. it demarcates the end of a preexistent metrical unit.

12. THE LAW OF INTERNALLY NON-CONTRASTIVE FEET. The effect of both *anceps* proper and the final *anceps* rules is to produce, as optional variants, feet the structures of which are not fundamentally characteristic of Greek rhythm, namely the spondee and the pyrrhic. Although the spondee, for instance, is not an uncommon foot in Greek metres, it never makes a stichos of its own, as has often been remarked; the reason is that in all its occurrences the spondaic foot is derived by an *anceps* or contraction rule from an underlying foot containing a *longum* and a *breve* or two *brevia*. A similar situation obtains in the case of the pyrrhic. In fact all the feet which consist of repetition of only one element (pyrrhic, tribrach, proceleusmatic, spondee, molossus) do not make stichoi of their own, but arise by the action of subsidiary rules such as resolution, contraction and *anceps*. Thus on the basis of a transformational-generative analysis it is pos-

³⁵ See also Mar. Vict. VI 80.1 Keil, Fortunat. *ib.* 286.14, Rufin. *ib.* 556.18.

sible to formulate the following general law, the motives for which are self-explanatory: *All internally non-contrastive feet are derivative.*

13. CONCLUSION. In "Observations on Dactylic," A. M. Dale writes that *anceps* proper is "a peculiar and important phenomenon in Greek Metric, often neglected, or inadequately defined by both ancient and modern metricians."³⁶ In this paper we have shown that *anceps* is neither peculiar in nor peculiar to Greek metre, but has parallels in diverse metrical systems. The ancient metrists were fully justified in not recognizing *anceps* as a third metrical element (since it is not) and even in not recognizing it at all, since it is not a necessary concept for an account of metrical structure given in terms of basic pattern and inventory of permissible variations. The two techniques of analysis applied in this paper no doubt do not exhaust the list of procedures applicable to metrical analysis (one thinks of various quantitative approaches, 'Markov chains', information theory, etc.). Of all possible procedures, however, structural and transformational-generative analysis are indispensable for a fundamental understanding of the nature of metrical patterns. It is therefore not surprising that metrists have applied them implicitly and informally since ancient times. They underlie the intuitive reactions of the ancients, but modern work has either failed to apply them with any explicitness or consistency, or even abandoned them. As a result, ancient intuition is often superior to modern theorizing. By modern theorizing we mean on the one hand the recent doctrines of classical philologists in which *anceps* is only one of a multiplicity of quasi-rhythmical elements, and on the other the largely unfounded claims of the school of 'Generative Metrics'.³⁷ Readers familiar with work of that school will perceive that our approach, while also in fact generative, differs from the so-called 'Generative Metrics' in that (1) it is transformational and (2) rather than discarding the insights and intuition of a long tradition in favour of entirely aberrant constructs, it formalizes and renders explicit traditional views where tenable.³⁸

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³⁶ *op.cit.* (*supra* n.16) 185.

³⁷ For Greek see the untenable analysis suggested by M. Halle, "On Meter and Prosody," in M. Bierwisch, K. E. Heidolph, *Progress in Linguistics* (The Hague 1970) 70. The weaknesses of Halle's analysis are pointed out in detail by Devine and Stephens, *op.cit.* (*supra* n.17 *ad fin.*).

³⁸ For a full treatment of explicit traditional metrics and a metrical grammar of the iambic trimeter and the dactylic hexameter, see our *New Approaches to Greek Metre*.