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Attic shortening or metrical lengthening?

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According to a well-known rule, a syllable of Classical Greek containing a short vowel that is followed by two or more consonants, is said to be long *positione* ‘by position’ (as distinguished from a long-vowel syllable, which is considered long *natura* ‘by nature’), the syllabic quantity being evidenced by the syllable’s occupying a long slot in the meter. If, however, the postvocalic consonants are stop-and-liquid (*muta cum liquida*) or stop-and-nasal, *correptio Attica* ‘Attic shortening’ is alleged to take place, with the result that the syllable in question becomes a short one and occupies a short slot in the meter.

These rules seem to me inadequate on two counts. First, syllabic quantity is not the same phonological phenomenon as vocalic quantity, hence the terms “long” and “short” cannot be applied equally to syllable and vowel. Second, what requires an explanation

is not, I believe, the “shortening” through correptio Attica of the short-vowel syllable that is long positione, but rather the “lengthening” of such a short-vowel syllable through the positione rule. I shall attempt to justify the abandonment of the Attic shortening rule, and to explain what the positione rule is and how it operates; in particular, I shall demonstrate that “lengthening” of the syllable through positione derives, not from the prosodic structure of Greek (and, by extension, of Latin), but from a metrical convention somewhat at odds with prosodics¹). That is to say, it is not the “shortness” of the first syllable of *πατρός, τέκνον* that needs to be explained by correptio Attica, but rather the “length” of the first syllable of *ὄρφανός, ἐμπνέω, ἵππος*. The process whereby a short-vowel syllable becomes “long” I call *productio metrica* ‘metric lengthening’, rather than lengthening positione, for reasons to be stated presently. If my suggestion amounted to no more than a change of terminology, it would scarcely merit a lengthy disquisition; but what is involved is a substantive linguistic problem of Greek (and Latin) prosodics and metrics, which the ancient grammarians and metricists did not perceive, and which recent linguists have also overlooked.

To present my argument I shall have to make a number of bald assertions of which I cannot offer here a detailed explication; to do so would unduly extend my account. But the reader in search of data and proof is referred to two earlier publications of mine where general rules of syllabation and their application to prosodics and metrics, all germane to my present topic, are exhaustively treated²).

The number of syllables in an utterance is equal to the number of vowels in it. (The difficulties attendant upon the definition of “vowel” and “consonant” do not arise in the present context, hence may be set aside.) Syllable boundaries are determined on phonotactic (distributional) grounds in such a way that whatever consonant or consonant group, and whatever vowel, occurs postpausally (i. e., lexeme-initially) may also occur syllable-initially in lexeme-

¹) The terms prosodics and prosodic are here used (as they are in most linguistic treatments) with reference to non-segmental (sometimes also called supra-segmental) features of a language, such as vocalic or consonantal quantity, intonation, accentuation, etc. For matters of versification, the terms metrics and metrical are employed. This terminological distinction is intended to convey the necessity, discussed below, for keeping certain properties of metrical discourse separate from analogical or similar properties of non-metrical speech. (Cf. also the title of Pulgram 1975.)

²) See Pulgram 1970, and 1975.

medial position, and that, by the same token, prepausal (i.e., lexeme-final) phonemes may also occur syllable-finally in lexeme-medial position³). But since my syllabation rules require also (for diachronic and synchronic reasons fully stated in my earlier publications mentioned above) that as many syllables as is phonotactically permissible be open, i.e., end in a vowel, it follows that the proper division is *πα-τρός*, *τέ-κνον*: both /tr/ and /kn/ may begin a Greek lexeme, hence stand postpausally, and are therefore admissible syllable-initially. Such homosyllabic groups of consonants I call cluster. If, however, a group of consonants has to be divided on phonotactic grounds between two contiguous syllables, there being no lexeme that begins with that group, as many consonants as needed (but no more) to produce a permissible syllable-initial cluster are transferred out of the group from the tentatively syllable-initial to syllable-final position, converting in the process the tentatively open into a closed syllable: *ὀ-ρφανός* → *ὀρ-φανός*, *ἐ-μπνέω* → *ἐμ-πνέω*, *ἰ-πιος* → *ἰπ-πος*. Such heterosyllabic groups of consonants I call sequence. Normally, this syllabation does not lead to a condition wherein syllable-final consonants due to such transfers are inadmissible since they do not occur lexeme-finally, that is, prepausally; but if such a result comes about, the item under scrutiny is usually a loan (a term that properly embraces also learned words drawn from an earlier stage of the language) not fully naturalized in the borrowing language, hence phonotactically irregular, or a lexeme containing a medial geminate consonant in a language that does not have lexeme-initial geminates. In such cases the irregularity must be borne by the coda of the closed rather than by the onset of the following syllable. (That is the reason for syllabizing *ἰπ-πος*, although no Greek lexeme ends in *π*, except elided forms like *ἀπ'* for *ἀπό*—which, however, since as a clitic it constitutes together with the following lexeme a single phonological word, does not really have *π* in prepausal but in medial position; in this case, moreover, and in similar ones arising from an elision, syllabic division must be set before *π*, which then appears as the initial consonant of the following syllable, as in *ἀπ' ὄρον* [a-pó-ru].) That a syllable may not

³ I use the term “lexeme” in a purely morphological sense for such items as stand, roughly, in a lexicon, reserving the term “word” to what may be called the phonological word, that is, an item consisting of one or more lexemes but behaving phonologically (in the marking of boundary allophones, prosodic features, etc.) like a single lexeme in citation form. For details see Pulgram 1970.

be open because its final vowel does not occur lexeme-finally, or prepausally, does not create a problem in Greek (or Latin), where all vowels may stand in that position. (But it does in English, where, for example, one must divide *establish* as /ə-stæb-liʃ/ and not /ə-stæ-bliʃ/, because prepausal /æ/ does not occur.) Nor need one for Greek (or Latin) reckon with an impermissible syllable-initial consonant, since all consonants do occur lexeme-initially. (But English /ŋ/, the final consonant of *sing*, contrasting with the final phoneme /n/ of *sin*, never begins a lexeme and is therefore excluded from syllable-initial position. Greek does not have a phoneme /ŋ/; the syllable-final [ŋ] as in ἄγ-γελος, ἐγ-κώμιον is an allophone of /n/ conditioned by its position before the palatovelar /g/ or /k/.)

It has proven useful to follow Sanskrit grammarians in restricting the qualifications “long” and “short” to vowels, and to speak of syllables as “heavy” and “light”. (This distinction serves to point up, as will be seen presently, a significant prosodic fact.) The grammarians and commentators of Pāṇini say that a syllable is light if it has as its nucleus a short vowel that is followed by no more than one consonant; if it is followed by two or more consonants, the syllable is heavy, as it is if the vowel itself is long. This statement includes the position rule mentioned above; and although in this form it is basic to the metrics of Sanskrit (and Greek and Latin), it does not satisfy the phonological-phonotactic definition of the syllable I have advocated. Nor can it be claimed that it originated with the father of Sanskrit grammar, Pāṇini, who in fact shuns the term “syllable”, as indeed he does “vowel” and “consonant”. (This peculiarity of Pāṇini’s grammar will be more closely examined later; see p. 86ff.) But I shall, in any event, retain the designations “short” and “long” for the syllable in *metrical* employment, where by all ancient accounts real duration seems to have been the signaling device (which seems reasonable enough if one considers that metrical poetry was, at least in its beginnings, sung rather than spoken), quite likely in such a way that metrical length lasted twice as long as metrical shortness; such indeed is the usual description furnished by ancient metricists. (Of course, this does not exclude a style of recitation that took artistic liberties and did not always or necessarily adhere to this mathematical equation; just so in the playing of a piece of music a half-note does not always or necessarily last exactly half as long as a full note, nor need all notes of equal metrical value in a given piece be performed with the same duration.)

According to the phonological definition, a syllable's being open or closed depends, then, not on the number, but on the kind of consonants that follow its vowel nucleus. And while a long-vowel syllable is always heavy, whether open or closed, the weight of a short-vowel syllable does depend on its being open or closed and therefore does depend on the kind, and not the number, of consonants that follow its short vocalic nucleus. If, then, a light syllable occupies a short slot in metrics, and a heavy syllable a long slot—and no argument has ever been raised on that—the first syllable of *πα-τρός, τέ-κνον* occupies a short slot in accordance with the facts of Greek phonology, including phonologically determined syllabation, that is, *natura*: no special rule like *correptio Attica* need be formulated or called upon to explain this short metrical value of a short-vowel syllable to the left (if I may use this convenient phrasing) of a syllable-initial cluster⁴). What I am implying is that, although two consonants follow the short vowel, the syllable was not long phonologically, hence cannot be subject to a shortening process. (It is true, of course, that even syllables that were recognized as open and light sometimes occur in metrical long slots, causing some metricists to argue that in these instances *correptio Attica* did not take place. This should have alerted them, but apparently did not, to the fact, that they were not dealing with a truly structural, phonological feature or event, which cannot be observed or ignored *ad libitum*, but with a metrical one. More about this below.) But this raises a question as to just what the position rule is and how it functions in relation to Attic shortening.

To explain the occurrence of a short-vowel syllable in a metrically long slot, it is usually claimed that two or more consonants following the vocalic nucleus have to be divided among the adjoining syllables, with the consequence that the syllable on the left is closed, and therefore heavy (or, as most textbooks say, long), and therefore placeable in a metrical length in verse. Such reasoning gives the appearance of obeying phonological principles; but in

⁴) To be sure, it has been said that the groups producing *correptio* are peculiar in that they can be pronounced together as clusters and need not be assigned separately to adjacent syllables. (To say, however, as does Dain 1965, 6, that they are "réunis en un seul son consonantique", whereby presumably the two-or-more-consonants rule is meant to be waived, is phonetically senseless.) But if some philologists recognize this phonological circumstance, why do they still insist that the syllable lying to the left of such clusters is not simply short *natura* but owes its metrical shortness to the operation of *correptio Attica*?

fact it does not. For if syllabation is, as I maintain, a phonological operation based on the permissible distribution (or phonotactics) of consonants, then not all groups consisting of two or more consonants are in fact sequences that for purposes of syllabation have to be split between two adjoining syllables; some are syllable-initial clusters, hence do not close and make heavy the preceding short-vowel syllable, which therefore cannot occupy a metrical long slot on purely phonological grounds. Hence the two-or-more-consonant rule, or position rule, as it is normally phrased merely counts consonants, but it disregards their phonological (phonotactic) behavior. That is to say, where a group of two or more consonants really closes and makes heavy the short-vowel syllable on the left, the position rule is not needed to explain the metrical length of that syllable; but where, on the other hand, these consonants do not close the short-vowel syllable, the position rule has no phonological basis and, as already noted, the Attic shortening rule is not needed to explain the metrical shortness of that syllable.

The actual, hard evidence on both the position rule and the *correptio Attica* rule has been derived from metrical discourse, whose long and short syllables must fit certain verse schemes with their prescribed and often intricate alternations of long and short slots. But traditional grammarians, and also modern linguists, have generally proposed, or implied, or allowed the reader to infer, that non-metrical speech possessed exactly the same syllabic quantity phenomena as were posited for verse. (I am referring here to the standard dialect—Classical Attic Greek, or Classical Latin—in which certainly vocalic quantity was prosodemic, i.e., distinctive. During what period it remained, and when it ceased to be, distinctive in popular, non-classical speech, whether Greek or Latin, does not concern me here.) As regards Classical Latin, I have argued and, I hope, demonstrated: (1) that syllabic weight is a property that correlates with both vocalic quantity and with the openness or closedness of the syllable (as I have done above for Greek); (2) that syllabic quantity, in the sense that it occupies a metrical length or shortness, is a purely metrical phenomenon that relates to syllabic weight in such a way that a heavy syllable always corresponds to a long slot, whereas a light syllable may but need not always correspond to a short slot in the meter; and (3)—and here I diverge from all previous accounts—that this syllabic quantity is in phonetic reality signaled by the quantity of its vowel nucleus alone (with the proviso that even a prosodically short vowel may be lengthened

under the conditions referred to as *positione*): this is so because the syllable as such can be lengthened meaningfully and audibly only by extending the duration of its vowel⁵); (4) that the term *positione* was the Latin translation of Greek *θέσει* (as contrasted with *φύσει* 'by nature'), which originally was intended to signify 'by agreement', that is, by a convention which allowed, for metrical purposes, the lengthening of short vowels under a certain stated condition; (5) that this condition was the presence of two or more consonants after the short vowel, regardless of their phonological nature and phonotactic place with respect to the syllable. (Curiously, the consonants preceding a short vowel are not claimed to have a lengthening effect upon the syllable in metrics, not even if they actually and clearly belong to the same syllable as does the short vowel—a fact which further points up the non-phonological nature of the *positione* rule; arguing that $\check{V}CC$ makes for a metrical length whereas $(C)C\check{V}$ does not, is circular from a metrical point of view since the *explicandum* shows up as the *explicans*, and is phonetically senseless.) Since *θέσει* 'by convention, by agreement' actually refers to the position of the short vowel before two or more consonants, the positional interpretation and the positional translations of *positione* turn out to be descriptively true though historically false⁶).

⁵) For an explanation as to why the consonantal portions of a syllable, even those which do have a duration of their own (the so-called explosives do not), do not contribute to the phonetic length of the syllable, see Pulgram 1975, 143ff. and 234–244. The lengthened short vowel responsible for the metrical length of the syllable does remain distinguishable from its prosodically long counterpart by the inherent difference in quality: in Attic Greek, the short vowel is of close quality, or tense, the long vowel is open, or lax; in Classical Latin, the relationship is exactly the reverse: short is open and lax, long is close and tense.

⁶) One occasionally finds the well-meant admonition, mostly ignored in traditional grammars and treatises on metrics, that what is lengthened by the *positione* rule is not the vowel—which would be improper in an idiom where vocalic quantity is prosodic—but the syllable; and that is good advice—if one conceives of syllabic quantity as a phonological feature. But since syllabic quantity is a device for making a short-vowel syllable admissible as metrical length, and since it really is the vowel that is actually lengthened in a position before two or more consonants, those who speak of vowel-lengthening in *positione* say the right thing, though for the wrong reason, and one may therefore maintain that they are wrong: the vowel is lengthened but in a phonetic, non-prosodic sense, with the phonemic distinction being preserved by the inherent vocalic quality. As Latin, in particular Spoken Latin, evolved toward Romance, quality came to function distinctively by

What I said in the preceding paragraph on the relationship of prosodics and metrics in Latin is valid also for Greek, all the more so since Greek prosodics of the vowels (long vs. short) was the same as that of Latin, and since Greek metrics was identical with that of Latin, including the positione rule: the Latin system had been simply transferred from Greek (just as the description of the Latin language had been virtually plagiarized from the works of the Greek grammarians). And that is why I do not assign, in Greek any more than one would in Latin under analogous conditions, the shortness of the first syllable of *πα-τρός*, *τέ-κνον* to the operation of the shortening rule called *correptio Attica*, which implies the annulment of the otherwise valid positione rule; rather, since I consider the metrical shortness of a short-vowel syllable as natural, that is, flowing from the phonological and prosodic structure of the language, I assign the metrical length of such a syllable to a metrical lengthening rule which is operative on the basis of the presence of two or more consonants after the short vowel, regardless of the phonological and prosodic status of this collocation of phonemes. And this is what I call *productio metrica* 'metrical lengthening'. I prefer this term to "lengthening positione", which implies, and often asserts, or is understood as asserting, a lengthening not only in metrical discourse but also in the phonology of Greek (or Latin) prose speech. (See also below, p. 84f., on this unwarranted transfer from metrics to prose.)

Productio metrica being a metrical rather than a true structural phonological phenomenon, and one that does not necessarily occur in all instances where conditions permit it, one might reasonably expect that different types of metrical discourse would employ it with significantly different frequencies. Thus that kind of metrical use of the language which, one should assume, most closely adheres to prosaic or even popular speech, that of comedy, would pay the least attention to the artistic conceit of metrical lengthening, whereas the texts farthest removed from speech, those of epic poetry, would be most careful in observing it, with lyric poetry and tragedy in between these extremes. This is conveniently shown in a diagram skillfully designed by Allen—although he, presenting *correptio Attica* as the relevant phenomenon, finds that it occurs

itself, and quantity disappeared as a prosodemic feature. (For an explanation of this change as due to the elimination of an original redundancy wherein both quantity and quality contributed simultaneously to the prosodic identification of Latin vowels, see Pulgram 1975, 249–263.)

most frequently in comedy, less in tragedy, and least in epic⁷⁾; but this is the mirror picture, as it were, of my own account. What clearly emerges, whichever the angle from which one looks at the facts, is that what has been called *correptio Attica* is more at home in the natural colloquial use of language—and that is no cause for wonder since the lightness of these syllables is, quite without the interference of *correptio Attica*, part of the normal prosodic structure of Attic Greek; but *productio metrica*, being a metric device foreign to the prosodics of Greek, is to be found in the more artful and solemn kinds of discourse.

My rule on the place of syllable boundaries is, as noted before, a phonological, phonotactic one; it does not imply that on the phonetic surface, in actual speech, every syllable boundary is necessarily signaled (by means of some type of articulatory break, by terminal—initial or final—allophones, etc.). My rule only determines the place where such phonetic boundaries may occur, and where they ought to occur if they do. But precisely because the speaker marks some (not all) syllable boundaries at his discretion, he may also choose, for a variety of reasons, to place a phonetic boundary marker at a lexeme-medial morphological boundary—if he recognizes it as such, or can correctly place it, which the lay speaker cannot always accomplish in the structurally required sense. Hence while it is phonologically correct to syllabize *ἐ-κλέγω*, *ἐ-κνίζω* for phonotactic reasons already stated, the speaker, who is certainly aware of the prefix *ἐκ-*, especially in cases where, as in those cited, it affects the meaning of the compound, may mark a boundary, if he chooses to do so in his articulation, after *ἐκ-* rather than after *ἐ-*. The break, occurring lexeme-medially, will sound like a syllable boundary: it will have such phonetic boundary markers as are associated with prepausal (as contrasted with postpausal) [k], while the following [l], [n], respectively, will exhibit postpausal features. I prefer to call such boundaries, which do not satisfy the rules on phonological syllabation, pseudo-syllabic: they sound syllabic, and are often held to be syllabic by the speaker and hearer⁸⁾.

Some syllabic theories, however, do not distinguish syllabic and pseudo-syllabic boundaries. If that confusion is combined with the *correptio Attica* and the position rule, morphological and syllabic criteria are lumped together, as in the following statement: “. . . si

⁷⁾ Allen 1973, 219. See also Ancher 1978.

⁸⁾ For details, see Pulgram, forthcoming.

la coupe morphologique se situait après l'occlusive, la pratique de la correptio [Attica] . . . était limitée au seul cas où la conscience des structures morphologiques avait pratiquement disparu, c'est à dire à l'intérieur des dérivés. La liberté du poète n'était donc pas totale, et le recours à la prononciation ancienne lui était parfois interdit (par exemple après l'article ou redoublement), de même que la pratique de la correptio dans d'autres cas (composés de *ἐκ-*)."⁹⁾ This means that if the morphological boundary after *ἐκ-* in *ἐκλέγω*, *ἐκνίζω* was recognized as such (as it most likely was) and had not "pratiquement disparu", correptio Attica was not likely to take place; instead, a long syllable is to be expected in accordance with the positione rule, here once more put forth as phonological in that it closes the syllable on the left, *ἐκ-λέγω*, *ἐκ-νίζω*—which the phonotactic syllabation rules, however, do not permit: the syllable boundary is always in the same phonotactically determined place regardless of morphological conditions. It should also be noted that the syllable long positione is regarded as preserving the "prononciation ancienne", a view that is also expressed by the author's calling the syllabic division after *ἐκ-* "syllabation ancienne", and the scansion of *προτρέπω* as $\bar{\upsilon}$, i.e., *προτ-ρέ-πω*, "prononciation traditionnelle"¹⁰⁾. In this scheme, the positione rule has also historical anteriority over correptio Attica. And the syllable long positione is once more regarded as pertaining to the phonological structure of the language, rather than as peculiar to metrics, and it is subject to annulment and replacement by correptio Attica.

In all of this is contained the notion, explicit or implicit, that phenomena observable in verse—in the present instance syllabic quantity, and the syllabation allegedly explaining it by way of the positione rule and correptio Attica—are identical with the normal structural ones of prose, that any feature of metrical discourse (apart from the verse design itself) is also one of non-metrical speech.

Just one out of many possible examples from a modern language and a metrics that we can actually hear, will show that this need not be the case. In Modern German, vowels are distinguished by quantity (as were Attic Greek and Classical Latin vowels), so that *kam* /ka:m/ and *Kamm* /kam/ are a minimal pair, i.e., different in one phoneme only; but German verse is not quantitative (though Attic Greek and Classical Latin verse is): it does not operate with

⁹⁾ Ancher 1978, 86.

¹⁰⁾ Ancher 1978, 85 and 79, respectively.

long and short syllables, or even long and short vowels, but attains metrical rhythm through a recurrent pattern of accented and unaccented syllables (as did the meters of Spoken Latin). Nor does German song necessarily assign longer notes to the long than to the short vowels.

Thus not only need there be no agreement between metrical and non-metrical usage, but it is my view that in the metrical use of the language some though not all phonological, including prosodic, features typical of non-metrical structure may be ignored or altered—which is exactly what happened, I believe, to the prosodically short vowels that were lengthened in the long syllable, that is, when they filled a metrical long slot. Nonetheless I do also recognize that, owing to the high prestige of metrical discourse (established in Greece with Homer, who stands at the beginning and also, in the estimation of Greek grammarians and readers and poetic followers, at the height of the poetic tradition), some of its rules and requirements, its conventions and fashions, also penetrated into formal, high-level non-metrical speech. This transplantation is due largely to the teachings of the ancient grammarians and metricists (and those concerned with Latin followed and imitated, indeed copied, their Hellenic brethren, especially since many of the earliest and most eminent of them residing in Rome were of Greek origin): in their role as schoolmasters for the affluent and as teachers of classical texts, they saw in the works of the poets the best and highest use of language. (Of this cultural and sociolinguistic background, too, I wrote in detail in another place, hence shall not repeat my argument here¹¹.)

As regards the one item that is at issue in the present article, I affirm that the so-called syllable long position was in fact a convention, a *θέσις*, which had its origin in metrics and is irrelevant to the phonology of both Greek and Latin speech (except to the extent that it was occasionally transferred from metrics to prose, as noted in the preceding paragraph). The practice started and got its original name, *θέσει*, in Greek, as a simple consonant-counting rule. (Note that the body of Greek metrics, its feet and verses, were transferred *in toto* to Latin, with the result that the autochthonous Latin verse, the saturnian, early fell into disuse as being too rough and too rude for the emerging belles lettres of the Latin language.) The purpose of the *θέσει* rule must have been to convert short-vowel

¹¹) Pulgram 1975, especially Chapter 8, pp. 211–248.

open syllables, which were phonologically light, into metrically long syllables through *productio metrica*. But this does, of course, raise the ulterior question as to why Greek metrics needed more metrically long syllables in its versification than the language provided in the shape of phonologically heavy syllables: normally one would expect a language to evolve the kind of metrics that is compatible with its phonology without the addition of ad hoc, non-phonological rules. (The problem does not pose itself for Latin, which adopted Greek metrical rules *en bloc*, and one need not worry about historical justification—though one might wonder that the adoption took place at all.) Could the answer be that Greek metrics was borrowed, in a prehistoric, pre-Homeric period, from a language with another phonological system that had a suitable number of long syllables without the aid of the *θέσις*, or convention, of *productio metrica*? Or was this the condition of an earlier pre-Greek or proto-Greek phonological system into whose period falls the origin of Greek metrics: metrics remained the same, but the phonological system lost so many heavy syllables that a correction by way of *productio metrica* had to be made? Either of these possibilities (and the second is fundamentally, in terms of prosodics and metrics, not different from the first) can be suggested as a hypothesis, and neither seems to be unreasonable; but one cannot be certain.

I am quite aware that a positione rule is also ascribed to Sanskrit, as I already had occasion to mention. But modern grammarians do not clearly state what the relationship is between the Sanskrit rule and the Greek-Latin rule: are they entirely unconnected and only accidentally identical (though this would be a rather extraordinarily fortuitous coincidence), or did some transfer take place, or did the phonology of the languages necessarily lead to the same results? Now Pāṇini himself, from whom ultimately most of the wisdom concerning Sanskrit grammar flows, uses exclusively lists of sounds in his rules and thereby manages to avoid such generalizations as “syllable”, “vowel”, and “consonant”—which, however, are normally inferred by commentators and translators of the *Aṣṭādhyāyī*¹²⁾). Hence the distinction of short-long for vowels,

¹²⁾ See Pulgram 1975, 240–243.

¹³⁾ All modern grammarians, even hard-boiled linguists, bow before Pāṇini's genius and the marvel of his accomplishment. But one cannot help wondering how this lavish praise can be harmonized with such rather uncomplimentary remarks from eminently competent judges as the following: “. . . about four thousand algebraic-formula-like rules (in the statement and

and light-heavy for syllables, useful though it is, and no doubt properly inferred, is due to interpretation and not to Pāṇini's own words.

Having explained (1.1.10) that there are two non-“homogeneous” types of sounds, Pāṇini says (1.2.27) that a sound of one mora, two morae, or three morae is called “short”, “long”, and “super-long”, respectively; and it may be concluded (from 1.2.28) that such a sound occupies in the phonological system a slot that we can legitimately assign to the type we normally call “vowel”; then it is said (1.4.10) that such a sound, if short, is called “light”; but it is called “heavy” if it is long (1.4.12) or if it stands before sounds “in conjunction” that belong to the other type (1.4.11), which we may take to mean before a group of two or more consonants. On the assumption that short and light, and long and heavy, did not pairwise refer to the same units, grammarians assigned short/long to vowels, and light/heavy to syllables. But since, as I noted earlier in this article, the syllable is best defined and founded on phonotactic, distributional criteria and not according to the number of consonants that follow the vocalic nucleus, Pāṇini's or his successors' “light” and “heavy” syllables, based on consonant-counting, do not in all cases respond to the phonological definition of the syllable—a term which, as noted, Pāṇini himself never uses in any event. It is this ambiguity and lack of clarity that causes Renou in his translation of Pāṇini to use the term “voyelle” in 1.5.10, 11, 12, but to list the same item in the Index (vol. 2, p. 434) under both headings, “voyelle” and “syllabe”; similarly Böhtlingk, the other authoritative translator of Pāṇini, in his *Sachregister* renders the same Sanskrit word as both “Silbe” (p. 299) and “Vocal”

arrangement of which brevity alone is had in view, at the cost of distinctness and unambiguousness) . . .” (Whitney 1879, xi); “Pāṇini's treatise is intelligible only with a commentary; even with the many commentaries we possess . . . several lifetimes of work will have to be spent upon Pāṇini before we have a conveniently usable exposition of the language which he recorded for all time.” (Bloomfield 1929, 270); “He [Pāṇini] is so subtle as to be ambiguous, and not seldom incomprehensible. Today a scholar who wants to freely handle and master his injunctions must possess a stupendous memory and a tremendous amount of learning in the vast literature discussing the implicit suggestions, silent assumptions and principles underlying his formulations or supposed to underlie them.” (Thieme 1937/38, 201). And it is also said (Thieme 1957, 263) that the *Aṣṭādhyāyī* is far from being a complete grammar of a language since it lacks numerous morphological and syntactic rules, and a good phonological description. If all this is true one may perhaps be forgiven for not expecting total clarity from Pāṇini's grammar.

(p. 300). The grammatical concept nearest (and it is not very near) to “syllable” is the term *akṣara* ‘indestructible’—also not used by Pāṇini but identifiable as being a vowel plus all the consonants preceding it, plus any word-final consonants following it (but with word-medial consonants following the vowel being reckoned as belonging to the following *akṣara*): this, too, is a unit that is not defined by phonological criteria. Thus in Eng. *express* /ɛksprɛs/, /ɛ/ would be one *akṣara*, and /ksprɛs/ another, a division that has nothing to do with syllabation no matter what one’s preferred definition of the syllable, least of all with the phonological-phonotactic one¹⁴). The shape of the *akṣara* may well be conditioned, however, by the mode of writing: the unit of writing, the grapheme, in Sanskrit is either a vowel by itself, or a vowel plus the consonant or consonants preceding it, plus the word-final consonants, if any, following it. The “indestructibility” of the *akṣara* therefore signifies graphic indivisibility. Certainly this is not an alphabetic type of writing; nor can it properly be called syllabic, unless one chooses to equate *akṣara* and syllable—a union which, however, not even the most elastic definition of the syllable can render respectable.

Sanskrit, or *saṃskṛta*, means ‘adorned, elaborate, perfected’. The name “which is popularly applied to the whole ancient and sacred language [i. e., diasystem] of India, belongs more properly only to the dialect which, regulated and established by the labors of the native grammarians, has led for the last two thousand years or more an artificial life, like that of [Classical] Latin during most of the same period in Europe, as the written and spoken means of communication of the learned and priestly caste, and which even at the present date fills that office.”¹⁵) Under such sociolinguistic circumstances, and given the corresponding social ambience, it is probable that the “perfection” associated with that dialect is based upon, and in its grammatical description is derived from, what was regarded as the *most* adorned, elaborate, perfected, and artistic use of the language, that of metrical poetry, whose linguistic peculiarities would have to be imitated even in highly formal, solemn prose. (I have argued that the grammarians, both ancient and modern, of Classical Latin fashioned their description, which was implicitly prescriptive, in this sense, particularly as regards

¹⁴) I am grateful to my colleague Peter E. Hook for this apt explanation of *akṣara*.

¹⁵) Whitney 1879, ix.

vocalic quantity and syllabic quantity, or weight¹⁵). That is to say, certain traits alleged to belong to the structure of the language are in fact peculiar to its metrical employment—and this was my reasoning, above, with regard to Attic shortening and metrical lengthening. And since it is metrical language that Pāṇini is concerned with, and since Sanskrit grammarians of all times have chiefly directed their efforts toward determining what Pāṇini's Sanskrit was like, the results could not but be skewed in the direction of metrical discourse¹⁶). Only in relatively recent times, a century ago, did the value of these efforts as regards a true linguistic description come to be questioned: “. . . naturally enough, in India, or wherever else the leading object is to learn to speak and write the language correctly—that is, as authorized by grammarians—that is the proper course to pursue. This, however, is not the way really to understand the language. The time must soon come, or it has come already, when the endeavor shall be instead to explain the grammar from the language; to test in all details, so far as shall be found possible, the reason of Pāṇini's rules (which contain not little that seems problematical, or even sometimes perverse); to determine what and how much genuine usage he had everywhere as foundation, and what traces may be left in the literature of usages possessing an inherently authorized character, though unratified by him.”¹⁷) This exhortation, no matter how much or how little it has been heeded, is still valid—in the domain of Greek and Latin no less than in Sanskrit.

Now it has been suggested that in a period preceding Vedic and Classical Sanskrit, “verse was measured solely by the number of syllables, without any regard to their quantity. We have already noticed (§ 32) that the quantity of initial and final syllable is always

¹⁶) Cf. Whitney 1879, xii: “By the term ‘classical’ or ‘later’ language . . . is meant the language of those literary monuments which are written in conformity with the rules of the native grammar: virtually, the whole proper Sanskrit literature. For although parts of this are doubtless earlier than Pāṇini, it is impossible to tell just what parts, or how far they have escaped in their style the levelling influence of the grammar. The whole, too, may be called so far an artificial literature as it is written in a phonetic form . . . which never can have been a truly vernacular and living one. Nearly all of it is metrical: not poetic works only, but narratives, histories (so far as anything deserving that name can be said to exist), and scientific treatises of every variety, are done in verse; a prose and a prose literature (except in the commentaries) hardly has an existence. Of linguistic history there is next to nothing in it all; . . .”

¹⁷) Whitney 1879, xii.

indifferent in the Rigveda, and we have every reason to suppose that this feature was inherited from the earlier period of purely syllabic measurement.”¹⁸) (This resembles the situation in Modern German, where vowels have distinctive quantity but the meter counts syllables, sometimes only the stressed syllables, i.e., ictus.) But it was also noted that “the text of the Rigveda, when metrically restored, shows a dialect in which the vowels are relatively more frequent, and the syllables therefore lighter [i.e., more short-vowel open syllables occur than long-vowel or closed syllables] and more musical [i.e., there being more vowels in a given length of utterance the language is more ‘singable’, as is, for example, Italian compared with German] than is the case in Classical Sanskrit. The Homeric dialect differs just in the same way from classical Greek.”¹⁹)

This implies that an older syllable-counting metrics in a language relatively rich in light syllables was replaced by a quantitative metrics. But it raises the question of whether at that remote time the language actually experienced an increase in the number of heavy syllables through purely phonological shifts, or whether the new metrics required a greater number of syllables, to which metrical discourse, at least, attempted to accommodate itself by the insertion of some rules specifically designed to this end. (That some of these rules were then appropriated, under the guidance of grammarians, by formal, solemn prose discourse, is not surprising.)²⁰) Of course, there is no reason to assume that only one single cause generates a given result; and it seems to me that both causes, a phonological change in the language and the requirements of a new metrics, combined to produce the state of Classical Sanskrit.

I proposed earlier in this article that the *θέσει* rule in Greek was designed to increase the number of heavy syllables so as to satisfy the classical quantitative meters and verses; indeed it has been reasonably argued that Homer practiced metrical lengthening of vowels (syllables) that were short in the speech of his day²¹). But it appears also to be true that in comparison with Classical Greek, and Homer’s metrical Greek, Mycenaean Greek had many more short vowels (syllables)²²). As regards Latin, we lack information on the number of short vowels the language might have had in the period

¹⁸) Arnold 1905, 19. ¹⁹) Arnold 1905, 106.

²⁰) I argue for this transfer to explain the presence of some features of Classical Latin that are absent in the spoken idiom, in Pulgram 1975, *passim*.

²¹) Cf. Wyatt 1969.

²²) Cf. Lejeune 1955, 318. See also Pulgram 1975, 241–242.

preceding Old Latin (of the fifth century, with scarce evidence) and Classical Latin; but in metrics, the familiar quantitative meters appropriated from Classical Greek succeeded the ancient and probably autochthonous saturnian. This verse is best viewed as syllable-counting (or rather, ictus-counting) and non-quantitative if it belongs to a kind of Latin with distinctive (prosodemic) accent and without vocalic quantity, that is, Spoken Latin, which existed as early as the saturnians side by side with the older inherited Latin that had vocalic quantities and a predictable, hence non-prosodemic, place for the accent, and which must not be equated with a post-classical so-called "Vulgar Latin"²³). Could it be that the linguistic and metrical evolution of Sanskrit followed a similar course under the impulse of similar prosodic circumstances and of a change in its metrical system? To answer this question is beyond my competence; and an attempt to do so would certainly have to exceed the bounds set by this article.

All this, however, raises yet another and larger question, viz.: Does the switch from a syllable-counting to a quantitative metrics in general call forth, in addition to the purely formal metrical devices and designs such as verses of a certain shape and strophes, a need for more heavy syllables?²⁴) And if there arises such a need,

²³) See Pulgram 1975, 211–222: The Saturnian verse.

²⁴) Kuryłowicz 1975, passim, but especially 12–13 and 228–232, seeks to set up some generally valid phenomena that accompany the replacement of a syllable-counting or ictus-counting metrics by a quantitative one (though the latter does not exclude rules on the number of syllables or ictus per line: see Kuryłowicz 1975, 182). Chief among these are the obliteration of phonological lexeme boundaries, the removal of the culminative function of the accent in the lexeme, and the shift of syllable boundaries and vowel contraction at lexeme boundaries, the last having the result of augmenting the number of heavy syllables. (Some of Kuryłowicz's heavy syllables, however, are based, not on phonological-phonotactic criteria, but on metrical conditions, notably those produced by the position rule, which he appears to assign to the phonological structure of the language. On this I disagree; see Pulgram 1975, 234–244: The syllable long position.) Kuryłowicz 1972, 158–187 tests these premises in some Semitic languages and their metrics. Neither of these two books by Kuryłowicz was available to me when I concluded the manuscript of my 1975 book. But I am gratified that his theory converges with my view of the *cursus*, which is a stretch of utterance wherein lexeme boundaries are not phonologically marked and which behaves prosodically—in accentuation, syllabation, etc.—like a single lexeme, and with my claim that the quantitative metrics and meters of Sanskrit, Greek, and Latin (all three in their classical forms) are intelligible if they function in a *cursus*.

which is in part satisfied by the metrical lengthening due to the position rule, did Sanskrit and Greek arrive at this solution independently, coincidentally, or did the inventors and propagators of Greek metrics follow a Sanskrit model? (Classical Latin, in this respect and in its metrics in general, merely imitated Classical Greek. But how does the short-vowel phonotactically closed syllable that can be, but need not be, measured long in Old English poetry, fit into this scheme?) I shall not pretend that I am, or can instantly become for the purpose of this article, competent enough a Sanskritist (or Germanist) to solve these problems; but I hope that my words may induce others to pursue this line of inquiry.

And yet, I feel tempted to add a speculative note. In my work on the syllable I found that open syllabicity was in all languages favored synchronically (e.g., some languages have only open syllables, but none has only closed syllables), while diachronically one perceives a strong tendency toward open syllabicity (which may of course be thwarted, or can go no farther than the simplification of syllable final, implicitly lexeme-final, consonant clusters)²⁵). And that is one of the reasons for my requiring (see above, p. 77) that in the process of syllabizing an utterance as many syllables as is phonotactically permissible be open. If in a given language this syllabic preference is coupled with an incidence of short vowels greatly exceeding that of long vowels (and some claim that this was the case in prehistoric, or at least pre-literary, Sanskrit and Greek: see above, over footnotes 19, 21, and 22), the result is a considerable preponderance of short-vowel open syllables. And if, then, in a language so constituted there arises a predilection for a quantitative metrics, whether autochthonous or borrowed, and possibly favored by the singing performance of poetry, the number of naturally short syllables may so immoderately exceed that of long ones that metrical patterns based on an arrangement of short and long cannot be used. The remedy lies in devising rules, or conventions (*θέσεις*), with the purpose of augmenting the number of syllables that may occupy metrical long slots. (Among these rules might be the admittance to metrical length of short-vowel closed, or heavy, syllables, and of short-vowel syllables whose vowel is followed by two or more consonants even if the syllable remains phonotactically open.) Is this, then, the underlying cause for the surface phenomena that, in Kuryłowicz's view, accompany the shift from a syllable-counting to a quantitative metrics?

²⁵) For details see Pulgram 1970, 66–75: Chapter 4A, The open syllable.

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Σιγᾶν und σιωπᾶν

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Die Wörter *σιγᾶν* und *σιωπᾶν* erscheinen in den modernen Lexika als nahezu bedeutungsgleich. So gibt Liddell-Scott für *σιγᾶν* an: keep silence, hold silent, keep secret; für *σιωπᾶν*: keep silence, (of bees:) to be still¹⁾, keep secret, speak not of, (Med.) silence. Aus

¹⁾ Wenn Aristoteles Hist. An. 627a24 von den Bienen sagt, daß sie „schweigen“ *σιωπᾶσιν*, so überträgt er offenbar die für Volksversammlungen passende Ausdrucksweise auf das Bienenvolk. Die Bienen „schweigen“ in der Frühe, bis eine von ihnen das Zeichen gibt, dann eilen sie zur Arbeit. Es