Some reflections on the ‘penultimate’ accent

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Languages with fixed stress accents display a variety of positional rules. The initial syllable is stressed, for example, in Icelandic, Gaelic, Czech and Hungarian; the second syllable in some Amerindian languages; the final syllable in Armenian and many Turkic languages; the penultimate syllable in Welsh, Polish, and generally in the Bantu languages; the antepenultimate in Macedonian. Some languages show varying degrees of departure from the norm (generally connected with grammatical factors); and, as even the above selection illustrates, the rules may differ within a genetic group, thus implying changes of rule within the history of a given language. In Armenian also internal evidence points to an earlier penultimate stress.¹

In some other languages the position of the accent, though fixed, is subject to more complex rules, and Latin is a well-known example of this type. Although it is commonly referred to as the ‘penultimate’ rule, the penultimate syllable is in fact only stressed (in words of more than two syllables²) if it is heavy, that is, if the syllable contains a long vowel or has a closing consonant, as re.lā.tus or re.fec.tus: otherwise the stress falls on the antepenultimate, whether heavy or light, as nó.mi.na, cór.po.ra, dó.mi.nus (and for this reason this type of accent will be referred to throughout as ‘penultimate’ in quotation marks). By this rule the final syllable is never stressed, and indeed its non-involvement may be seen as even more completely exclusive. The condition for the accentuation of a light (antepenultimate) syllable in Latin is that it must be followed by a light; the fact that a light


²Disyllables require special consideration, and might best be treated in the context of a theory mentioned in the following note.
penultimate is not stressed even if the final is light (e.g. *facile) could therefore be interpreted to mean that the final not only is itself unaccentable but also may not participate in the accentual environment.3

The few exceptions to the non-accentuation of the final syllable result from historical shortenings by contraction, syncope, or apocope of words in which the accent was formerly penultimate: thus e.g. audītui > audītī, fūmāitī, nostrātīs > nostrās, tantiō-ne > tantōn, iliīce > iliīc, iliīnce > iliīnc (cf. Priscian, 2. 128-30; 3. 528 Keil).4 The result in all such cases is that the stressed final syllable ends with a long vowel plus a consonant (Vc) or a short vowel plus two consonants (VCC).

The ‘weakening’ of vowels in non-initial syllables in Latin is generally agreed to reflect a prehistoric initial stress accent, shared with other Italic dialects, and it is possible that the historic accent first arose in a secondary role. But, whatever its origin, the attested system, governed by the ‘penultimate’ rule, was fully established in its primary role by the classical period. What is remarkable about this system is that, in spite of its relative complexity as compared with many others, it is found, with minor variations, in certain other languages having rather remote or no genetic connections with Latin.

In Old Indo-Aryan a similar system at some stage replaced the inherited pitch accent of Vedic, and the rules differ from those of Latin only to the extent that there is an even greater preference for the stress to be carried by a heavy syllable: thus a light syllable is stressed only if it is initial in a word containing no heavy syllable before the final: e.g. Sanskrit bharāmī, bharānti, bhāratii, udvējayaī̄ śūhitaram.6 It is as if the accent, starting with the penultimate syllable, ‘seeks’ a heavy syllable as its carrier, and settles on a light initial only faute de mieux. In its progress through the middle (Prakrit) period to the modern languages,

3I have elsewhere suggested (Vox Latina, [2nd ed. Cambridge 1978], pp. 91 ff.; cf. also J. Kuryłowitz, “Latin and Germanic Metre,” English and Germanic Studies 2 [1949], pp. 34 ff., repr. Ésquisse Linguistiques I, [2nd ed. München 1973], pp. 281 ff.; Problèmes de linguistique indo-européenne [above, note 1], pp. 220 ff.) that in Latin two light syllables may form an accentual ‘matrix’, just as one heavy: in which case in e.g. facile the second syllable carries the coda of the accent (thus facile as e.g. facētus), so that in *facile the final syllable would form part of the matrix. This analysis is not essential to the present discussion (though for Latin it would justify the removal of the quotation marks from ‘penultimate’).

4See M. Leumann, Lateinische Laut- und Formenlehre, (München 1977), p. 239.

5In Indo-Aryan there is no short e or o; in Roman transcriptions length of these vowels is therefore not generally indicated: I have however marked it throughout because of its prosodic significance.
Indo-Aryan has undergone a number of consonantal and vocalic ‘weaknesses’, with the result that an earlier antepenultimate stress often comes to stand on the penultimate (e.g. upadēhiκā ‘white ant’ > Prakrit uvadēhi > Marwari udē) and a penultimate on the final (e.g. Skt. carmacāra- ‘cobbler’ > Pkt. camma(y)āra- > Hindi camār; yākhyaṇa- ‘explanation’ > vakkhaṇa- > bakhān; taravāri- ‘sword’ > talvār, etc.). The latter are reminiscent of cases like fūmāt and illīc in Latin; but in Indo-Aryan the examples are much more numerous, and they seem moreover to be more than just historical anomalies. It has been suggested by Hyman⁸ that one criterion for the synchronic, ‘psychological reality’ of a phonological rule might be whether it applied productively to recent loan-words from other languages. In this case it may be significant that in Hindi borrowings from Persian such as dīvān ‘court’, sardār ‘officer’ the same final stressing of -vān applies as in native Hindi words. The sequence -vān creates what one could term an ‘overweight’ syllable, since it contains a consonant in addition to the required v. It is thus of interest that the same rule applies to words like pasānd ‘choice’, darāxt ‘tree’, with final -vān, since these also could be regarded as overweight, containing a consonant additional to the required v. It might be argued that in such words it is simply a case of the original Persian accent (normally final) being preserved: but again there are indications that there is more to it than this. For in Persian loans like kāmar ‘waist’ the accent has been shifted in accordance with the basic ‘penultimate’ rule of Hindi, just as also in hôtel from English hotel; and in agāst from Eng. August the accent has been shifted in accordance with the overweight-final rule. Similarly, if the Hindi derivative of a penultimately stressed Old Indo-Aryan word, through the process of apocope, would come to have final stress on a non-overweight syllable, the accent is shifted accordingly: thus e.g. Skt. vilāmba- ‘delay’ > bilam.

The accentual rules of classical Arabic⁹ seem to have been virtually identical with those of the modern Indo-Aryan languages like

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⁶As opposed to Vedic pitch accentuations bhāρīmi, duhitāram, etc.
⁹These are in fact reconstructed from the modern dialects, and some Arabists prefer to speak of the ‘historic stage common to the dialects’ (H. Birkeland, Stress Patterns in Arabic [Avh. Norske Videnskaps-Ak. i Oslo, II Hist.-Fil. Kl., 1954, no. 3], p. 9) or ‘koine’ (C. A. Ferguson, Review of Birkeland, Language 32 [1956], p. 386): on the modern rules cf. my Accent and Rhythm (above, note 7), pp. 157, 165. There is inevitably some diversity of opinion about details of the reconstructed system, but the rules as stated here reflect the most general consensus.
Hindi, including the ‘backward seeking’\textsuperscript{10} (e.g. mukātabatun, ḍarabatāk, like Hindi [and Skt.] kāmalīnī, etc.) and the stressing of overweight finals, as e.g. kitāb (thus stressed also as a loan-word in Hindi) or ḍarābt. It has been suggested that (pre-pausal) nominal forms like kitāb (‘book’) should be considered as derived (descriptively) from the context form kitābu(n), to which the basic ‘penultimate’ rule applies. But there are other indications of the validity of the overweight-final rule, similar to those in Indo-Aryan. Words which in classical Arabic end in \(\overline{\nu}\) (long vowel plus glottal stop) in prepausal position lose the stop in modern dialects: the accent then recedes in accordance with the ‘penultimate’ rule (and the final vowel is shortened): thus e.g. sahāra? ‘desert’ > ṣāhra. And foreign loan-words and names are subject to the overweight-final rule: thus Greek kanón\textsuperscript{11} ‘rule’ > kānīn, łōn- > yūnān ‘Greece’, Plátōn > afllāūn;\textsuperscript{12} Aristotle (Aristotelēs) appears variously as arīstūtālīs, arīstūtālīs, or in abbreviated form arīstū.

The patterns of English accentuation are less readily subject to purely phonological rules, but they show an undoubted similarity to those of Latin, which has often been commented on, as noted by Chomsky and Halle,\textsuperscript{13} who themselves refer to **‘the essential identity of [their approximate rule for English verbs and] the rule governing stress distribution in Latin’**,\textsuperscript{14} even more similar, in their formulation, is the rule for English nouns. But both rules have, as in Arabic and Indo-Aryan, to admit stressing of final syllables when \(\tilde{\varepsilon}\)ese are overweight, as e.g. in verbal decide, collapse (with final \(\overline{\nu}\)c or \(\overline{\nu}\)cc) and nominal machine, cheroot (with final \(\overline{\nu}\)c). In spite of their heroic attempts to reduce English stress to general rules, there remain very numerous exceptions to Chomsky and Halle’s formulations, and there have been many attempts to improve on them. But, as stated by Goyvaerts and Pullum, **‘there are too many unresolved issues and unexplored possibilities arising out of SPE’s third chapter for anyone to be able to have**

\textsuperscript{10}Though D. A. Abdo, “Stress and Arabic Phonology” (Diss. University of Illinois, 1969), p. 70, maintains that (as in Latin) it did not recede beyond the antepenultimate.

\textsuperscript{11}At the time of borrowing the Greek accent will have been stressed (replacing the classical pitch accent around 300 A.D.); as a corollary, significant vowel length had been lost: vowels in open stressed syllables were longer than others. But there are various distortions in the process of borrowing into Arabic.

\textsuperscript{12}I have also encountered this in India as a secondary loan, with the same accentuation (Marwari afllāūn, in the sense of ‘a conceited person’).


\textsuperscript{14}P. 70, n. 15 (above, note 13).
the last word about English stress for very long.

This opinion is still modestly cited by L. Guierre in his Essai of 1979: but the detailed tables provided in that work show up at least a general statistical tendency behind the ‘approximate’ rule of Chomsky and Halle. Thus, from Tables 72, 77 (pp. 367, 373, with inventories pp. 793 ff.): of non-prefixed disyllables the proportion of final to initial accentuation for words ending in \( \text{vc} \) is 103 : 2905 (= c. 3.4% of total), for words ending in \( \text{vcc} \) 26 : 245 (= c. 9.9%), for words ending in \( \text{v} \) 99 : 359 (= c. 21.6%), and for words ending in \( \text{vc} \) 241 : 336 (= c. 41.8%). Though in no case is final accentuation dominant over initial, the progressive scale of proportions, with -vc by far the most susceptible to stress, is interestingly reminiscent of another and apparently quite unconnected scale of statistical tendencies — in Greek epic verse.

By what is known as Naeke’s Law\(^\text{17}\) diaeresis is avoided after a spondaic fourth foot in the hexameters of Callimachus. In Homer, though there is a strong tendency to this constraint, the rule is much less rigorously observed (though absolute after the fifth foot), and it is the nature of the exceptions (numbering around a thousand), of which the majority are words or combinations of the type (\( \ddagger \) \( \text{v} \)) \( \ddagger \), that is here of interest, with particular reference to the structure of the final syllable before the diaeresis. By far the most common exception here is the overweight type -vc; relatively common also are words ending in the so-called ‘long diphthongs’, which could be analyzed as \( \ddagger \text{y} \) and so included in the same category. These two types account for over 90% of the exceptions. Very much less common is the occurrence of final \( \ddagger \text{v} \); and most rare of all in this position are the endings \( \text{vc} \) and \( \text{v} \) (‘short diphthong’), the former being the subject of the so-called ‘Wernicke’s Law’.\(^\text{18}\) The pattern -vcc is too rare in Greek to be significant.

The scale of exceptions to Naeke’s Law in Homer is thus -vc (max.): \(-\ddagger \ddagger : -\text{vc} \) (min.), the same as for the exceptions to initial accentuation in English non-prefixed disyllables.

The constraints observed by Naeke’s Law are presumably connected with rhythmic requirements towards the end of the line, the pre-


cise nature of which need not concern us. But an explanation of Wernicke's Law and of the exceptions to Naeke's Law readily suggests itself. A word of pattern \(v\) - \(-\) ending in \(v_c\) (including \(v_y\)) can be placed in earlier positions in the line if the next word begins with a vowel, since the final consonant (or glide) will then, in continuous speech (and in the most artificial cohesion of the verse-line), open the following syllable, so that the word will effectively end with \(v\), i.e. with a light syllable. A word ending in \(v\) may also be thus placed by the principle of 'epic correction' (shortening of final long vowels in hiatus). But a word of this pattern ending in \(v_c\) (including \(v_y\)) can practically only be placed at the fourth-foot diaeresis or at the end of the line; and as Stifler has shown if the end of the line is occupied by another word of pattern \(v\) \(-\) \(-\), or by a formula characteristic of end position (as e.g. ... \(m\theta\nu\kappa\kappa\alpha\varsigma\varsigma\) \(h\) \(i\) \(p\) \(i\) \(p\) \(-\)). Thus the fourth-foot position is virtually imposed on such words if they are to be used as all. For a word ending in \(v_c\) will have a heavy final syllable even if (as is usually the case) it is followed by an initial vowel, since, even after the transfer of the final consonant to the following initial, the word will still end with \(v\) and therefore with a heavy syllable. One could thus say that words of pattern \(v\) \(-\) \(-\) are used in the 'avoided' position only in inverse proportion to their potentialities of occurrence elsewhere. A line such as Iliad IX. 244 is typical of this principle: \(\varepsilon\iota\lambda\iota\varsigma\varsigma\nu\varsigma\) \(h\) \(o\) \(t\) \' \(a\) \(r\) \(i\) \(s\) \(t\) \(o\) \(n\) \(\alpha\) \(k\) \(h\) \(i\) \(a\) \(i\) \(\delta\) \(n\) \(\iota\varsigma\sigma\). This illustrates the different treatment of \(a\) \(r\) \(i\) \(s\) \(t\) \(o\) \(n\) \(-\) \(v_c\) as \(v\) \(-\) \(-\) and \(\alpha\) \(k\) \(h\) \(i\) \(a\) \(i\) \(\delta\) \(n\) \(-\) \(v_c\) as \(v\) \(-\) \(-\) . What Wernicke's Law says in effect is that Naeke's Law should not be breached by words like \(a\) \(r\) \(i\) \(s\) \(t\) \(o\) \(n\), which can be used in other environments as in this example.

This explanation of the scale of preferences involved in the exceptions to Naeke's Law, together with the similarity of that scale to the scale of preferences for the stressing of English final syllables, may suggest a new look at final stressing in Arabic and modern Indo-Aryan as well as in English. In both Arabic and e.g. Hindi the type of syllable required for final accentuation (and favored in the English case) is the overweight syllable. In languages where the stress rules are linked to quantity, there is an evident advantage in this requirement, related to the Greek case examined above. In continuous speech such syllables

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19I have discussed this question at length in Accent and Rhythm (above, note 7), pp. 283 ff. (with a brief summary in Vox Graec a [2nd edn., Cambridge 1974], pp. 120 ff., 161 ff.).


will remain constantly heavy (and so accented) regardless of their environment, i.e. whether the following initial is a consonant or a vowel; whereas, if final stress were permitted on syllables of type \( \text{VC} \), the accent would shift according to environment. In Hindi, for example, one might have \(^{*}\text{bandār jāṭā hai} \) ‘the monkey goes’ beside \( \text{bāndar āṭā hai} \) ‘the monkey comes’; whereas no such variation occurs if an accentuation \(^{*}\text{bandār} \) is excluded. In a word like \( \text{sardār} \), on the other hand, the final quantity, and so accentuation, is unaffected by environment. The ‘penultimate’ rule applicable to \( \text{bāndar} \) etc. thus ensures, by its disregard of the final syllable, that this accent will be constant. We could then reinterpret the ‘penultimate’ and overweight-final rules (excluding the special \( \text{faute de mieux} \) accentuation of light syllables) in terms of a single rule: stress the last constantly heavy syllable in the word.

We now finally return to Latin, viewing its accential system in the light of the previous discussion. Here also the ‘penultimate’ rule precludes syntagmatic variation in continuous speech,\(^{22}\) and, as we have seen, final accentuation is limited to historical survivals of the type \( \text{illēc, illīnc} \), in all of which the final syllable is of overweight structure. But there is no synchronic rule in Latin (or Sanskrit) prescribing final accentuation as in Arabic or modern Indo-Aryan: \( \text{hōnōs, uirtūs, ambāgēs, fāciēs, princeps} \), for example, follow the ‘penultimate’ rule. But there is evidence even in Latin for a feeling that stress on an overweight syllable (in words like \( \text{illēc} \)), though not synchronically prescribed, was more acceptable than stress on other types of final syllable. For when e.g. (nom. / acc.) \( \text{calcāri} \) underwent apocope to \( \text{calcār} \), and the vowel was then regularly shortened before final \( r \), the accent receded to give the attested \( \text{cālcar} \); similarly \(^*\text{animāti} > \text{ānimal} \) — both in accordance with the ‘penultimate’ rule. It might be argued that the apocope in such cases was earlier than in e.g. \( \text{illēc(e)} \) and antedated the development of the historical accent: but in addition, when Old Latin \( \text{aquār} \) contracts to \( \text{aquae} \), the stress is \( \text{aquae} \) and not \( \text{*aquāe} \).

It might therefore seem rather odd that the synchronic rules of Latin accentuation exclude the stressing of final overweight syllables; for, as in the other languages discussed, it would be immune to syntagmatic variation. Indeed, a rule which prescribed this might even be seen as having a certain paradigmatic advantage; for in words like \( \text{hōnōs, uirtūs} \), the stress of the nominative singular would then fall on

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\(^{22}\) Elision in Latin (and vowel-sandhi rules in Sanskrit) would be a further source of syntagmatic accentual variation if final stress were permitted on words ending in a long vowel.
the same syllable as in other cases such as *honōris, honōribus. Such forms, however, are relatively few, comprising only some with final s (or group containing s, as atrōx, fēlīx, fērens), since before other single final consonants long vowels were shortened (cf. āmōr / amōris, and verbal āmēm, āmē beside amēs). In any event some of those with final overweight syllables have light corresponding syllables in other cases, as e.g. arbōs / ārboris, princeps / principis.

In some anisosyllabic paradigms, as we have seen, the actual rule too involves shifts of accent (cf. also dominōrum / dōminiās and verbal amāmus, amātis / āmant); but in others it does not — thus e.g. ārbōs, princeps above (cf. also cīuium, cīuibus as cīuēs, and verbal fāciunt as fācit). And in all isosyllabic forms the ‘penultimate’ rule ensures that the accent is constant: thus e.g. dōminōs, dōminiās as dōminiō, dōminiē, where an overweight-final rule would require *dominōs, *dominiās; similarly verbal āmās, āmant as āmō, āmat, where the final rule would require *amās, *amant (in the few historical survivals like illīc, nostrās no paradigmatic variation is involved).

One hesitates to suggest reasons for linguistic rules, but it remains an observable fact that in a relatively highly inflected language like Latin (or Sanskrit) an overweight-final stress rule would have more disadvantages than advantages. This does not apply in the same way to Arabic or modern Indo-Aryan (or, of course, to English). In Hindi, for example, the only case / number inflexions of camār (masc.) are voc. plur. camārō, oblique plur. camārō23 and of talvār (fem.) direct plur. talvārē, obl. plur. talvārō (likewise the borrowed kitāb, kitābē, kitābō), with no accentual shifting. Similar considerations apply to the verb; a root such as nikāl ‘take out’ has a number of inflexional endings, as -nā, -tā, -ā, -ē, -ī, -ī, -ō, -ū, -yē: but none of these involves a shift of accent (thus e.g. fem. sing. past nikālti, polite imper. nikālīyē); only in the future is there an inevitable shift (e.g. nikālēgī). In the singular of the Arabic noun the accent is likewise invariable: e.g. nom. kitābu(n), acc. kitāba(n), gen. kitābi(n) beside pre-pausal kitāb (plural and verbal forms in Arabic are not comparable because of the characteristic ‘internal’ flexion applying to many of these).

It was noted earlier that in Latin the final syllable, apart from its own non-accentuation, does not participate in the accentual environment. It will readily be seen that, if it did so participate, this too could result in syntactically variable stress, of the type *dominus before an initial vowel beside dōminus before an initial consonant (since the final syllable would here be heavy and therefore the preceding light syllable

23- indicates nasalization.
could not be stressed); it would thus have a similar result to that of permitting stress on final -VC syllables.

The 'penultimate' accent, as we have seen, occurs with remarkably similar rules in a variety of languages — all of them imposing some quantitative constraints on the accent (and all incidentally possessing significant distinctions of vowel length). One would not immediately think of such an accent, with its relatively complex rules, as a ‘natural’ independent choice in various languages, in the way that one might so think of, say, an absolutely initial or final accent. And the kind of constraints applicable to the final accentuation where it does occur in the ‘penultimate-rule’ languages could possibly be interpreted as indicating that final stress is in some sense the ‘target’, the achievement of which is beset with difficulties for languages of this type (syntagmatic difficulties in all of them, but also paradigmatic in the more highly inflected). In speaking of ‘difficulties’ one is admittedly begging the question of the ‘undesirability’ of syntagmatically, and to some extent paradigmatically, variable accentuation. With regard to the latter one could, however, note the principle in Vedic and ancient Greek of what de Saussure termed ‘columnal’ accentuation (e.g. Ved. *piṭā* : *piṭaras*; Gk. *patēr* : *patēres*, *melētē* : *melētal*), and the further extension of this in the stress-accented modern Greek in the case of certain nominal and most adjectival paradigms (e.g. mod. *prāsinos*, *prāsino*, *prāsinu*, *prāsini*, *prāsinus*, *prāsinon* = anc. *prāsinos*, *prāsinon*, *prāsinoi*, *prasinous*, *prаси/non*).

There are of course languages with unconstrained final stress-accentuation, whether fixed or free; fixed, for example, in Armenian, free in Russian or modern Greek. It may or may not be significant that

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24 Cf. Kuryłowitz (above, note 1), p. 217 (where $x_3 = $ init., $x_2 = $ penult., $x_1 = $ final): “...$x_3$ et $x_2$ se déterminent d’une façon absolue, comme final et initial; $x_2$ est défini de manière relative comme précédant la syllabe $x_1$. La détermination absolue prime la détermination relative.” But even a simple penultimate accent (without quotation marks) would be less surprising than the ‘penultimate’ as an independent choice.

25 The same need not apply to non-accentual stress such as that I have suggested for ancient Greek (cf. Accent and Rhythm, [above, note 7], p. 295; Vox Graeca [above, note 19], p. 165). — Avoidance of syntagmatic variation in the melodic accent of Greek may possibly explain apparently anomalous accentuations such as *ánthrōpoi* (beside *anthrópois*): these could be seen as a generalization of the pre-vocalic environment, thereby avoiding a variation of the type *ánthrōpo,yV* (like e.g. *ánthrōpo,sV*-) beside *anthrōpo,C*.


in these particular languages there are no significant distinctions of vowel length.\textsuperscript{28} more extensive typological study might here be of interest.

In summary, then, the trend of the above discussion is towards the rather risqué, if not outré, idea that, as Bentley said of claret that "it would be port if it could," so the 'penultimate' accent aspires to be ultimate, but is inhibited by constraints inherent in the quality of its rules.

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\textsuperscript{28}The vowel transcribed as $\ddot{e}$ differed from $e$ in Old Armenian only qualitatively. In Persian, "duration, which had phonemic relevance in antiquity, is gradually slipping into the background, i.e. from a basic feature it is becoming secondary, concomitant. The basic differentiation of vowels now consists in their qualitative classification" (V. S. Rastorgueva, \textit{A short sketch of the grammar of Persian} [\textit{International Journal of American Linguistics} 30, no. 1, 1964], p. 4); cf. also Š. G. Gaprindašvili and Dž. Š. Giunašvili, \textit{Fonetika Persidskogo Jazyka} I (Tbilisi 1964), pp. 11 ff. (with further references).