

APPENDIX B

The pronunciation of Latin in England

Anyone who has listened to Latin as pronounced until recently in the Westminster play, or at Grace by elder members of Oxford and Cambridge high tables, or in legal phraseology, will be aware that it bears little relation to the pronunciation of Latin with which we have been concerned. This 'traditional' English pronunciation was the result of a variety of influences.

In the first instance, Latin in England had from earliest times been affected by native speech-habits. Already in the Old English period vowel-length had ceased to be observed except in the penultimate syllable of polysyllabic words, where it made a difference to the position of the accent (hence correctly e.g. *minīma*, *minōra*). Otherwise new rhythmical laws were applied, the first syllable of a disyllabic word, for instance, being made heavy by lengthening the vowel if it were originally light (hence e.g. *pāter*, *librum*, *ōuis*, *hūmus*, for *pāter*, etc.); there seems, however, to judge from Aelfric's grammar, to have been a practice of preserving Latin quantities in verse. 'Soft' *g* was pronounced as a semi-vowel [y], and intervocalic *s* was voiced to [z].

After the Norman conquest, Latin in England was taught through the medium of French, by French schoolmasters, and this resulted in the introduction of some peculiarities of the French pronunciation of Latin, e.g. the rendering of both consonantal *i* (*iustum*, etc.) and 'soft' *g* (*gentem*, etc.) as an affricate [dʒ] (as in English *judge*). 'Soft' *c* came to be pronounced as [s] (after the thirteenth century, when earlier French [ts] changed to [s]); all vowels were shortened before two or more consonants, e.g. in *census*, *nullus*; and Romance practice reinforced the tendency to lengthen vowels in open syllables (e.g. † *tēnet*, *fōcus*, for *tēnet*, *fōcus*).

Not until the mid fourteenth century did English begin to

establish itself as the medium of instruction for Latin (owing largely to the efforts of the educational reformer John Cornwall). Thereafter Latin in England continued to develop along national lines, until the publication in 1528 of Erasmus' dialogue *De recta Latini Graecique sermonis pronuntiatione*, which comments on a number of national peculiarities in the current pronunciation of Latin and seeks to reform them in the direction of the classical language. The dialogue is written in a light-hearted style, and the disputants, in the manner of didactic fables, are represented in animal guise, as *Ursus* and *Leo*, the bear being the instructor. The dialogue makes a number of important deductions about the ancient pronunciation of Latin, including the 'hard' pronunciation of *c* and *g* before all vowels, the voicelessness of intervocalic *s*, and the importance of vowel length.

Erasmus made two visits to England, one to London in 1506 and another from 1509 to 1514. During his second visit he spent some time in Cambridge, and it was here that his views on Latin and Greek pronunciation were later most vigorously propagated. In 1540 John Cheke was appointed as the first Regius Professor of Greek in Cambridge, and his friend Thomas Smith, another classical scholar, as Regius Professor of Civil Law. Both were only twenty-six at the time, and had been deeply impressed by Erasmus' published work.¹ Erasmus had limited himself to precept, and seems never actually to have used his reformed pronunciation; *Ursus* in fact comments that it is better to humour existing habits than to get oneself laughed at and misunderstood; in the words of Erasmus' predecessor in reform, Jerome Aleander, 'scientiam loquendi nobis reservantes, usum populo concedamus'.¹ Erasmus does, however, set the spoken word high amongst his educational priorities ('primum discat expedite sonare, deinde prompte legere, mox eleganter pingere'), and it is clear from the dialogue that he hoped for a gradual improvement in pronunciation.

In Cambridge, Cheke and Smith set about a radical and practical reform of both Greek and Latin pronunciation on Erasmian lines; Cheke in fact devoted six inaugural lectures to

¹ A clear echo of Cicero, *Or.*, 160 (see pp. 95 f.).

the subject, on successive days, under the title '*de literarum emendatione sono*'. (The reforms were, however, opposed by the Chancellor of the University, Stephen Gardiner, Bishop of Winchester, who in 1542 published an edict specifically forbidding the new pronunciation of either language. As penalties for infringement, M.A.s were to be expelled from the Senate, candidates were to be excluded from degrees, scholars to forfeit all privileges, and ordinary undergraduates to be chastised. For some time Gardiner's authority triumphed, but the intellectual weakness of his position is clear from some of his arguments; he complains, for example, that undergraduates are becoming insolent, by using an 'exotic' pronunciation, and delighting in the fact that their elders cannot understand it. He objects that the reforms would put Cambridge out of step with Oxford (and Oxford, as Gardiner elsewhere comments, 'liveth quietly')—to which Cheke replies, '*Neque tantum mihi quid Oxonia faciat, quam quid facere debeat, cogitandum. Neque minor est Cantabrigiae laus, si ipsa ad promovenda studia aliquid quaerat, quamquam Oxonia eadem retardet.*'

Cheke later supported the claims of Lady Jane Grey, and briefly acted as her Secretary of State. Gardiner, who had spent most of Edward's reign in the Tower, was released on the accession of Mary, and made the most of his restored powers. Having earlier defended Henry's breach with Rome, he presided at the reconciliation under Mary, and preached at court, on the eve of Jane's execution, in favour of severer treatment for political offenders. Cheke's property was confiscated, and he was imprisoned in the Tower for more than a year. He was subsequently given leave to travel abroad and proceeded to Padua, and thence to Strasbourg, but was brought back to England only to die a broken man in 1557. On Elizabeth's accession the next year, Gardiner's edict was repealed (the Bishop himself having died in 1555).

But reformers had still to reckon with inertia and with the † vested interests of the 'traditional' pronunciation of Latin; and in any case the advantages of the new pronunciation in England were soon to be diminished by an accident of linguistic history.

For the reforms came at a time when the extensive changes from the Middle English to Modern English vowel system were still incomplete; and so any reforms in Latin or Greek pronunciation underwent these vowel-changes as sub-dialects of English—the Latin vowels *ā*, *ī*, *ē*, for example, became diphthongs [ey], [ay], [iy], as in English *name*, *wine*, *seen*.

It was thus a strangely pronounced language, far removed from classical Latin, which was current in England by the nineteenth century. Apart from the peculiarities already discussed, the following features may be mentioned. In polysyllables with light penultimate, the antepenultimate (accented) vowel was, with some exceptions, shortened—hence e.g. *stāmina*, *sexagēsima* became *stāmīna*, *sexagēsīmā*; *Oedipus* became *Ēdīpus* and *Caesaris* became *Cēsaris* (*oe* and *ae* being pronounced as *e*—hence also *Ēschylus* for *Aeschylus*): but, for example, verbal *amāveram*, *miserat*. This shortening did not take place in the case of an *u* (hence e.g. *tūmulus* for *tūmulus*, with lengthening), nor if there was hiatus between the last two syllables (hence e.g. *ālias*, *gēnius* for *ālias*, *gēnius*, with lengthening: but compounds *ōbeo*, *rēcreo*, etc.). On the other hand, shortening took place in any case if the vowel was *i* or *y* (hence *fīlius*, *Lŷdia*). The ‘parasitic’ *y*-sound which precedes an English *u* was treated as a consonant, and so *vācuum* remained ‘*vācyuum*’ and did not become *vācuum*. The lengthening seen in e.g. *ītem* for *item* applied also to *mihi* (*mīhī*) but not, surprisingly, if the following consonant was *b* (hence *tībī*, *sībī*, *ībī*, *quībus*).¹

Since English spelling is largely historical, the traditional pronunciation is of course often equivalent to a reading in terms of English spelling conventions—though it is not entirely so accounted for.

By the mid nineteenth century, however, schoolmasters were beginning at least to observe vowel-length in open syllables (doubtless owing to the exigencies of metrical teaching), and

¹ For these and further details see especially J. Sargeant, ‘The pronunciation of English words derived from Latin’, in *S.P.E. Tract* No. 4, and G. C. Moore-Smith, ‘The English language and the “Restored” pronunciation of Latin’, in *Grammatical Miscellany offered to O. Jespersen*, pp. 167 ff.

later the 'hard' *c* and *g* were being introduced in some quarters. Around 1870 a new reformed pronunciation of classical Latin was formulated by various Cambridge and Oxford scholars. The matter was discussed in that year by the Headmasters' Conference, but compromise resolutions by Oxford, together with some actual opposition, delayed the general introduction of the reforms; and it was only in the early twentieth century, under initiative from such bodies as the Cambridge Philological Society and the Classical Association, that the earlier prejudices † began to be overcome in English schools and universities. Reaction, however, died hard, and even as late as 1939 *The Times* saw fit to suppress a letter against the old pronunciation by the Kennedy Professor of Latin at Cambridge.¹

These reforms can hardly be said to constitute a thoroughgoing reconstruction of the classical pronunciation. They do not go so far as to involve any actually non-English sounds, or even English sounds in unfamiliar environments; and it is the bridging of the gap between the 'reformed' and a 'reconstructed' pronunciation that forms one of the purposes of this book.

The traditional English pronunciation was certainly far removed from classical Latin—but it was not the only offender amongst 'national' pronunciations. Latin in France had been pronounced along national lines from earliest times, with a particular disregard for vowel-length and accentuation; vowels + *m* were pronounced as nasalized vowels, with consequent changes of quality—hence, for example, in Merovingian times *cum* is found spelt as *con*. Reform of pronunciation was one of the tasks entrusted to Alcuin by Charlemagne, but this resulted only in the requirement that every letter should be given *some* pronunciation; in later centuries we still find e.g. *fidelium* rhymed with *Lyon*, and Erasmus (who considered the French pronunciation the worst of all) observes that the French pronounced *tempus* as '*tampus*'. *u* was regularly pronounced [ü] as in French; *qu* was pronounced as [k]; and even the mis-

¹ On the recent history of the reform movement see L. P. Wilkinson, *Golden Latin Artistry*, pp. 3 ff. On ecclesiastical pronunciation see F. Brittain, *Latin in Church* (Alcuin Club Tracts, 2nd rev. ed.).

spelling *ch* in *michi*, *nichil* (see p. 45) was pronounced as the [ʃ] in French *champ*. In the sixteenth century we find punsters identifying e.g. *habitaculum* with French '*habit à cul long*',¹ to quote one of the less scabrous examples.

In the mid sixteenth century more serious attempts were made at reform in France, notably by Charles Estienne, who had studied Erasmus' work, and wrote a treatise *De recta Latini sermonis pronuntiatione et scriptura*, for the instruction of his nephew, Henri. But in France, as in England, the forces of reaction were strong. We are told, for example, that around 1550, when the professors of the Collège de France attempted to introduce such reforms, they were opposed by the theologians of the Sorbonne—who even tried to deprive a priest of his benefice for using the new pronunciation (condemning it as a 'grammatical heresy'). This conflict centred particularly on the pronunciation of *qu*, one of the key-words in the dispute being *quamquam*; thus, according to one tradition, an academic scandal came to be known as a '*cancan*' (and thence any kind of scandalous performance). Later attempts at reform in France have been less successful than in England, and have had to reckon with such reactionary bodies as the '*Société des amis de la pronuntiation française du Latin*'.

One gains some idea of the unacceptability of various national pronunciations in the sixteenth century from Erasmus, who describes in his *Dialogue* how speakers from various countries delivered addresses in Latin to the Emperor Maximilian. A Frenchman read his speech '*adeo Gallice*' that some Italians present thought he was speaking in French; such was the laughter that the Frenchman broke off his speech in embarrassment, but even greater ridicule greeted the German accent of the next speaker; a Dane who followed '*sounded like a Scotsman*', and next came a Zeelander—but, as Erasmus remarks, '*dejerasses neutrum loqui Latine*'. Ursus here asks Leo, who tells the story, whether the emperor himself was able to refrain from laughter; and Leo assures him that he was, since '*assueverat huiusmodi fabulis*'.

¹ Tabourot, *Bigarrures*, ch. 5 ('*Des équivoques latins-françois*').

Erasmus says that in his day the best speakers of Latin came from Rome, but that the English were considered by the Italians to be the next best. This statement is sometimes quoted with some satisfaction in England; but it should be noted that Erasmus significantly qualifies the claim by the words '*secundum ipsos*'. One has also to record the account given by another great scholar, Joseph Scaliger, at the beginning of the seventeenth century, regarding the Latin pronunciation of an English visitor: 'Anglorum vero etiam doctissimi tam prave Latina efferunt, ut...quum quidam ex ea gente per quadrantem horae integrum apud me verba fecisset, neque ego magis eum intelligerem, quam si Turcice loquutus fuisset, hominem roga-verim, ut excusatum me haberet, quod Anglice non bene intelligerem.' Such a performance can hardly be accounted for simply on the basis of the changes in the English vowel † system between the sixteenth and seventeenth centuries.

Finally, it should perhaps be mentioned that the Italianate pronunciation of the Roman Catholic church, whilst it is probably less far removed from classical Latin than any other 'national' pronunciation, has no special status as evidence for reconstruction. An attempt to spread the Italianate pronunciation throughout the Catholic church was made in a letter of Pope Pius X to the Archbishop of Bourges in 1912, an attempt which met with some success after the First World War; at the present day this movement may be expected to be intensified as a result of the *Constitutio Apostolica de Latinitatis studio provehendo* ('Veterum sapientia', 22 Feb. 1962) of John XXIII. But it is of interest to note in this connexion an article by the Vice-Rector of the Biblical Institute in Rome (*L'Osservatore Romano*, 14 March 1962) which advocates 'a return to the pronunciation of the ancient Fathers of the Church' in the light of current linguistic research.

A note on the pronunciation of gn

In William Salesbury's treatise on Welsh Pronunciation (1567) there is the interesting observation: 'Neither do I meane here to cal them perfite and Latinelike Readers as many as do reade

angnus...for *agnus*, *ingnis* for *ignis*', which suggests that our reconstructed pronunciation of *gn* (see p. 23) had earlier antecedents in England. This pronunciation seems also once to have been traditional in German schools. E. J. Dobson (*English Pronunciation 1500-1700*, II, 1006 f.) suggests that the *ngn* pronunciation in England was based on the teaching of the Latin grammarians—but in fact they have nothing to say on the matter; and the arguments now used to reconstruct the pronunciation had not yet been proposed. We do, however, surprisingly find this pronunciation prescribed in Erasmus' *Dialogue*; his conclusions appear to arise partly out of an over-interpretation of Marius Victorinus (who in fact discusses *ng* but not *gn*), and partly out of an inadequate analysis of the Italian pronunciation of *gn*. He thus by chance arrived at the correct answer by entirely false reasoning; and his work could be responsible for the subsequent English and German pronunciations.

There remains a problem, however, in the apparent existence of yet earlier pronunciations of this type, at least in England. Somewhat before Erasmus' *Dialogue*, Skelton had rhymed *magnus* with *hange us*, though perhaps one should not attach much importance to this. As early as the fourteenth century one finds spellings with *ngn* for Latin-derived words, as *dingnete* in the *Ayenbite*; these could be based on the common Old French spelling, with the first *n* indicating nasalization of the preceding vowel—in the fourteenth-century *Tractatus Orthographiae* of Coyrefully, composed in England for the English, we read: 'g autem posita in medio dictionis inter vocalem et consonantem habebit sonum quasi *n* et *g* ut *compaignon* (a phonetic mis-analysis like that of Erasmus regarding Italian)...Tamen Gallici pro majori parte scribunt *n* in medio ut *compaignon*... quod melius est.'

In English grammar schools up to at least the mid fourteenth century, French schoolmasters will have pronounced *gn* as a palatal [ɲ]. English students may well have compromised with a pronunciation [ɣn], i.e. velar + dental nasal (the palatal being articulated midway between the two). They would be en-

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couraged in this by the spelling of Latin-derived words borrowed through French (like *dingnete*), and by phonetic analyses such as that of Coyrefully. The pronunciation of Latin *gn* as [ɲ] in England could therefore have arisen well before Erasmus' reconstruction.

APPENDIX C

The names of the letters of the Latin alphabet

Two books and several articles have been written on this subject, and it is briefly discussed in some more general handbooks. The books are:

L. Strzelecki, *De litterarum Romanarum nominibus*: Bratislava, 1948;

A. E. Gordon, *The Letter Names of the Latin Alphabet* (U. Cal. Pubns: Classical Studies, vol. 9): Berkeley, 1973.

The latter is the fuller and more accessible work. I find myself in agreement with most of its findings, and here present only a summary of the arguments and most probable conclusions, in which I have drawn largely on Gordon's sources.

No particular problems are presented by the vowels. From the earliest sources onwards their names appear with the simple phonetic value of the letter, in its long form, i.e. *ā*, *ē*, *ī*, *ō*, *ū*. This is clear from their use in verse in Lucilius, e.g.

A primum est, hinc incipiam, et quae nomina ab hoc sunt,
where the hexameter requires that the first syllable be heavy,
therefore *ā*. Similarly in the sotadic lines of the grammarian
Terentianus Maurus, e.g.

E quae sequitur vocula dissona est priori
and

nitamur ut *U* dicere, sic citetur artus.

The long vowel is also specified by the grammarian Pompeius in his *Commentum Artis Donati* (Keil, v, 101): 'quando solae proferuntur, longae sunt semper'.

This practice is the opposite of what we find in India, where the short vowel was used to refer to each pair of short and long vowels: cf. Allen, *Phonetics in Ancient India* (O.U.P., 1953), p. 14. But it is in full accord with a general principle of Latin

phonology: for there are in Latin no monosyllabic words ending in a short vowel: beside Greek σῦ, for example, Latin has *tū* (-*quē*, -*nē*, -*uē* are of course not full words but enclitics, which form a phonological unity with the preceding word). There are good reasons why this should be so; for every full word in Latin must be accentable, and a single light syllable would, as we have seen (supp. note to p. 91), not provide the necessary stress-matrix.¹

The same names incidentally seem to have been used for *i* and *u* regardless of whether in a particular case they had vowel or consonant function, though Terentianus speaks, for example, of 'consonans *u*' or '*u* digammon' (cf. Gordon, p. 18).

The plosive consonants *b*, *c*, *d*, *g*, *p*, *t* also present few problems. Not being pronounceable by themselves, they were named by the addition of a vowel (long, for the reasons given above), namely *ē*. For example, a line of Lucilius ends as follows:

... non multum est *d* siet an *b*.

The heavy quantity of *an* requires that the name of *b* begins with *b*; and if this also applied to *d*, then the name of that letter must have a long vowel, since it is required to have heavy quantity. These conclusions are confirmed by one of the *Carmina Priapea*:

Cum loquor, una mihi peccatur littera: nam *te*
pe dico semper, blaesaque lingua mea'st;

and another beginning 'CD si scribas...' also requires long vowels. The same applies to the letters in the sotadic line of Terentianus,

b cum uolo uel *c* tibi uel dicere *d*, *g*,

where the names of *c* and *d* must begin with the consonant, and therefore also that of *g*, and the names of *c* and *d* must then have long vowels. Other grammarians, some citing Varro, specify these names as ending in *e*—the length of which, as we have seen, is established by metre.

¹ Even in Greek the earliest names of the short *ε* and *ο* were respectively *εἰ* and *οῦ*, i.e. long [ē] and (originally) [ō]: cf. *VG*, p. 85. On the Byzantine name *ε* ψιλόν see *VG*, p. 76.

Two other plosives provide exceptions to the general rule, *k* and *g*. An anonymous commentary on Donatus speaks of these as neither beginning nor ending with *e* (cf. Gordon, p. 21). In the Antinoe papyrus (4th–5th cent. A.D.) their names are given as *κκ*, *κν*, and these are confirmed by Probus, Pompeius, and Priscian. These letters are of course superfluous, since they could be replaced without ambiguity by *c*; but they had been used in early inscriptions, and survived in special uses (see p. 15). Their names, *cā* and *cū*, must owe their vowel qualities to the particular vowel environments in which the letters were used, i.e. *Kalendae*, *K(aeso)*, and the combination *qu*, though some modern writers have related them (and the letter-names more generally) to Etruscan writing habits.

The aspirate *h* tends to be excluded from ancient accounts, which follow Greek practice in considering it as a 'breathing' rather than a true consonant (cf. p. 43 and supp. note). Some of the grammarians, however, do give its name as *ha*, and length of vowel is proved by metre in Terentianus (cf. Gordon, pp. 18, 52). The quality of the vowel is perhaps connected in some way with that of *cā* for *k*, which is the next consonant in the alphabet.

Of the remaining letters, *f*, *l*, *m*, *n*, *r*, *s* are all 'continuant', i.e. sounds which, unlike the plosives, can be prolonged and so, like the vowels, could form independent syllables (cf. the pronunciation of the second syllable of *bottle* or *button*, or the exclamation *pst!*). For this reason they were termed *semiuocales* (after the Greek ἡμιφωναί): cf. p. 37, n.1 and *VG*, p. 17; *AR*, pp. 32–4. *x* (like Greek ξ, ψ, ζ) is also commonly included amongst these as containing the continuant *s*. It would theoretically be possible to name all these letters simply by sounding them, without the addition of a vowel; but Terentianus says that he cannot name them because their sound is hardly adequate, particularly in verse. This statement, together with those of some other grammarians, suggests (though this is not certain) that the letters in question had in fact at some

¹ Cf. Terence, *Phormio*, 743:

(so.) quem semper te esse dictitasti? (CH.) st! (so.) quid has metuis fores?
with *st* forming a heavy syllable (Gordon, p. 4).

time or by some persons been so named, i.e. simply as syllabic consonants. Though such sounds are phonemic in some languages (e.g. syllabic *r*, *l* in Sanskrit), they fall outside normal Latin phonology; and another system of naming, attributed to Varro, changes them into acceptable Latin forms by replacing the syllabicity of the consonant by a minimal syllabic of the actual language, viz. by a short vowel (of the same quality as the long vowel in the names of the plosives). In order to conform to the structure of accentable monosyllables in Latin, however, this vowel must precede the consonant (for *fē* etc. would be light syllables)—hence *ēf*, *ēl*, *ēm*, *ēn*, *ēr*, *ēs*, and *ēx*, though the last is by some writers changed to *īx* on the analogy of the late Greek ξῖ (earlier ξῑ). In the natural process of phonetic change it is in fact common for syllabic consonants to be replaced by short vowel + consonant (more usually in that order), the quality of the vowel varying from language to language—for example the Indo-European form reconstructed as **kmtom* ‘100’ (with syllabic *m*) → Welsh *cant*, Gothic *hund*, Lithuanian *šimtas*, and Latin *centum*. Eventually it was the Varronian system that prevailed and is found, for instance, in Priscian.¹

The full established system of Latin letter-names is thus:

ā bē cē dē ē fē gē hā ī cā ēlēm ēn ō pē cū ērēs tē ū ēx or *īx*.

y and *z* did not form part of the native Latin alphabet, and were only later added at the end. *z* seems to have been referred to by its Greek name as *zēta*. The earliest Latin name of *y* is uncertain, but may have been *hy* [hū] as in Greek;² later, however, with the phonetic merging of *y* with *i* (see p. 53), and also loss of *h* (see p. 44), this name would have been confused with that of *i*, viz. [ī]; and to distinguish it, it was given the name of *y*[ī] *graeca*: cf. Spanish *y griega*, Italian *i greco*, French *y grec*.

¹ An alternative system, found in the Antinoe papyrus, gives the names of these letters as (disyllabic) ιφφε, ιλλε, etc., with a short vowel preceding and following, and reminds one of Italian *effe*, *elle*, Spanish *efe*, *ele*, etc. (cf. Gordon, pp. 3, n. 7, 25, 33).

² On the Byzantine name ζ ψιλόν see *VG*, p. 65.

The English names of the letters reflect basically the traditional English pronunciation of Latin (see pp. 102 ff.). They have been discussed by E. S. Sheldon in *Studies and Notes in Philology and Literature* (Boston) 1 (1892), pp. 66 ff. and 2 (1893), pp. 155 ff.

The change of 'er' to 'ar' (pronounced simply [ā] in standard southern English: cf. p. 32) is the same as occurs in e.g. Middle English *sterre* → Mod. *star*. The letters *j* and *v*, as consonantal forms distinguished from *i* and *u*, are of recent origin (see p. 37, n. 2); the vowel in the name of the former may arise by pre-echo of *k*, but it also serves to distinguish the name from that of *g* (see p. 102); the name of *v* seems at first to have been 'ev' (after the pattern of 'ef' etc.: cf. Sheldon, p. 72, n. 1), but the current name is after the pattern of 'tee' etc.

The name of *w* is based simply on its shape, a combination of two *v*'s in their earlier value of *u*: one may compare the Greek name 'digamma' for Ϝ (see *VG*, p. 45). The letter appears in Latin inscriptions from the 1st cent. A.D. onwards, especially to represent the sound [w] in Germanic and Celtic names, the Latin consonantal *u* having by then developed a fricative pronunciation (see p. 41).

The origin of the name of *y* is uncertain: one suggestion is that it also was named after its shape, i.e. a combination of V and I. 'Ex' was preferred to 'ix' presumably after the pattern of 'es' etc.

The English name of *z*, 'zed', is ultimately from *zēta*, via French; an older name was 'izzard' [izəd], which Sheldon (p. 75) suggests may have arisen from French 'et zède', as rounding off the recitation of the alphabet. The American name 'zee' is formed on the pattern of 'tee', 'vee', etc.

On the name of *h* see p. 45, n. 1.

SUPPLEMENTARY NOTES

p. vii † On the recentness of 'silent reading' as a general practice see J. Balogh, 'Voces paginarum', *Philologus* 82 (1927), pp. 84 ff., 202 ff.

p. ix † See now also Select Bibliography on p. 130.

p. i † An alternative approach to the definition of syllable, vowel, and consonant is discussed in detail in *AR*, pp. 40 ff. This is the 'motor' theory developed by Stetson (see Select Bibliography), which approaches the problem from the standpoint of the physiology of the syllabic process rather than its acoustic results. Whilst much of the detail of Stetson's experimentation has been considered suspect, the theory nevertheless provides a powerful theoretical model for the explanation (in a scientific sense) of such 'prosodic' features as length, quantity, and stress, and helps towards an understanding of various metrical phenomena.

Briefly the main features of the theory are as follows. The syllable is generated by a contraction of one set of chest muscles, which superimposes a 'puff' of air on the larger respiratory movement ('like a ripple on a wave'): the syllable is consequently termed by Stetson a 'chest-pulse'. The action is of 'ballistic' (as opposed to 'controlled') type, which means that the 'release' is followed by a period of free movement, and terminated by an 'arrest'. The arrest may be effected either by the contraction of an opposed set of chest muscles or (or mainly) by a complete or partial closure in the mouth which blocks the egress of air. The release may also be assisted by means of an oral closure, which causes a rise in air pressure and so effects a more energetic release when the closure is relaxed.

The outflow of air during the free movement (the 'peak' of the syllable) normally sets the vocal cords in vibration, and the glottal tone thus generated is modified in various ways by oral

filtering, giving rise to the different vowel sounds; and the various types of oral closure associated with the arrest of the syllabic movement, or with assisting its release, give rise to the different consonants.

Certain applications of this theory are mentioned in subsequent supplementary notes (referring to pp. 5, 65, 89, 91).

p. 5 † Length may also be related to the syllabic process. A chest arrest (see supplementary note to p. 1), being a relatively slow movement, involves a continuation of the vowel whilst it takes effect—and so may be associated with long vowels. An oral arrest, on the other hand, is a relatively rapid movement and so is associated with short vowels (if the vowel were prolonged, it would give time for the chest arrest to intervene, and the oral articulation would not then provide the arrest: cf. supplementary note to p. 65).

Short vowels may also be associated with a type of movement in which the release of the following syllable overtakes the arrest of the preceding, rendering it effectively unarrested: for further details see *AR*, pp. 62 ff.

Differences of quality may be correlated with differences of duration because the shorter the duration the less time there is for the organs to move from their 'neutral' position to the 'optimal' position for a particular vowel. For manifestations of this in Latin see pp. 47 ff.

‡ For a fuller discussion of Accent see *AR*, pp. 86 ff.

p. 6 † When grammatical considerations are taken into account, however, as in transformational-generative phonology, the English accent is very largely predictable by rule—though the rules are of great complexity: see especially N. Chomsky & M. Halle, *The Sound Pattern of English* and M. Halle & S. J. Keyser, *English Stress*.

‡ It is preferable to use the term 'melodic' rather than 'tonal' in relation to accent, since the term 'tone' is often used in linguistics with a specialized connotation: cf. *VG*, p. 118, n. 1.

The function of the abdominal muscles in stress has recently been called into question (cf. *AR*, p. 78); it has, for example, been suggested by S. E. G. Öhman (*Quarterly Progress and Status Report* 2-3, Royal Inst. of Technology, Stockholm, 1967, p. 20) that stress involves 'the addition of a quantum of physiological energy to the speech production system as a whole...distributed (possibly unevenly) over the pulmonary, phonatory, and articulatory channels'.

p. 7 † For fuller discussion see *AR*, pp. 74 ff.

p. 12 † There has been some interesting experimental support for this interpretation: cf. J. Lotz, A. S. Abramson, et al., 'The perception of English stops...a tape-cutting experiment', *Language & Speech* 3 (1960), pp. 71 ff.; L. Lisker & A. S. Abramson, 'A cross-language study of voicing in initial stops: acoustical measurements', *Word* 20 (1964), pp. 384 ff.

p. 13 † See e.g. R. Fohalle, 'A propos de κυβερνᾶν GUBERNARE', in *Mél. Vendryes* (1925), pp. 157-78; L. R. Palmer, *The Latin Language*, p. 51.

p. 15 † I now doubt this explanation: these forms are more probably analogical, based on the vowels of *sceleris*, *-cellere*, where *e* is normal; cf. B. Löfstedt, *Gnomon* 38 (1966), p. 67.

p. 17 † This matter is further discussed by M. Niedermann in *Emerita* 11 (1943), pp. 267 ff. (= *Recueil M. Niedermann* (1954), pp. 73 f.).

p. 18 † For arguments in favour of [kw] in general see H. H. Janssen, 'qu et gu en latin', in *Hommages à M. Niedermann* (= *Coll. Latomus* 23, 1956), pp. 184 ff.; R. A. Zirin, *The Phonological Basis of Latin Prosody*, pp. 29 ff. For a full discussion of both views see now A. M. Devine & L. D. Stephens, *Two Studies in Latin Phonology* (Saratoga, 1977), Part I.

p. 19 † See further now Zirin, *op. cit.*, pp. 38 f., 83 f.

p. 22 † It would perhaps be more correct to attribute complete assimilation only to common speech. For further discussion

see especially O. Prinz, 'Zur Präfixassimilation im antiken und im frühmittelalterlichen Latein', *Arch. Latinitatis Medii Aevi* 21 (1951), pp. 87 ff., 23 (1953), pp. 35 ff.

p. 24 † For further discussion see now Zirin, op. cit., pp. 27-9.

p. 26 † On uneducated practice cf. Quintilian xii, 10, 57, where it is recorded that, when a lawyer asked a rustic witness whether he knew one Amphion, he denied it; but when the lawyer suppressed the aspiration, the witness immediately recognized the name.

p. 28 † On the phonemic status of [ŋ] see further J. Loicq, 'Minutiae Latinae', *L'Antiquité Classique* 31 (1962), pp. 130 ff.

p. 31 † This statement may require some modification, since in general occurrences of final *m* are much less frequent than those of final non-nasal long vowels or diphthongs, so that proportionally they are more liable to elision. From this point of view, then, final nasalized vowels seem to occupy a position between short and long. There seems also to have been a more than random tendency to place such vowels at the ends of lines, where length is indeterminate: for further discussion see *AR*, p. 147; cf. also E. Campanile, 'Sulla quantità della vocale che precede -*m* in latino', *L'Italia Dialettale* 36 (1973), pp. 1-6. The ambiguous status of the nasalized vowels may arise partly from the fact that, although lengthened, they were not (unlike e.g. *ā*), *distinctively* long, since there is never a contrast between long and short.

As regards the interjections *hem*, *em*, and *ehem*, it is most probable that here also the *m* indicates nasalization; and it has been suggested (G. Luck, *Über einige Interjektionen der lateinischen Umgangssprache* (Heidelberg, 1964), pp. 10 ff.) that the first of these was long with rising intonation, the second and third respectively short and long without intonation. One may compare e.g. French *hein*?

p. 36 † See, however, supplementary note to p. 78 on 'prodelision'.

‡ On this see now especially G. B. Perini, *Due problemi di fonetica latina* (Rome, 1974), pp. 113 ff., and the dissertation of J. B. Sullivan there referred to on p. 150. Perini argues convincingly that the development was not confined to the position after short vowels.

p. 37 † The details of this note are derived from L. Kukenheim, *Contributions à l'histoire de la grammaire italienne, espagnole et française à l'époque de la renaissance* (Amsterdam, 1932), pp. 31 ff.

p. 40 † On this see also now Zirin, op. cit., pp. 38 f., 83 ff.

p. 43 † The grammarians' statements are, however, probably derived from Greek models: cf. B. Löfstedt, *Gnomon* 38 (1966), p. 67.

p. 47 † For an explanation of this see supplementary note to p. 5.

‡ These developments apply to stressed syllables: there is some difference in unstressed syllables.

p. 48 † On these developments cf. N. C. W. Spence, 'Quantity and quality in the vowel-system of Vulgar Latin', *Word* 21 (1965), pp. 1 ff., with further references.

‡ There is an amusing piece of support for this in Apuleius' *Golden Ass*, where the asinine Lucius finds difficulty, with his pendulous lips, in articulating the close rounded Latin *ō*, and replaces it on one occasion by the Greek *ω* (which was a more open long vowel), and on another by the short Latin *o*: for full discussion cf. J. L. Heller, 'Lucius the Ass as a speaker of Greek and Latin', *CJ* 37 (1941-2), pp. 531 ff. (532 f.), and 'Another word from Lucius the Ass', *CJ* 38 (1942-3), pp. 96 ff. (97); W. S. Allen, 'Varia onomatopoetica', *Lingua* 21 (1968), pp. 1 ff. (3 f.).

p. 51 † The Spanish evidence is probably not in fact relevant here.

‡ On this see also R. G. G. Coleman, 'Some allophones of Latin /i/' , *Trans. Phil. Soc.* 1962, pp. 80 ff.

p. 52 † It may also be relevant that in late Greek (1st–2nd cent. A.D.) *oi* and *ū* were confused as [*ū*]: cf. *VG*, p. 77.

p. 55 † The distinction between nom. plural and gen. sing. in early Latin is in fact noted by Lucilius (Dĕhl fr. 170):

‘iam puerei uenere’: *e* postremum facito atque *i*
ut puerei plures fiant. *i* si facis solum
‘pupilli, pueri, Lucili’, hoc unius fiet;

also by Varro (see Ter. Scaurus, Keil vii, p. 18).

p. 56 † With the Latin weakening in unstressed syllables one may compare the developments in certain (northern) dialects of modern Greek, where unstressed *e* and *o* close to *i* and *u*—and original *i* and *u* vanish entirely (e.g. ἔστειλε [*estile*] → [*estli*]: for refs see *AR*, p. 133, n.3.

p. 62 † On the developments of *au* see also I. Fischer, ‘Remarques sur le traitement de la diphthongue *au* en latin vulgaire’, *Rev. Roumaine de Linguistique* 13 (1968), pp. 417 ff.

p. 64 † On the double writing see R. Lazzeroni, ‘La “geminatio vocalium” nelle iscrizioni latine’, *Annali... Pisa* 25 (1956), pp. 124 ff.

p. 65 † On these devices see R. P. Oliver, ‘Apex and Sicilicus’, *Amer. J. of Philology* 87 (1966), pp. 129 ff., where it is suggested that both the apex and the sicilicus (see p. 11, n.) are simply variant forms of a ‘geminatio nota’, and that the ‘*I longa*’ derives from a short *i* with a form of this mark superscript.

‡ In ‘motor’ terms, ‘hidden quantity’ is a feature of syllables which could be described as ‘hypercharacterized’ (cf. *AR*, pp. 66 f.), since the long vowel permits chest arrest of the syllable, and the following consonant is therefore redundant from the point of view of the ballistic movement, and probably has to be articulated by a controlled action. There is a widespread tendency for such syllables to reduce their *-v̄c* ending by shortening the vowel (*-v̄c*), so that the consonant takes over

the arresting role; thus in Greek (by 'Osthoff's Law') *γῠωντες → γῠόντες etc. In Latin note e.g. *cāssus* → *cāsus* (pp. 35-6 above), with in this case elimination of the 'redundant' consonant.

p. 69 † From recent work by Kuryłowicz, further developed by Watkins, it has become increasingly likely that 'Lachmann's Law' has no phonetic explanation but is due entirely to analogical transfer (simple or complex) of the long vowel from the perfect active to passive (a simple case would be that of *lēctus* from *lēgit*): for full discussion see J. Kuryłowicz, 'A remark on Lachmann's Law', *Harvard St. in Cl. Philology* 72 (1968), pp. 295 ff.; C. Watkins, 'A further remark on Lachmann's Law', *HSCP* 74 (1970), pp. 55 ff. In *AR*, pp. 18 f. I have criticized attempts, by Kiparsky and others, to formulate the rule in terms of 'generative' phonology.

Kuryłowicz's and Watkins' explanations are, however, in turn criticized by N. E. Collinge, 'Lachmann's Law revisited', *Folia Linguistica* 8 (1975), pp. 223 ff., and the problem will no doubt long continue to be debated.

p. 70 † For further discussion see J.-V. Rodríguez Adrados, 'Usos de la I longa en *CIL* II', *Emerita* 39 (1971), pp. 159 ff.

‡ On further consideration the French and Spanish evidence seems uncertain, and need not indicate a long vowel.

p. 71 † For further discussion cf. also J. Loicq, 'La quantité de la voyelle devant -gn- et la nature de la quantité vocalique', *Latomus* 21 (1962), pp. 257 ff., and 'Minutiae Latinae', *L'Antiquité Classique* 31 (1962), pp. 130 ff. (141 ff.).

p. 78 † Mention should also be made of 'prodelision' (or 'aphaeresis'), which occurs when a final vowel is followed by the copula *est* (or *es*). The evidence of the grammarians, inscriptions, and manuscript tradition indicates that in such cases it was the initial *ē* that was eliminated in the juncture; thus e.g. *Aen.* xi 23 *sub imost* (cod. Mediceus); *C.I.L.* XII, 882 *Raptusque a fatis conditus hoc tumulost*, where *-que + a*, involving normal elision, is written in full, but *tumulo + est* is written in