MEDIEVAL AND EARLY MODERN ENGLISH SYSTEMS OF VOWEL ORDER: FROM ALPHABETIC TO ORGANIC SCHEMES

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The paper traces the evolution of the vocalic subsystem from its Classical, Medieval, and Early Modern English alphabetic but inorganic order *a e i o u* to its organic but nonalphabetic scheme *i e a o u*. The essentials of the cardinal-vowel system date back to 1762.

Greek and Latin copied the alphabetic pattern of Hebrew. All Hebrew letters formed a macroalphabet or pansystem of names and meanings. Its purely consonantal acrophones and acrographs served as a microalphabetic pansystem of sound- and number-values. The practice of syllabography worked without scripting vowels. Eventually, sound-evolution vocalized acrophonic *Aleph, He, Waw, Yod, Ayin*.

After the vocalization, the Phoenician alphabet reached Greece. The Greeks incorporated, complemented, and regularized the vocalic subsystem. They specified the new vowels as *epsilon, omicron, ypsilon, omega*. The compounded names signalized *psilon* 'plain, simple', i.e. 'monophthongal', *micron* 'small, short', and *mega* 'large, long'. The quantitative and qualitative distinctions expanded the Greek subcatalogue to seven vowel-letters. Dionysius Thrax (2nd cBC) rendered their linear sequence as αεηιουω. Roman usage up to Varro (1st cBC) established the Latin scheme *a e i o u*, standardizing the 'megaphonic' type of vocalic length and canonizing the graphic norm and optics of vowel-letters in spelling. In Ireland, the Roman Christian mnemonic *a e i o u* soon ousted the Gaelic Celtic order *a o u e i*.[1]

An early breakthrough in anatomic, organic, or phonetic letter-sounds of the microalphabet occurred between the 3rd and the 6th century AD. In the cabbalistic *Sepher Yetsira* or 'Book of Creation', an anonymous Talmudic scholar classified letters according to the flow of their breathstream from throat to mouth.[2] He identified the places of articulation as those stretches of the oral tract along the comparatively static or immovable speech-organs which faced the protruding back, front, blade, or tip of the dynamic or movable tongue. Describing a purely consonantal alphabet, the *Sepher Yetsira* quite naturally skipped the (nonexistent) scripted Hebrew vowel-scheme. Yet in spite of its organic transposition of dentals after labials verbalized for consonants, a merely hypothetical classification of vowels according to the throat-to-mouth arrangement would suggest *u o a e i*.

Although *lingua* as both 'tongue' and 'language' must remain of prime significance for anything linguistic, subsequent grammarians and commentators of the *Sepher Yetsira* could not fail to adjust the monocausal but polyfactorial model of vowel articulation. Dunash Ben Labrat (10th c) and Solomon Ibn Gabirol (11th c) improved the anatomical description of speech-organs and corrected the order of letter-sounds to gutturals, linguals, tectals (or tectals, linguals), dentals, and labials.[3]

The ways and habits of Roman thinking as well as Patristic epistemology ignored the monocausal but polyfactorial considerations. Not only from

Varro (1st cBC) via Tertullian (2nd/3rd cAD) to Donatus (4th cAD) and Priscian (early 6th cAD) did Roman and Latin grammarians hold on to the mnemonics of the vowel scheme *a e i o u*. Taking on trust any letter's harmony within *nomen-figura-potestas*, the everyday practice of the Latin Middle Ages managed to perpetuate alphabetic aspects in both Romania and Germania. Apart from the identical order of the vowels, the growing neutralization of vowel-length in Romania led to the alphabetic subscheme and mnemonic pattern *ă ĕ ĭ ŏ ŭ* as against the lengths preserved *ā ē ī ō ū* in Germania. For the phonemic and paradigmatic triad *nomen-figura-potestas*, Boniface (8th cAD) observed but underemphasized the phonetic and syntagmatic transience of contextual vocalization and coarticulation outside the microalphabet.

Aelfric's *Grammar* before 1000 presented the pansystem of the Latin alphabet, expressly adding the unaltered subsystem *a e i o u*.[4] Byrhtferth's *Manual* in 1011 appended a column with a vocalic *A E I O V*.[5] About 1150, the *First Grammatical Treatise* just integrated the Germanic umlauted tone-colours of Old Icelandic into an otherwise stable Latin scheme. Its alphabetic insertions followed graphic conventions and largely etymological antecedents.[6]

a, á; ǫ, ǫ́; e, é; ę, ę́; i, í; o, ó; ø, ǿ; u, ú; y, ý.

Aelfric's *Grammar* and Byrhtferth's *Manual* based their vowel schemes upon the *figurae* or written shapes of the letters. Clinging to the alphabetic order, it must have dawned upon the First Grammarian that inadvertent teachers of a harmonious Latin *nomen-figura-potestas* doctrine had been neglecting *nomen* and *potestas*.

An early insular attempt at considering articulatory and acoustic aspects of vocalic order stems from mid-13th-century Oxford. An Oxford Bodleian, a London British Library, and a Paris Bibliothèque Nationale manuscript each hold some pseudo-Grosseteste treatise.[7] Elaborating upon the Aristotelian differentiation of a vocalic *sonus in motu* from a consonantal *sonus in potentia* in the Bodleian Digby version, the pseudo-Grosseteste defined vowels as *simpliciter* and consonants as *secundum quid*. A vowel's 'substantial' motion (*motus*) flows without any obstruction, whilst a consonant's 'accidental' motion takes shape from an obstruction at one or more of the speech-organs. With all its inconsistencies, a further treatise by the Digby phonetician (in accordance with the pseudo-Grosseteste) construed the table of vowels upon the particular motions along the speech-organs and points of articulation *guttur, lingua, palatum, os, labia*. The phonetic scheme *a u i o evω* rendered what the pseudo-Grosseteste held to mirror the spectrum of apertures within the oral cavity. Diagrammatically, the types of articulatory motions and acoustic generations resembled geometrical figures and concentric configurations (lines, curves, circles, triangles, and columns).

Roger Bacon (1214-1292) in *Linguarum Cognitio* closed his mind to Robert Grosseteste's (1175-1253) metaphysics of light, acoustics, or cosmology, and to their obvious echoes in the pseudo-Grosseteste. Bacon propagated the Latin scheme *a e i o u* and their Continental pronunciation. His essentials of Hebrew transliterated syllabographic *b* as *ba be bi bo bu*. Even his supralinear equivalents for *Aleph* and *Ayin* just as his phonographic guide to Hebrew punctuation adhered to Latin alphabetic *a e i o u*.[8]

The 14th century yielded no vocalic schemes in sources such as John Mandeville or John Trevisa.

In the 15th-century "De Vigilia Pentecostes", John Mirk recalled the universal importance of the vowel letters and the Varronian and Donatian subsystem *A E I O V*.[9] In 1499, the anonymous *Promptorium Parvulorum* provided no entry under *vocalis* or *vowel*. The entry under *vocalis* in the anonymous *Ortus Vocabulorum* of 1500 lacks complete schematic exemplification and enumeration.

In the 16th century, the initial phase of the Great Vowel Shift might have stimulated the grammarians' and phoneticians' awareness to reconsider

the hitherto unsuspected conception of harmony in the problematic nature, correlation, coordination, and interdependence of *nomen-figura-potestas*. Yet on the whole, insular Renaissance humanists and Tudor scholars widely studied written sources from a graphic and alphabetic angle; they stabilized the Classical Latin five-vowel subset. Some 23 Tudor authorities went on arranging the vowels in alphabetic order.[10] Smith differentiated between still alphabetic semivowel-plus-vowel clusters and nonalphabetic digraphic monophthongs or peak-and-glide diphthongs. This practice, however, failed to convince prompt imitators.

The 17th century brought no fundamental change. Some 35 publications went on propagating the alphabetic schemes *a e i o u* or *A E I O U*. Sporadically since about 1550, a minor change started taking firm ground: 17th-century phoneticians used to add the Greek allograph *y* for *i*. As marks of a major change, pretty regular inclusions of syllabophonic *ba be bi bo bu* (and *ab eb ib ob ub*), dual schemes of *ā ē ī ō ū* versus *ă ĕ ĭ ŏ ŭ*, and a supplement "*a e i o u* silent" betray a growing sensitivity to nonalphabetic aspects. Realizing shades of timbre or duration as well as a disharmony between vowel-names and sound-values, the corpus attracts attention to contextual (allographic, phonetic, syntagmatic, transient) views of the phonic structure. In principle, the sources did not break with the graphic tradition of the pansystemic alphabet.

Prepared to some extent by Robinson's (1617) "Scale of Vowels" *u o a e i* from back to front, by Price's (1665) "Throat Vowels" *u o e i a*, and by Wilkins's (1668) "Sound Chart" and "Organic Alphabet", William Holder's *Elements of Speech* (1669) advanced the phonetic sciences considerably.[11] Conceding a concurrent share of lips and throat in the generation of vowels, Holder recognized the free passage of "Breath Vocalized" through the cavity of the mouth. The shape and mechanism of tongue and oral cavity form the main cause of the number and the main reason for a natural or organic order of the various vowels.

> "... and then the Series of the Vowels according to their degrees of aperture, and recess towards the *Larynx*, will be thus, *i e, æ, a,ɑ, o, oo*; to which may be added *u* and *ɣ*."[12]

Although Holder's theory did succeed in beating a path to phonetics, his (like Price's and Wilkins's) practice fell back upon the old vice of alphabetic order. The graphic schemes *a e i o u* (*y*) or *A E I O U* (*Y*) continued to survive in some 24 late-17th-century teachers.

18th-century documents carried on alphabetic schemes and aspects in some 42 arts of poetry, dictionaries, dissertations, elementaries, essays, grammars, guides, institutes, introductions, repositories, rudiments, spelling-books, and treatises. Again, slightly more than one in four authorities thought fit to specify the morphophonemic sound-values by means of syllabographic *ba be bi bo bu* (*by*) and *ab eb ib ob ub*.

Confronted with notational needs in a period of no adequate transcription, 18th-century phonologists resorted to diacritical, numerical, or typological devices. Some augmented the alphabetic order of vowels by supraposing accents or figures above polyphonic characters; others implemented an etymological alphabet of historical "representatives" or allographs for phonemic transcription.

All in all, the tentative solutions in marking, listing, and ordering the spectrum of vocalic timbres got phoneticians nowhere.

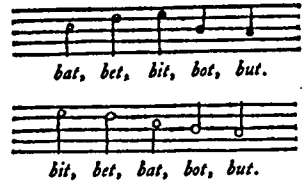
In 1762, Henry Home (1763 Lord Kaims/Kames) published his three-volume *Elements of Criticism* which, within seven years, went into four editions. Referring to Harris's *Hermes* (1751) and to the then contemporary anatomists, John Rice in 1765 rejected Lord Kaims's suggestion that the five vowels showed the same extension of the windpipe but different openings of the mouth, and that the vowel scheme formed a regular series of sounds descending from high to low in the organic order *i e a o u*.

> "Neither a *higher* nor *lower* Note can proceed from the Lips of the Mouth, than first proceeds from the Lips of the *Glottis*."[13]

Rice compared the musical notation of alphabetic *a e i o u* with the rise and fall of the syllabophones *bat bet bit bot but*. He produced evidence that

> "... they are not all equally grave or acute."[14]

Sequencing the musical notation in a steady series from high to low



the orthoepist concluded from the reverse *bit bet bat bot but* that

> "... there must *at least* be Syllables of five different Lengths: And this is what I mean by the natural Length of Syllables."[15]

Whatever John Rice's "natural length" and "glottal tone" may have meant (duration, fundamental frequency, harmonics, timbre, wave-length rather than pitch), none of the celebrated authorities after him seems to have recognized the gigantic stride of his contribution. Rice's doctrine failed to gain acceptance with some 33 British and American authorities before 1800.

Nevertheless, John Rice anticipated Daniel Jones's cardinal-vowel system as a standard invariable scale. For the sake of a universal and uniform phonetic notation, Rice abandoned the alphabetic order and graphic orientation of the vowel-scheme. The long lost harmony of *nomen-figura-potestas* had ended up in an uncontrolled history of partly etymological or allographic and partly contextual or syllabophonic inconsistencies. Rice promoted a nonalphabetic method which keyed one chief cause to several companion factors. He integrated the static firmament of the more or less immovable speech-organs into the dynamic zeniths of the movable tongue-positions, fixing the sound-values of vocalic articulation and modulation to a scale from "front high" via "mid low" to "back high". Under the circumstances of the reverse directions of thinking and writing, the new order perfectly agreed with the old of the *Sepher Yetsira*. John Rice's phonic model of 1765 as an oral alphabet converted the alphabetic but inorganic and unnatural order of the graphic subsystem *a e i o u* into the nonalphabetic but organic and natural scheme *i e a o u* of the cardinal-vowel system.

1 PARSONS, J. (1767/1968), *Remains of Japhet*, English Linguistics 1500-1800, No. 64, Menston: Scolar, 404, 412.– For a historical introduction to "The Letters of the Alphabet", see MICHAEL, I. (1987), *The Teaching of English*, Cambridge: C. U. P., 25-32.

2 BACHER, W. (1892-95/1974), *Die Anfänge der hebräischen Grammatik* and *Die hebräische Sprachwissenschaft vom 10. bis zum 16. Jahrhundert*, Amsterdam Studies in the Theory and History of Linguistic Science, III: Studies in the History of Linguistics, 4, Amsterdam: Benjamins, 20-22.

3 BACHER, op. cit., 21, n. 2.

4 SOMNER, W. (1659/1970), *Dictionarium Saxonico-Latino-Anglicum*, English Linguistics 1500-1800, No. 247: *Aelfrici Grammatica*: "De Literæ", Menston: Scolar, 2.

5 CRAWFORD, S. J. (1929/1966), *Byrhtferth's Manual (A.D. 1011)*, Vol. 1, Early English Text Society: Original Series, 177, London: O. U. P., 195-196A.

6 HAUGEN, E.(2)1972), *First Grammatical Treatise: The Earliest Germanic Phonology*, London: Longman, 17.

7 REICHL, K. (1976), *Tractatus de Grammatica: Eine fälschlich Robert Grosseteste zugeschriebene spekulative Grammatik*, Edition und Kommentar, Münchener Universitätsschriften: Veröffentlichungen des Grabmann-Institutes, (New Series) 28, München, Paderborn: Schöningh, 24-27, 135, n. 16.

8 NOLAN, E./ HIRSCH, S. A. (1902), *The Greek Grammar of Roger Bacon and a Fragment of His Hebrew Grammar*, Cambridge: C. U. P., 202.– BRIDGES, J. H. (1893/1964), *The Opus Majus of Roger Bacon*, Pars Tertia: *Linguarum Cognitio*, Frankfurt/Main: Minerva, 91.

9 ERBE, Th. (1905/1973), *Mirk's Festial*, Part I, Early English Text Society: Extra Series, 96, Millwood, New York: Kraus, 156-157.

10 For the corpus of Early Modern English texts, see ALSTON, R. C. (1967-1972), *English Linguistics 1500-1800*, 365 vols., Leeds/Menston: Scolar.

11 For Robinson's "Scale of Vowels", see JONES, Ch. (1989), *A History of English Phonology*, London: Longman, 213-218.– HOLDER, W. (1669/1967), *Elements of Speech*, English Linguistics 1500-1800, No. 49, Menston: Scolar, 24-91, 132-143.

12 HOLDER, op. cit., 90.

13 RICE, J. (1765/1969), *An Introduction to the Art of Reading*, English Linguistics 1500-1800, No. 161, Menston: Scolar, 23.

14 RICE, op. cit., 40.

15 RICE, loc. cit., 41.