

Early English Short - Writing Systems and Their Background of Linguistic Theory

I use the term 'short-writing' to describe all the systems to which this and other names¹, apparently regarded as synonymous, were applied in the 16th and 17th Centuries. For reasons of practical convenience, only systems composed or published before 1668² will be discussed here, but the statements made about short-writing are generally applicable to the whole of the 17th Century. These early short-writing systems have already been the subject of a good deal of scholarly study. This has been motivated partly by the desire to investigate the beginnings of modern shorthand, and partly by the vexed question whether imperfect short-writing transcriptions might help to account for the corrupt state of certain Elizabethan texts. Certain philologists have also looked at the short-writing systems of the 17th Century with a view to deducing from outlines the nature of the pronunciation represented³. The present note is not primarily concerned with any of these points of view—but rather with the systematic notions (relating to writing and notational devices generally, and to orthography and phonetics in particular) which underlie the construction of these short-writing systems, and to which reference is made

1. Including *Characterie*, *Stenographie*, *Brachygraphie* and—first recorded in 1636—*Shorthand*. All these terms were used in a general sense, while *Tachygraphie*, *Characterism*, *Radiography*, *Semography*, *Semigraphy*, *Radio-Stenography*, and *Zeyglographia* were names given to special systems. In this note, I deliberately avoid the term 'shorthand' except in connection with the modern practice, because it tends to give rise to misleading assumptions when applied to the early systems. We should nowadays distinguish "shorthand" from phonetic notations and ciphers, but identical systems were offered by their inventors for all these as well as other purposes at once in the 16th and 17th Centuries.

2. The date of Bishop Wilkins' *Essay Towards a Real Character and a Philosophical Language*, easily the most important contribution made to linguistic theory in the 17th Century. Wilkins drew on the systems of short-writing both for the outlines of his Real Character, and for the phonetic values he gave these outlines in his *Philosophical Language*.

3. Of these studies, the following are referred to in the present note :—

M. Levy.—*Shakespeare and Shorthand* 1884.

William Shakespeare and Timothy Bright 1910.

C. Dewischeit: *Shakespeare Jahrbuch* 1898.

Archiv für Stenographie 1908.

W. J. Carlton.—*Timothe Bright* 1911.

P. Friedrich.—*Studien zur englischen Stenographie in Zeitalter Shakespeares* 1924.

A. T. Wright.—*John Willis S. T. B. and Edmond Willis* 1926.

W. A. Matthews.—*English Pronunciation in the 17th and 18th Centuries* (Unpublished Thesis for Ph.D. London University), 1934.

H. Kökeritz.—*English Pronunciation as Described in Shorthand Systems of the 17th and 18th Centuries* (*Studia Neophilologica*, Uppsala, Vol. VII), 1935.

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by their authors in explaining them. The purpose of the writer is to make a contribution towards a proper appreciation of 16th and 17th Century linguistic theory, which has suffered a good deal from misunderstanding on the part of modern philologists. The short-writing systems can properly be regarded as one very successful field of practical application of contemporary linguistic theory⁴.

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I shall begin by giving a brief account of the development of short-writing in England, of its numerous uses as conceived by inventors and teachers, and of the practical purposes actually served by the art in the period. It is worth remarking at the outset that we are dealing with a purely English invention and practice, and that an unbroken tradition of theory, teaching, and practical application links the systems described in this note with both the shorthands of the modern business world and the phonetic notations of modern linguists⁵. Dr Timothe Bright—the first publisher of a short-writing system—mentions Cicero and Seneca among his predecessors, but no connection whatever can be shown to exist between such systems as may have been used in the ancient world and the English technique. In 1180 John of Tilbury offered Henry II an *Ars Notaria*⁶, it is not clear for what purposes. A. T. Wright states in this connection that "it is improbable that any extensive use was found for such an art in early times; the leisurely routine of cloister and scriptorium would make small demands upon the energy and invention of monkish scribes." At all events, there is no evidence to suggest that John of Tilbury had many followers in the Middle Ages. His system of 'notes'⁷ differs in its systematic use of specially devised characters from the normal run of medieval abbreviations. The forms of these 'notes' can be said to resemble, in some respects, those employed by Dr Bright, and the possibility that 16th Century inventors may have had some knowledge of a medieval 'system' cannot be completely excluded, according to P. Friedrich, who discusses the question. The use of various types of ciphers became more and more common, on the Continent and in England, during the Renaissance. But

4. This point is made, in passing, by Professor J. R. Firth in his article on *The English School of Phonetics* (*Transactions of the Philological Society*, 1946).

5. Professor Firth makes this point too. Bishop Wilkins is the best witness we can summon to show that even in the latter part of the 17th Century, short-writing was a uniquely English technique. He says "the Art of Shorthand is in its kind an Ingenious device, and of considerable usefulness, applicable to any language, much wondered at by Travellers, that have seen the experience of it in England: And yet though it be above Three Score years, since it was first Invented, 'tis not to this day (for ought I can learn) brought into common practice in any other Nation."

6. Arundel Mss. 16S Fol 1006.

7. Briefly described below.

the symbols used in these systems did not have the special properties aimed at in devising short-writing characters—that they should occupy less space, and be easier and quicker to write than ordinary hand-writing.

Short-writing was already practised as a recognised art in the middle of the 16th Century, several decades before the date (1588) of the first published system. It is probable that the main stimulus towards its development was “the desire to report the speeches, sermons, and disputations which stirred the country” during the Reformation⁸. It may be that rough and ready forms of abbreviation were first used for such purposes, but already before 1550 we hear of feats which seem to have demanded more than mere hasty improvisation, and speak rather for the existence of private systems of short-writing⁹. We cannot, of course, be sure that a teachable system of short-writing was employed by anyone before Bright published his *Characterie*, which he dedicated to Queen Elizabeth who gave him a Patent which banned the publication of books in ‘character’ for fifteen years.

Dr Bright certainly broke entirely new ground in his enterprising venture of publication which, having regard to the very unusual material in the book, must have presented formidable difficulties¹⁰. It is not certain however, that his method of abbreviation was an entirely original one. The terms of his Patent seem to reserve the rights of similar systems already in use¹¹. A matter of fourteen years later, in 1602, John Willis published *The Art of Stenographie*, a system of short-writing based on entirely different principles from Bright’s¹² which all later systems follow. A. T. Wright expresses his opinion that neither Bright’s nor Willis’ systems were the inventions of individuals, but rather “representative of two schools of thought and experiment at Cambridge in relation to short-writing, and possibly also at Oxford.” The evidence supporting the theory that the

8. Luther himself complained that designing people were making records of informal statements uttered by him.

9. John Jewel (1522-71) is reported in Humphrey’s *Life* (1573) to have taken down the disputations of Peter the Martyr, Cranmer, and others, word for word. Thomas Some in 1554 took down Latimer’s Friday Sermons, though in this case the writer admitted he could not achieve a perfect verbatim record. In 1571 Thomas Norton was specially placed to take notes of the Duke of Norfolk’s trial.

10. Printing difficulties are reflected in all the manuals of instruction for short-writing instruction published in our period. The illustrative material is always very meagre indeed, for the simple reason that short-writing outlines had either to be specially engraved, or laboriously written into each copy of the books.

11. Within two years of Bright’s publication appearing, in 1590, the famous writing master Peter Bales published under his own name, and without any effort at concealment, a short-writing system which had very much in common with Bright’s, though (perhaps with an eye to the literal terms of the Patent) alphabetic letters are used in place of Bright’s special “characters.” The list of basic words is the same in Bales’ book as in Bright’s. If both writers were drawing on a common stock, Bales’ work might not, after all, be merely a piece of plagiarism.

12. The technical features of these systems are described below.

Universities were the main centres of short-writing experiments is not substantial, but it is quite likely that some such pooling of resources as Wright assumes preceded Bright’s publication.

Dr Bright’s book and three publications by Peter Bales are the only ones which belong to the 16th Century. But from 1602 down to the end of the 17th Century, and beyond it, short-writing systems and instruction books relating to them are published in a steady stream. The 17th Century instruction books form a class by themselves because they all use the “spelling” principle as elaborated by John Willis who claimed to be the first inventor of “Spelling Characterie,” as distinguished from the mode of lexigraphy taught by Bright and Bales¹³. The authors of these books were teachers who gave personal instruction in the art.¹⁴ I give in the note below a list of short-writing instruction books published before 1668.¹⁵ It is important to remember that the whole range of short-writing invention and experiment in the period is not exhausted by reference to the professional teachers and their instruction books. Many experimenters were academic persons not particularly concerned with reporting and the taking of notes, but with such things as phonetic notation, ‘real’ characters intelligible to persons speaking different tongues, and so forth, persons like Dalgarno, Lodwyck, and Bishop Wilkins.

13. The latter’s last book teaches a different “system” which, however, hardly merits the name at all.

14. The typical instruction book of the 17th Century could not have taught very much by itself, despite all the patience and resource with which we may credit learners. They contain, as stated, very few examples of outline forms, and the directions given are rarely models of lucidity, seeming usually to demand that “a judicious Tutor stands always prest at elbow” to make them fully intelligible. The authors frequently suggest to learners the advantages of further personal tuition.

15. Instruction Books Published Before 1668.

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| Timothe Bright.— | <i>Characterie An Arte of shorte, swifte, and secrete writing</i> 1588. |
| Peter Bales.— | <i>The Writing Schoolmaster</i> 1590.
<i>The Arte of Brachygraphie</i> 1597.
<i>A New Years Gifte for England</i> 1600. |
| John Willis.— | <i>The Art of Stenographie</i> 1602. (9th ed. 1628, 10th 1632, 13th 1644, another ed. 1647). |
| Edmond Willis.— | <i>An Abbreviation of Writing by Character</i> 1618. (another ed. 1628). |
| W. Folkingham.— | <i>Brachygraphie Post-Writ</i> 1620. (another ed. 1622). |
| T. Shelton.— | <i>Art of Short Writing</i> 1630. (another ed. 1684).
<i>Tachygraphie</i> 1645. (other eds. 1645, 1671, 1691, 1693, 1710).
<i>Tutor to Tachygraphie</i> 1642.
<i>Zeiglographia</i> 1649. (other eds. 1659, 1660, 1685). |
| H. Dix.— | <i>Art of Brachygraphie</i> 1633. (another ed. 1641). |
| W. Cartwright.— | <i>Semographie</i> 1641. |
| T. Metcalfe.— | <i>Short Writing</i> 1641. (other eds. 1645, 1646, 1649, 1669, 1750, etc.)
<i>Art of Stenographie</i> 1645.
<i>Schoolmaster to Radio-Stenographie</i> 1649.
<i>Semigraphy or Arts Rarity</i> 1654.
<i>The Penns Dexterity</i> 1659.
<i>The Pens Dexterity Completed</i> 1669. (other eds. 1705, 1750, 1755). |
| J. Rich.— | |

The regular flow of instruction books from the Press, numerous contemporary references to the art, and the varied extant samples of 17th Century short writing clearly prove that there was, in the period, a very wide general interest in short-writing, and that many practised the art quite competently. The inventors contemplated an extraordinary variety of uses for the art, some of which are obviously theoretical possibilities only, but deserve also to be described, because they show the wide linguistic interests of these experimenters. Dr Bright offered his *Characterie* for three purposes at once : as a means of rapid transcription of oral proceedings, as a cipher, and as a way of providing for communication in writing between persons speaking different languages¹⁶. Peter Bales recommended his "New Brachygraphic" (1600) for taking down "a Sermon or any other Speech" verbatim, and for making notes¹⁷. John Willis in the *Proeme* to his first publication makes a careful distinction between four different suggested uses of the art, namely note-taking, the record of oral proceedings verbatim, secret writing, and the phonetic transcription of foreign languages¹⁸. Shelton's *Tutor* suggests that "gentlemen and merchants travelling in foreign parts could by this device safely carry bibles and testaments without fear of bloody inquisitions" adding that he has taught short-writing to many who wanted it for private records¹⁹.

15—(Contd.)

J. Everardt.— *Epitome of Stenography* 1658.

J. Farthing.— *Short Writing Shortened* 1658. (another ed. 1684).

In addition to the above, a system by Witt is known to have been published before 1630. There survive in manuscript two systems apparently intended for publication :

H. Reginald.— *A Most Useful Radiographie or Short Writing of Late Invention* (1628. Sloane Mss. 4384).

Anonymous.— *Characterism* (c. 1630. Sloane Mss. 1950).

16. "The uses are divers : short, that a swift hande may therewith write orations or public actions of speech, uttered as becometh the grauitie of such actions, verbatim. Secrete, as no kinde of writing like and herein (besides other properties) excellling the wryting by letters, and alphabet, in that nations of strange languages, may hereby communicate their meaning together in writing, though of sundry tongues." His system could not possibly have served the last-mentioned purpose, without considerable modification.

17. "Very convenient profitable and necessary for young students in Divinitie, Law, Physicke and Philosophy : in the speedie furtherance and ease of their studies."

18. Willis' own words are worth giving : his *stenography* is (a) "a short compendious writing" for the writing of brief notes of remembrance, interlineations, marginall notes and such like ; (b) a "speedie writing" by means of which one "may write *verbatim* as fast as a man may treatably speake : In regard whereof, it is very necessarie, for the noting of Sermons, Orations, Mootes, Reportes, Disputations and the like ;" (c) a "secret writing ;" and (d) "a true and constant forme of Art, applyable not to one language alone, but generally to all : in so much that he which hath learned it thoroughly, as it concerneth the English onely, may by the same skill, write also in Latine, French, Italian, or any other any other Tongue that he hath knowledge of : And therefore this Booke may serue for a good ground and president to him that shall attempt to set fourth the Stenographie of any other Language."

19. "Sometimes a man may have occasion to write that which he would not have everyone acquainted with, which being set down in these characters, he may have them for his own private use only, and I have taught divers who have learned it for that very end."

The extant samples of 17th Century short-writing by individuals other than professionals show that it was used for quite a number of different practical purposes. We have many short-writing transcriptions of Scriptural writings, the purpose of which it is not easy to define clearly. Of course merely illustrative samples of short-writing would naturally tend to be taken from Scripture, because the Psalms, as well the Lord's Prayer, Graces, and the Creed were standard teaching material for ordinary reading and writing as well. But extensive transcriptions of the Bible were made by J. Alstone (1632), by T. Newman (1665), and by W. Holder²⁰ in 1668. A rather odd explanation has been given for one of these²¹ which cannot be extended to cover all the numerous transcriptions of Scripture in short-writing. At least two printings were made of the Psalms in short-writing in the 1620's²².

Apart from pieces of formal transcription in short-writing, to illustrate the system used—of which the most famous was Jane Seager's transcription, made with obvious care and at leisure, of "*The Divine Prophecies of the Sybils*"²³—we have many samples of 17th Century short-writing made by individuals for practical purposes. Among these we may mention the letter-book of Walter Jessop, a ship's merchant (1633-41) ; the note-book of W. Hampton (1678-80) ; the famous Diaries of Pepys, and the note-books and diaries of Locke the philosopher. The latter used Rich's system and Pepys that of Shelton.

It may be emphasised that *none* of these samples of 17th Century short-writing was intended for re-transcription in ordinary writing. The making of the short-writing version was in each of these cases an end in itself, as it almost never is, in the case of modern shorthand.

But, as we know from contemporary references, short-writing was also frequently used where the eventual aim was to make a copy in 'long-hand,' often for the printer. W. J. Carlton states that there is "irresistible evidence" that Bright's *Characterie* was used by John Lewys and others for taking sermons in 1589. Henry Smith in 1581 was moved to publish

20. Author of *The Elements of Speech* 1669. See below.

21. Newman's grand-nephew, Joseph Price says that "in the reign of Charles II when the Protestant religion was in hazard of being subverted" Newman "under pious apprehension lest the Scriptures should be called in and suppressed" made the short-writing transcription. Price writes this in a note on the fly-leaf of the Mss., now in Dr. Williams' Library.

22. Richard Hill printed them in 1628, using Willis' characters, but Willis' *Schoolmaster* printed a little earlier also mentions a printed version, now apparently lost.

23. Presented to Queen Elizabeth to illustrate Bright's short-writing. The Queen was interested in such experiments, and is said to have tried her hand at William Bullokar's phonetic script.

authorised editions of his sermons because an earlier edition had been "patched as it seemeth out of borrowed notes" taken by Characteric. Andrew Maunsell's Catalogue of English Printed Books mentions "Steph. Egerton his lecture (taken by Characteric) on Gen. 12 vers. 17, 18, 19, 20 (1589)." In 1603 this sermon was reprinted in amended form "somewhat to qualifie an error that cannot be recalled," the Preface explaining that "the swiftest hand cometh short of the slowest tongue."

The use of short-writing for purposes of literary piracy is well documented in the case of Sermons. Was it also used, on any extensive scale in the piracy of plays? German scholars like M. Levy and C. Dewischeit made out a case for the theory that it was used regularly for this purpose, and that large portions of the text of 'bad' Quartos and other corrupt texts were the result of imperfect transcriptions by unauthorised persons among the audiences at plays. The playwright Heywood made more than one complaint of such piracy, and stated in his Prologue to *The Play of Queen Elizabeth* (1637) that earlier

"some by stenography drew

The plot : put it in print (scare one word trew)",

referring to an earlier publication entitled *If You Know Not Me, You Know Nobody*. Sir George Buck referring to experts in Brachygraphy, stated that such persons "can readily take a Sermon, Oration, Play, or any long speech, as they are spoke dictated, and acted in the instant."

Though many errors in corrupt texts can be explained as due to "mishearing," and are therefore consistent with the theory of imperfect short-writing transcription, it has never been proved convincingly that any known system of short-writing was used to transcribe any specific portion of a play for pirates. Those who have made a very careful study of short-writing systems from the *technical* point of view have shown reasons for doubting that any of these early systems could have been employed with great success in pirating any substantial part of a play.²⁴ The inventors and expert teachers of short-writing in the period are careful, when they claim that *verbatim* records could be made of oral proceedings, to stipulate that the utterance recorded should be delivered "gravely" (Bright), or "treatably" (Willis and others). Had they made larger claims they might have been put to the test. Sermons with their many stock phrases, and relatively slow delivery, must have been easier to 'steal' than

24. See especially W. A. Matthews, in his Chapter on *Shakespeare and Shorthand*.

plays etc.. At the same time, short-writing may have been used as one means among others, of pirating the text of a play. This is easier to believe than that an unauthorised note-taker could have sat making his transcription undisturbed throughout a whole play, or on many nights while the same play was running.

From all that has been said it is clear that the varied purposes for which short-writing was used in the 17th Century—for the taking down of sermons and disputations, the making of marginal notes, for letters and diaries that could not be read by the uninitiated, for "compendiously" transcribing the Scriptures, etc.²⁵, not to speak of phonetic notations and universally intelligible characters—make it necessary to consider it not merely as the ancestor of modern shorthand—the attitude unfortunately taken in most histories of Shorthand, like that of E. H. Butler²⁶—but as a development *sui generis*. Above all, it would be wrong to compare 17th Century short-writing *technically* with modern systems of shorthand on the assumption that they were designed with the same aims.

Modern shorthand outlines are not normally intended to be a permanent record, and are a purely temporary stage in the process of making a final transcription in the ordinary orthography. Moreover, shorthand outlines are normally transcribed into long-hand by the very person who made them, and after a very short interval of time. Hence they need not be readily legible by any other shorthand writer, and the memory of the writer assists him in interpreting otherwise doubtful outlines. All these facts are very relevant to the study of modern shorthand technique which, aiming at speed and convenience of writing, can superimpose all sorts of special devices for abbreviation upon the basic system of symbolisation employed, as with the word-and phrase-outlines used in Pitman's and other systems. These special devices can be extensively used also because the "context" of modern shorthand,—business, politics, etc.—is a relatively narrow one, so that instruction books can compile lists of recurring words and phrases for which short-cuts can be used²⁷. If modern shorthand outlines had to be read by others than the writer, and after longish intervals

25. That the small space taken up by "characters" was regarded as one advantage is shown by Samuel Hartlib's comment on Dalgarno's Universal Character: "It is so exact and commodious that the whole Bible will be printed in 9 or 10 sheets." (Sloane 4377 (7)).

26. *The Story of British Shorthand* (Pitman) 1951.

27. Where 17th Century short-writers do this, it is a matter of words and phrases recurring in *Sermons*. T. Metcalfe appends a special word-list for *Sermons*, while T. Shelton gives a table of Old Testament words specially abbreviated.

of time, and if the technique was widely used outside 'business' circles, it would have to be very different in many ways. For one thing, special devices of abbreviation would be used much more sparingly. 17th Century technique had, generally, to be much more rigid and exact in its symbolisation of words than modern shorthand, even at the cost of speed and convenience of writing.

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We may now turn to the description of the various techniques used by early short-writers. In this, attention is paid not so much to the question whether a given system made it possible to write rapidly and easily as to the question what means are used to represent words or sounds, and what sort of linguistic conceptions underlie these means.

John of Tilbury's *Ars Notaria*—though not strictly a system of short-writing—may be briefly described, because it gives us a sort of point of departure. For each letter of the Roman alphabet he used a mark composed of a vertical line joined (except in the case of 'a,' where it stood alone) by a lateral one placed in different positions (high, mid, or low) and either horizontal or sloping.²⁸ M. Levy calls this system "not shorthand" but only "the alphabet of the philosopher Dioscorides, commonly called the tree alphabet." Though it could not have served for speedy writing (since each stroke has to be made separately, and marks for letters could not be joined without creating confusion as to their order), this 'ars' differs both from usual medieval abbreviations, and also from other alphabetic ciphers, because the marks (or 'notes') are simple rectilinear figures forming a system. The use of 'positions' in this connection links this mode of writing with short-writing proper.

Timothe Bright's *Characterie* was far more elaborately conceived than this. He does provide a character for each letter of the alphabet²⁹, but these are used only to show the initial letters of words, and not to spell them out. Bright's short-writing is essentially a mode of lexigraphy, where the symbol for the initial letter of a word is used as a clue to its identity.

²⁸.

Thus 'a' was |; 'b' - 7; 'c' - 1; etc. The figures † ‡ could represent 6 letters each, but the order of these was not inferable.

²⁹. Each of these characters is composed of a straight line and, joined to its head, another straight line, or half-circle, or semi-circle. The composite figure may be written in four different ways without

With each alphabetic symbol as a basis, Bright's system of annexures³⁰ permitted the elaboration of a large number of composite figures, each of which stood for a word beginning with that letter. Out of a possible total of about 1000 such "characteristical" words, Bright actually uses 537. The first step for a learner, in mastering Bright's short-writing, was to memorise the 537 distinct characters, each of which stood for a particular word. The only assistance given in memorising the list would lie in the alphabetic symbol for the first letter of the word, the annexures being entirely arbitrary³¹.

All words falling outside this "characteristical" list had to be shown by indicating their relationship to one or other "characteristical" item, as follows:— the initial letter of the word was given and then a sign to

²⁹—(Contd.) altering its significance. The basic straight line may be vertical, horizontal, or slope to the right or to the left. Thus the symbol for 'a'

may be | or — or \ or /.
 Bright's alphabetic symbols are:—
 a- | ; b- 7 ; c, k, r ; d- 1 ; e- 7 ; f- 7 ; g- 7 ; h- 1 ;
 i, i, v- 7 ; 1- 7 ; m- 1 ; n- 7 ; o- 7 ; p- 7 ; r- 7 ; s, z- 7 ;
 t- 7 ; u, v, w- 7 ;

³⁰. Made up also of straight lines, half-circles, and circles. Twelve possible distinct annexures could be linked to each alphabetic symbol, and since the latter could be described in four different ways—see previous note—48 composite characters could be developed from each basic symbol.

³¹.

(2) Thus, from a written in the vertical position as |, the following words are symbolised by means of arbitrary annexures (1) abound J ; (2) about L ; (3) accept J ; (4) accuse 1 ; (5) advance J ; (6) air L ; (7) again J ; (8) age b ; (9) all J ; (10) almost 1 ; (11) also J ; (12) although b ;

show whether it was related by “dissent” or “consent” (direct opposition had also a special sign) to a chosen “characteristicall” item which was written after this sign of relationship. Thus there was a “characteristicall” word for “sing.” If the word one had in mind was “hymm,” then one wrote the symbol for *h*, then the sign for “consent” (to show hymn was roughly synonymous with “sing”) and then the character for “sing.” A further clue to the actual form of the word—whether it was noun, in the plural, or a verb in the past tense, could be given by using one of a limited number of signs for “properties.” These clues could be used to show common suffixes, prefixes, etc. and consisted of little dots or dashes placed in particular positions. They need not be used except where confusion might otherwise be caused.

Such is Bright’s system, which had only one imitator, if Peter Bales was such, and which was completely displaced, in the 17th Century by “spelling characteric.” It is easy to see why, as a practical proposition, the system was not so useful or exact as the latter. Bright’s method called in the first place for a feat of memory—the memorising of 537 nearly arbitrary outlines. In the second place the writer would have required at least a great deal of practice to relate instantly any word heard to one of the 537 basic words by “dissent” or “consent,” and to decide instantly what “properties” (grammatical features) it was necessary to symbolise, where these could not be inferred from the context. In the third place, the interpretation of the characters would not have been easy, as will be clear to anyone who compares Jane Seager’s version of *The Divine Prophecies of the Sybils* with the original. (H) (sings)—to transliterate the symbols—does not inevitably suggest “hymns” to every reader, nor would (a) (forsake) immediately suggest “abandon.” In many instances, where two synonyms begin with the same letter, the choice would be difficult indeed. Really, as Bright indicates in his explanations, his system is best to use where one wants only the sense of the passage taken down, and the precise words used are less important.

Though there is evidence that Bright’s system was used to take Sermons, it was probably not so widely used as people have thought who interpreted every contemporary mention of “*Characterie*” to refer to Bright’s particular method, when the term was used often in a generic sense. The idea that Shakespeare was pirated by means of Bright’s system has nothing to support it, while the type of error occurring in pirated texts is very rarely

of the kind which the use of this method of short-writing might presumably give rise to³².

But even if Bright’s system was clearly inferior to *Spelling Characteric* as a practical proposition, and even if in the invention of the method he was not completely original, his book is a landmark of some importance in the history of English linguistic theory. This has been recognised by Professor J. R. Firth, who speaks of it as “the beginning of a long tradition, touching phonetics, orthography, and general linguistics, coming down to our own day.” Though Professor Firth is referring primarily to Bright’s place in the history of short-writing and shorthand experiment, he draws attention to the wider theoretical implications of these experiments, and to the broader interests of those who carried them out, Bright not least among them.

Undoubtedly, Bright presents his short-writing system with rather more pomp and ceremony than it merits. His exposition of the principles underlying his technique is done in the ‘best’ Ramian manner, in terms of a series of dichotomies, as shown in his *Synoptical Table of Characteric*. It is not a mode of explanation calculated to simplify the learning of the system, but rather to impress the reader. One feels also that this is partly the explanation of his raising the issue of a universal character. For he does not follow out the implications of this idea very far. Again, if we expect any sort of exact linguistic analysis to be the basis either of the selection of his “characteristicall” word list, or of his classification of “properties,” we are disappointed to find that he is concerned with these things no further than necessary to explain his system—which in turn is, as we saw, not a very exact mode of transcription.

All the same, the questions of linguistic theory raised by Bright are very interesting. They are of a different order to those brought up by inventors of *Spelling Characteric*, so we can deal with them separately.

Bright invites a comparison between his system and Chinese calligraphy, as a mode of writing intelligible to persons speaking different languages³³. He believes *Characteric* to be an improvement on Chinese

32. We should expect a spate of incorrect synonyms beginning with the same letters as the words they displace, and *not* errors due to mishearing, if *Characteric* were used. See Matthews for a full discussion of this question.

33. Professor Firth comments on Bright’s interest in Chinese as illustrating the widening of linguistic horizons after the voyages of discovery, and connects this development with the search for a universal character and language. He gives some account also of the growth of interest in Chinese among European linguists.

because more economical and also systematic where Chinese is merely arbitrary. From the point of view of the characters as such, the Chinese are "very long, and harde to make." His own are, by contrast, all composed of a strictly limited series of simple geometrical figures. Again, his characters are not merely graphically distinct one from the other, with each one arbitrarily given a meaning, as they are in Chinese. They are a limited and correlated series, this economy being gained by investing *the shapes themselves* with a specific significance wherever they occur. Thus certain figures have the same value as letters of an alphabet. The Chinese lacked such a thing as an alphabet and so their characters "fel into an infinite number, that greatlie chargeth memory." Other figures are directly expressive of the "properties" of words, or of logical relationships—i.e. "dissent" and "consent."

Bright's treatment of "properties" is deliberately logical, and not grammatical. Thus the suffixes "-ness," "-ship," "-hood" have one sign, —a direct connection between the written sign and the 'meaning' is established. Actually, Bright does not carry his analysis of "properties" very far, but there is enough in his book to entitle us to connect him not only with the later elaborate attempts at devising a universal "real" character,³⁴ but also with the 17th Century idea of founding a discipline of "Natural Grammar" based on logic and therefore free from the defects (unnecessary variety in paradigms, irregularities, etc.) of particular languages, but applicable to the analysis of all.³⁵

Finally, Bright's attempt to put together a short basic wordlist (537 words) which could be used as a key to the whole vocabulary of the English language has some theoretical interest, as an original method of classifying the contents of the dictionary. His own aim was only a practical one, and, apart from saying that these basic words are unrelated to one another, he gives no indication of the principles underlying his selection. But in the history of attempts to classify words on a "semantic" basis, as an alter-

34. i.e. a mode of writing where the significance of the written forms is neither indirect through the representation of speech sounds, nor merely arbitrary, but based on the systematic correlation of written form and "meaning." Cave Becks' *Universal Character* 1641. Francis Lodwick's *A Common Writing* (1646-7). Geo. Dalgarno's *Ars Signorum* (1661), and Bishop Wilkins' *Essay* (1668) are the most important English contributions to the search for such a mode of writing.

35. The Grammarians of *Port Royal* in France (see their *Grammaire Générale Raisonnée*) and Bishop Wilkins in England are the most important exponents of the idea of a natural grammar.

native to the purely arbitrary alphabetic arrangement adopted today in dictionaries, Bright's system must find a place³⁶.

Neither of Peter Bales "systems" have any theoretical interest³⁷. In his first book he merely replaces Bright's characters by the letters of the alphabet themselves, around which "pricks" (of four kinds in 12 positions) are made to distinguish a maximum of 48 words beginning with each letter. In his last he introduces his "New Brachygraphie" teaching a method of leaving out as many letters as possible while using ordinary writing. This is only the technique practised nowadays by newspaper reporters who have no shorthand.

* * * * *

We turn now to the short-writing instruction books published in the 17th Century, beginning with John Willis' *The Art of Stenographie*, (1602), all of which teach varying forms of what Willis, (in claiming to have invented this kind)³⁸ called "spelling characteric." This type of short-writing completely displaced all those given currency earlier for obvious reasons. It was easier to learn and to use, and gave a more exact form of record. No such feat of memorising as Bright's "characteristicalls" demanded was called for with "spelling characteric," nor did one constantly have to be recalling etymological and semantic relationships during transcription, which became an almost mechanical procedure. As the name "spelling characteric" implies, the new technique involved mainly the representation of letters by short-writing outlines. But it was a very different thing from a simple alphabetic cipher where every word was fully written out, following the traditional orthography, and merely substituting special symbols for alphabetic characters. Speed and ease of writing were gained by special methods of combining outlines so that an unbroken chain of these could represent a series of letters in unambiguous order. Further, special rules of combination, based on the use of positional devices, made it possible to omit most "vowel" symbols. Finally, words

36. The *Vocabula* used in schools for teaching Latin adopted a rough and ready system of classification, based on the contexts in which words were employed—the kitchen, the schoolroom, the garden, etc. Bishop Wilkins sought to classify all the etymons of his Philosophical Language by the use of a sure and certain method based on the logical classification of ideas. This method is of little use (except to provide a dictionary of Synonyms, like Roget's *Thesaurus*, which is an off-shoot of Wilkins' Classified Dictionary) with the natural languages because their word-systems are "defective," as Wilkins found even Hebrew, despite its radicals, to be. If the *Thesaurus* is in the line of descent from Wilkins, then C. K. Ogden's *Basic Word List* is in the line of descent from Bright.

37. They had little practical success, too, as Bales admits. He was really a writing master, and his *Schoolmaster* has as its main interest "fair writing." The sections on "true writing" (orthography) and "short writing" are included to make the book a 'complete' manual of the art of writing.

38. The 10th edition of Willis book (1628) refers to the first as "the first book of Spelling Characteric, that ever was set forth." This may only be a claim that it was the first publication of the sort.

could be written in abbreviated form by resorting to a simpler phonetic analysis than that shown in the customary orthography, and special abbreviations were used for recurrent terminations, words, phrases, etc.

Accordingly, all instruction books teaching "spelling characteric" had not merely to illustrate the short-writing outlines representing the letters of the alphabet; they had also to explain the principles underlying the combination of outlines, to give rules for the breaking up of words into their appropriate "parts" for the purpose of short-writing, and for the interpretation of outlines by re-combining these to give the original words. These explanations are not, as stated above, models of lucidity³⁹, and if they served their purpose at all, it was because the writers could rely to such an extent, on a set of technical terms whose meanings were generally known. This was the terminology of grammar, and especially of "orthography" as taught in grammar books⁴⁰.

This terminology, belonging to a discipline which was already about two thousand years old, is the same as that used generally by all 16th and 17th Century orthographers and orthoepists, and the relevant "terms of art" include "letter," "vowel," "consonant," "aspiration," "liquid," "syllable," "diphthong," "character," and "note" all of which had recognised technical meanings at this time which are not the senses they have in modern usage. It has long been the habit of scholars, in dealing with English writers of this period who use this terminology, to regard it with grave suspicion. Researchers into the facts of early English pronunciation have made it a habit, in dealing with statements made about such matters by early grammarians, to ignore, as pedantic nonsense, those couched in the technical terms of contemporary grammar, and to give weight mainly to those which seem to reflect fresh and direct observation untrammelled by learned prejudice. This may well be the *safest* procedure to adopt in the case, but the general impression created by such scholars that 16th and 17th Century orthographic theory was just an amalgam of pedantry and whimsical nonsense, based on a crass incapacity to observe or analyse the facts of speech and writing has been an unfair one⁴¹.

39. A "neutral" style in which a sustained exposition of rules such as the short-writing instructor had to formulate could be lucidly carried out, had not yet been developed in English.

40. i.e. *Latin* grammar books, for English grammar books had as yet no general currency.

41. I quote a typical passage from H. C. Wyld's *Short History of English* (3rd ed. p. 151): "Very few of them (i.e. early grammarians) before the middle of the 17th Century have an adequate knowledge of speech sounds. They are bad observers, and do not know how to describe intelligibly what they do observe. Further, their method is faulty, and they are obsessed by the 'letters.' They invariably start from the written symbols, and attempt to give an account of the powers of these... most of the

In many of the descriptions of early short-writing that I have read, I have found reflected the assumption that 16th and 17th Century writers were incapable of anything approaching accurate phonetic analysis, and that their descriptions of pronunciation were naturally tainted with pedantry. It is often stated that "phonetic shorthands begin with William Tiffin's *New Help and Improvement of the Art of Swift Writing*" (1751)⁴², as if Willis and others *aimed at*, but failed to produce a phonetic notation, which is not the case. The aims of writers of instruction books in short-writing were practical and not primarily theoretical. Other contemporary writers using forms similar in some ways to short-writing outlines, such as Bishop Wilkins, however, really aimed at producing phonetic notations. Again, none of the scholars who have sought to use the short-writing systems as material for the study of contemporary pronunciation discuss the technical language used by the instruction books.

The writers of these instruction books use the recognised terms of orthography and grammar with reasonable consistency and accuracy to outline the principles of their short-writing systems and to show learners how to analyse words so as to express them in outline form. Willis' *Art of Stenographie* which has the fullest explanatory material of all the instruction books is the best example to prove this. I give, to begin with, a fairly detailed account of his system which was altered only in minor particulars by his successors. In describing his Art, I use in certain cases his own terms which I italicise where they have significantly different meanings from those we give them today.

Willis gives a series of symbols, each one of distinctive, though simple, shape—they remain unambiguous even when written in combination—

41—(Contd.)

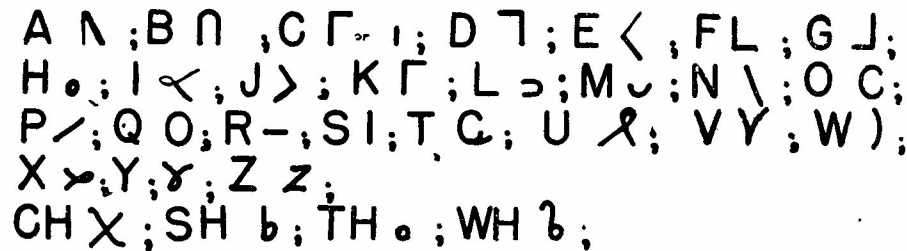
writers do not appear to understand what a diphthong is, and it is generally doubtful whether they grasp that a sound expressed by two letters may be a monophthong, and that... a single letter may, in the conventional spelling, express a genuine diphthong." In other words, the writers referred to are represented as almost totally paralysed in their powers of observation because of their servility towards written symbols. In fact, Professor Wyld never took the trouble to understand what these writers meant when they use the technical terms to which he himself gives a modern sense in every case.

42. The quotation is from Matthew, *op. cit.* H. Kökeritz similarly states: "in point of fact, none of the systems of the 17th Century can be called phonetic (semi-phonetic might be a more adequate term)... in the 18th Century the phonetic principle is brought to a higher perfection by Tiffin, whose system in this respect is actually the forerunner of such modern phonetic systems as those of Pitman and Gregg." Since Kökeritz adds that "scientifically speaking, even these latter cannot be termed strictly phonetic, since the practical considerations of easy execution and legibility usually entail concessions to the current spelling" it is hard to see wherein lies the distinction between the "semi-phonetic" 17th Century systems and the "phonetic" modern ones. Both are devised with practical rather than theoretical purposes in mind, unlike Tiffin's which *aimed at* an exact phonetic record. Kökeritz implies that the 17th Century writer could not, even if he wished to, produce a phonetic notation.

which stand for the letters of the alphabet, as well as for certain recurrent consonant combinations⁴³. In the delineation of words, only *consonants* are invariably written with these outlines. An initial *vowel* in a word has to be shown by its full outline, as also one which, following another *vowel*, yet makes a new *syllable* (as in 'Clio'). All other *vowels* are indicated by positional devices. Certain *vowels* as well as *consonants* are "neglected" altogether.

Around any outline symbol, six positions are distinguished, one of which is the *Aphthong* and the other five the *Metaphthong* positions⁴⁴, each of which was used for the representation of one of the five *vowels*. A final *vowel* when preceded by a *consonant* was shown by putting a "title" in the appropriate metaphthong position relative to the *consonant*. A medial *vowel* falling between two *consonants* is indicated by affixing the outline for the latter *consonant* in the appropriate metaphthong position to the outline for the preceding *consonant*. Where one *consonant* followed another without an intervenient *vowel*, the latter outline was joined to the former in the Aphthong position. The first letter of any word had to be written with a great *Character* (i.e. on a large scale) and the order of letters in a word was shown thereafter by the joining of each succeeding outline composing the word to the preceding one. All the letters of a word would be shown in one connected series of outlines, unless two *vowels* forming different *syllables* came together, when the second *vowel* would be shown by a "disjoined" outline. In the case of very long words, however, Willis

43.



44. If an outline (symbolised by X) was flat
the positions were i o u
 X
 e a aphthong.
If it was vertical, then they were
 o
 e X u
 a Aphthong.

permitted the learner to break them up into two or three sets of *syllables*, and to write each set out separately as if a distinct word, only taking care to leave the spaces between them narrower than those separating words.

To simplify outlines certain *vowels* and *consonants* may be "neglected." *Vowels* must be omitted either when they serve "only to lengthen the sounde of the *Vowel* next before going : espie (immediately): oates (mediately ;)" or "when more *Vowels* are sounded together in one *Syllable*, as in a *Diphthonge* or a *Triphthonge*." "Every one of these *polyphthongues* is to be expressed by that onely *vowel* which is most sounded in it"⁴⁵

Consonants are to be "neglected" when coming "before another *Consonant* of the same sound"⁴⁶ when "added to another *Consonant* to thicken the sound thereof"⁴⁷ "when the sound thereof is drowned"⁴⁸; and when they are Aspirations⁴⁹.

I give in the note below some illustrations of words written in Willis' Stenographic. To assist the reader I shall "transliterate" the outlines according to the system explained in the note. For all future references to short-writing forms in this article, I shall use this method of "transliteration" which is satisfactory in bringing out the points I have to make regarding the kind of word-analysis made in "spelling character."⁵⁰

45. English *diphthongs*, according to Willis are : ai, ay, au, aw ; ea, ee, ei, ey, eo, eu, ew ; ie ; oa, oe, oi, oy, oo, ou, ow ; and ui (20 in all). *Triphthonges* number 5—aoi (as in 'gaoill,') eau, eaw (as in 'deaw,') ieu, ieu, (as in lieu.)

What it means to write each of these with a single *vowel* will be seen in the illustrations given below.

46. as in "all, assure, ascend, acquit, follow, acknowledge."

47. examples : 'b in chamblet, debt, lambe ; c in annoyncted ; d in Iudge ; p in Dampson, psalmie, exempt, accompt ; g in raigne, g nibble ; l in realme, blame ; pu in solempne ; t in wretch ; and "V the liquid" in build, question.'

48. Examples : 'c in sclauder, excell, victuall ; g in strength, younglinges ; d in rundlet, kindled, adiourne ; l in salmon ; n in damne ; t in mortgage ; p in upbrayd, cupboarde ; th in rhythme.'

49. Willis explains : "There are in the English Tongue 4 aspirations, H, W, Y, GH : which yet are numbered among the consonants, quia consonant, hoc est, cum vocalibus sonant : for even w and y, are in their nature aspirations, though abusively written in *Diphthongs* for i and u." The "light aspirations" are h, w, y, and they are to be omitted "either when they affect a *vowel* in the middle of a word ; as vehement, abhorre, bulwark, beyonde, or when the letter which they affect, hath his sound nothing changed by the aspiration ; as ghost, Christopher, Rhetorique, Arthur, Thomas, Wreake, Bewray." The "thick aspirations" are also omitted "either gh when it followeth a *vowel* in the same syllable as Through, Night, Burrough, or h alone in these Interjections Ah, Oh."

50. A 'great character' is shown in the following 'transliterations' by the corresponding alphabetic character in capital, and 'small' characters by the corresponding alphabetic characters in simple letters. Where *consonants* are connected in the aphthong position I print them without spaces between. Where a medial *vowel* is shown by the metaphthong position of the succeeding *consonant*, I shall give the *vowel* in brackets between the consonants. Final vowels indicated by a title in metaphthong position I shall also give in brackets. A 'disjunct' I shall show by the symbol / in dealing with Willis

All the short-writing systems published after Willis' follow the same general principles, and so require no detailed description. They avoided the over-complication of outlines (where this tended to occur in Willis' Stenography because he attached consonants in both metaphthong and aphthong positions) by "disjoining" outlines where a medial vowel had to be shown, but placing the following consonant near the preceding character in the appropriate position. Characters joined to one another were taken as not separated by an intervenient vowel, and the order of such connected outlines was shown by taking the uppermost first, and by moving from left to right as well. Thus, without ambiguity, Willis' device of "great characters" was abandoned by his successors. The only differences

50.—(Contd.) characters. With other systems 'disjuncts' are not shown, as this is unnecessary. See below. Examples of Willis' Stenographie

a	l	ou	t	in	as	are	art	arm
A	I	Ot	In	As	Ar	Art	Arm	
Λ	α	ε	γ	γ	Λ	Λ	Λ	
Bed	bright	bad	bud	light	with	change		
B(ε)d	Br(i)t	B(a)d	B(u)	L(i)t	W(i)t	CH(a)n		
β	β	β	β	β	β	β		
brought	had	thing	white	doe	trew	through		
Br(o)t	H(a)d	TH(i)ng	WH(i)t	D(o)	Tr(u)	THr(u)		
β	β	β	β	β	β	β		
Arrowe	Armie	Duetie	Lionesse	abridge	accorde			
Ar(o)	Arm(i)	D(u)t(i)	L(i)/On(e)s	Abr(i)j	Ak(o)d			
Λ	Λ	Λ	Λ	Λ	Λ			
Asia	Obloquy	Barren	Aeolia	Arthur	Daughter			
As(i)a	Obl(o)q(i)	B(a)r(i)n	E/O(i)	Arth(u)r	D(a)t(e)r			
Λ	Λ	Λ	Λ	Λ	Λ			
Currente	separate	glorious	superior	Clio	Paradice			
C(u)r(e)nt	S(e)p/Er(a)t	Gl(o)r(I)/Us	S(u)p(i)rCl(i)o	Pl(a)r(a)d(i)s				
β	ε	α	α	β	β			
perturbation	anthropophagite.							
Pl(e)r(tu)r/b(a)s(i)/on	An/thr(o)p/O/f(a)g(i)t							
β	β							

In the above, separate, perturbation, anthropophagite are examples of optional syllabic division. There are many different ways of writing such a word as "Lionesse" of which only one is given.

observable between the systems of Shelton, Metcalfe, Rich etc. when they are compared lie in the actual shapes chosen to symbolise letters⁵¹.

We may now turn to the explanations offered by short-writing instructors of the features of the various systems taught. By far the most interesting of these expositions is that found in the early editions of John Willis' *Art of Stenographie*.⁵² This is conducted on the same learned level as Timothe Bright's prefatory material, and is obviously addressed rather to scholars than to mere learners of the system for practical purposes. Indeed, from the point of view of the latter Willis' explanations and definitions and notes must have seemed pedantic and even confusing. For he is not merely concerned with the simple formulation of "rules" but rather with the task of providing an orderly, accurate, and consistent statement of the principles of "spelling characteric," and of its manifold "uses."

He draws attention to the fact that his exposition is arranged and presented according to strictly Ramian principles, his "Rules are certaine and depending in consequence of reason the one upon the other : squared and fitted to the three lawes of Art, each principle being delineated but once generally and in his proper place."⁵³ Willis is very careful to define his terms, where they appear to require definition, and to refer, where necessary, to accepted authorities and to the traditional formulae of grammar books.

Because Willis recognises only five vowels, while he lists twenty diphthongs in English, one might very well think it justifiable to regard him, as, in Wyld's words, "obsessed by the 'letters'" and "unable to understand what a diphthong is." His strange remarks about consonant combinations (quoted in the notes) might confirm our suspicion that he lacked



51. The same "transliteration" will be used with examples taken from these systems as explained in connection with Willis. The only differences will lie in the absence of capital letters, and of 'disjunct' signs, since in all later systems the 'disjoining' of characters indicates a medial vowel, which is shown in brackets in the transliteration.

52. In later editions the explanatory material is considerably cut. The writer now seems to be concerned only with learners, and not with scholars, and frames his 'rules' as simply as possible. Another reason might be given for the abbreviation of this expository material. Willis may have over-estimated at first the difficulty of teaching a different method of word analysis to that used in common spelling, and the resistance his deviations from orthographical principles would provoke in scholars. See below.

53. The three laws are those defined by Ramus in his preface to the Scholiae in Liberales Artes c. 1560 and elsewhere. They may be called the principles of 'universality,' 'homogeneity', and 'deduction' respectively (κατὰ πάντος, καθ' αὐτό, καθ' ἑλὸν πρῶτον).

These principles can be traced ultimately to Aristotle, despite Ramus' repudiation of Aristotelianism.

“an adequate knowledge of speech sounds.” His elaborate notes and definitions show, however, that he is at least aware of the *theoretical* distinction between written symbols and their values in utterance, though this is expressed not in “modern” terminology (as a radical distinction between “sounds” and “letters”) but in the traditional language of orthographical theory from Plato and Aristotle to Scaliger and Vossius.

Willis states in the Proeme to the 1602 edition of his *Arte of Stenographic* that “A Character is a lineall note of any thing as, the Characters a, b, c, d, e, f, are lineall notes of letters, 1, 2, 3, 4, 5 of number, ♪ 24 ♂ of Planets,” and clarifies further this definition in a series of subjoined notes. The first of these says that “Charater signifieth a Marke, Note, Impression, Figure, written, engrauen, stampd, or howsoever else made.” The second, explaining the word “lineall” states that “all Characters are lineall, because they consist of lines continued: For even the smallest tittle made with the Penne, hath his circumference, and consisteth of lines.” The third note explains “of any thing” as “of any word, letter, number, clause, sentence or whatsoever else.” Finally the whole phrase “notes of letters” is taken up and explained. A, b, c, d, e, f, “are called Notes of letters rather than letters because every Letter is perfect in it selfe by it proper sound, without respect of Character: for whereas Letters are ordinarily knowne three wayes; by the name whereby they are called, by the Character whereby they are written, and by the sound whereby they are pronounced: Of these three, the sound or pronunciation is most essentiall to the letter. Therefore said Priscian *Propter pronunciationem et figurae et nomina literarum facta sunt*: And hence it is, that the sound of a letter continueth the same in divers languages, though it varie in name and Character; as the fourth Letter of the Alphabet is in the Hebrew called Daleth, and written thus  In the Greek called Delta and writ.en thus . In the Latin called Dee, and written thus, d: divers names, and divers Characters, but one letter, because pronounced with one sound.”⁵⁴ A “Character” is further distinguished by Willis as a “lineall note” from other possible “notes of letters, which are not lineall, described by signes, not draught of Penne” (he refers to signalling alphabetically by torches, etc.).

In the above explanation, the term “Note” has a very general meaning of “symbol,” and “character” the meaning of “graphic symbol.” Willis gives much detailed analysis of the properties of Characters as such, so as to

54. The Hebrew and Greek Characters are not written in the spaces provided in the copy of Willis' book I consulted.

distinguish “Contingent” “Transcendent,” “Fla;,” “Great,” and “Small” ones by their relationships to a pair of “expressed or understood” parallel lines across the page on which the writing is made.

While the term “character” as Willis uses it is perfectly definite and clear, the term “letter” is used in a way not readily understood by modern readers, but nevertheless in conformity with usage, the usage of his own and earlier times. The term “letter” in the classical tradition of orthography is always defined as the smallest indivisible unit of “articulate voice” or of “speech” (these terms also having their technical senses, which it would take too long here to define) and as having numerous attributes of which the essential one is its “sound by which it is pronounced” and others its name, figure (“the Character whereby it is written,”) and rules of combination—(its place in the “order” of letters). The term was regularly used to refer to the pronunciation of the written alphabetic symbol, but it was also quite regularly used to refer to the written symbol itself. That this latter was a loose, and even an “abusive” usage, was recognised by all scholars in grammar, but a writer guilty of it was *not* necessarily confusing letters and sounds, as is shown by the fact that many a learned grammatical treatise, following the example of Priscian, while making the sharp distinction between written symbol and pronunciation, at that very moment announces that the term “letter” will be used loosely in both senses.⁵⁵

Thus we are not to be surprised—his scholarly contemporaries would not have been—when Willis after making the careful distinctions above noted between “characters” and “letters” lapses into the “abuse” of using “letter” to stand for “written symbol.” When he wants to explain a rather whimsical fact about his short-writing outlines, namely that the

55. Aristotle, is perfectly capable of differently defining $\sigma\tau\omicron\iota\chi\epsilon\acute{\iota}\omicron\nu$ the “element” of speech and $\gamma\rho\acute{\alpha}\mu\mu\alpha$ the symbol of the former in writing (see *Metaph*: B 4. 1000^a2).

He nevertheless substitutes the latter for the former term in many contexts. Priscian, using the term “elementum” as the exact equivalent of the Greek $\sigma\tau\omicron\iota\chi\epsilon\acute{\iota}\omicron\nu$ and *littera* as the equivalent of $\gamma\rho\acute{\alpha}\mu\mu\alpha$ says “hoc ergo interest inter elementa et litteras, quod elementa proprie dicuntur ipsae pronuntiationis, notae autem earum litterae. abusive tamen et elementa pro litteris et litterae pro elementis vocantur” and proceeds to illustrate himself the practice of this “abuse.”

David Abercrombie in his Article “*What is a Letter?*” *Lingua* Vol. 2, No. 1 (Haarlem) Aug. 1949 cites some 17th Century grammarians who refer to this time-honoured blur,—not in thought, but in terminological usage. Vossius, the greatest grammarian roughly contemporary with Willis in his *de Arte Grammatica* (1635) after referring to Plato, Dionysius Halicarnasseus, Diomedes, Priscian and others on this very point, distinguishes “elementum” as “soni nomen” and “littera” as the name of the figure or character, but goes on to say “nevertheless both words will be interchangeably used: and that by the example of the ancients themselves.”

symbols he chooses to represent alphabetic characters are "abbreviations" of the latter, he says: "The abbreviation of words by Characters consists in two things: the Abbreviation of the parts of a word and the abbreviation of a whole word.⁵⁶ The partes of a word are letter and syllable," adding a note explaining that "A Letter is here considered not as it is pronounced by the sounde, but as it is written by his Character." "A letter is abbreviated by taking a part thereof (i.e. a part of the written outline) for the whole."

Other linguistic terms used by Willis are equally employed in recognised senses. We may now proceed to unravel the mystery of his twenty *diphthongs*, five *vowels*, and the way in which his *consonants* do strange things to one another. Other terms which may be elucidated at the same time as we investigate these problems are *syllable* and *liquid*. At the same time, we shall probably understand why the ambiguous use of the term "letter" was less liable to cause confusion of thought than such a usage would probably create today⁵⁷.

While modern phonetic analysis often lays claims to be an exact science⁵⁸, classical grammar—the province to which orthographic analysis belonged—was always recognised to be an "art" or a "technique" and not a "science." Grammar was sometimes defined as the art of "bene

56. By "abbreviations of a whole word" he means what Pitman called "logograms"—arbitrary outlines falling strictly outside his system, used to represent complete words which tend to recur in certain contexts—like "God" "sin" "Resurrection" etc. in Sermons.

57. A comparable instance in modern phonetics is the ambiguous usage of the term "phoneme," which, as W. F. Twadell showed in his study of the numerous senses given it, is for some phoneticians a purely notational concept, for others a phonetic reality, and for others again a merely useful fiction. Confusion of thought is almost inescapable if we have to put up with *this* ambiguity in modern phonetics, unlike the purely terminological inexactitude that marked the classical usage of "letter."

58. Such pretensions, it is true, characterised rather Victorian than later phoneticians. The former, perched happily on their recognition of a certain number of "fundamental speech sounds" claimed that the *science* of phonetics was based on the exact analysis, supported by observation and experiment of the processes of articulation. The artificiality of their "scientific" procedures is reflected in the phonetic notations they devised—notations which sought to break up utterances into a running series of units—called "speech sounds"—when, as a matter of fact in any act of speech in any language more than one articulatory process is going on at any one moment, and these processes do not conveniently stop and start in synchronisation. Another complication was the recognition of 'minute' variation in articulation recognised even by native speakers of the language analysed which showed "speech sounds" to be unstable 'units,' and led to their replacement by 'phonemes' different for each different language studied. Acoustic analysis of speech sounds by laboratory instruments introduced an infinity of further complications, particularly because this mode of analysis could not be made to yield results consistent with those of "articulatory phonetics" or with ordinary "auditory analysis" unsupported by laboratory instruments. The classification of "speech sounds" (if the concept of a speech sound is retainable at all) must differ with each method used. The most modern phoneticians are tending again to recognise that phonetic analysis is better treated as an art, a convenient technique, in classifying and presenting in neat form the grammar of a language, and that the mode of phonetic analysis used has to be adapted to the particular language studied. See K. Pike, "*Phonetics*" for examples.

loquendi," or more correctly, if Vossius is to be believed, as the art of "bene legendi et scribendi." The phonetic analysis used from Plato to Vossius was intimately connected with, and a *guide to correct reading and writing*. It is because a number of factors involved in these procedures, as normally carried out from ancient times down to the 16th and 17th Centuries have since fundamentally changed, that classical orthography proves so little comprehensible to modern minds. All the terms (*syllable*, *vowel*, *consonant*, *diphthong*, *liquid*) whose meanings, as Willis uses, them we are seeking to investigate, can be understood only in relation to the common practices followed in reading and writing from ancient times down to his day, when, however, they were already changing, with catastrophic results for the art of Grammar, which promptly—more promptly than scholars realised—went out of date.

Reading and even writing, from ancient times, and throughout the Middle Ages, was normally accompanied by speaking the words concerned more or less loudly. The lips at least accompanied the hand in writing, while in reading one uttered the words read.⁵⁹ Consequently, as Professor Chaytor puts it, the alphabetic symbols in written form were for ordinary readers "acoustic" rather than "visual" images, the element of sound being inseparable from them, as they are with children learning to read even today. Here we have the explanation why the ambiguous sense of "letter" caused no mental confusion, as it would when silent reading and writing are the rule, and a "letter" is the name for a mainly "visual" image.

The terms syllable, vowel, consonant, liquid, diphthong etc. had their primary senses in connection with teaching practice in the elementary school. The scholar, from Quintilian's time and before, until Willis' and

59. The evidence for these facts is overwhelming, and has been painstakingly assembled by Balogh (*Voces Paginarum Philologus* Vol. 82 (1926) and others. See also H. G. Chaytor *From Script to Print* (1945.) While it is easy to believe that reading was always done aloud, it might be less easy to understand that writing was also not perfectly silent. A few interesting instances may therefore be cited here. We have Zachary, the father of John the Baptist who was cured of dumbness (Luke 2.63, 64) while he *wrot*. the name of his son:

And he asked for a writing table, and wrote, *saying* his name is John. And they marvelled all.

And his mouth was opened immediately, and his tongue loosened.

Also, the medieval copyist who wrote "qui scribere nescit nullum putat esse laborem. Tres digit scribunt, duo oculi vident. Una lingua loquitur, totum corpus laborat, et omnis labor finem habet, et praemium ejus non habet finem" (cf Chaytor p15). As to *reading* aloud, perhaps the most convincing witness to in proving this the normal ancient practice is St. Augustine, himself a man of great cote learning, who was unable to conceal his admiration for his teacher, St. Ambrose, because he read silently (Confessions 6.3). Innumerable instances (see the above-mentioned articles) can be cited to prove that reading aloud was the general habit until printing brought with it the modern extension of the reading public.

Hartlib's time, and after, was first of all taught to recognise the shapes of the *letters*, and to name them. He was then taught to syllabise, or to "spell."⁶⁰ This meant that groups of letters which could be "taken together" in utterance (which together made a *syllable* (Gk. $\sigma\nu\lambda\lambda\alpha\beta\epsilon\iota\nu$) were put before him to *pronounce* aloud, and, on the other hand *syllables* were pronounced by the teacher which the scholar had to analyse into their component letters. At this stage, these exercises were not, in the scholar's mind, connected with the words of any particular language, although the teacher took care (with the aid of some one or other printed ABC book in Willis' time⁶¹) to put before his scholar syllables which formed parts of real words for the most part⁶².

The next stage was introducing pupils to whole words. Some ABC books break these up, to begin with, by hyphenating syllables, but at some stage or other the scholar had to learn how, when faced with a long word—say *ignorantia* (as in the play *Wyt and Science*) to break this into its proper parts (*syllables*) to *pronounce* (utter aloud) each in turn, giving the *letters* composing it in a series first, and then to *pronounce* the whole word. Thus *ignorantia* had to be broken up as follows, according to the *best practice*: in-gno-ran-ti-a.

Now the rules which ensured this odd-looking, but entirely correct way of breaking up the word were the most important rules of orthography.

60. To "spell" meant, down to Shakespeare's time, and after, to syllabise, and was the English equivalent of "syllabicare." The modern sense of "spelling" is very different from this. We now "spell" words only, and not "syllables," by giving, in an unbroken series, the letters that compose the word in the customary orthography. What it meant to "spell" a word in Tudor times is well illustrated by the humorous "lesson" in "spelling" given by Idleness to Ignorance in Redford's play, *Wyt and Science* (1530 c). The N.E.D. gives a number of citations from Early Modern and Middle English under "spell," all of which (though this specific sense is not defined in N.E.D.) show a meaning equivalent to "syllabicare" or consistent with this sense. The *Promptuarium Parvulorum* 1440 gives "spellyn—sillabico," and Peter Levin's *Manipulus Vocabulorum* (1570) gives "to spell, syllabam componere."

61. The above description of teaching technique is based on a scrutiny of the contents of the scores of Petty School reading books published in the 17th Century. In these books, *English* "spelling" was taught; that is, the *syllables* presented to the scholar were from English words, though (with an eye to the Latin class also) *syllables* never occurring in English words are sometimes included. It was only the best and most advanced writers of such books that recognised openly, however, that English "spelling" must differ radically from Latin "spelling." Others dealt very lamely with the special difficulties presented by English orthography. Willis' strange remarks about consonants 'but little sounded' and "thickening" and "drawing" each other are really taken from the common parlance of *English* spelling teachers who by using such phrases tried to reduce English spelling to some rule and to square its peculiarities with classical orthographical theory.

62. Consistently with the grammatical theory that a *syllable* was a part of a *word*. But the first few pages of any Elizabethan ABC would contain *syllables* never occurring in any word, as a result of the purely mechanical association of every consonant with a *vowel*, *diphthong*, etc. in the *spelling* exercises.

One had first to find the *vowels* in the word, i.e. the letters a, e, i, o, u, and y.⁶³ The scholar would therefore first glance through the written word looking for these six symbols, (or really five, for the sixth, because "abusively" used, would not be presented too soon in the spelling book). Each such *vowel* was sure to be the nucleus of a different *syllable*, unless two vowels that followed one another immediately formed a *diphthong*. Now *ia* in the ending of *ignorantia* is *not* a *diphthong*, and the scholar who took it as such would have felt the birch on his back. It is *not* a *diphthong* *not* because either scholar or teacher subjected the sequence of *vowels* as he pronounced them to any sort of phonetic analysis (Latin was pronounced in different ways, not only by the different European peoples, but by different people in the same country, including England), but simply because *ia* did not figure in the list of diphthongs (see Willis' list): and it did not figure in the list because, according to the best authorities *ia* never occurs in a single *syllable* in Latin⁶⁴. So far as scholar and teacher alike was concerned (unless the teacher happened also to be very erudite) a *diphthong* was simply one of series of couples of *vowels* so recognised by authority, which had always to be "taken together" as part of one *syllable*.

Once the *vowels* and *diphthongs* were identified, the question arose which other *letters* in the word are to be "taken together"—syllabised, "spelled,"—with each. All such other letters were, of course, con-sonants. Beginning with the beginning of a word, one took together with the first vowel all *consonants* preceding it. This was easy enough, but the *consonants* between the first and the next *vowel* presented a tough problem to the beginner. There was no way of *mechanically* listing the following *consonants* that had to be taken together in one *syllable* with a *vowel*, and one had to know certain facts about etymology to decide the question. The *consonants* gn between i and o in *ignorantia* had to be taken with the following vowel because of the rule that where a combination of consonants may *begin* a word, they had to be taken with the following vowel. But even this rule was subject to the proviso that a pre-fix had to be syllabised separately (thus *interest* had to be syllabised in-ter-est, although r-e-s-t- could start a word). Gn is particularly tricky, because not everybody would remember *gnosco*, and in *spelling* the English word *ignorance* you would

63. y earned the right to be called a *vowel* in the teaching of Latin *spelling*, where one remembered that a, e, i, o, u, were vowels, "and also y in Greek words." In tackling the problems of *English* orthography, spelling-books sometimes admitted that w also was a *vowel*, though "abusively written" as Willis puts it.

64. The arguments establishing this and similar important conclusions in regard to orthography are very learned indeed, based partly on authority, partly on etymology, partly on prosody. They are only to be found in learned treatises on orthography, such as those of Velius Longus and Cassiodorus, and certainly not in spelling books.

have to break it up *ig-no-rance*, because *gn* does not start an English word, except where the 'g' is "silent" or given only a "slight" sound. Anyhow, to get back to *ignorantia*, the scholar would take first-in and pronounce it; then *gno*; then *ran*, but *not rant*, because *nt* cannot start a word, and so *t* must be taken with the succeeding vowel; then *ti-*, and finally *a*. After this he would say *ignorantia*, the whole word.⁶⁵

The above account of spelling-teaching is sufficient to explain the usage of most of the terms employed by Willis in explaining his short-writing system. Two terms, however, are not covered by it, namely "liquid" (*v* in build) and "aspiration." The term "liquid" as applied to the letter *u-v* (it was also applied to the letters *l, n, r*, but not by Willis) referred to certain situations where, in the words of the grammarians, it was "neither a *vowel*, nor a *consonant*," or at any rate, it had a controversial character. An example was the Latin word "lingua." Normally the letter *u-v* occurring "before a *vowel*" was a *consonant*. But prosodic considerations prevented the treatment of *u-v* in e.g. *aqua* as a consonant, since it did not weight or lengthen the syllable preceding. Willis suggests that *u* in build has relatively little value, and ordains its omission in short-writing outlines.

"Aspiration" as Willis uses the term gives us greater difficulty. There was an age-long debate whether *h* in Latin was the exact equivalent of the "rough" breathing in Greek, and whether, if so, it was a *letter* at all, or a prosodic feature⁶⁶. A prosodic feature was recognised as modifying the pronunciation of *letters* in various ways, by making them higher or lower in pitch, or "rouger" in pronunciation. Although in recognising *h, w, y, and gh* as *aspirations* in certain contexts Willis is making a rather artificial system, there is a point in his suggesting that *h* modifies a succeeding vowel, or even syllable, and is therefore a prosodic feature⁶⁷ rather than a letter: *y* in *yet, yonder*, etc is also a difficult element to classify in any system of phonetic analysis—witness our common description of it as a "semi-vowel"; there are very good reasons too, to suggest, in favour of breaking up "double-articulations" as in the rounded 'wr' initially in English words into a "letter" and a "prosodic feature" rather than two

65. He would also be penalised if he forgot that *t* before *i*, when followed by another vowel had to be pronounced *si*.

66. A prosodic feature, like 'accent,' or 'length' was treated in classical orthography and prosody as an attribute of *syllables*, and thus different from a *letter*. Thus a *syllable* might count as 'long' even though the *vowel* in it was short, where two consonants of which the latter was not a liquid, followed it, because the 'length' characterised the whole syllable.

67. Professor J. R. Firth takes up this point in his article on "Sounds and Prosodies." Trans. Philol. Soc. 1948.

letters, for purposes of notation, and the same device could well be defended, on the same grounds with the 'wh' in 'white' etc. where the so-called "voiceless w" is used. As I have said earlier, Willis' "thick" and "light" aspirations involve a good deal of artificiality, and he is here somewhat "obsessed by the letters," but this has to be understood in the light of his knowledge that his readers would also be so obsessed. What he is trying to do is give readers a ready method for "shortening" words in short-writing, and it cannot be said that an ordinary reader of his time would have found these instructions hard to follow, as he gives them.

* * * * *

As noted above, the short-writing books of the 17th Century have been utilised by certain philologists in the attempt to find additional evidence regarding contemporary English pronunciation. Since it is precisely on otherwise doubtful points that these books are consulted, it is all the more important to make sure that inferences drawn from short-writing outlines and the statements of teachers are perfectly sound. As far as statements about pronunciation taken from instruction books are concerned, the important desideratum in interpreting these is that due attention is paid to the exact sense of technical terms used—a point usually neglected by philologists, as has been noted, and to this rule neither Matthews nor Kökeritz is an exception. Since in the case of these writers, sufficient care is exercised in using short-writing evidence only to supplement more reliable material from other sources, it cannot be said that any seriously mistaken inferences are made by them; but the value of their use of short-writing books as evidence is rendered doubtful by their failure to pay attention to the meaning of technical terms. Matthews is the only important case of a philologist using short-writing outline-forms besides the statements of short-writers to throw light on pronunciation. Here again, it is very important to make no mistake about the principles on which these outlines were composed; and one should not lightly assume that any given outline-form is intended as an exact phonetic record of the word represented.

Some statements made by short-writers read by themselves, may well suggest that their outlines are based on a strict phonetic analysis rather than on the customary orthography of words: however, as our earlier account of short-writing systems indicated, *none* of the professional short-writing teachers was concerned seriously with a phonetic notation as such. Their main aim was to abbreviate the writing of any word to suit the exigencies of their technique—especially by leaving out unnecessary "vowels," by shortening consonant combinations, and, in the case of long words, leaving

out unnecessary syllables, and using special abbreviations for recurrent prefixes, suffixes etc. "Necessary" and "unnecessary" in this connection is to be understood as referring to the readiness with which a word may be unambiguously identified, and not to its phonetic constitution. It must be admitted that in explaining their system, short-writing instruction books content themselves with making a rough distinction between "the sound" of words and their "orthography," leaving room for the impression that they are striving after an exact phonetic notation. This impression is seen in Kökeritz' article, and it is not, having regard to all the facts, justified, as we have seen.

Willis states: "In this Art not the Orthographic, but the sound of the word is respected." But since he continues immediately to say that "the president of Antiquitie" warrants "such contraction of Letters by the sound," pointing to the Greek phi, theta, chi, and xi as examples, we see that he is really having in mind abbreviated writing, rather than a phonetic notation.

Shelton is more explicit when he says "the principal end of the Art of Short-writing being to write much in a little time and room, it is not needfull in every word to expresse every letter, but only so many as may serve to sound the word, the rest being left out as superfluous. . . . sometimes a whole syllable may be spared, . . . and . . . in the end of some words 2 or 3 syllables may be omitted . . . though two vowels come together, yet oft-times, one of them doth principally sound the word, and then the other may be spared. . ." We see here quite clearly that the main point is the abbreviated writing of the word, and to secure this without rendering doubtful the identity of the word, the sound is a good guide. The main issue is *not* whether or not perfect phonetic analysis is achieved. Indeed, to have called for such a thing from the average user of short-writing would have been asking far too much.

Metcalf similarly states: ". . . in this Art you have the sound of every word, rather than the true Orthography, . . . so that many times letters, yea whole syllables, may be left out of some words, yet sufficient sound remaining still to expresse the same. . ." And Dix says: "in this Art we consider not how words are truly and orthographically writ, but how we may render their sound the shortest way: therefore in all words, such letters which are but lightly sounded (and which being omitted, a sufficient number remains to expresse the word) are to be omitted, whether they be vowels or consonants. . ." William Cartwright states that "the Briefnesse of this Art consisteth. . . in the shortning of words by casting out all

such letters that are superfluous, and of little sound, and only to write as much as will bring out the sense of the word. . ."

From all these statements, we may be sure that none of the accounts given by Willis and others of the pronunciation of words are meant as exact phonetic analyses of their sound, but rather as indications of how they may be conveniently abbreviated. It would be wrong to assume that these are strict "*descriptions* of pronunciation" as Kökeritz suggests they are.

* * * * *

So that the reader may better judge of the problem in its concrete aspects, I give in an appendix a selection of transliterated forms⁶⁸ taken from short-writing instruction books and extant samples of 17th Century short-writing where known systems are used, like Pepys' Diary and Holder's Manuscript Bible. The reader may compare these transliterations with the "true orthographie" of the word (where this is given in the short-writing books) and with what is already known as to how they were pronounced in contemporary English. It will be seen that the outline forms really tell us very little about the exact pronunciation of words, and are to be relied on for little in deciding any doubtful case⁶⁹.

It will be seen that similar forms, from the phonetic point of view are not, even by the same writer, written consistently with the same symbols. This inconsistency is partly explicable by the context which may in some cases permit more abbreviated outlines than in others; partly by the relative unfamiliarity of particular words which makes the short-writer symbolise them in full; but the real explanation of variation is that the writer was not tied down to any principle of phonetic notation, but was simply applying a set of variable rules in order to abbreviate words as far as possible without being ambiguous. Some of the outline forms may, despite this, be very good evidence of a particular sort of pronunciation: such are, for example b(o)sons, c(u)ndit, dr(o)ft, en(u)f, n(a)sheth, n(o) for(know), uv(e)n, t(u)k, wk (walk) h(o) for(who). But others may or may not be phonetic outlines, for examples, ab(o)r, ar(air), al(a)s, (always) ang(i)sh, b(y)l (boil), c(a)lf, ds(a)rt, dr(a)f, en for(even), j(u)y, kn(u), l(u)kd, m(i)ds (midst), n(o)t, k(o)ts, s(o)t (sought) s(o)l, tr(e)ml, rld for(world). It would not, perhaps, be safe to

68. The 'transliteration' will be on the basis explained above. Only in Willis' outlines are 'great characters' systematically used. Where a whole prefix or suffix has a special abbreviation, it will be placed within brackets, like implied vowels. Where words are also 'truly' spelled in the short-writing books this spelling will be given italicised beside the transliteration.

69. A number of the following forms are taken from Matthews—this applies chiefly to those from Pepys, Dix, and Holder.

draw any positive support for the view that M.E. short a was already definitely fronted (on other grounds a perfectly sound view), from the fact that the same (a) position is used for bate, bait, and batte by the inventor of *Characterism*, even though he adds that they are all "pronounced alike." Again it would be unsafe to conclude that r was already a "fricative" or a "retroflex" from forms like rld (world) rship (worship). In general terms it may be said that the use of short-writing forms to clear up doubtful points in 17th Century pronunciation must be very limited, and that there is hardly any single question on which short-writing can be said to throw certain light in this field.

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I should like to conclude this note by pointing to certain connections between short-writing circles and the set of educational and linguistic reformers who figure so prominently in the world of mid-17th Century learning. In 1661 Geo. Dalgarno published his *Ars Signorum*. Dalgarno uses alphabetic and numerical symbols, and so cannot be counted among short-writers : but it is interesting to note that he challenges comparison with them. In a sort of advance prospectus of his work, printed apparently in the '50's⁷⁰ he claims that his "Character shall go far beyond all received Brachygraphy, for contraction and speed in writing ;" and that "Whereas it is scarce known that Brachygraphy hath been improved in any language but the English, this shall be equally practicable and useful in all languages." This solicitude for other languages may be connected with Dalgarno's encounter with one Morstyn, a Polish nobleman, at Oxford. Morstyn had shown interest in English short-writing, but was disappointed to find that the art could not readily be used with Polish. He was very impressed with the system of Dalgarno because it could, in theory, be applied to any language, and wrote praising it to Samuel Hartlib,⁷¹. There is also a letter from Dalgarno to Hartlib referring to Morstyn as having made enquiries of him on behalf of Hartlib, and giving Dalgarno's opinion, as solicited by Hartlib, of Cave Beck's Universal Character. There is thus perfectly clear evidence that the most important educational thinker in England at this time, gave a good deal of thought to the theoretical possibilities of short-writing. Dalgarno's system cannot really be compared with any of the short-writing systems as a practical proposition. It tried to do too many things at once : it has the same theoretical interest as Bishop Wilkins' Real Character and Philosophical Language.

70. See the Dalgarno Mss. Sloane Collection 4377.

71. The letter is among the mss. referred to in the previous note, as also Hartlib's note (dated 3-7-1657) in which he describes Dalgarno's character as exact and commodious—See note above.

Among the papers of Francis Lodwyck, another inventor of a Real Character, and a Spelling Reformer to whom Bishop Wilkins is clearly indebted, who (with Holder, Wallis and Wilkins himself) endeavoured to make Phonetics an "exact" science of articulation, free from the tyranny of Grammar, we find⁷² among numerous inventions, a short-writing system which he calls, in his native Dutch "Kortschrift." It was perhaps intended for popularisation in Holland, and is of the simple alphabetic kind, except that vowels are to be shown (as in Hebrew) by "pricks" in different positions. There are no further extensions of the idea (as in Willis' system) to permit the total omission of vowel symbols by placing succeeding consonants in vowel positions. Lodwyck was also aiming at devising a perfect Universal Alphabet (a phonetic notation) where related sounds are shown by systematically related symbols (i.e. the symbols for d, t, n, n, dh, th as related sounds were similar) and in this scheme also the vowels are shown as "pricks." Lodwyck thought⁷³ that the system could be used to improve the teaching of reading. Thus in this writer too we see that short-writing interested linguistic and educational reformers.

Bishop Wilkins monumental work drew to a great extent on that of others, notably (on the linguistic side) on the experiments of Dalgarno, Holder, and Lodwyck. As we saw earlier, Holder, the author of *The Elements of Speech* was an inveterate short-writer, who used Metcalfe's system. Wilkins himself uses, for his phonetic notation, symbols which resemble those of short-writers but, since his need was for exactness, he did not follow them in their extensive abbreviations. In any case it is perfectly 'clear' that the development of short-writing in England—to which he repeatedly refers—was one of the most stimulating factors towards the development of interest in the possibility of a scientifically conceived universal character and phonetic notation, and that the regular phonetic analysis practised by short-writers had a good deal to do with the aspiration for an exact and scientific phonetic notation, independent of all actual languages, in which the medium of communication for future scientists was to be realised. We are not here concerned with the technique of phonetic analysis adopted by the "phoneticians" from Lodwyck to Wallis, which is a subject which needs separate treatment, but only to show that 17th Century short-writing must be taken into account in understanding the development of English phonetic theory⁷⁴.

72. See the Lodwyck papers, Sloane 897.

73. See The Philosophical Transactions of the Royal Society No. 182, June 26th 1686, p. 126.

74. The notations of some of these questions derive partly from short writing practice ; but the mode of combination of outlines is different—the phoneticians symbols here to be read in strict succession, and every "sound" or "letter" is symbolised by special symbols—including "points" as in Lodwyck's vowel marks described above.

Appendix

'Transliterations' of some word outlines in 17th Century short-writing

A.			b(a)krd	backward	Holder
ab(o)r	abhor	Pepys	b(a)t	beat	Holder
ab(o)rd	abhorred	Holder	beol	behold	Holder
ab(u)t	about	Metcalfc	byl	boil	Holder
ab)st(a)n	abstain	Shelton	b(o)n(a)g	bondage	Holder
Ax(e)s	accesse	Willis	b(u)s(o)m	bosom	Holder
(akr(u)	accruc	Shelton	br(a)mbel	bramble	Holder
Ar	are	Willis	br(a)k	break	Holder
Arms		Willis	br(o)t	brought	Holder
Ar(o)	arowe	Willis	b(u)r(e)ns	burdens	Holder
ar	air	Pepys	C.		
altr	altar	Pepys	c(a)t	caught	Metcalfc
al(u)	allow	Metcalfc	ch(a)mr	chamber	Metcalfc
al(a)	alwaye	Metcalfc	c(o)r(e)k	correct	Metcalfc
al(a)s		Metcalfc, Shelton	(cor)(u)p	corrupt	Metcalfc
asembled	assembled	Pepys	c(a)r(i)t(c)r	character	Pepys
asml	assemble	Metcalfc	c(a)rts	charts	Pepys
(Aad)ik	addict	Shelton	cl(o)s	clothes	Pepys
(af)r(i)t	affright	Shelton	koin	coine	Shelton
(an)g(i)sh	anguish	Shelton	c(u)mberd	cumbered	Holder
answered	answered	Holder	calf	calf	Holder
Ant(i)q	antique	Willis	candel	candle	Holder
Ant(i)c	antique	Willis	capt(a)n	captain	Holder
B.			s(i)rkuitt	circuit	Holder
b(e)g(ing)	begging	Dix	c(u)ndit	conduit	Holder
b(a)vd	behaved	Dix	c(o)ld	could	Holder
b(o)sm	bosom	Dix	D.		
b(o)t	bought	Shelton	ds(a)rt	desert	Metcalfc
br(i)t	bright	Shelton	dr(a)t	draught	Metcalfc
b(o)d(i)	bawdy	Pepys	dr(a)f	draught	Pepys
b(o)sns	boatswains	Pepys	d(a)tr	daughter	Holder
b(u)ms	bombs	Pepys	dr(o)ft	drought	Holder

E.			h(e)lm	helm	Holder
ef(e)ct	effect	Holder	im	him	Holder
cl(e)ct	elect	Holder	old	hold	Holder
en(u)f	enough	Holder	h(o)lden	holden	Holder
en	even	Holder	h(u)n(i)	honey	Holder
cl	evil	Holder	h(u)ds	hoods	Holder
F.			h(u)s(o)ld	household	Holder
f(o)lk	folk	Shelton	h(u) (c)r	hewer	Metcalfc
f(a)rd (ing)	farthing	Pepys	h(a)lt	halt	Dix
f(o)n	fawn	Pepys	h(a)st	haste	Dix
f(o)t	fault	Pepys	h(c)peth	heapeth	Dix
fr(e)nds	friends	Dix	h(e)r	hear	Dix
f(i)t	fight	Metcalfc	rkn	hearken	Dix
fals(ly)	falsely	Holder	lp	help	Dix
f(a)s(e)n	fasten	Holder	op	hope	Dix
f(e)rn(a)c	furnace	Holder	mbl	humble	Dix
f(u)r(e)r	further	Holder	h(i)rt	hurt	Dix
f(u)rthr	further	Holder	h(i)s(o)p	hyssop	Dix
G.			I.		
gn(a)	gnaw	Metcalfc	nfants	infants	Holder
n(a)sh(e)th	gnasheth	Dix	in rit	inherit	Dix
n(a)shd	gnashed	Dix	J.		
g(o)t	goate	Dix	j(o)n	join	Holder
gl(u)	glew	Dix	j(u)y	joy	Holder
g(o)t	got	Dix	j(u)rid(i)csn	jurisdiction	Holder
gn(a)t	gnat	Holder	j(u)st	just	Holder
g(c)nd(e)-			j(o)n	joyne	Metcalfc
r(e)th	genderth	Holder	K.		
n(a)sd	gnashed	Holder	kn(c)s	knees	Metcalfc
H.			kn(o)	know	Metcalfc
h(a)lf	half	Holder	n(o)	know	Dix
h(a)nd			n(e)w	knew	Dix
m(a)d	handmaid	Holder	k(e)p	kept	Holder
ap(e)n(c)th	happeneth	Holder	kndness)	kindness	Holder
hasen	hasten	Holder	k(i)nd(c)rd	kindred	Holder
he(a)rd	heard	Holder	k(i)nsf(o)lk	kinsfolk	Holder
h(a)rken	hearken	Holder	kn(e)d(ing)	kneading	Holder
hn	heaven	Holder	kn(u)	knew	Holder

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L.		
l(a)d	laid	Dix
l(i)s(e)n	listen	Holder
l(o)ns	loins	Holder
l(a)nd	loins	Holder
l(a)f	laugh	Dix
l(a)ngish-	languish-	
(ing)-	ing	Dix
l(u)kd	looked	Holder
M.		
m(a)k(ing)	making	Holder
m(i)ds	midst	Holder
m(i)t(i)	mighty	Holder
m(i)ns-		
(ing)	mincing	Holder
m(i)nt	mint	Holder
m(u)lb		
(e)r(i)	mulberry	Holder
m(u)st(a)r	mustard	Holder
m(a)d	mad	Dix
m(a) d-	made	
(long)	(length-	
	mark)	Dix
N.		
n(i)t	night	Metcalfe
n(o)t	nought	Shelton
O.		
on	one	Holder
uv(e)n	oven	Holder
ons	once	Shelton
on	one	Shelton
on	own	Dix
oun	owne	Metcalfe
P.		
perfit	perfect	Dix
p(a)r(e)nts	parents	Holder

poudrd	powdered	Holder
p(e)rf(i)t	perfect	Pepys

Q.

k(o)ts	quotes	Pepys
k(o)t(a)-		
(tions)	quotatison	Pepys

R.

r(e)lm	realm	Holder
r(e)d(e)msn	redemption	Holder
r(a)ns	reins	Holder
r(e)s(e)mbl	resemble	Holder
r(i)er	river	Holder

S.

s(o)rd	sword	Shelton
sh(u)	shew	Shelton
s(a)ft	soft	Pepys
s(a)fter	softer	Pepys
sh(i)f	shift	Pepys
sp(i)lt	spoiled	Pepys
sp(i)ls	spoils	Pepys
s(u)	shew	Holder
s(o)t	sought	Holder
s(o)l	soul	Holder
sw(e)p	swept	Holder
sw(o)rd	sword	Holder
s(a)nt(i)fy	sanctify	Holder
s(a)nt(a)ri	sanctuary	Holder
s(u)ndr	aunder	Dix
str(a)t	straight	Dix

T.

tr(o)f	trough	Holder
th(i)er	thither	Holder
t(u)k	took	Holder
tr(e)mld	trembled	Holder
trembl	tremble	Holder
templ	temple	Holder

EARLY ENGLISH SHORT-WRITING SYSTEMS AND.....

t(a)rpolings	tarpaulins	Pepys
t(a)t	taught	Metcalfe
th(u)	thou	Dix
t(a)lketh	talketh	Dix

U.

up(o)ld	uphold	Holder
uprd	upward	Holder

V.

v(u)(e)l	vowel	Holder
v(i)nard	vineyard	Holder

W.

wh(e)t	wheat	Metcalfe
wh(i)l	while	Metcalfe
wh(o)	who	Metcalfe
wh(o)l	whole	Metcalfe
wh(i)	why	Metcalfe
wk	walk	Dix

wketh	walketh	Dix
w(a)sh	wash	Dix
wh(i)spr	whisper	Dix
ho	who	Shelton
h(o)s	whose	Shelton
r(o)ng	wrong	Holder
rk	work	Holder
rks	works	Holder
w(o)lf	wolf	Holder
rld	world	Holder
rship	worship	Holder
r(o)t	wrought	Holder
w(o)rthi	worthy	Holder
w(i)n	wind	Holder
whirlwind	whirlwind	Holder
r(a)th	wrath	Holder

Y.

yld	yield	Holder
y(o)ng	young	Holder

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