the student is recommended to form additional ones for himself, and so of course make his writing illegible to others. The *raison d'être* of such signs is not far to seek. The proper shorthand signs for many common words were so clumsy or ambiguous that this method was resorted to in order to provide them with clearer and easier outlines. For the purpose of verbatim reporting the student is recom­mended to omit as a rule all vowels, and decipher his writ­ing with the aid of the context. But, when vowels are omitted, hundreds of pairs of words having the same con­sonant skeleton (such as *minister* and *monastery, frontier* and *furniture, libel* and *label)* are written exactly alike. This is one of the gravest defects of the a, b, c systems.

John Willis’s system was largely imitated but hardly improved by Edmond Willis (1618), T. Shelton (1620), Witt (1630), Dix (1633), Mawd (1635), and Theophilus Metcalfe (1635). T. Shelton’s system, republished a great many times down to 1687, was the one which Samuel Pepys used in writing his diary. @@1 It was adapted to German, Dutch, and Latin. @@2 An advertisement of Shelton’s work in the Mercurius *Politicus* of 3d October 1650 is one of the earliest business advertisements known. The book of Psalms in metre (206 pages, 2 3/8 × 1 1/2 inches) was engraved according to Shelton’s system by Thomas Cross. Metcalfe’s *Radio-Stenography,* or *Short- Writing,* was republished again and again for about a hundred years. The 35th “ edition ” is dated 1693, and a 55th is known to exist. The ineffi­ciency of the early systems seems to have brought the art into some contempt. Thus Thomas Heywood, a contem­porary of Shakespeare, says in a prologue @@3 that his play of *Queen Elizabeth*

" Did throng the seats, the boxes, and the stage So much that some by stenography drew A plot, put it in print, scarce one word true.”

Shakespeare critics would in this manner explain the badness of the text in the earliest editions of *Hamlet, Romeo and Juliet, Taming of the Shrew, Merry Wives of Windsor,* and *Henry V.* Perhaps a study of J. Willis’s system and of E. Willis’s (which, though not published till after Shakespeare’s death, was practised long before) may shed light on corrupt readings of the text of these plays. @@4 Rich’s system (1646, 20th edition 1792) was reproduced with slight alterations by many other persons, including W. Addy, Stringer, and Dr Philip Doddridge (1799 and three times since). The New Testament and Psalms were engraved in Rich’s characters (1659, 596 pages, 21/2 × 11/2 inches, 2 vols.), and Addy brought out the whole Bible engraved in shorthand @@5 (London, 1687, 396 pp.). Locke, in his *Treatise on Education,* recommends Rich’s system ; but it is encumbered with more than 300 symbolical and arbitrary signs. In 1847 it was still used by Mr Plowman, a most accomplished Oxford reporter.

In 1672 William Mason, the best shorthand author of the 17th century, published his *Pen pluck'd from an Eagle's Wing.* The alphabet was largely taken from Rich’s. But in his *Art's Advancement* (1682) only six of Rich’s letters are retained, and in his *Plume Volante* (1707) further changes are made. Initial vowels are written by their alphabetic signs, final vowels by dots in certain positions (*a, e* at the beginning; *i, y* at the middle *; o, u* at the end), and medial vowels by lifting the pen and writing the next consonant in those same three positions with respect to the preceding one. Mason employed 423 symbols and

arbitraries. He was the first to discover the value of a small circle for *s* in addition to its proper alphabetic sign. Mason’s system was republished by Thomas Gurney in 1740, a circumstance which has perpetuated its use to the present day, for in 1737 Gurney was appointed shorthand- writer to the Old Bailey, and early in the 19th century W. B. Gurney was appointed shorthand-writer to both Houses of Parliament. Gurney reduced Mason’s arbitraries to about a hundred, inventing a few specially suitable for parliamentary reporting. The Gurneys were excellent writers of a cumbrous system. Thomas Gurney’s *Brachygraphy* passed through at least eighteen editions, but the sale of the book has now almost ceased.

In 1767 was published at Manchester a work by John Byrom, sometime fellow of Trinity College, Cambridge, entitled *The Universal English Shorthand,* distinguished for its precision, elegance, and systematic construction. Byrom had died in 1763. Having lost his fellowship by failing to take orders, he made a living by teaching shorthand in London and Manchester, and among his pupils were Horace Walpole, Lord Conway, Charles Wesley, Lord Chesterfield, the duke of Devonshire, and Lord Camden. Shorthand, it is said, procured him admission to the Royal Society. He founded a stenographic club, to the proceed­ings of which his journal, @@6 written in shorthand, is largely devoted. In the strangers’ gallery of the House of Com­mons in 1728 Byrom dared to write shorthand from Sir R. Walpole and others. In 1731, when called upon to give evidence before a parliamentary committee, he took short­hand notes, and, complaints being made, he said that if those attacks on the liberties of shorthand men went on he "must have a petition from all counties where our dis­ciples dwell, and Manchester must lead the way.” Thomas Molyneux popularized the system by publishing seven cheap editions between 1793 and 1825. Modifications of Byrom’s system were issued by Palmer (1774), Nightingale (1811), Adams (1814), Longmans (1816), Gawtress (1819), Kelly (1820), Jones (1832), and Roffe (1833). Byrom’s method received the distinction of a special Act of Parlia­ment for its protection (15 Geo. II. c. 23, for twenty-one years from 24th June 1742). To secure lineality in the writing and facility in consonantal joinings he provided two forms for *b, h,j, ιv, x, sh, th,* and three for *l, A, e, i, o, u,* he represented by a dot in five positions with respect to a consonant. Practically it is impossible to observe more than three (beginning, middle, and end). With all its merits, the system lacks rapidity, the continual recurrence of the loop seriously retarding the pen.

In 1786 was published *An Essay intended to establish a Standard for a Universal System of Stenography,* by Samuel Taylor (London). This system did more than any of its predecessors to establish the art in England and abroad. Equal to Byrom’s in brevity, it is simpler in construction. No letter has more than one sign, except *w,* which has two. Considering that five vowel places about a consonant were too many, Taylor went to the other extreme and ex­pressed all the vowels alike by a dot placed in any position. He directs that vowels are not to be expressed except when they sound strong at the beginning and end of a word. Arbitraries he discarded altogether ; but Harding, who re- edited his system in 1823, introduced a few. Each letter when standing alone represents two or three common short words, prefixes and suffixes. But the list was badly chosen : thus *m* represents *my* and *many,* both of them adjectives, and therefore liable to be confounded in many sentences. To denote *in* and *on* by the same sign is evidently absurd. Taylor’s system was republished again and again. The

@@@1 See a paper by J. E. Bailey, “ On the Cipher of Pepys’ Diary,” in *Papers of the Manchester Literary Club,* vol. ii. (1876).

@@@2 See Zeibig's *Gesch. u. Lit. d. Geschwindschreibkunst,* p. 195.

*@@@3 Pleasant Dialogues and Drammas* (London, 1637), p. 249.

@@@4 See M. Levy’s *Shakspere and Shorthand* (London), and *Phonetic*

*Journal,* 1885, p. 34.

@@@5 This curiosity is described in the *Phonetic Journal,* 1885, pp. 158, 196. The Bodleian Library has a copy.

@@@6 Byrom’s private journal and literary remains have been published by the Chetham Society of Manchester. See, too, a paper by J. E. Bailey in the *Phonetic Journal,* 1875, pp. 109, 121.