*zh* (as in *vision) ; m, n, ng* (as in *thing) ; l, r ; w, y, h.* The sounds *p, t, ch, k* are represented respectively by the four straight strokes ▄; and the corresponding voiced sounds *b, d, j, g* by exactly

the same signs respectively written heavy. *F, th* (as in *thing), s, sh* are indicated by ▄ respectively ; the same signs written heavy and tapering to the ends are used for *v, dh, z, zh* respec­tively. *M, n, l, r* are denoted by ▄ respectively. *R* is

also represented by written upwards and in a more slanting direction than the sign for *ch.* The signs for *sh* and *l* may be written up or down when in combination, but standing alone *sh* is written downwards and *l* upwards. The signs for *w, y, h* are ▄, all written upwards. *II* has also ▄ down. *Ng, mp* (or *mb), rch* (or *rj), lr,* are represented by the signs for *n, m, r, l* respectively written heavy. Signs are provided for the Scotch guttural *ch* (as in *loch),* the Welsh *ll,* and the French nasal *n. S* is generally written by a small circle. The long-vowel sounds are thus classified—*a* (as in *balm), e* (as in *bait), ee* (as in *feet), aw* (as in *law), a* (as in *coal), oo* (as in *boot).* The vowels *a, e, ee* are marked by a heavy dot placed respectively at the beginning, middle, and end of a consonant- sign; *aw, o, oo* by a heavy dash in the same three positions, and generally struck at right angles to the direction of the consonant. The short vowels are *a* (as in *pat), e* (as in *pet), i* (as in *pit), a* (as in *pot), u* (as in *but),* and *oo* (as in *put).* The signs for these are the same as for the corresponding long vowels just enumerated, except that they are written light. Signs similarly placed are provided for the diphthongs *ai* (as in *bail), õa* or *õè,* õí (as in *Boan­erges, poet, coincide),* for the series *ya, ye, yee,* &c., and for the series *wã, we, wee,* &c. The signs for *ei* (as in *bite)* and *ou* (as in *cow)* are ▄ and may be placed in any position with respect to a consonant. A straight line may receive four hooks, one at each side of the beginning and end, but a curve only two, one at each end in the direction of the curve. Hooks applied to a straight line indicate the addition of *r, l, n,* and *f* or *v* respectively, thus ▄ *pr, ▄ pl, ▄ pf* or *pv,* and▄ *pn; ▄ kr, ▄ kl, ▄ kt,▄ kn; ▄ rf* or *rv, ▄ rn.* Hooks applied to a curve denote the addition of *r, η* respectively, thus ▄ *fr,* ▄ *fn; ▄* *mr,* ▄ *mn.* Vowel­signs plated after (or, in the case of horizontal strokes, under) a consonant having the *n* or *f*, *v* hook are read between the consonant and the *n* or *f ;* thus ▄ *cough,* ▄ *fun,* but ▄ *crow,* ▄ *pray.* A large hook at the commencement of a curve signifies the addi­tion of *l,* as ▄ *fl*. The hooks combine easily with the circle *s,*

thus ▄ *sp ▄ spr* (where the hook *r* is implied or included in the circle), ▄ *spt, ▄ pns* (the hook *n* being included), *pfs,* &c. The halving principle is one of the happiest devices in the whole history of shorthand. The halving of a light stroke—that is, writing it half length—implies the addition of *t;* the halving of a heavy stroke that of *d,* the vowel placed after (or under) the halved stroke being read between the consonant and the added *t* or *d,* thus ( *thaw, thought,* ▄ *Dee,* ▄ *deed, ▄ pit, ▄ cat, ▄ fat,* ▄ *note,* &c. By this means very brief signs are provided for hosts of syllables ending in *t* and *d,* and for a number of verbal forms ending in *ed,* thus ▄ *ended.* The halving of a heavy stroke may, if necessary, add *t,* and that of a light stroke *d,* thus *beautified.* By combining the hook, the circle, and the halving principle, two or three to­gether, exceedingly brief signs are obtained for a number of consonantal series consisting of the combination of a consonant with one or more of the sounds *s, r, l, n, f, t,* thus ▄ *spr, ▄sprt,*

*▄ sprts; ▄ pl, ▄ spl, ▄ splt, splnt, ▄splnts;* ▄ *fn, ▄ fns, ▄* *fnt, ▄ fnts; ▄ fin, ▄ find,* &c. As a vowel-mark cannot conveniently be placed to a hook or circle, we are easily led to a way of distinguishing in outline between such words as ▄ *cough* and *\* coffee, pen* and *penny, race* and ▄ *racy,* &c.

This distinction limits the number of possible readings of an un- vocalized outline. A large hook at the end of a stroke indicates the addition of *-shon* (as in *fashion, action,* &c.). This hook easily combines with the circle *s,* as in *actions, ▄ positions.* The circle *s* made large indicates ss or *sz,* as in ▄ *pieces, losses.* The vowel between s and s *(z)* may be marked inside the circle, as in ▄ *exercise,* ▄ *subsistence.* The circle s lengthened to a loop signifies *st,* as in ▄ *step, post,* while a longer loop indicates *str,* as in ▄ *muster, minster.* The loop may be continued through the consonantal stroke and terminate in a circle to denote *sts* and *sirs,* as in *boasts, ▄ minsters.* The loop written on the left

or lower side of a straight stroke implies the *n* hook and so signifies *nst,* as in ▄ *against,* ▄ *danced.* A curve (or a straight stroke with a final hook) written double length implies the addition of *tr, dr,* or *thr,* as in ▄ *father, ▄ letter, ▄ kinder, fender,*

*render.* This practice is quite safe in the case of curves, but a straight stroke should not be lengthened in this way when there is danger of reading it as a double letter. The lineal consonant- signs may stand alone to represent certain short and common words as in many of the old, a, b, c systems, with this difference, that in the old systems each letter represents several words, but in phonography, in almost every case, only one. By writing the horizontal strokes in two positions with respect to the line (above and on) and the others in three positions (entirely above, resting on and passing through the line) the number is nearly trebled, and very brief signs are obtained for some seventy or eighty common short words (e.g. *be, by, in, if, at, it, my, me,* &c.). A few very common monosyllables are represented by their vowel-marks, as *the,* remnant of (▄ remnant of *. ▄on,* remnant of ▄, A certain number of longer words which occur frequently are con­tracted, generally by omitting the latter part, sometimes a middle part of the word, as in ▄ *(ksp) expect, (dfi) danger, ▄ (krk sk) characteristic,* Z) indefatigable*.* The connective

phrase *of the* is intimated by writing the words between which it occurs near to each other. *The* is often expressed by a short slanting stroke or tick joined to the preceding word and generally struck downwards, thus ▄ *in the, ▄ for the*

Three principles which remain to be noticed are of such importance and advantage that any one of them would go far to place phono­graphy at the head of all other systems. These are the principles of positional writing, similar outlines and phraseography. (1) The first slanting stroke of a word can generally be written so as either to lie entirely above the line, or rest on the line, or run through the line, thus ▄, ▄ . In the case of words

composed wholly of horizontal strokes the last two positions (on and through the line) coincide, as ▄. These three positions

are called first, second and third respectively. The first is specially connected with first-place vowels (*ā, ă; aw, ŏ; î; oi),* the second with second-place vowels (*ē, ĕ; ō, ŭ),* and the third with third-place vowels *(ee, ĭ; ōō, ŏŏ; ou).* In a fully vocalized style position is not employed, but in the reporting style it is of the greatest use. Thus the outline *(tm)* written above the line ▄ must be read either *time* or *Tom;* when written resting on the line ▄, *tome* or *tame ;* when struck through the line *teem, team* or *tomb.* By this method the number of possible readings of an unvocalized outline is greatly reduced. That word in each positional group which occurs the most frequently need not be vocalized, but the others should. In the case of dissyllables it is the accented vowel which decides the position ; thus *methought* should be written first position 2ZL *méthod* second position ▄ (2) Another way of distinguishing

between words having the same consonants but different vowels to vary the outline. The possibility of variety of outline arises from the fact that many consonant sounds have duplicate or even triplicate signs, as we have seen. For instance, *r* has two lineal signs and a hook sign, and so each of the words *carter, curator, creature* and *creator* obtains a distinct outline. A few simple rules direct the student to a proper choice of outline, but some difference of practice obtains among phonographers in this respect. Lists of outlines for words having the same consonants are given in the instruction books; the *Reporter's Assistant* contains the outline of every word written with not more than three strokes, and the *Phonographie Dictionary* gives the vocalized outline of every word in the language. Aided by a true phonetic representation of sounds, by occasional vocaliza­tion, variety of outline, and the context, the phonographic verbatim reporter should never misread a word.@@1 (3) Lastly, phraseography. It has been found that in numberless cases two or more words may be written without lifting the pen. A judicious use of this practice

@@@1 Phonography is so legible that the experiment of handing the shorthand notes to phonographic compositors has often been tried with complete success. A speech of Richard Cobden, on the Corn Laws, delivered at Bath on 17th September 1845, and occupying an hour and a quarter, was reported almost verbatim, and the notes, with a few vowels filled in, handed to the compositors of the *Bath Journal,* who set them up with the usual accuracy. A notice of the occurrence appeared the next day in the *Bath Journal,* and was immediately transferred to the columns of *The* *Times* and other newspapers. Mr Reed tried the same experiment with equal success, the notes being handed to the compositors in their original state *(Phonetic Journal,* 1884, p. 337).