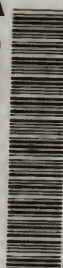


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Principles of outline formation

by

Jerome Bird Howard



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# The Principles of Outline Formation.

BY  
JEROME B. HOWARD.

CINCINNATI:  
THE PHONOGRAPHIC INSTITUTE CO.



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1919.

✓ - R. L. Baker,

✓ ✓ ✓ Jerome B. Howard

UNIVERSITY OF CALIFORNIA

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## THE PRINCIPLES OF OUTLINE FORMATION.

The necessity for considering this subject at all grows chiefly out of the fact that in Phonography consonants have a double representation. They are primarily represented by means of alphabetic strokes, each consonant of the language having its separate and distinct character. In addition to this primary representation consonants have a secondary representation which is effected (*a*) by means of circles, hooks, loops, and ticks that are attached as appendages to the primary strokes, or (*b*) by means of the modification of the primary strokes thru halving or doubling their lengths. This secondary representation is not coextensive with the primary representation, but is limited to the more frequently recurring consonants of the language.

Hence it may happen that while in writing the outline of a word one or more consonants will be expressed by means of primary alphabetic strokes, other consonants in the same word may be written by means of appendages or by means of the halving or doubling modification of a stroke. In order to determine the choice of the manner in which to write any particular consonant in any particular word, reference is had to certain definite principles of outline-formation.

The very spirit and genius of Pitman Phonography—the thing that more than any other distinguishes it from, and makes it superior to, other systems of stenographic writing—lies in the fact of its supplying secondary methods of consonantal representation. For in the application of these various methods lies the secret both of its speed and of its legibility. By the combination of alphabetic stroke, appendage, and stroke-modification are secured not only outlines of marvelous consonantal




expressiveness within brief compass—outlines susceptible of wonderfully facile execution in the act of writing—but outlines which, tho composed solely of consonants, tell us so much about the vowels required to complete the words that it is in most cases entirely unnecessary we should go farther and actually write the separate and distinct signs that the system provides for the representation of the vowels. So much of the vowel nature of most words is revealed by the consonant outline itself, that in a very true sense (tho in a sense very different from that in which the term is frequently employed) Pitman Phonography may be called a *joined-vowel* system of shorthand. It is impossible to write consonant outlines for words in accordance with the principles of the system without at the same time writing into such outlines, as part and parcel of them, a very large and practically-sufficing amount of information concerning the vowels.

The important distinction between


the primary and the secondary method of representing the consonants lies in this—that the primary or stroke consonant signs are *susceptible of vocalization*, whereas the secondary signs are not susceptible of vocalization. Vowels can be written only to strokes, which have a beginning, middle, and end, offering a first, second, and third place for the insertion of dot and dash vowel-signs. The strokes may, therefore, be spoken of as “vowel-bearing” consonant signs, and each stroke is normally capable of bearing two vowels, one preceding and the other following it. On the other hand the secondary consonant signs, which offer no such vowel places, may be called the “non-vowel-bearing” signs—signs that can be used only in a case that does not require that a vowel-sign shall be placed in juxtaposition with the consonant sign.


This is a case that frequently occurs; for it is obvious that if there be only one vowel in a word its sign can be placed to but one consonant stroke in


the outline, and if there remain one or two or three other consonant strokes in the outline each must be, so far as its vowel-bearing function is concerned, an *idle* stroke. This will perhaps be best understood thru the aid of illustration. Let us suppose the word *substance* to be written simply with stroke consonants  Here are six consonants and only two vowels. Each of these two vowels requires a stroke for its placement, and at most two strokes out of the six can be employed to bear these two vowels. We thus have in this outline at least four idle strokes. Now in the construction of outlines it is the special function of the secondary consonant signs—the circles, hooks, loops, ticks, halvings, doublings—to take out of the outline these idle strokes by replacing them, to as great an extent as may be, with briefer signs attach to the strokes that actually do bear the vowels.


To carry the illustration farther: In our word *substance* the last stroke obvi-


ously cannot bear a vowel since no vowel either precedes or follows the consonant expressed by it. This stroke may, therefore, be replaced by the circle form of *s* and our outline becomes


 An inspection of the outline shows a like condition with respect to the *s* in the middle of the outline. It is neither preceded nor followed by a vowel, and is, therefore, an idle stroke and may be written with the circle


 When a vowel comes between two consonants it is possible to write its sign either after the first or before the second stroke. If in any particular case, one of the two consonants is susceptible of secondary representation while the other is not, the vowel may be placed to the stroke that is incapable of secondary representation, and the other consonant, not being required to bear a vowel, may have its secondary representation. Thus, placing the first vowel in this word to the stroke *b* we leave the stroke *s* idle and so it may be written with the circle and


the outline becomes  Finally,


by transferring the second vowel of the word to the stroke *l*, the stroke *n* becomes idle and may be reduced to the hook form, which, combined with the circle, gives us the ultimate outline .


It may be set down at this point as the most far-reaching principle of outline-formation that every normal phonographic outline, while it may not in fact be vocalized, must always be vocalizable—that is, *it must be susceptible of complete vocalization*—it must afford a place for the insertion of each and every vowel of the word. Thus, altho the outline  contains all the consonants of the word *asperity*, and all of them in their proper order of succession, the outline is, nevertheless, wholly unsuitable and improper for the expression of the word. The reason, of course, lies in the fact that the outline does not afford strokes for the placement of the four vowels that are a part

of the word. That the four vowels may be properly placed it is necessary that the circle-*s*, the *r*-hook, and the halving principle be disused and that each of the four consonants of the word be written with its primary stroke form: 


The first principle of outline-formation, therefore, determines the provision of a sufficiency of strokes in the normal outline for the placement of all the vowels of the word. The second principle of outline-formation relates to the idle strokes and determines that the outline shall contain the fewest practicable number of these—that when a stroke is not needed for the placement of some vowel, the consonant shall, in general, receive a secondary representation and be written with a circle, a hook, a loop, a tick, a halving, or a doubling. Under the operation of this second principle, the outline , which, as we have seen, is the normal form for writing


the word *asperity*, is unsuitable and improper for writing such a word as *sprite* or *sprat*—words that contain precisely the same consonants as *asperity*, and in precisely the same order of succession. Since in the word *sprat* we have but one vowel, one consonant stroke is sufficient to bear that vowel, and the other three consonants may, if possible, receive a secondary representation by attachment to or modification of this same consonant stroke that bears the vowel. It is, in fact, possible to give all the consonants but one, of this word *sprat* a secondary representation. Thus  becomes

 thru the suppression of the idle

stroke *ray*, which is replaced by the *r*-hook. Thru the suppression of the idle stroke *s*, which is replaced by the small circle-*s* the outline becomes -x-

Finally, thru the transference of the vowel to the stroke *p*, rendering *t* an


idle stroke, which is then suppressed and replaced by the halving principle, we get the ultimate form 

The idle stroke, it will be seen, is suppressed not merely because it is a longer and less convenient character for the hand to form in writing the outline than is, in most cases, the secondary character, but also because, in reading, an idle stroke is a misleading stroke. Its vowel-bearing capacity inclines us to impute a vowel to it whether the vowel exists in fact or not. Thus to write the word *sack* with the outline  is to mislead the reader.

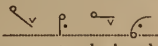
Since the stroke-*s* is *capable* of carrying an initial vowel we are naturally led to expect that in the fully-written word it actually exercises such a power, and that the word begins with a vowel. We would, therefore, fail to read the word as *sack*, but would seek to read it as *ask*.

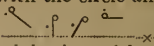
Out of these two principles of outline-formation grow all the rules in our text-

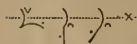


books, governing the use of the appendages, and the halving and doubling principles. We say, "When a word begins with a vowel followed by *s* use the stroke."  This is


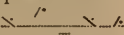
obviously that a stroke may be afforded for the placement of the initial vowel. The outline *must be vocalizable*. It would be impossible to write an initial vowel if the outline began with a circle as we should have no place in which to put it. We say, again, "When a word begins with *s* use the circle." If there is no vowel between the initial *s* and the following conso-

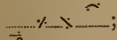
nant, as in the words , the stroke-*s*, if used, must obviously be an idle stroke, and therefore it is replaced by the circle. If a vowel immediately follows the *s*, its sign may be written to the stroke that represents the next consonant, and again the *s*, not being required to carry the vowel, is an idle stroke and should be

written with the circle and not with the stroke.  If, however, "the word begins with *s*, followed by two consecutive vowels, one of which is accented" (that is to say, by two vowels each of which is separate and distinct, having no tendency toward becoming diphthongal) "the stroke *s* must be used," in order that we may have a consonant stroke for each vowel




These same principles determine the rules for the use of the stroke and circle forms of *s* and *z*, when *s* and *z* are the final consonants in outlines; and of the stroke and hook forms of *n*, *f*, and *v*, when these consonants are the last in the outline. They also determine the rules for the use of the halving principle. A stroke may be halved to represent the addition of *t* or *d* whenever it is not necessary that *t* or *d* bear the vowel. If the halved stroke can carry the vowel it is superfluous and it would


be misleading to write *t* or *d* with a stroke. In words like  *t* or *d* should be expressed by halving, because if these consonants were expressed by strokes they would be idle strokes, there being no need of them for the placement of vowels. In the same way  may be written with halved strokes, because in such cases the halved stroke is capable of carrying the vowel. This is also true of such words as

; for as a vowel precedes

and follows the halved stroke there is still a place for each one on each side of the stroke. But in the words

 it is necessary to

write the strokes *t* and *d* in order to furnish placement for the final vowel, and a similar necessity exists in such words as

, in order that place

may be found for each of the two concurrent vowels.



It will be perceived that the typical consonantal outline in Pitman Phonography may be likened to a little house, and the vowels to the dwellers therein. In unvocalized Phonography (reporting style) these indwellers may be said to be away from home, but their empty chambers are always there, each ready for its occupant whenever his presence at home may require it, and from the location and number of these chambers we may receive a great deal of information concerning the absent tenants. We know in just what part of the house most of them would live if they were all at home.

The importance of the foregoing rules of outline-formation is, therefore, twofold. By the suppression of idle strokes we not only obtain outlines that are briefer and more facile for the hand to execute than would be the case if they were made up wholly of stroke consonants, but outlines that are highly

legible, even tho unaccompanied by the vowels. In the case of many thousands of words we are told by an instant glance at the mere consonant outline whether the word begins with a vowel or with a consonant, and whether it ends with a vowel or with a consonant. And this is precisely the amount and kind of vowel-information that (short of a complete knowledge of the entire vowel-nature of the word) goes farthest to make outlines legible.

So important is it, indeed, to the ready legibility of outlines that we should know at a glance whether or not a word begins with a vowel, that it is advisable for young phonographers to form from the start a habit that the experience of most old reporters brings them to at last—the habit, namely, of actually writing the initial vowel-sign in the case of that group of words that must be written with outlines incapable of indicating the presence of an initial vowel by the manner of writing the first consonant.







Of far less importance to legibility is it that the presence of a vowel *in the middle* of a word shall be indicated by the manner of writing the adjacent consonants. At this portion of the outline, vowel-indication makes indeed such slight contribution to legibility that the suppression of an idle stroke in the middle of an outline, and the substitution therefor of a circle, hook, loop, halving, or doubling, is never practically necessary or advisable unless the outline is thereby rendered more convenient and facile to the writer.




 would be practically as legible for *substance* as , and if the

effect of the retention of the medial stroke-*s* were to render it more convenient to the writer (which is in this instance decidedly *not* the case) there could be no objection to its being retained.


It will appear from what has preceded that the determination of the manner of writing the *medial* consonants in an outline is dependent upon


a third principle of outline-formation, that of facility, or manual convenience. The application of this principle rests upon a recognition of certain impediments to graphic speed and fluency, and in its practical working-out it consists in the choice of those modes of outline-formation that shall either remove or, at least, minimize these impediments. We may make a classification of these impediments, as *things to be avoided*, as follows:



(a). *Unbalanced motion*. In rapid writing there is always a tendency on the part of a straight stroke that is written tangent to a curve to partake of the curvature of the curved stroke. In such a case an impediment to speed exists. The use of a hook will frequently avoid this tendency. Thus  is to be preferred to  for *pansy*,  to  for *banish*,  to  for *punish*, and the like. When-



ever in any outline the same kind of curvilinear motion is found both preceding and following a straight stroke, and tangent thereto, an especial impediment to rapid writing exists. It becomes necessary to retard the even flow of the pen—to “slow up” and to form the outline with care and restraint, lest the straight stroke become curved under the combined influence of the two similar tangent curves. Thus, if the word *apprentice* be written with the outline  the tendency, in rapid writing, is for the stroke *p* to curve, and the outline to approximate more or less closely to the form ; and this tendency is augmented in proportion to the rate of speed at which the outline is written. To overcome this tendency, the stroke form of *n* should be retained and the outline should be written . On the other hand, if the stroke be retained in writing the











word *plunge*  we shall encounter

the very same impediment to fluency, brought about in the last preceding illustration by the use of the hook. Here, the use of the hook cures the difficulty, and a perfect balance of motion is secured by writing the outline 





(b). *Checks*. An angle is an impediment to rapid writing inasmuch as it involves a check of the hand, which must bring itself to a momentary state of rest before starting in a new direction. The use of a secondary method of representing a consonant frequently eliminates the angles from, or reduces their number in, an outline. A comparison of the outlines  and 





for *pasty* shows that the use of the circle eliminates a check between *s* and *t*. By writing the word *rusty*  instead of , two checks are eliminated.







By writing the word *conic*  with the hook rather than the stroke form of *n* , one check is eliminated. The use of the halving principle in writing the word *optic*  saves a check as compared with .

(c). *Obtuse angles.* An obtuse angle impedes rapid writing to a greater extent than does an acute angle. By the use of a stroke rather than a hook, the angle may frequently be reduced. Thus by retaining the stroke *n* in *range* , the extremely awkward obtuse angle found in  is avoided, and the advantage is cheaply bought even at the price of adding another acute angle to the outline. But to retain the stroke *n* in writing the outline for *Danube*  would be not only to give us two angles where only one would result from the use of the hook .

but one of these two is an obtuse, and therefore an inconvenient, angle.



(d). *Reverse motion.* Whenever a change of curvilinear motion takes place at an angle—that is to say whenever involute motion preceding an angle changes to evolute motion following the angle, or *vice versa*—the check is a relatively awkward one as compared with curvilinear motion passing into straight motion (or *vice versa*), and especially as compared with the same kind of curvilinear motion both preceding and following the angle. The outline  for *month* looks briefer and is certainly more compact in appearance than , and there is no difference in the number of checks or angles in the two forms, there being, in fact, one in each. But the character of the check in  (which is preceded by evolute and followed by involute motion) is so awkward as compared with that in  (involute motion both preceding and following the check)


that there can be no hesitation in choosing the latter form. The same consideration must lead us to prefer  to  for *manage*,  to  for *permanent*, etc.


(e). *Imperfect hooks.* The formation of an imperfect hook is often so great an impediment to facile writing as to justify the use of a stroke to avoid it. In  *tonic* the stroke *n* causes a longer outline and two angles. but the outline as a whole is more convenient than the more compact but awkward form . A like motive of choice leads us to write  for *joiner* instead of , and, for the greater reason,  instead of .

(f). *Descending forms.* Too great a descent below the line of writing with the consequent loss of time in regaining the line level on beginning the subsequent outline is another impedi-

ment to speed that may frequently be avoided by the secondary representation of a medial consonant. The



reason why our form  for *substance* is undesirable as compared with  lies not only in the obtuse angle between the stroke *s* and the stroke *t*.









 relieves us of any angle at all, and


it is therefore a superior outline. But there is another reason for its superiority. The outline descends to the depth of only one stroke below the line of writing, whereas  makes a further descent to the depth of another stroke. The medial use of the circle-*s* very frequently saves the descent of the outline below the line of writing with a consequent gain in convenience thru the increased lineality. For this reason it may be set down as a general rule that whenever *s* occurs as a medial consonant it is preferably written with the circle.




We have now considered the leading

principles that determine the formation of the initial, medial, and final consonants in writing phonographic outlines for words; and we might well be content to stop at this point were it not for a fact inherent in the nature of words themselves, and in our ways of regarding them—the fact, namely, that there is an inevitable inclination in our minds to think of words in their relation *to each other*—to think of them as being either primitive or derivative words. This inclination has its root in certain fundamental characteristics in the structure of our language, and it is so much a part of our ordinary mode of thought as to call for the recognition of another and a fourth principle of outline-formation—the etymologic principle of derivation. A recognition of this principle in outline-formation is favorable to legibility, if not indeed to speed, because of the satisfaction the mind feels in seeing a derived word written with an outline that is in harmonious relationship with the outline




used in writing the word from which it is derived. We like, for instance, to see such a word as *exultant* written with the form  rather than with the perhaps equally facile form , because the outline of the derived word contains in itself as its foundation, or base, the outline that represents the primitive word from which it is derived. Other examples of the same kind are

seen in the following group: *fine* ,  
*finer* , *finest* , *finely* , *fineness*  
, *finery* , *refine* , *refinery*  












In this group the derivative words are all written so as to retain the form of the primitive word , altho, if manual convenience were the only consideration, the highly convenient forms

, , and  might well be used for *finer*, *finely*, and *finest*. We are willing even to sacrifice a *slight* advan-

tage in mere manual convenience in order to retain an outline that shows the etymologic relationship between the primitive and the derivative word; for, as intimated before, there is a mental smoothness and ease (and therefore a time-saving quality) in the etymologic way of thinking that will compensate for the slightly increased manual effort, and that distinctly assists the reading process when the notes come to be transcribed. But this sacrifice must not be carried too far. We have already seen in a foregoing illustration

how the outlines  *joiner* and  *joinery* involve such grave graphic difficulties as to make it necessary to sacrifice the motive of final vowel indication in determining the outline with which they shall be written, and for the greater reason the etymologic motive must also be sacrificed, altho these outlines are in etymologic agreement with the primitive  *join*.



Moreover, we must not, while recognizing the value of the etymologic motive, allow ourselves to go too far afield in search of etymologic relationships. It is, of course, possible to make interminable excursions into the dim ages of the past, tracing the ancestry of words; but this is the special province of the philologist and forms no part of the work or thought of the phonographer. It is true that in Phonography many words drawn from the Latin by a uniform process of adaptation exhibit a large and pleasing measure of corresponding uniformity in their phonographic outlines. Thus, the verbs *tend* , *attend* , *extend* , *contend* , *subtend* , *distend* , *portend* , *superintend* , from the Latin verb *tendere*, all show, as written in Phonography, a uniform foundation, or base outline . But we also write *intend*, derived from the same Latin source, with the outline , which is so much more rapidly and conveniently formed

as compared with the more etymologic representation  $\sim\sim\sim$  that phonographers as shorthand writers universally give it the preference.

It is not necessary, nor is it advisable, that, in forming outlines, the phonographer should take into consideration the relationship of English words to other words outside the limits of the English language itself as we habitually use it. It is, however, desirable that the outline of a derivative word be written so as to preserve the outline of any other *English word* from which it is so directly formed that the derivative word contains the primitive word as a part of it *without any change in its vowels or in its accentuation*.

The controlling principles of outline formation are, then:

1. *Vocalizability*.—Every normal phonographic outline must be vocalizable. It must be so constructed that howsoever many consonants are represented by secondary signs the outline shall

have a sufficiency of strokes to furnish place for every vowel in the word.

2. *Suppression of idle strokes.*—A phonographic outline must contain the fewest practicable number of idle stroke. Whenever it is possible to give a consonant a secondary representation without thereby rendering the outline unvocalizable it should be done. This principle is of strict application so far as relates to the initial and final consonants. Its application to medial consonants is limited by

3. *Manual convenience.*—It is desirable to avoid certain mechanical impediments to rapid writing—impediments that grow in part out of the structure of the phonographic system itself and in part out of the physical laws of motion and the anatomical structure of the writer. These impediments are (*a*) unbalanced motion, (*b*) checks, (*c*) obtuse angles, (*d*) reverse motion, (*e*) imperfect hooks, (*f*) descending forms.

4. *Etymologic harmony*.—It is desirable that the outlines of derived words shall be built upon the outlines of the primitive words from which they are respectively derived. The application of this principle must not run counter to 1 or 2, and must, in general, be controlled by 3; and it extends in any case only to English primitives which appear in their respective derivatives without change of vowels or accentuation.



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